Measure What Matters

The search for farming's triple bottom line



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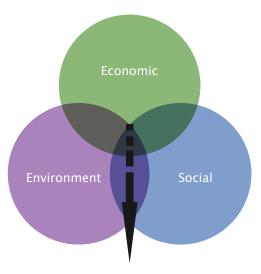
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Introduction

A farmer grows crops and rears livestock then sells into a market. If there's a profit, it's usually less than elsewhere in the chain. It's a straightforward though risky business in which success has been measured through a blend of skill and luck.

The turn of the century marked a big change. As the science of climate change has developed, it's now clear that while farming is a small part of the cause, it can also be a big part of the cure.

Performance measurement can result in unintended outcomes because there are connections that aren't apparent. Climate change is inextricably linked with other environmental subjects such as water and biodiversity as well as social issues like jobs and communities.



Triple bottom line – Sustainability – "People, Planet, Profit"

An addition of social and environmental values to the traditional economic measures
of a corporation or organisation's success.



Sustainable agriculture is a productive, competitive and efficient way to produce safe agricultural products, while at the same time protecting and improving the natural environment and social/economic conditions of local communities."

Sustainable Agriculture Initiative Platform

Why measure?

"The ecological footprint of industrial agriculture is already too large to be ignored and projected increases in future global environmental changes could make the footprint even larger."
(International Assessment of Agriculture and Science and Agriculture for Development, 2009b, p. 23)

The emerging evidence¹ for the links between climate change and agriculture means that the key impacts must be measured and monitored².

The search for robust measurement and a credible accounting system is well underway revealing a level of complexity that could paralyse change. There's also concern about what may be found out. For example, what happens if it's bad news? That usually means cost. In which case, who pays? Is that fair?

Farms in the central and western prairies of Canada have natural sustainability advantages due to the particular climate, progressive soil management and a low use of water and inputs. This paper has been commissioned by Pulse Canada, a confederation of pulse industry associations. They represent the growers and exporters of Canadian pulse crops. They want to better understand their markets because they must build relevant production and supply strategies.

The initial aim of this paper was to find out which of the many schemes would be used commercially. Such information would help inform the reader to adapt their strategy. In early 2010 experts from around the world were interviewed. They have shared their opinions and advice which you will find featured throughout the paper. Because of their positive response, the approach of this work changed from being a private paper, shared with the contributors, to becoming a public paper. The support of the Sustainable Food Laboratory has also been important because they facilitated further strong engagement of businesses and NGOs.

The interviews revealed a huge range of private and public sector interests that reflects the great breadth and depth of agriculture systems, both extensive and intensive, for animals and for crops. It also reflects the great variation possible on a single commodity such as pulses. Grown on large farms in Canada as well as on small farms in Ethiopia, each has its own measurement priorities, though in the end the present and future livelihood of the farming family is the most important.

Maybe you are a food industry professional working on sustainability in supply chains. Your challenge is to build relevant and well informed policy against a range of issues that are both complex and challenging. You need to know about the current harmonisation efforts for metrics because it will help you with your long term strategy. Perhaps you may even decide to get involved. This paper is written for you. Maybe you are a food industry professional who has been working in this area for years. You may be very familiar with some parts, less so with others. You will also be interested in the quotes from your peers that start on Page 36.

Maybe you work in public policy. Government officials tend to be disconnected from the private sector so this will provide you with useful information. Maybe you are involved in agriculture, either as a farmer, trader or advisor. You'll know your own subject but won't know how the debate on measurement is evolving beyond the farm gate. This paper is written for both of you as well.



This paper's about what's happening globally with the measurement of farming's impact on sustainability based on the consultation. It describes the positions of governments, farmers, scientists, NGOs, retailers, brand manufacturers, food service companies and consumers. It considers selected problems and provides an overview on harmonisation. A selection of the most important schemes is provided with analysis of their approach. There are also some 'frequently asked questions' about measurement.

You will be looking at a snapshot of the intense global activity on metrics for sustainable agriculture and how that fits into the broader context of sustainable development. You will also read about a spirited debate on communication to consumers.

The interviews highlighted an unexpected complexity of approach. This paper's appendix selects 26 schemes and 41 organisations to provide short descriptions compiled from publicly available information. Within the text, you will find links to the appendix and to quotes from the interviews.

The experts also nominated a great many academic papers on various aspects of measurement. There is a short list of some of the most relevant examples included with the footnotes. Depending on the readers' interests, more information can be found on the many listed websites.

Whether you are new to the subject or well informed and knowledgeable, you will be reading a description of the many approaches. This paper does not attempt a technical comparison or benchmarking. That work is for others for whom this snapshot from 2010 is intended as a useful reference.

The story is not always simple, but you will find it explained in simple terms. You will read the views of experts, often outspoken, sometimes surprising and always valuable.

This report reflects the situation in 2010. It identifies key current problems and points towards the approaches that will be of particular interest.





The position statements

This section describes the positions of the stakeholders. Their roles are described and their viewpoints summarised. There's a discussion that includes supporting reasons and examples. Most problems aren't this complex but measuring sustainability in agriculture is very difficult. The various positions are all valid.

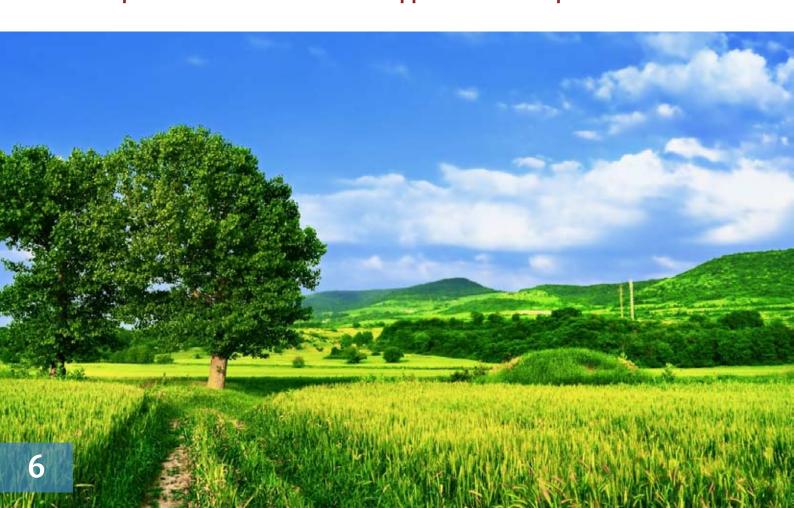
2.1 The Brand Manufacturers

Brand manufacturers make food products and sell them to retailers. The consumers are mostly unaware of the companies behind their favourite brands. There's a range of activity in sustainability from total commitment to none at all.

Their viewpoint

The retailers stand between the brand manufacturers and their consumers who have no idea of the company that actually makes their favourite brands. A strong collaboration has emerged on policies for sustainability while commercial competition and industry consolidation continues. Their agricultural challenges are on the biggest scale as they deal with the commodities of cereals, meat, milk, sugar and oils. In summary, their position is:

We want to engage with the farmers on sustainability and metrics though we've found there's a lot to learn. We want to compete fairly with private label and assure our supplier relationships.



Discussion

Any number of recent polls of senior business executives in the food industry shows corporate responsibility rising to the top of the priorities and staying there. The drivers are regulations, consumers, climate change, population growth and the foreseeable end of unlimited natural resources.

The CEO's job is to make sure the company will deliver long-term growth. A key question will be: "Will there be enough raw materials to carry on our growth?" There's only one answer: "That depends..."

An understanding of sustainable agriculture relies on information which isn't perfect and probably never will be. However, company values mean they can't wait for improved accuracy to act. They believe enough is known about certain key issues.

The brand manufacturers have a constant marketing challenge to achieve differentiation in a price driven market place. Accordingly, their strengths include efficiency, innovation and communication. They have to make the sale and create loyalty by influencing a consumer who is often cynical and distrustful of companies, especially the big ones. Their products may be produced and processed sustainably, but the consumer will tend not to believe them. A current response to this credibility gap has been active engagement in voluntary certification schemes such as 'Rainforest Alliance'.

A long term strategic approach may be based on 'choice editing', meaning leading companies will decide there should not be a choice between sustainable and unsustainable food. For example, Unilever have now released their 'Sustainable Agriculture Code' with a stated long term aim to buy only from sustainable sources. The key policy position that has been taken is to move towards verification of evidence based sustainability and away from certification. Acceptable evidence would include visible progress such as a new dam or a composting facility. It will not be about the paper certification principle of requirement and compliance; it will be about being able to show measurable change.

It's a move away from looking for proof in a tick box and towards seeing proof on the land.

- ▶ Read what Roberto Vega of Dole says about sharing sustainability footprints on page 58
- ▶ Read what Ghislain Pelletier of McCain says about supporting producers and implementing policies for change on page 55
- ▶ Read what Peter-Erik Ywema of SAI Platform says about the challenges for setting effective policy and the need to share knowledge on page 47

2.2 The retailers

Retailers sell their shelf space to brand manufacturers. Retailers also make private label food products and put them on their own shelves. They have a close relationship with their consumers. There's also a range of activity on sustainability that reflects their market focus.

Their viewpoint

Every retailer has a key deliverable on every shelf in every store. Their product offer must offer differentiation from their competition, not only on price and quality, but also on service and shopping experience. Their commitments to consumers are promises that they keep which means there's a level of trust in the relationship. Their interest in metrics for agricultural sustainability will be proportionate to the sophistication of their private label offer. Meant more by some than others, the retailers' position is:

We want to deliver sustainability for our consumers on our private label and they shouldn't have to pay for it.

Discussion

Their battle for differentiation starts with availability (that is to say that there's actually something on the shelf), then moves on to price and physical quality. Further down the list, behind work on their own considerable operational footprints and community relationships, are the emotional aspects of quality such as the environment and labour standards.

Retailer company strategy always includes private label. Out of the world's top 20 retailers in 2009, the analyst Planet Retail identified only one company that was planning to reduce its private label offer (that was the Schwarz Group with their Lidl discount stores). The other 19 were increasing their offer and hence their accountability for all aspects of quality.

In Europe, in their drive for differentiation the British supermarkets have pioneered supply chain sustainability and they all have teams of agronomists working on quality issues. By contrast, the two German discounters and private label specialists, Aldi and the Schwarz Group, both in the world's top 10 by sales, have virtually no direct engagement with agriculture. The situation in the USA is similar. Expertise in technical relationships with farmers is considered the accountability of suppliers.

However, at the heart of the retailer's relationship with their consumers is the long standing question of company values. Who matters most, shareholder or stakeholder? Let us make an assumption that shareholders want returns. Some of them also want sustainable returns for the long term.

The stakeholders want all sorts of things. If they live next door to a store, they don't want noisy early morning deliveries. If they work in a store they want decent jobs. If they shop there, they want safe food at a good price. As for sustainability, most stakeholders don't know or care. However, the interviews for this paper proposed that the response of the leaders is that stakeholders do want sustainability, even if they don't say so. In summary:

We will edit choice on their behalf.

In which case, what of the followers? Driven by competition on non-price issues, the larger retailers may be forced to account by consumers. However, they and smaller retailers may get more sustainable supply chains by default, because in the food industry, a supply chain that is not shared is truly rare.

▶ Read what Paul Rowsome of Carrefour says about working with suppliers on page 62

2.3 Food Service

The recession has challenged the steady trend that has seen more food eaten away from home and the retailers have taken advantage. Restaurants may be public or private, small or large. They buy the ingredients for their restaurants from their own suppliers but the farmers that produce the raw materials are shared with retailers and brand manufacturers.

Their viewpoint

Like the retailers and the brand manufacturers, the food service sector has concentrated its sustainability work on its own operations, in particular with its all important community relationships. In the smaller operations the theme of local buying has emerged but not in response to solving supply chain problems. Instead, local buying has been about delivering authenticity for their customers through evidence of personal contact with food production.

The bigger operators have been more involved in solving sustainability. Their position is close to the brand manufacturers. They both buy ingredients and then either sell them to others or transform them.

We want to engage with the farmers though we've found there's a lot to learn. We want to compete fairly with others in our sector and assure our supplier relationships.

- ▶ Read what Bob Langert of McDonalds says about collaboration on page 49
- ▶ Read what Jeff Senne of Sodexo says about buying and incentives on page 42

2.4 The consumer

"The consumer decides what is produced. If a business gets it wrong, the consumer will punish them. Consumers make poor people rich and rich people poor. They are merciless bosses, changeable and unpredictable. For them nothing counts other than their own satisfaction." From Ludwig von Mises, "Human Action – A Treatise on Economics," (1881-1973)

Their viewpoint

Retailers and brand manufacturers are dedicated consumer watchers. They work out who's in the various segments and then they talk and listen to them. One retailer CEO described the relationship in simple terms: "There are a third of our customers who are loyal to us, whatever we do. There are a third who take no notice of us, whatever we do. However, the final third are always curious and our success is measured by how we can satisfy them". It's this 'final third' that matters, and in summary, here's their view:

We want all the things we buy to be fair and sustainable and we may pay extra.

Discussion

There's a contradiction in the consumers' constant quest for a bargain and their relationship with some food brands. Let us say that a jar of pasta sauce from a famous brand costs \$5. A private label product costs \$4. The ingredients are the same, the eating quality is comparable. Yet the consumer pays more for the brand with an expectation of something 'extra' that's been rooted in the seduction of marketing.

There is also a key demographic driving this 'final third' as the baby boomers give way to Generations X and Y who are cynical about business. When it comes to green marketing, they have good reason.



Greenwash is an environmental claim which is 'unsubstantiated' (a lie) or 'irrelevant' (a distraction). Found in advertising, public relations or on packaging and made about people, organisations and products. Greenwash is an old concept wrapped in a very modern incarnation⁶.

The Greenwash Guide

In the USA there has been intense innovation around providing products and services to a consumer segment described as LOHAS ('Lifestyles of Health and Sustainability') and representing 1 in 4 adult Americans. Our 'final third' must include the LOHAS segment, so with the daily battle for differentiation of service and products, a credible sustainability message is critical. The LOHAS experts are the Natural Marketing Institute who have also analysed the same consumer group in Asia and Europe and found there are basic principles that hold true, whatever the country. In April 2010 they valued the US LOHAS market for products and services as a \$290bn 'opportunity,' which proves the variability of consumers. There are plenty who will pay more.

2.5 Governments

A government is the agency through which political parties set public policy and exercise their authority. It provides its citizens with the means to achieve things they couldn't individually.

"The success of our work is measured by a single question: Are people better off than when we started?" Bill Clinton

Their viewpoint:

Governments are approaching sustainability issues through their own internal ministries and through the facilitation of the United Nations where the key programme has been 'Agenda 21.' This provides the global policy framework for environmental actions at every level and includes social and economic issues.

The issue with the highest visibility has been greenhouse gas emissions, of which a fifth or so is from agriculture. The key treaty is the **UN Framework Convention for Climate Change (UNCCC)**. A legally binding framework for climate change mitigation beyond 2012 remains a shared aim.

Leadership and facilitation for other environmental issues is by the **UN Environment Programme** whose wide ranging activities include the atmosphere, marine and terrestrial ecosystems.

The range of views for governments on sustainability was given prominence both during and following Copenhagen. Their position in summary:

We want a fair international deal so we can grow our economies.

Discussion

Copenhagen was a disappointment for many. Could it really be that there will not be agreement on what needs to be done and our planet will suffer irreversible harm? It didn't show global politics in a good light, instead it exposed the heavy hand of vested national interest.

Glass half full? Governments are actually discussing emission cuts of 50% by the middle of the century. The Copenhagen Accord means there will be an annual fund established set to rise to \$100bn by 2020. India, China and the USA have engaged. Agriculture entered the debate and there was a call for robust field projects. Business learnt a great lesson that waiting for the governments will not solve the problem, so share it out and get on with it.

What we do in the short term won't matter because it's what we did in the past that is driving that. What we do in the medium term will affect what will happen in the long term. That is what makes it so difficult... how much short term pain will we suffer for long term gain!?

Marty Matlock, Area
Director of the Centre for Agriculture and Sustainability,

University of Arkansas

Glass half empty? The Copenhagen Accord is not a global agreement, most countries were not included.

The money isn't 'new' and it's not appropriate to channel it through existing systems, such as US Aid. Anyway, the targets being discussed are predicted to allow warming of 3 - 3.9 degrees C³. The US and China aren't really committing to anything beyond what they are already doing and the EU offer wasn't even activated. Also, what about the other issues on sustainability, such as water and livelihoods?

The response from companies to Copenhagen has been to continue their work on sustainability without doing either more or less. None of this paper's interviewees said they had changed their work as a result of what some have described as a 'failure'. Instead, there were some positive responses, including this:

"It gave us the drive to find the science and then to move forward. It has given us hope that agriculture will be the solution." Brian Lindsay, Chair of the International Dairy Federation Environment Committee

For the governments this makes the Copenhagen meeting the end of a chapter rather than a story. There are already relevant national actions operating within policy frameworks from the UNCCC:

- * 'Nationally Appropriate Mitigation Action' (NAMA) recognises that different countries should take appropriate actions.
- * 'Reducing Emissions from Deforestation and Forest Degradation' (REDD) uses market or financial incentives to reduce emissions.

Long term change will require public policies that consider the breadth of the challenge for sustainability. However, the place of agriculture in these negotiations has not been prominent. It did not appear until October 2009 and there are no actual mitigation policies for agriculture in place, anywhere. Also, the current estimates are based on historic figures set in a rudimentary reporting framework and the policy frameworks, such as CDM, don't deal directly with agriculture.

Change is gathering momentum with the creation of 'The Global Research Alliance on Agricultural Greenhouse Gases' that was launched in December 2009, with 28 governments representing 65% of global agriculture.

Governments and Intergovernmental Agencies

Should these be considered separately? Intergovernmental Agencies though established and controlled by governments, can and do develop their own agendas. UNEP has already been mentioned, but also active and relevant are the Food and Agriculture Organisation (FAO), Organisation for Economic Co-operation and Development (OECD), UN Conference for Trade and Development (UNCTAD), UN Development Programme (UNDP), World Trade Organisation (WTO) and UN Commission for Sustainable Development (UNCSD). These have all adopted parts of the sustainability agenda relevant for agriculture. Several have developed and are working on their own metrics and harmonisation initiatives. Of particular relevance is the work by the FAO and OECD on agri-environmental indicators. The risk for these agencies is that the private sector isn't waiting.

By the time they complete their work, there will be systems already in place.

2.6 Farmers

A farmer grows crops and rears livestock then sells into a market. If there's a profit, it will be less than elsewhere in the chain. It's a straightforward though risky business in which success has been measured through a blend of skill and luck.

Their viewpoint

Farmers expect their rules will come from governments and markets and hope there will be a consistent linkage between the two. They want their representatives to preserve their right to be profitable. That means better policies, not only to drive better production but also to support environmental enhancement. In summary, the viewpoint of the farmers is:

We want clear and consistent signals from the government and the market, that are applied to everyone, so we can balance natural resource stewardship with economic gain.

Discussion

There's a big range of farming systems around the world. At one end, Brazil is one of the new powerhouses of agricultural production where it's not unusual to see 50 combine harvesters working together followed by 50 tractors drilling seed for a second crop. Meanwhile, in developing countries a farm can still be worked by human power with no modern techniques. Variability sees crop lifespans vary from 30 days to 30 years, harvests that last just a few days or go on all year and yields that can vary from a few sacks per hectare up to fiftyd tonnes.

For the most part, each farm is an individual business and part of the farmers' job is to work out what to do every day. The best large farming operations employ a range of specialists to help make those decisions. At the other end of the scale is the cheapest form of advice; looking over the fence.

At the same time the top end of the market is being driven by consumer demand for food which is authentic, with known provenance and identifiable ingredients. This emotional view of food quality has driven the growth of voluntary certification programmes such as organic and fairtrade.

What does this mean for farmers?

Short term change is more likely to come from their own market place as the retailers and brand manufacturers work out how they need to drive performance and secure their own food supply in the long term. Once they identify the way forward, they will not wait for public policy to catch up and they will not stop at carbon.

There is evidence of a revision of the company to farmer relationship. Some leading companies have their own schemes such as Starbucks who have developed their green coffee sourcing guidelines in partnership with *Conservation International*, the environmental NGO. Called *C.A.F.E Practices*, it provides a comprehensive set of measurable standards for quality, economic accountability, social responsibility and environmental leadership. In 2009, 81% of their purchases were from C.A.F.E Practices approved farmers.

There's another example in fresh produce. In 1992, Tesco started the 'Nature's Choice' integrated farm management scheme, recently renamed as 'Nurture'. It sets safety, social and environmental requirements and over 15,000 farms from 70 countries are now involved. The 'Nurture' logo can be seen on produce labels in their UK business. Critics say it adds unnecessary cost, but farms supplying Tesco are competitive and have always been closely involved in the design and governance of the standard. Supporters might say that the efficiency gains through farm assurance have in fact delivered competitive advantage.

For these leaders there is a responsibility to both farmers and buyers to balance costs with efficiencies. This is illustrated in a likely comment from a buyer to a farmer:

I will pay you more to grow a sustainable crop. But I will not pay you more than my competitors.

- ▶ Read what Sarah Alexander of the Keystone Center says about credible local measurement on page 38
- ▶ Read what Mark Pettigrew of Pepsico says about working with farmers on page 43
- ▶ Read what Jon Hillier of the University of Aberdeen says about getting farmers involved on page 56

Thinking outside the bin

What makes a farm sustainable? The more obvious answers include low carbon, good water stewardship and healthy soil but an extra metric to consider is 'How much of what is produced is wasted?' There are innovations such as the Swedish carrot growers with their own carrot cake factory powered by wind or the mushrooms being grown on coffee waste in Zimbabwe. These prove that food waste from farming can be turned into food, jobs and profit. Consumers have an expensive and unsustainable habit of wasting good food in huge quantities. In production sectors that are affected, farmers, brand manufacturers and retailers need to collaborate on opportunities to get closer to total crop usage.

2.7 Scientists

Fact not fiction. Objective not subjective. Science is fundamentally about disagreement and the job of a scientist is to use their expertise to identify the truth, describe it and try to get others to agree.

Scientists can't easily make a profit to fund their work. This means they need help from donors such as governments, foundations or business. Specialisation means it's difficult for them to share their work with non scientists and their own professional rules mean that credibility is a shared accountability. The evidence of their work is mostly found in words, yet their external communication can be poor. The position of the scientists is:

We have a lot to learn and must share this challenge and our findings with others.



Discussion

The science of sustainability is found everywhere. Medical science tackles the outcomes of unsustainable diets while agricultural science seeks solutions for unsustainable farming. There's a debate about definitions that is centred on the difficulty of an agreement of context. The interviews have highlighted some gaps in the science:

- ▶ Plant nutrition, including the manufacture and use of nitrogen and the extraction and use of phosphates.
- **★** The scale of the world's animal protein industries, including farmed fish.
- ★ Finding a balance for land use between leisure, fuel and food.
- * Water use, with consideration of the economic and social impact of future needs to adapt farming systems due to sustainability constraints.

2.8 Non Government Organisations – the NGOs

The history of every NGO has a common starting point. Someone cared enough about an issue to actually do something about it without a profit motive. Many NGOs have become global and have created important partnerships with companies. There are different value judgements about how the food business operates and the NGOs initiate many significant debates.

Their viewpoint

Their need is to see real impact as a result of their activity. Funded by donors they must demonstrate achievements. In summary:

We want legislation but won't wait. We demand transparency and commitment from companies.

Discussion

The retailers and brand manufacturers have seen the full range of organisations seeking to influence them. At one end, the 'campaigning' NGO drives change through confrontation. The facts of complex supply chain situations can get lost where their aim is to create reputational risk for a company. An example of this is the anti Nestlé campaign by Greenpeace that linked Kit-Kat chocolate biscuits to orang-utans.

At the other end, there's an approach that offers value by helping companies look at the risk of a negative dependency. This kind of work is more likely to be local and issue specific. An example of this is the **World Wide Fund** (WWF) campaign on water stewardship.

Companies want to hear NGOs because they represent consumers and can express key trends of social conscience. Their voices can bring credibility to company actions and there's an opportunity to get expertise which can bring real value.

The development of credible metrics requires a multi stakeholder approach and that means a contribution from the NGOs. There are many well known bi-lateral relationships, such as Walmart and **Conservation International**. There are also NGOs with projects that have multi-lateral arrangements such as the **Sustainable Food Laboratory** and the **SAI Platform**.

3

Problems

This section describes the problems that are being faced in some selected areas. It analyses the root causes and clarifies the risks.

The interviews for this paper suggest there is good evidence that improved efficiency which increases yield while maintaining or reducing inputs will result in reduced environmental impact.

What are the implications for non-carbon metrics about water, biodiversity, livelihoods and labour standards that are all adversely affected by unsustainable agriculture?

11

Climate change and related indicators such as the carbon footprint should not be the only criteria to differentiate the environmental performance of products and services.

Joint statement – European Consumers Organisations¹⁰, December 2009



3.1 Life Cycle Analysis (LCA)

The LCA process is at the heart of all current thinking for food products. During the 90's many companies used this engineering tool to design greener packaging and the methodology has now been applied to food products.

An LCA is an approach that assigns environmental and social impacts to a product by measuring the inputs (energy, raw materials etc) and outputs (pollutants, greenhouse gas etc) that are associated with the entire supply chain of that product. However, because variable biological data is being put into an engineering model, it doesn't always produce neat and straightforward results.

"LCA is a technique for assessing the environmental aspects and potential impacts associated with a product [where the term "product" includes services], by:

- \star Compiling an inventory of relevant input and outputs of a product system;
- * Evaluating the potential environmental impacts associated with those inputs and outputs;
- * Interpreting the results of the inventory analysis and impact assessment phases in relation to the objectives of the study.

LCA studies the environmental aspects and potential impacts throughout a product's life (i.e. cradle-to-grave) from raw material acquisition through production, use and disposal. The general categories of environmental impacts needing consideration include resource use, human health, and ecological consequences." ISO 14040:1997 Environmental management – Life cycle assessment – Principles and framework

LCA tools, especially when they include cost and social impact, can enable improvement in production, design, policy making and impact measurement. However, this is a complex and expensive process that can confuse and mislead. The key problems are:

- **★** The people problem. Just like with audits, certain decisions are critical to the result.
- * There's a lack of common methodology on deciding about boundaries. For example, in the dairy sector, does a bull calf belong with the milk or with the beef?
- ★ The challenge of gathering the relevant data and then appropriately allocating it to a particular product. For example, again in the dairy sector, when making cheese, how much energy goes with the cheese and how much with the whey? (The latter represents >90% of volume and <1% of value).
- * The difficulty of impact assessment. On a dairy farm, nitrogen is used to help grow the grass. The impact of the loss of this nutrient will vary according to soil and geography. Also, environmental scientists can't fully quantify all impacts anyway.
- ★ The tendency to over interpret the results by confusing a model with reality. The people problem again applies when an LCA is interpreted by an unqualified person without technical perspective.

A well known example of this came from Lincoln University in New Zealand. In 2006 they produced a report that looked at five export commodities. They concluded that 4 of the 5 were more efficient environmentally if produced in New Zealand than in Europe. However, they only looked at carbon dioxide and not nitrous oxide or methane.

The risk of these problems, apart from wasting time and causing confusion, is that decisions may be made that have a negative impact on sustainability.

For example, production in developing countries can be particularly difficult to analyse due to a lack of regionally accurate scientific data. The food miles vs. fair miles debate is a good example¹¹. Many raw materials for the food industry originate in such countries¹².

- ▶ Read what Marty Matlock of the University of Arkansas says about open source LCAs on page 45
- ▶ Read what Suzie Greenhalgh of Landcare Research says about problems and opportunities for LCAs on page 60

3.2 Carbon measurement of products

In Europe, carbon footprint data can end up on the actual product label. Examples of innovation include Tesco, Casino (French retailer) and Pepsico. Carbon footprinting, which should include methane, nitrous oxide and refrigerants converted to carbon equivalents, is a form of LCA. So all the problems already identified (4.1) are encountered. Most other retailers think that product labelling is not the way forward. However, the label of every bottle of milk sold in Tesco has the carbon footprint declared as 800g per pint. The same label includes the "Tesco Farm Pledge" (being a fair price to farmers¹³ and commitments on welfare and the environment) and the logo for the national farm assurance scheme.

- ▶ Read what Ellen Gladders of Tesco says about consumers and carbon labelling. on page 37
- ▶ Read what Nancy Hirshberg of Stonyfield says about the limitations of carbon labelling on page 44

Some other problems have been analysed by the ÖKO Institut from Germany in their Product Carbon Footprint Memorandum published in December 2009:

"Product carbon footprints can help identify reduction potentials throughout the entire product life cycle. They can also be an important instrument for promoting more climate smart consumption, especially if a uniform and internationally recognized standard is available..."

"...Disaggregating specific greenhouse gas data to individual products and services presents a particular problem. Other difficult areas are special issues such as the method of accounting for "green" electricity or waste processes. The distances involved in globalized production networks also pose major challenges for data quality. These gaps can only be filled by using carefully calculated standard values; however, obtaining these also presents a considerable challenge."

A particularly technical problem is with the subsidiary standards that are used to tackle specific issues associated with LCAs. Though all are developed using ISO14040 for their reference, they can still be inconsistent with each other. A useful case study, produced by the British Standard Institute (BSI) in collaboration with the British Department for Environment (**DEFRA**) and the **Carbon Trust**, is a 'Publicly Available Specification' (PAS) 2050 – Specification for the assessment of the life cycle greenhouse gas emissions of goods and services. This British pre-standard sets out an initial comprehensive proposal for the methodology of the product carbon footprint, thus contributing to the international debate on this issue. The ÖKO Institut describes an example of this potential lack of inter-comparability:

"A decision to calculate a Product Carbon Footprint (PCF) is by implication a decision to ignore all other environmental aspects such as eutrophication (oxygen depletion in water), air pollutant emissions and resource appropriation. Specifying steps to be taken on the basis of the PCF alone can therefore lead to faulty decisions. Under ISO 14040 it is also possible to restrict the environmental categories that are considered; however, such a restriction must be justified by the objectives of the assessment or by the lesser relevance of the other environmental categories or impacts... The PAS 2050, by contrast, specifically excludes the analysis of other environmental impacts (PAS 2050: 2008, p. 1). In practice businesses and product policy managers are poorly advised if they do not at least screen for other relevant impact categories."

The risk of these problems is that a decision may be taken without consideration of the other elements of sustainability. A product may be good on carbon but poor on water use. Also, current information may be misleading and incomparable with other approaches leading to future consumer confusion. The interviews demonstrated a level of concern about the practice, but those involved in the innovation are enabling a very important debate about how to engage consumers.



Carbon accounting and labelling are good instruments for understanding the climate change impacts of an activity. They are, however, not necessarily good indicators of overall sustainability.

Plassmann et al. Carbon footprinting and developing countries: Possible implications for trade

- ▶ Read what Simon Bolwig of the Danish Institute for International Studies says about private standards for carbon measurement on page 46
- ▶ Read what Sujeesh Krishnan of the Carbon Trust says about data credibility on page 59

3.3 Social

There is no successful large company that does not invest great time and effort into its own 'human resources.' The key indicators they are looking for are things like productivity and staff retention. If it works for them, then logically it must work for their own suppliers and their producers. The interviews have shown that for supply chains this is the area of sustainability with the least activity. The root cause for this is the assumption made by business that human rights in their supply chain are the accountability of others, be it suppliers or governments. The consumer doesn't agree with this assumption so change is on its way.

Policy prioritisation, driven by the climate change debate, has meant that carbon has 'trumped' fairness. It's also been easy for companies to point to fairtrade certifications on a few ranges and claim they have delivered the social element of their corporate responsibility strategy.

Once engaged in understanding supply chain social issues, the next challenge is to measure them. The usual way is to take a compliance approach. At its simplest, the business issues a code to suppliers, requires a warranty by return, files it and counts it. At the next level the business also requires evidence of a check by a third party. Versions of this, driven by a risk management approach, include more, longer or unannounced visits or audits.

Evidence of auditing on a huge scale can be seen in company reports. However, there is uncertainty about the impact. The people problem is auditor competence. The process problem is inconsistent methodology. Also, the commercial imperative of audit compliance drives fraud.

At its worst, dishonesty results in success and transparency in exclusion.

Social indicators should include a range of issues beyond the code of practice. For example, what about community indicators such as education, sanitation and opportunities for disadvantaged groups? What about livelihood indicators like the capacity of households to meet basic needs such as potable water, food, energy and shelter? These impacts should be identified in product LCAs, but it's another thing to actually work out how to do something about them.

The risks include food safety, but it also must include the longer term business challenge of security of supply. It is not realistic to assume that raw materials will always be available elsewhere. Our world is finite.

▶ Read what Jan-Kees Vis of Unilever says about working with small scale farmers on page 48

3.4 Water

Turn on the tap, out comes the water. Irrigate the crop, pay the bill. That seems easy.

What happens if you turn the tap and there's no water? It's happening all over the world because of the combined effects of depletion and pollution.

The first step for a company is to measure their operational water footprint. For a brand manufacturer with its own factories, this can be a lot. For a retailer with its stores and warehouses this can seem quite small. But in both cases, their supply-chain footprint will be huge. Let us assume that the retailer is selling an apple. The water footprint for an apple, measured by the WWF in 2006¹⁴, is 100 litres. The retailer could be selling many millions of apples.



I believe that the challenge of water is going to drive the sustainability agenda in the next decade. Climate change is a global challenge; we share that problem so it's easier to address. However, water is a local challenge with devastating local and global implications. Sustainable solutions must be found.

Marty Matlock, Area Director of the Centre for Agriculture and Sustainability, University of Arkansas USA

The complexity builds when regional relevance is considered:

- **★** The apple grower lives in Canada. Lots of rain, plenty of water, no problem.
- **★** The apple grower lives in California. Drought, water reserves running out, big problem.

The sustainability-minded Californian consumer has to choose between local apples (bad water impacts) and Canadian apples (high food miles). Not an easy choice.

The problem for water metrics is not so much a technical debate around standardisation, that work is well underway. There is agreement on methodologies that can say how much blue, green and grey water (blue is fresh, green is rain, grey is 'dirty') are actually in a product. It doesn't express the critical issue of whether that product came from a water-scarce region and what that means for sustainability. Without such interpretation, water usage measurement could result in policy that drives unintended consequences. In the mean time, the problem is that if you spend too much time seeking very accurate and complex systems to measure a water footprint to high degrees of accuracy you are missing the point.

A better idea is to turn off the tap and think how to actually change things.

▶ Read what Derk Kuiper says about a common standard for water and driving change on page 51

3.5 Biodiversity

The diversity of plant and animal life demonstrates the relationship between social and environmental indicators and the importance of a complete approach to metrics.

"As an example, sustainable livelihoods affect biodiversity, which in turn affects sustainable livelihoods. The poor, especially in rural areas, depend on biodiversity for food, fuel, shelter, medicines and livelihoods. The concentration of the rural poor on marginal land leads to resource over-exploitation and land degradation." Operationalizing Sustainability in Value Chains; Jon Johnson, Hal Hamilton and Peter Senge, December 2009

It's a subject that is difficult to report as a metric. Yet it seems reasonably straightforward to measure. Putting the expense of systematically counting plant and animal species to one side, within the boundaries of the farm, how much land is not farmed? Of that land, how much is genuinely managed for conservation?

Although some farms may have a natural geography that means some land cannot be farmed, without public policy incentives, regulations or innovative company policies, for most farms the more likely outcome is the plough for as much land as practical. That can result in a familiar trade-off for sustainability that looks good in a metric but is bad news for biodiversity. It involves more scale, more efficiencies and more intensive land use leading to increased yield and reduced carbon per 'output' unit.





Harmonisation

Internationally binding and harmonised standards and guidelines for all sustainability metrics are needed. While that reality seems distant, this section provides an overview of schemes and organisations then describes nine harmonisation efforts.

- **★** A scheme is a programme of work that provides data.
- * An organisation co-ordinates activity on behalf of its members and has an established constitution and administration.

What is harmonisation?

The process of policy harmonisation results in a shared approach between companies. It is not about everyone doing the same thing. It is about recognising that there is equivalence in different approaches.

To understand these schemes, the activities of the many organisations must also be considered. However, it became clear during the interviews that no one is confident enough to predict winners, though some are predicting the losers (which will not be listed). It also became clear that the leading transnational food companies, both brand manufacturers and retailers, are talking to each other to find out how they can achieve harmonisation. This collaboration is driven by the recognition that problems and solutions have to be shared. One of the major conclusions of this consultation has been that there is significant momentum behind these harmonisation efforts.

The interviews suggested that the long term approach will feature a co-ordinated effort by business to build convergence. Therefore, according to the consultation, the key schemes for the future will be the open access approaches rather than proprietary ones. The key organisations for the future will be those that have support from both government and business. In addition, interviews suggested that the contribution of intergovernmental agencies such as the OECD will provide base information that must be accurately referenced by any private sector work.

Nine key harmonisation approaches are described in this section. This list is not meant to be exhaustive or exclusive and has been selected by the writer. These approaches have all been mentioned in the interviews and are also described in the appendix and will help the reader to find an overview of current activity. The writer has produced a concluding diagram that summarises how the future may look.

The situation shows great variation, evident duplication and sometimes baffling complexity. It can also be difficult to assign a particular approach as either a scheme or an organisation. In the appendix you will descriptions of 26 schemes and 41 organisations chosen by the writer as a result of the interviews. Many of these are not included in this report, but have still been described for the reader from publicly available information. (There is also a list of documents for further reading).

What about certification?

"Certification is a procedure by which a third party gives written assurance that a product, process or service conforms to specified requirements". ISO Guide 2.

Certification is an approach that has driven standardisation around the world. It provides not only a common approach but also one with credibility. However, there are weaknesses such as inconsistency in accreditation, auditor competence and measuring impact.

Food safety provides a good example of how certification can be used to deliver standards. However, it is not marketed as offering extra value because, of course, food should already be safe. A contrast is provided by the various certification schemes that strongly market extra value for issues associated with sustainability. Of course, food should be produced sustainably anyway. The impact of certification for food safety is safer food. The impact of certification for sustainability is still unclear.

The International Social and Environmental Accreditation and Labelling Alliance (ISEAL) is the global 'hub' for voluntary social and environmental standards systems that are based on certification. These systems are characterised by communicating directly to consumers that there is added value in the certified product. Selected members include the Rainforest Alliance, Marine Stewardship Council, Fairtrade Labelling Organisation and the International Federation for Organic Agriculture Movements.

"I think a certification system and a 'seal' (on the pack) do not always add value, though it does always add cost! We need to look for the solution that will always add the value rather than the cost." Jan-Kees Vis, Global Supply Chain Director Sustainable Agriculture, Unilever

- Read what Elizabeth Guttenstein of ISEAL says about convergence and credibility on page
 53
- ▶ Read what Laszlo Pinter of IISD says about the global context of metric development on page 57



4.1 IISD, INFASA and BellagioSTAMP

The discussion on harmonisation is already underway. The International Forum for Assessing Sustainability in Agriculture (INFASA) was established by the International Institute for Sustainable Development (IISD) and the Swiss College of Agriculture in 2006 to advance sustainable agriculture through the development and effective use of indicator and assessment systems. Their approach was to start by engaging with the various stakeholders to consider their positions. It has made progress, both on establishing a common language and the establishment of a network of experts. More specifically, their project group RISE (Response-Inducing Sustainability Evaluation) has developed a model to measure farm sustainability.

Their key document, referenced several times in this paper, also has laid out the lessons learnt about farm level indicators¹⁵. These include findings about the limits of accountability for farmers, the need for simple databases and the need for an inclusive approach to the development of metrics. The document also concludes with detailed and credible recommendations. These include standardised terminology, effective co-ordination and the need for an evolutionary approach.

Also of great value to any group involved in harmonisation is 'BellagioSTAMP', launched in November 2009 by the IISD in partnership with the OECD. It replaced the 'Bellagio Principles', established in 1996 for the assessment of progress on sustainability. BellagioSTAMP offers a valuable up to date fundamental basis for assessment.

- ▶ Read more about IISD and INFASA on page 100
- ► Read more about BellagioSTAMP on page 66

4.2 Global Reporting Initiative (GRI)

Metrics exist so they can be reported. The world's most widely used company reporting framework for sustainability is provided by the multi stakeholder GRI and is used by thousands of companies. Their work was first published in 2000 and twice revised. The third generation is referred to as the 'G3 Guidelines' and was released in 2006.

From 2007 – 2009, the GRI facilitated work between NGOs, academics and a group of companies that were involved in processing food¹⁶. In late 2010, the indicator protocols for sustainability for companies will be finalised. These will include guidance on relevance, compilation and definitions. At the heart of their approach is the legal principle of materiality (i.e. relevance) that identifies the most significant indicators that impact on society and the environment. Management systems must then be put in place to address them. While the work is not directly aimed at farming activities, the relevance for agriculture is high because activities to make supply chains more sustainable have been included.

► Read more about GRI on page 120

4.3 International Standards Organisation (ISO)

"People think standardization is like watching paint dry - it's boring, technical, slow, fluffy, geeky, focused on the past – but it's one of the important things to get involved in."

Rob Steele, ISO Director General, 2009

A current effort at ISO is to launch their new guidance standard for social responsibility that will be published in September 2010 as ISO 26000. It will not include requirements so isn't for certification. The food business has found that ISO standards lack flexibility and encourage ambiguity. For example, the launch of their food safety standard, ISO 22000 was long in creation and short on matching business needs when first published.

However, the brand manufacturers, led by Danone and with the facilitation of their European trade association, the **CIAA**, saw the merits in a shared approach and it has now been transformed into something that will be extensively used¹⁷. This should bode well for ISO 26000 which will at least lead to common guidance on concepts, definitions and methods of evaluation.

Read more about ISO on page 117

4.4 World Resources Institute (WRI)

ISO is active in an international network that includes other organisations working on harmonisation such as the World Trade Organisation and the Organisation for Economic Cooperation. That network includes the WRI, an environmental policy think-tank and the World Business Council for Sustainable Development (WBCSD).

WRI is looking at the harmonisation of "Annex 1 (industrialised countries)" emission reduction pledges on behalf of the WBCSD. In due course they will move on to Annex 2 and 3. WRI is involved in the United States Climate Action Partnership and is working with ecolabelling.org and the Sustainability Consortium (see 5.5) on harmonisation of 'eco-labels'. The driver for this effort is the recognition that greenwashing on labels has raised both awareness and confusion for consumers. A more objective approach to marketing is needed.

Read more about WRI on page 115

4.5 European Food Sustainable Consumption and Production Roundtable

The Roundtable is co-chaired by the European Commission and food supply chain partners and supported by the UN Environment Programme and European Environment Agency. It's a food sustainability initiative that includes production and consumption. For metrics, they are working to identify scientifically reliable and harmonised environmental assessment methodologies and to address communication divergence. Their aim will then be to engage in further harmonisation beyond their group. Most of its members are the brand manufacturers.

Read more about the Roundtable on page 102

4.6 The Sustainability Consortium

For harmonisation, the most significant recent development for the food business has been the launch of the Sustainability Consortium, facilitated by the Universities of Arkansas and Arizona. Founders include Wal-mart, Cargill, Pepsico and Unilever. More grocery retailers have recently joined, including Safeway and Ahold. There are various product sectors including 'Food, Beverage and Agriculture'.

Their discussions are concentrating on measurement and innovation. There will be a shared approach to develop industry representative life cycle data for a number of major commodity crops. They have started a database of existing product category rules and a preliminary assessment of food and agriculture certification and rating systems. There are working groups on information technology, shared databases, eco-labels (with the WRI and **Big Room**) and in the identification of a **Social Hotspot database** in product life cycles.

There has been much debate about the founding efforts of Wal-Mart. They announced their 'Sustainability Index' in July 2009, aiming to create a single data source to evaluate a product's sustainability. That initiative then launched the multi stakeholder Sustainability Consortium. Criticism of the idea¹⁸ included concerns about the credibility of business driven metrics with the assumption that they would be designed to drive consumption. That summer, the demise of the 'Smart Choices' nutrition rating programme, (a system that could positively rate foods with poor nutrition) was also happening.

Put simply:

No matter how good the work, consumers would assume it was a fix.

In response, within the group there has been much discussion that has resulted in a clear position: "We are not developing an Index¹9". The Consortium is about bringing people together to share research, opportunities for improvement and tackle uncertainty. "While the outputs of our efforts could be used by others to develop an index, it is not the intent of the consortium to develop one."

However, the discussion about the value of a sustainability index of some kind will continue because a meaningful and objective common space between the food industry and consumers is a compelling vision for many.

The interviews for this paper indicate not only positive support for the Consortium, but also that there will be many more members.

- Read more about the Sustainability Consortium on page 124
- ▶ Read what Gene Kahn of General Mills says about communicating sustainability on page 61

4.7 The Water Footprint Network (WFN)

The involvement of the WWF on the development of commodity specific networks during the last ten years has ranged from palm oil to meat. In 2007, they influenced multi stakeholder discussions that resulted in the foundation of the WFN in 2008. Much of the research and development of water metrics had been completed so the key aim was to address implementation.

Its base is in Europe but there's active participation from North America, including the Global Footprint Network and the WBCSD.

The approach is to create local and regional relevance in water footprinting. That will help companies see their own challenges and take accountability for the actions that will secure their operations. WFN is working to develop the standard and protocol for water footprint assessment. This metric has the potential to be harmonised quickly and effectively.



We want to look at metrics, not at value judgements. We want insightful methods to help people decide on the right thing to do. We want to remain detached from politics.

Derk Kuiper, Executive Director, Water Footprint Network

Read more about WFN on page 132

4.8 International Dairy Federation (IDF)

Harmonisation can also be driven by producers. The only example of a genuinely global alliance for an agricultural commodity is the IDF, representing 86% of the world's total milk production²⁰. In Berlin in September 2009, seven organisations including the IDF, signed the 'Global Dairy Agenda for Action'. It includes an industry pledge to reduce carbon emissions as a part of its contribution to help address global warming. The agreement represents a crucial step forward for an industry that contributes 3% of global greenhouse gas emissions, 80% of which are on the farm²¹. The scope of their work includes the processing and packaging of dairy products, but not the distribution and retailing.

There is current work on a harmonised carbon footprint system which means that 85% of the world's farmers could have a shared approach.

- ► Read more about IDF on page 134
- ► Read what Brian Lindsay of the International Dairy Federation says about comparability in measurement on page 39

4.9 The Consumer Goods Forum

The Forum was created in June 2009 by the merger of CIES - The Food Business Forum, the Global Commerce Initiative and the Global CEO Forum. It is an independent, global, parity-based network that brings together the CEOs and senior management of around 650 retailers, manufacturers, service providers and other stakeholders across 70 countries.

Their recent contribution to harmonisation has been led by the Global Food Safety Initiative (GFSI), which promotes convergence between food safety standards through a benchmarking process.

"It was in the spring of 2007 when I heard a presentation on GFSI. The initiative and approach were both interesting, the benchmarking especially positive and also the market driven approach was appropriate. Recognising the value of private standards, while encouraging competition among them, using markets to drive convergence and make sense out of the chaos through a reduction in duplication." John Lamb, Senior Agribusiness Specialist, World Bank, 2009

Its relevance as a case study to learn about harmonisation for sustainability is based on a number of special features. It has the backing of the CEOs of the retailers and the brand manufacturers. It has truly global representation with support from international organisations. Finally, it has actually delivered genuine impact. There is a convergence of company policy and less audits.

There is another programme at the CGF that was founded on similar principles, though with a challenge rooted in the heart of the sustainability agenda. The Global Social Compliance Programme²² was established in 2005 to tackle the challenges of duplication and lack of impact on labour standards in supply chains. It aims to harmonise existing efforts in delivering a shared, global and sustainable approach for continuous improvement of working conditions in the global supply chain. In 2009 they went beyond social issues when they published their "Draft Reference Environmental Framework Requirements". It's specific to processing and is an important step forward for harmonisation.

The CGF has shown that business can facilitate an effective discussion about policy convergence on a truly global scale. At the heart of their thinking is plain common sense and a good understanding of how to achieve a balance between progress and decisiveness through consultation and consideration. Two Board members at CGF are Sir Terry Leahy, the CEO of Tesco and Paul Polman the CEO of Unilever. In a joint presentation at the CGF Global Summit in June 2010, they called for immediate, concerted and collaborative action on climate change²³.

Terry Leahy said that consumers wanted business to take a lead and to help them be sustainable in their own lives. "Our challenge is to harness that desire and help fulfil it by creating a mass movement in green consumption."

Paul Polman said that, with 75% of all emissions influenced by consumers, the time to act was now. "To those who say, 'Can't we wait until the recession is over?' I say no. And to those who ask, 'Why can't we leave it to government?' my answer is that no single institution can tackle this problem alone. Of course governments need to act — and many are. But by working together — business, government, consumers — we can achieve collectively what none of us can achieve alone."

They announced that the CGF approach will pursue four workstreams. Packaging, deforestation and refrigeration will be tackled. Of most interest though is 'Measurement and shared language.'

Terry Leahy said: "If consumers are to trust phrases like 'carbon neutral', one supplier's definition cannot be different from another's. We cannot go on as we are. We must change."

A common global system for measuring the greenhouse gases in the life cycles of products is targeted. The Forum's role will be to drive adoption and overcome transition barriers.

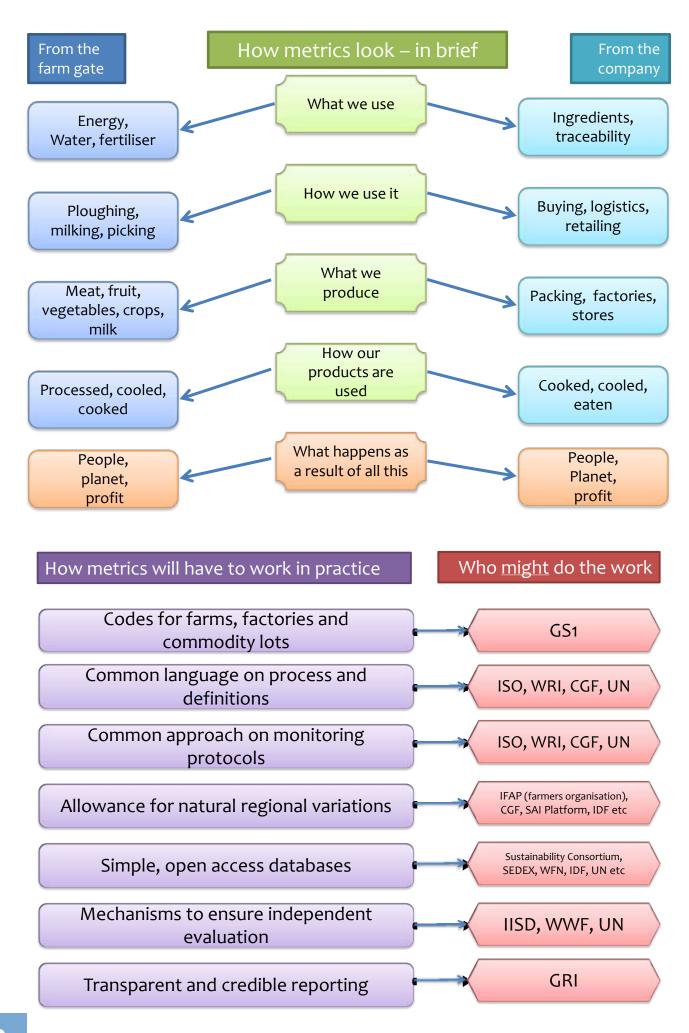
Read more about about CGF on page 135

Eight policy steps to harmonisation for companies

- 1. The business case must be agreed by the CEOs.
- 2. The top companies must all be involved.
- 3. The facilitation must be seen as neutral and the organisation at the centre must not benefit from the process.
- 4. Confidentiality must be formalised.
- 5. Decision making should be unanimous.
- 6. All companies should aspire to best practice, which is never static. Due to global variability this cannot be delivered meaning supply chain expectations must be realistic.
- 7. The top companies must deliver on policy convergence. However, progress will never be even, so stories of success and failure must be shared.
- 8. A genuine multi stakeholder process may slow progress significantly. If it is not in place, the views of stakeholders must be sought and their contribution valued. Without their support, harmonisation will itself be slowed. (see: http://www.gscpnet.com/structure-agovernance/gscp-advisory-board.html)²⁶

Eight process steps to harmonisation for companies

- 1. Harmonisation is not about setting new standards, it is about bringing together what already exists so a clear understanding of relevant schemes is required.
- 2. Project management skills in facilitation will accelerate progress.
- 3. The communication, either internally or externally, must be consistent and transparent.
- 4. Competence in working groups is important, so practical experience is required.
- 5. Participants must participate, but the realities of business means individuals will have time constraints. Therefore, facilitation should ensure workload for participants is realistic, meaning adequate budget for specialist work is essential.
- 6. Agreement on both good and best practice must include stakeholder consultation.
- 7. A central reference approach must be agreed that provides a list of essential requirements
- 8. Schemes should be allowed reasonable transition periods for adaptation before new company requirements are enforced.





Solutions

66

Like food safety, sustainability lives in the public interest.

Increasingly, consumers will expect sustainability to be an intrinsic characteristic of good product performance.

Gene Kahn, Vice President and Global Sustainability

Officer, General Mills

There are complex technical challenges about measurement. There is concern over effective communication with consumers. There are lots of people talking at the same time. One message keeps coming out. It is written in large letters across interviews, speeches and papers. Some agriculture is good, some is not so good. The leaders will continue to lead and the laggards must be encouraged to engage.

Agriculture must become sustainable.

There is also agreement that the only way to achieve this goal will be to help each other, not just at industry level but also to engage with consumers.

5.1 Collaboration

The CEOs of the food industry collectively hold the key to drive harmonisation of all sustainability measurement. In June 2010 they have announced that that they plan to use it with their new, neutral platform at the Consumer Goods Forum.

Implications from the interviews²⁵

- **★** Farmers can improve their market access by demonstrating their sustainability.
- ★ There will be a common business position on metrics and methodology favouring short sets of evidence based key indicators
- **★** Life cycle data will become open access
- **★** Shared databases will reduce administration and simplify supply chain relations
- **▼** Public policy will provide incentives to encourage agricultural sustainability
- ★ Simple self assessment models with pre-loaded local relevance and guidelines for action will help farmers identify their own key issues
- ★ Proprietary approaches and voluntary certification standards will be reinvented
- **★** Companies will need to prove their own stewardship through third party assurance

5.2 Communication

Innovators are experimenting with new ways to help consumers participate. That may be for their own health or for that of the planet and the people who produce their food. Again, the CEOs of the food industry will ensure harmonisation.

Implications from the interviews:

- ★ There will be a universal accounting standard for sustainability metrics in the agricultural sector
- ★ Companies will move away from detachment on agricultural issues and take accountability to communicate their contribution to the stewardship of their supply chains
- ▶ Product labelling will not include detail about sustainability metrics until the industry finds a way to deal with the issue of variation between regions or measurement systems.
- Product life cycle information will be held in databases with an element of public access

"I'm pleased to see that the debate on sustainable agriculture is building so quickly. To influence change successfully, I believe that economically relevant and rigorously tested information needs to be given to the decision makers. However, I see a lack of robust field projects and a reluctant farming sector. In particular, I would like to see the metrics of sustainability confirmed and then scaled up as it represents a genuine economic opportunity."

John Buchanan, Senior Director, Agricultural Markets, Conservation International



Frequently Asked Questions

1 Why do we measure?

We measure to understand.

One of the first principles for any management textbook is 'You can't manage what you don't measure.'

However, as soon as indicators of any type have been set, another principle, known as 'Murphy's law,' also arrives: 'What can go wrong, will go wrong.'

There is a version of this law relevant to measurement that warns that an intervention in a complex system creates unanticipated and unwanted outcomes.

To reduce the effect of this principle, a consistent and informed approach can be found in the 'Bellagio STAMP' including guidance on essential considerations, scope, indicators, transparency, communications, participation and continuity.

2 What should we measure?

We should measure what matters.

This means that we must understand what matters to whom, why they need it and how they will use it. This is both complex and variable.

Producers look for efficiency so they can compete. Buyers look to manage risks and tell people what and how they're doing.

The IISD paper on linking systems to outcomes provides a good overview of this challenge. (footnote: International Institute for Sustainable Development, Linking Farm-Level Measurement Systems to Environmental Sustainability Outcomes, Aimee Rusillon, Laszlo Pinter, October 2009 Pages 3-6)

3 Why is harmonisation important?

Because duplication is inefficient and will not drive change.

The case for rapid change is compelling. Multiple overlapping approaches cannot achieve what a credible consensus could. The barriers to harmonisation are considerable and include cultural differences and vested interests. The leading companies need to lead the change.

4 What makes a particular organisation a leader in this challenge?

Support of public policy makers is important but it is business support that will decide.

Climate change, soil fertility and water limitations are the business of the food industry as much as they are the subject of environmental campaigners.

The leading companies are working together to achieve consistency in policy. The Consumer Goods Forum is an independent global parity-based consumer goods network. It brings together the CEOs and senior management of over 650 retailers, manufacturers, service providers and other stakeholders across 70 countries. Their conference in June 2010 included a strong commitment to a shared approach²⁴.

5 How is sustainability actually measured?

That's not very clear yet.

There are mostly agreed approaches for 'Life Cycle Analysis,' carbon measurement and water footprinting. However, for biodiversity, livelihoods, soil quality, waste management and many other criteria there is no agreement.

This answer may seem inadequate but the evidence of a future improvement does look promising. Debates on subjects as diverse as food miles and carbon sequestration are progressing well. The recently formed Global Research Alliance on Agricultural Greenhouse Gas, launched at the UN Copenhagen conference in December 2009, is a good example of how these questions will be properly answered.

Endnotes

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Acknowledgements

Many thanks to all the people who shared their knowledge to help with this work.

The following people were interviewed between January and April, 2010

Bob Langert, Vice President, Corporate Social Responsibility, McDonalds, USA

Brian Lindsay, Chair of the International Dairy Federation Environment Committee, Australia/ UK

Carmel McQuaid, Climate Change Manager, Marks and Spencer, UK

Christophe Liebon, International Business Development, Intertek, France / Hong Kong

Christophe Tamandl, Former Executive Director, CIAA, Belgium

Derk Kuiper, Executive Director, Water Footprint Network, Holland

Elizabeth Guttenstein, Policy Director, ISEAL, Belgium / USA

Ellen Gladders, Community Plan Manager, Tesco, UK

Elli Kotakorpi, Consultant to the Centre for Sustainable Consumption and Production, Finland

Gareth Edwards-Jones, Professor of Agriculture and Land Use, Bangor University, UK

Gene Kahn, Vice President and Global Sustainability Officer, General Mills, USA

Ghislain Pelletier, Corporate Vice President for Agriculture, McCain, Canada

Jan-Kees Vis, Global Supply Chain Director Sustainable Agriculture, Unilever, Holland

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Jeff Senne, Director of Sustainability performance for North America and Europe, Sodexo, USA

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The reviewers of the paper, who were also interviewed:

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Daniella Malin, Project Director, Agricultural Climate Stewardship Program, Sustainable Food Laboratory, USA

Laszlo Pinter, Director, Measurement and Assessment Program, IISD / INFASA, Canada / Hungary

The researcher for the organisations and schemes

Marianne Gillis, Canada/ UK

Advice and support throughout the project was supplied by: Hal Hamilton, Co-Director, Sustainable Food Laboratory, USA

Gordon Bacon, Chief Executive Officer, Pulse Canada

Gord Kurbis, Director, Environment, Pulse Canada

Tamsin Anstey, Director, Chris Anstey Ltd, UK

Commissioned by

Pulse Canada, www.pulsecanada.com

Funding for this study was provided in part by Agriculture and Agri-Food Canada (AAFC).

AAFC is committed to working with industry partners. Opinions expressed in this report are not necessarily those of AAFC.

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Ellen Gladders, Community Plan Manager, Tesco



When we announced our carbon labelling ambitions in January 2007 we knew the goal was ambitious. So far, we've foot printed over 500 products and carbon labelled 120. In the next year we will grow the number of foot printed products to 1000 and the number of labelled products to 500.

It's turning out to be quite a journey for us. We've learnt a great deal – about how to buy better, reduce the environmental impact of our products, and reduce costs. We have also learned some very interesting things about our products. Many of our findings are quite intuitive e.g. aerosol deodorants have a higher carbon footprint than roll on because of the aluminium can. But some were more surprising e.g. Kenyan roses grown outdoors have a lower carbon footprint than roses grown in a hothouse in Holland, dry pasta has a lower carbon footprint than fresh.

We have selected which products to label based on where we felt that customers would find the results interesting and could take some action themselves to reduce the footprint. For example, for laundry detergent they can wash at 30 degrees, or with milk they can recycle the bottle. Our approach isn't just about putting a label on a product, it's about creating a dialogue with a customer that helps them understand and make their own choices.

We aim to help customers understand by educating and informing. At this stage we have steered away from messaging which might be counter intuitive. We asked over 2000 of our customers what they think and they find it interesting. Half of our customers understood the term carbon footprint and would consider using the label to seek out lower carbon products. When we asked again in a further round of research the number of interested customers went up.

This shows that customer interest is growing. I think we are at the beginning of the road to low carbon products and consumption. There's much more to do but we are have made an impressive start.

Sarah Alexander, Director, Sustainability and Leadership Program, Keystone Center, USA



At Keystone, our 'Field to Market' work on sustainable agriculture has started with the major commodity crops in the USA such as corn and wheat. We've faced quite a few challenges so far. For example, farmers are used

to working only as far as their silo which creates a separation from the market, making supply chain incentives complicated. There's also such variability in farming systems that we have had to make sure that our tools enable local measurements that lend themselves to the appropriate outcomes for that location. What has really helped us in this work has been the information from the USDA which is useful for self reporting and verification, thought there have been some unexpected gaps. The conservation programs in the 2008 farm bills have been updated in 2010. With this information, both private and public sector programs have an opportunity to support growers in further improvements.



Brian Lindsay, Chair of the International Dairy Federation Environment Committee



Our approach has been to bring the global dairy sector together to share knowledge about sustainability in agriculture on a pre-competitive basis. We work

hard to build trust and have made great progress. We agreed this as a group and we believe that the science will continue to evolve, especially if we encourage transparency on all our work, including setting boundaries and making assumptions. That will give us comparability in measurement so we can accelerate our learning. We also believe that the fact that we can't be certain about measuring something doesn't mean we can't work on it. The best example of this is with sequestration.

Richard Perkins, Senior Commodities Adviser, WWWF



At the WWF we have been very involved in harmonisation efforts. I believe that a multi stakeholder consensus is needed on the key impacts,

leading to a process where agreement is made to measure what matters with regional relevance. This enables continuous improvement. It's the aggregated impact on the environment that is important to us because in reality, not much depends on an individual farmer.

John Buchanan, Senior Director, Agricultural Markets, Conservation International



I'm pleased to see that the debate on sustainable agriculture is building so quickly. To influence change successfully, I believe that economically relevant and

rigorously tested information needs to be given to the decision makers. However, I see a lack of robust field projects and a reluctant farming sector. I would like to see the metrics of sustainability confirmed and then scaled up as it represents a genuine economic opportunity.



Jeff Senne, Director of Sustainability performance for North America and Europe, Sodexo

(a leading food and facilities management services company)



I believe in business and its constant challenge to inefficiency. That's what sustainability is all about. We look at issues like climate change, water

use, biodiversity and labour standards and conclude that these are basically inefficiencies. If these can be put right in our own operations, at our suppliers and in agriculture, we can save money and support our clients by offering more value. To make this happen we will need to be prepared to be very clear about how we want food to be produced and stop buying from those that can't or won't do it. Establishing agreed metrics will be an essential step to help us move forward. The metrics will tell us how to measure performance.

Unlike with standards, it doesn't stop there and we believe that with the right incentives a culture of continuous improvement can be created. That looks like a winning situation for the farmers as well as the food industry and the consumers.



Mark Pettigrew, Agricultural Development Manager Europe, Pepsico International



We wanted to understand sustainability and tell our consumers about it. In the UK during 2008 we started with the Walkers brand of crisps (potato chips)

and worked with the Carbon Trust. It was a shock to find the importance of the raw materials at over a third of the footprint. We had expected processing and distribution to be more important. We knew that we needed to work with the growers and make sure there was a clear focus on costs or savings rather than saving the planet, that's what gets their attention. We've learnt so much so quickly. For example, watch out for seasonal variations and work on the connected social and environmental factors. Looking forward, I expect

to work more closely with the NGOs and other brand manufacturers. There's a lot of expertise that people really want to share and we can achieve much more working together.



Nancy Hirshberg, Vice President for Natural Resources, Stonyfield

(the US #1 organic yogurt company that operates in partnership with Group Danone)



We measured our own operational and supply chain carbon footprint in 2000 and 2005 and our first product level footprints in 2008 and each year since. We have a lot of experience with the process, as well as the

benefits and limitations of carbon footprinting. We feel strongly that it would be misleading at best if the results were put on a label. The limitations of carbon footprinting are well documented and include scientific data gaps, variability of data, issues of boundaries, massive assumptions and the challenge of the ever changing supply chain. It's also overly simplistic to ignore the other impacts on sustainability such as social, water and ecosystems. We are firmly committed to supporting open source LCAs and further standardisation of carbon footprinting methodology. Carbon footprinting is a valuable tool for reducing our carbon footprint, but we must keep it in perspective. The more resources we put into measuring, the fewer resources are available for mitigating climate impact. Our consumers expect authenticity from us and it will not

come from a carbon label.

Marty Matlock, Area Director of the Centre for Agriculture and Sustainability, University of Arkansas USA



LCAs are both complex and expensive while being informative and essential. I believe that the open source LCA (as in the Earthster Project run by Sylvatica) can overcome the negatives while building on the positives. Companies enter their own work, combine them with public information and make the result available for aggregation. The metrics can include economic, environmental and social performance. This innovation shows how companies can initiate and accelerate change in a way that governments cannot. Transparency, responsibility and legitimacy of process. This is why I am fighting to encourage open source work.

Simon Bolwig, Project Researcher, Danish Institute for International Studies



I have looked at the emergence of carbon measurement where there's been an emergence of private sector standards driven by retailers and brand manufacturers. This proliferation has the potential to confuse consumers and to create a market access barrier. Convergence of approach has to happen though there's no agreement at present. Regulation for mandatory carbon labelling is being discussed, particularly in France and consumers in the EU generally support the idea, but actual product labelling has been minimal. Currently there is a lack of regulation but I think that will change in the long term and the publicly recognised systems such as ISO, WRI and PAS will predominate, supported by user friendly open access databases.

Peter-Erik Ywema, Executive Director, Sustainable Agriculture Initiative Platform



Our members have all done their own analysis on what they think the potential indicators will be. Now we are approaching the stage of setting policy. This story is complex and the wrong decision could of course result in cost implications. But more worrying is of unintended consequences meaning progress towards sustainable agriculture is slowed or diverted. Our network is really strong because of our members' engagement in various initiatives around the world, such as the Keystone Initiative or the Stewardship Index for Speciality Crops. We have a lot to learn from each other. I think we let the various approaches grow and continue to share knowledge.

Jan-Kees Vis, Global Supply Chain Director Sustainable Agriculture, Unilever



We need to contribute to building capacity in developing countries and that means we must find value in working with small farmers. We know that our consumers

support us, for example their response to our work on Lipton's tea has been very positive. However, I believe that the setting of farming standards has resulted in exclusion of small farmers in some cases. A different approach can be helpful that will recognise that what really matters is being able to demonstrate that there is real progress through a process of verification and performance reporting. We may need to change our business model and actually set targets to our buyers to make sure that they buy from these small farmers. I don't think it's going to be about price because what is more important is commitment in the longer term. That means serious programmes with opportunities to build further volume based

with opportunities to build further volume based on performance and proof of good progress for sustainability.

Bob Langert, Vice-President, Corporate Social Responsibility, McDonalds



Helping change the sustainability of agriculture is big subject for us. We've done our own footprint and found that was quite straightforward but it's more complex for our supply chains. I believe this work must be done in collaboration through a multi stakeholder approach.

Once we build our understanding, we can start to share knowledge in our own business and with our customers.



Bob Langert, Vice-President, Corporate Social Responsibility, McDonalds



I feel sustainable food is being described reasonably well at the moment, though it's often a narrow view. Scale is viewed as a negative but I believe it should be viewed as a part of the solution. Modern agriculture has to improve how that it communicates to consumers and business.

Derk Kuiper, Executive Director, Water Footprint Network



I have seen governments and business showing strong interest in measuring their water footprint to help with their strategy and policy work. I believe that by providing a shared platform where the final objective is a common standard we can help to accelerate change for sustainable water use. One of the things we would like to achieve is to build an understanding of how virtual water flows around the world. This will mean business can start an objective discussion about future water use.

Derk Kuiper, Executive Director, Water Footprint Network



Water has such strong links to other indicators, such as biodiversity, soil, land use that in turn are so strongly linked to the social indicators of communities

and livelihoods. These measurements must be local or regional metrics to have relevance. That's why we are looking a water footprint self assessment tool designed to relate a particular farm to local water scarcity. This will provide an indicator and a tool for implementation of change. However, it will have to be straightforward and intuitive. If you spend too much

time seeking very accurate and complex systems to measure to high degrees of accuracy you might lose the point altogether. What's important is to actually get involved in changing things.



Elizabeth Guttenstein, Policy Director, ISEAL



We aim to drive convergence. We also help our members strengthen the impact and effectiveness of their work. As a key part of this, we have been working on a new ISEAL Impacts Code that will assess the impact

of standards systems. Very broadly, it will require our members to state what their intended impacts are and to set up a system for monitoring and assessing their progress towards their intended impacts. Once that is launched in the summer of 2010, we will start work on the ISEAL Verification Code that will look into what defines good practice in accreditation, certification and auditing for social and environmental outcomes. ISEAL believes that by

operating as an effective movement, our members can increase the scale and accelerate the pace of change. ISEAL works with many organisations to find shared approaches with a focus on building credibility in process and governance.



Ghislain Pelletier, Corporate Vice President for Agriculture, McCain



We've found that when we make a french fry, 40% of our carbon footprint is from agriculture. That means our agronomists have a very important role to play in actually delivering sustainable change. For example, in India, a partnership with local farmers has reduce water usage for irrigation by 50% by helping them access drip technology. The local communities will really benefit because this will help increase yields for all their crops.

Ghislain Pelletier, Corporate Vice President for Agriculture, McCain



Understanding our own direct manufacturing emissions has been relatively straightforward. But to deal with agriculture is another challenge altogether. Sharing the

challenge is essential and I've been working through the expert group at the SAI Platform. We must find agreement on credible metrics and work out how best to actually implement change. The role of the trade associations such as CIAA in Europe and the GMA in North America is central for both of these; they must make sure that multiple approaches to measurement do not develop. For example, we're looking at embedded water in potatoes where there can be so many variations. The methodology is complex, so we all need to work together.

Jon Hillier, Research Fellow, University of Aberdeen



We recognise that there's great variability in farming so we designed the 'Cool Farm Tool' with that in mind. Its farm focussed and both practical and straightforward.

Apart from on-farm variability, there's also uncertainty in the science, for example on measuring nitrous oxide emissions from fertiliser applications. I believe that we shouldn't wait for everybody to have a definitive agreement because there's a significant risk of seeing major effects of climate change within 20 years. I think mitigating or adapting to climate change is just good business sense.

As opposed to recommending policy based on our scientific knowledge, it's perhaps more useful to transfer that knowledge and get farmers to experiment. We also recognise the relationship between carbon and other sustainability indicators and we hope that in future versions that can be incorporated. We wanted an 'open source' approach in order to present all underlying data and to facilitate improvement to the model, To this end, we would welcome the involvement of other experts.

Laszlo Pinter, IISD / INFASA



Harmonisation of metrics for sustainability goes way beyond agriculture. The accountancy methods for carbon measurement are the real sticking point and there's extensive work being driven by

the United Nations and others. Some important examples are from the Pew Centre (Measurement, reporting and verification)" (reference), the Clinton Foundation (Clinton Climate Initiative) and the UN-REDD (Reducing Emissions from Deforestation and Degradation). The challenge is to drive standardisation and agreement on common principles and methods and there are some good examples of success at the intergovernmental level, such as the Montreal and Helsinki process on forestry. The OECD's 'Measuring the Progress of Societies' initiative is important because it provides a platform for discussing these issues at a higher political level, beyond particular sectors. Farming is going to have to devise metrics that will have a credible connection with international agreements. For agriculture, I believe life cycle assessment inventory concept is interesting in theory and has practical potential though I still have questions about the related monitoring and data requirements and the methods' integrity. However, I see procurement policy risks as well. There are many stories in forestry of buyers demanding higher environmental standards being sidelined by the complexity and costs while less demanding buyers get the timber.

costs while less demanding buyers get the timber. This is certainly being replicated in agriculture as the Asian commodity markets increase in importance. These are the unintended consequences of driving improvement.

Roberto Vega, Director of Sustainability, Dole



Costa Rica has set a target of becoming the world's first carbon neutral country by 2021. We support the government's effort and have made a commitment to

them. This was a great place for us to start this work because we grow and buy a lot of bananas and pineapples there. Also, our research and development centre for Latin America is in Costa Rica. We want to develop expertise and share it with our operations around the world. Our first job was to establish a baseline so we can work towards credible reduction and compensation. We have many clients around the world and they are driving certification very strongly. I don't believe there's enough discussion about sustainability between our clients or between the various initiatives they support. It's not unusual for our sites to have multiple certifications and that represents cost and duplication. Our clients own a big part of the footprint and that is why we encourage them to work with us in finding solutions to mitigate the impact of our operations.

Sujeesh Krishnan, Head of Carbon Footprinting, Carbon Trust LLC

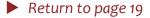


We are pushing for the convergence of approaches in both product carbon footprinting standards and labelling schemes. Convergence is critical for companies with global supply chains operating in global markets

and we are already starting to see progress in a number of the international product carbon footprinting standards development activities. The uptake of product carbon labelling has been slow as companies and consumers go through of process of really understanding what carbon footprints mean. Over the last few years we have tested a number of different approaches to labelling as we work on getting more companies to communicate carbon information externally and consumers to understand and act on carbon based information. This is an evolving process and we will see lots of activities and changes in this space in the next several years. The availability of data is one of the biggest challenges companies face when carbon footprinting their products. Good quality data is critical and concepts like shared databases and certified business-to-business product carbon data transferred through the supply chain will enable effective supply chain collaboration. That means more economical and

faster product carbon footprints. This will all drive towards achieving the real goal – carbon emissions reductions.

reductions.



Suzie Greenhalgh, Senior Economist, Landcare Research, New Zealand



I've been involved in greenhouse gas measurement for many years. I can see the problems with LCAs though I recognise their importance as a tool. For example, a LCA

for agriculture products typically averages out seasonal variations which may be adequate for some purposes but does provide misleading information for labelling purposes, especially for products like wine which can be highly variable from year to year. On the positive side, I like the emergence of open access databases for life cycle inventory data in Europe and the USA. Recently I've seen some clear signals from the market that the labelling approach may

be moving from the product to the company and it appears the concept of corporate stewardship is an emerging theme.

Gene Kahn, Vice President and Global Sustainability Officer, General Mills



Like food safety, sustainability lives in the public interest. Increasingly, consumers will expect sustainability to be an intrinsic characteristic of good product performance. The communication and marketing of (differentiated) environmental product attributes need to be viewed in the context of overall performance. In this manner, we will promote a whole systems view of sustainability, avoiding potentially misleading single attribute or isolated sustainability benefits. As a result, business will set a relevant context and high threshold for excellence in this critical area.

Paul Rowsome, Group Environmental Manager, Carrefour



I think that we must learn from our collaborations with our suppliers and our competitors because together we can develop harmonised efficient approaches to driving change. Together, at the Consumer Goods Forum,

we have made good progress on food safety, labour standards and packaging. Going forward there is an opportunity to develop harmonised methodologies for measuring value chain environmental performance. We have already successfully applied life cycle thinking and found it especially useful to get an idea of the relevant hotspots and allow prioritisation. It is important that LCA results are understood in the context of the specific product, with all aspects of sustainability considered and from a credible source.

Our practical approach has been to get our private label suppliers to review their performance. With the help of a simple tool, developed in consultation with the French environmental agency ADEME and WWF, they have been able to establish their own position across economics, the environment and people. We provide factsheets to help them with their

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action plans.

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AB Agri GHG Modelling

(www.abagri.com)
Associated British Agriculture

Verification Carbon Trust Certification

Production scope Specific to dairy farms, but plans to adapt the model for broader use

(e.g. livestock, fruit and vegetables production, biofuels).

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

AB Agri is the agriculture group of Associated British Foods plc. This diversified international food, agriculture, ingredients, and retail organisation has four main branches: Grocery, Sugar and Agriculture, Ingredients, and Retails. Brands in the Associated British Foods plc group include Twinings, Ovaltine, and British Sugar.

AB Agri's mission is to "help global agricultural businesses develop and improve by supplying leading edge, technology based products and services". Today it operates through more than 15 businesses from over 20 locations in the UK

Description

AB Agri GHG Modelling is a joint initiative between AB Agri and the Carbon Trust. It was the first agricultural scheme to assess GHG emissions from dairy farms, and the first agricultural model to receive Carbon Trust certification.

The scheme takes into account all of the major factors that affect GHG emissions from dairy farms, and focuses specifically on those factors that farmers might influence through daily management decisions. Various measurement tools are available for assessing dairy farm emissions. These tools enable farmers to put in place structured systems and responses to reduce their emissions, and include, among other things, measurements of effects of different feeds on ruminants. As stated in the AB Agri GHG Modelling brochure, "the cyclical process of measure, improve, measure provides impetus to reduce the GHG emissions resulting in benefits to dairy farmers and the environment".

Stakeholders

UK retailers Sainsbury and Waitrose.

Approved by climatop

(http://www.climatop.ch) Climatop

Verification Third party

Production scope Consumer goods

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

Climatop is a Zurich-based independent organisation that labels climate-friendly products and services. It aims to help customers choose products that are gentler on the environment, and to encourage producers to compete for production techniques that minimise CO₂ emissions. This scheme encourages the transition towards more climate-friendly products.

Description

This scheme uses a product carbon footprint (PCF) to determine which products are the best in a group (e.g. best kitchen towel, best hand dryer). Products awarded the label must have PCFs that are at least 20% better than the average PCF in their group.

"The product carbon footprint ("CO2 footprint") is the outcome of the analysis of greenhouse gas emissions throughout the entire life cycle of a product in a defined application and relation to a defined functional unit" (OKO Institut).

Climatop offers producers free preliminary assessments to gauge whether their product might fulfill the label requirements. After this, the product is "climate balanced" and assessed against other products to judge its GHG emissions performance. Climatop is able to recommend specific organisations that can help with individual product assessment. These assessments are then reviewed by an independent third party to assess the accuracy and completeness of the assessment. It is not clear who this third party is.

Approved products require re-certification every 2 years. A product or service with the climatop label has to lead to lower levels of CO₂ emissions over its lifetime, compared with similar products and services. A detailed list of criteria essential for climatop certification is currently in progress.

Stakeholders

To date, products from 7 different suppliers including Dyson (airblade hand dryer) and Swiss retailer Migros.

BellagioSTAMP

(http://www.iisd.org/measure/principles/progress/bellagiostamp/, http://www.iisd.org/pdf/2009/brochure_bellagiostamp.pdf)

Organised by International Institute for Sustainable Development and Organisation for Economic Co-operation and Development

Verification N/A

Production scope Set of principles to guide sustainability assessments

Sustainability metrics N/A

Scheme access Open

Organisational overview

BellagioSTAMP has been organised by International Institute for the Sustainable Development (IISD) and the Organisation for Economic Co-Operation and Development (OECD).

Description

BellagioSTAMP is a set of principles that are used to measure and assess progress towards sustainability, and are aligned with the definition of sustainable development as laid out in the 1987 Report of the Brundtland Commission, *Our Common Future*:

"sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

BellagioSTAMP principles are intended to help sustainability assessments by providing guidelines for **content** (which questions should be answered in assessments?), **process** (how should assessments be carried out?), **scope** (which range of assessments should be used across time and place?) and **impact** (how should the impact of assessment on the public and policymakers be maximised?).

These principles are intended to be used together, and to lead to comparable results across global, national, regional and local levels.

Stakeholders

OECD, Rockefeller Foundation, Dutch Environmental Assessment Agency (PBL), IISD.

CarbonConnect

(www.carboncounted.com)
Carbon Counted

Verification Uncertain

Production scope Consumer goods

Sustainability metrics Carbon-focused but also incorporates water, waste and supply chain

sustainability

Scheme access Open

Organisational overview

Carbon Counted is a non-profit organisation based in Canada. It works to enable businesses to measure emissions using their web-based program and "standard independent method". The organisation helps businesses with various projects: determining GHG assessments and PCFs; producing verified labels and PCFs; recording water consumption and waste; measuring and managing sustainability of supply chains; producing and submitting reports to organisations such as the Global Reporting Initiative (GRI) and the Carbon Disclosure Project (CDP). The organisation does not offer consulting services, engage directly in calculations of PCFs, or sell GHG offsets. Carbon Counted claims to eliminate the double counting that can be problematic in existing methodologies.

Description

Carbon Connect is a web-based open carbon networking tool that helps businesses measure, manage, and communicate their PCFs. The tool is designed to allow businesses to calculate their emissions in a streamlined way, and to determine PCFs and quantified environmental labels for businesses' products and services. Consultants can use Carbon Connect to pull GHG measurements together into unified product data and descriptions. Carbon Connect provides enterprise content management (ECM) and supply chain analysis, report templates, and annual analysis. It can be used with different standards simultaneously, and users can decide on system boundaries for individual products.

Carbon Disclosure Project

(http://www.cdproject.net)
Own entity

Verification Optional

Production scope All
Sustainability metrics All

Scheme access Open

Organisational overview

The Carbon Disclosure Project (CDP) is an independent non-profit organisation holding the largest global database of corporate climate change information. CDP's mission is to "collect and distribute high quality information that motivates investors, corporations and governments to take action to prevent dangerous climate change." CDP was launched in 2000 and is currently in its 8th version.

Description

Many of the world's largest corporations report their greenhouse gas and climate change information through CDP. Each year, the CDP issues an investor-backed information request to companies. This year's 2010 information request went out to some 4700 companies worldwide and was backed by 534 institutional investors with US\$64 trillion of assets under management. Companies are selected according to various stock samples or expansions, among these the Global 500 (including the world's 500 largest companies by market capitalisation), the S&P 500 (the largest 500 US companies by market capitalisation) and various country-specific samples around the world. CDP operates on a cyclical basis. Between September and November is the consultation phase for stakeholders to feed back and propose amendments to the questionnaire. Between November and January, signatories review and sign the request. The CDP information request is sent out to companies in early February each year. Companies then have until 31st May to submit their responses to CDP. During the summer months, responses are analysed by report-writers, and reports are released to the public between September and December. Many of these reports include rating mechanisms whereby companies with particular high levels of disclosure, who have responded particularly well to the information request, are highlighted as leaders. This rating methodology is developed according to the samples under which companies fall. Last year the organisation also introduced a performance scoring system.

The questionnaire itself covers questions relating to corporate governance relating to climate change, strategy, GHG emissions accounting, risks and opportunities, and communication around climate change issues.

CDP operates various different programs. CDP Water Disclosure is currently in its first iteration, and will provide water-related information from the world's largest corporations. The intention is to inform marketplace on water-related risks and opportunities. CDP Supply Chain works with member companies to help them uncover GHG emissions and risks and opportunities along their supply chains. Although there are several sector-specific supplements available for the questionnaire (e.g. oil and gas, electric utilities, automobiles and auto components) and there is a shorter version of the request available for small and medium enterprises, the questionnaire is essentially the same for all responding companies. This can be problematic for certain organisations as they do not feel that the questions are applicable to their business. Many companies in the food industry are members of the Supply Chain programme. Walmart, Carrefour, Tesco, Pepsico, Kellogg's, Unilever, ConAgra Foods, and Heinz all use CDP to work with their suppliers on climate change issues. The supplier questionnaire includes the same questions as the investor-backed information request, but asks several additional questions. These additional questions include allocation of Scope 1 and 2 emissions to customers, engagement with suppliers, and emissions over product lifecycles.

Stakeholders

Many governmental, non-governmental, and corporate actors.

The Carbon Reduction Label

(http://www.carbon-label.com)
The Carbon Trust

Verification Compliance verified by the Carbon Trust

Production scope Range of products and services

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

The Carbon Trust is a non-profit organisation that aims to accelerate the move to a low carbon society. It strives to provide business and public sector support to help organisations cut emissions, save energy, and bring low carbon solutions into markets. Its work focuses on cutting emissions both now and in the future.

Description

The Carbon Reduction Label indicates total GHG emissions from every stage of a product's lifecycle. All GHGs are included and are translated into a CO2 equivalent, which provides a common metric for measuring impacts of GHG emissions.

The Carbon Reduction Label has been designed as an information tool to allow businesses to communicate with their customers. The label is intended to provide a signal that the business is making efforts to reduce PCFs, and to provide a point of comparison amongst products within different categories. It also provides information on how customers can reduce their individual carbon footprints by using the product efficiently (e.g. washing on lower temperatures, recycling at end of life). The Carbon Reduction Label can lead to savings and efficiency down the supply chain; as companies go through the certification process, they can identify opportunities for savings and improve resource management.

Currently labeled products include a range of items ranging from smoothies to bank accounts to paving products.

The Label is presently operative in Europe, the United States, and China. Future plans include expansion to Australia and Asia.

To qualify for a Carbon Trust Carbon Reduction Label, companies must have their PCFs validated against the Carbon Trust comparability requirements, which include PAS 2050, the Carbon Trust Comparability Rules, and standard secondary data where necessary.

Stakeholders

carboNZero

(http://www.carbonzero.co.nz)
Own entity

Verification Third party

Production scope Consumer goods

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

This New Zealand-based initiative is an internationally accredited GHG certification programme. It was started in 2001 by Landcare Research New Zealand Ltd., a government-owned research institute. The organisation provides resources and tools for individuals and businesses to measure, manage and mitigate GHG emissions.

Description

CarboNZero is the first ISO 14065 accredited GHG certification scheme. Its goal is to encourage individuals and organisations to measure, manage, and mitigate GHG emissions. Its tools include a calculator for measuring emissions, information and resources to help design emissions reduction plans, opportunities to mitigate emissions through purchasing carbon offsets, third party verification, and marketing opportunities.

CarboNZero is currently engaged with 200 organisations who are working towards certification. Participating certified parties undergo third party verification. This verification ensures that the individual or organisation has measured and reduced its GHG emissions, and has neutralised remaining emissions. Emissions can be neutralised through offset projects which help reduce New Zealand's emissions through projects such as forest carbon sinks, landfill gas recovery, and renewable energy generation. To qualify as offsets, carbon credits must meet the requirements of being independently verified, additional, permanent, and cancelled.

CarboNZero recommends the Certified Emissions Measurement and Reduction Scheme (CEMARS) for organisations for whom CarboNZero certification is not possible. This program, internationally launched through a partnership with the UK-based Achilles Information Ltd., has been developed for emissions intensive organisations who are unable to offset or who have not yet taken steps toward carbon neutrality. CEMARS helps businesses measure their emissions according to ISO 14064-1, to understand their carbon-related risks and opportunities, and to develop mitigation programs to reduce emissions throughout their business and supply chain.

Certified CarbonFree

(http://www.carbonfund.org) Carbonfund.org

Verification Third party

Production scope Consumer goods

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

Carbonfund.org is a US-based organisation whose motto is "reduce what you can, offset what you can't". It is involved in carbon offsets and emissions reduction, education about climate change, and public outreach.

Description

The CarbonFree Certified Label is a product certification label. Its aim is to raise awareness of products and companies that are reducing their carbon footprints, while at the same time working towards a transformation of the market. The website encourages businesses to have their products certified to increase sales and profits, differentiate their brands, and strengthen customer loyalty while reaching environmental and corporate responsibility goals.

To achieve certification, an organisation must first conduct a product lifecycle assessment using the CarbonFree® Product Certification Carbon Footprint Protocol. Once the product is certified as CarbonFree, the organisation must then identify ways to reduce the PCF, and offset any remaining emissions. This scheme requires annual life cycle assessment review. For products that claim to be "carbon free", GHG emissions throughout the product's whole life cycle must be accounted for. This includes production of any chemicals used in extraction or farming, raw material extraction, transportation, packaging material extraction, packaging itself, and storage. Depending on the type of product, use and disposal are also accounted for.

Currently labeled products include sugar, microwaves, mobile phones and t-shirts. The website features a built-in carbon calculator for different sizes of business, events, shipping, etc. These calculators use information made available by the US Department of Energy's Energy Information Agency. Emissions figures for travel are taken from the World Resources Institute (WRI). Various other emissions factors are taken from the Environmental Protection Agency (EPA). Certified products must undergo any independent third party verification.

Climate Conscious Carbon Label

(http://www.climateconservancy.org)
The Climate Conservancy (Stanford University)

Verification Internal

Production scope Consumer goods and services

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

The Climate Conservancy is a US-based not-for-profit organisation founded by scientists at Stanford University. It aims to use the market to lead to emissions reductions, and to inform consumers about embedded GHG emissions in purchased products and services.

Description

The ultimate goal of this scheme is to have Climate Conscious labels on packaged goods products. These labels will score products based on their GHG intensity, which is measured by grams of CO2 equivalent per dollar of product. This is intended to provide customers with a means to compare products.

There are 4 steps to this scheme. First a Climate Conscious assessment is conducted. In this phase GHG emissions from manufacture, use and disposal phases of a product are analysed. If Climate Conscious requirements are met, the product is granted a Climate Conscious label. Consumers can then use these labels to obtain sufficient information on the products, and to make better product choices.

This scheme uses a process-specific life cycle assessment that has been verified by The Climate Conservancy advisors (a group of scientists, engineers, and environmental scientists from Stanford University). Methodology is intended to be transparent and aims for accuracy by using the best available data at all times. The Climate Conservancy works with the companies whose products are assessed to account for all GHG emissions throughout entire life cycles.

Coffee and Farmer Equity (C.A.F.E.) Practices

(http://www.starbucks.com/responsibility/sourcing/coffee) Starbucks

Verification Third party

Production scope Coffee

Sustainability metrics Carbon, water, environment, people

Scheme access Starbucks suppliers

Organisational overview

Starbucks is the global leader in coffee retailing, roasting and branding. It has over 15,000 outlets around the world.

Description

Note: This company scheme is included as a relevant and innovative model

These guidelines have been established by Starbucks, in cooperation with Conservation International, to address the principles of ethical sourcing of their coffee. The scheme is a set of measurable standards that include 24 criteria supported by over 200 social and environmental indicators. The principles require suppliers to be audited by third parties to assure that they comply with Starbucks' standards, and that they are working towards implementing all of the CA.F.E. guidelines. The C.A.F.E. principles are part of the Starbucks™ Shared Planet™ initiatives, which aim to have all Starbucks coffee ethically traded and responsibly grown by 2015.

The practices use a scorecard to measure how well suppliers are doing in the areas of the 200 indicators. A generic example of this scorecard is available at http://www.starbucks.com/SharedPlanet/assets/cafePracticesScorecard.pdf Scorecard indicators are based on Social Responsibility, and Environmental Leadership related to coffee harvesting and coffee processing (both wet and dry). Starbucks does recognise that smaller-scale suppliers may not have the required resources to implement all of the practices addressed in the C.A.F.E. principles. They have consequently introduced a smallholder scorecard that incorporates the 74 indicators that have been identified as most relevant for smaller scale operations.

Starbucks has been working with Scientific Certification Systems (SCS) as a third party verifier. SCS has also trained more verification organisations to conduct their own audits. Inspectors based in supplier countries are trained by SCS before they are qualified to work as verifiers. SCS guides, as well as conducts audits itself to verify accuracy of information submitted to Starbucks. At the end of fiscal year 2008, a total of 29 organisations with a network of 150 inspectors worked together to carry out verification.

Stakeholders

Starbucks, their suppliers and all other customers of their suppliers.

The Cool Farm Tool

(http://www.sustainablefood.org) University of Aberdeen

Verification Self assessment

Production scope Agriculture and horticulture

Sustainability metrics Carbon

Scheme access Open

Organisational overview

The University of Aberdeen and Unilever's Sustainable Agriculture team, with the support of Unilever and the Sustainable Food Laboratory, have joined forces to develop this scheme.

Description

Note: This self assessment model has been included as a relevant and innovative model.

The Cool Farm Tool is a GHG calculator for use at farm level. The farm-specific tool is designed to produce estimates of soil carbon sequestration based on a model founded on the results of published studies, emissions from electricity and fuel using conversion factors, and N20 emissions based on an empirical model founded on dataset analysis. It is between calculation tools that use basic emissions factors and those that use highly complex models. It has been designed specifically with the farmer and field perspective in mind and it requires only the information that a farm manager would already have to hand. It is capable of incorporating information from models based on peer-reviewed studies. Though still in the development stage, once established guidance will be provided on alignment with other footprinting methods, data quality and handling, supply chain considerations, and boundary and scope definition.

It will be used in a Climate Assessment project led by the Sustainable Food Laboratory starting in 2010.

Stakeholders

Sustainable Food Lab, Sustainable Agriculture Initiative Platform.

Earthster.org (http://www.earthster.org) new earth and Sylvatica

Verification

Production scope Consumer goods and services

Sustainability metrics Carbon, environment and social

Scheme access Open

Organisational overview

'New earth' is a US-based non-profit organisation that provides funding for local projects that work to improve the planet and people's livelihoods.

Description

Earthster is a free, open source, web-based system. Earthster has been initiated with the aim of providing all companies with opportunities to document and communicate their environmental and social performance. It provides them with life cycle analysis and publishing power. It also aims to provide purchasers with sufficient information to identify products and services that align with their values.

Companies participate in the system because they can benefit from zero-cost market access. Producers are able to use the website to benchmark themselves against sector averages, and to report on environmental and social aspects of their goods and services simply by clicking a button. Finally, developers of methodologies, labels, and scorecards, as well as lifecycle analysis data providers, are able to input the information provided into their own systems and provide bespoke reports with decision-relevant information.

Earthster users are able to input their information into the system to construct a life cycle assessment model. They can use this model to identify areas that are most emissions-heavy, for example whether it is the company itself or a supplier who is contributing the most to the product's PCF. Users can compare models to see which products and processes are more environmentally-friendly. This is helpful when selecting suppliers or benchmarking a company's own performance against industry averages. Product analyses can also be published if the company wants to communicate these results to the public.

The system is currently in its development stage.

Stakeholders

Integration of data into Earthster was funded by The Green Standard (TM). Roundtable members include the United States Environmental Protection Agency, Sustainability Consortium, Owens Corning, and Stonyfield Farm.

EU Eco-Label

(http://www.ec.europa.eu/environment/ecolabel/index_en.htm) European Commission

Verification

Production scope Consumer goods and services

Sustainability metrics Carbon, environment and social

Scheme access Open

Organisational overview

The European Commission is the European Union (EU) executive. It operates as a cabinet government with 27 Commissioners, and is responsible for the general functioning of the European Union. This includes suggesting and implementing legislation, and upholding European Union treaties.

Description

EU Eco-Label is part of a broader plan to promote Sustainable Consumption and Production and Sustainable Industrial Policy. The European 'single market' requires the existence of a single label so that confusion amongst producers and consumers can be avoided. The Eco-Label is intended to promote transparency and simplicity because the same criteria apply to each product regardless of the Member State in which it is sold.

Labelled products are marked with a flower logo, and the aim of the label is to encourage businesses to use products and services that are more environmentally-friendly. Products marked with the Eco-Label have added value because they have been made according to strict performance standards and have a reduced environmental impact. Current product groups include: textile, home and garden products; cleaning products; lubricants; appliances; paper products; and services (e.g. tourist accommodation). Eco-label is based on the specific services or products of firms (while an Environmental Management System is based on general environmental performance of a company). A future consideration for the European Eco-label is how to take carbon footprinting into account within the development of criteria.

EU Eco-Label criteria are agreed at a European level after consultation with experts. The label is only awarded after verification is carried out. Criteria are based on studies that analyse the environmental impacts of the product throughout its lifecycle. This includes phases from material extraction to disposal.. The protocol for verification has not been finalised.

Stakeholders

European governments and companies

The Fieldprint Calculator

(http://www.fieldtomarket.org/tool-home.php)
The Keystone Center

Verification Self assessment

Production scope Crop-specific: focus on wheat, corn, cotton, and soybeans

Sustainability metrics Land use, soil, water, energy and climate impact

Scheme access Open

Organisational overview

The Keystone Center is a non-profit organisation that seeks to solve "society's most challenging environmental, energy, and public health problems". It brings together public, private and civil society leaders to address these issues.. Field to Market: The Keystone Alliance for Sustainable Agriculture was formed to ensure a sustainable future in agriculture to meet the needs of 9 billion people by 2050. Its objective is "to provide useful measurement tools and resources for growers and the supply chain that track and achieve continuous improvement against key outcomes". Field to Market members include stakeholders from companies, agribusiness, food and retail organisations, growers, and conservation organisations involved in agriculture and food supply chains.

Description

The Fieldprint Calculator developed by Field to Market is a 'spidergram' environmental indicator system that provides a visual representation of how specified efficiency indicators change over time for specific farms. The scheme is crop-specific and focuses on 4 commodities: wheat, corn, cotton, and soybeans. The efficiency indicators included in spidergram calculations are land use, soil loss, water use, energy use, and climate impact (represented by GHG emissions).

These spidergrams can provide visual descriptions of improvements in resource efficiency for units of output or for resource use per acre, as well as overall yearly resource use or impact. They can provide an indication of where potential improvements may lie, where efforts have been successful and where more effort is required.

The Fieldprint calculator that is used to determine the spidergrams has been developed with the aim of encouraging growers to think more about sustainability issues relating to their farms. It does not provide a precise farm footprint, but does allow growers to benchmark their own operations against national and regional averages. By using the calculators, growers can manipulate practices that they input into the system and see how these will affect their overall results.

The Fieldprint calculator accounts for the five indicators mentioned above. Taking growers' information into account, the calculator estimates the effect that an input has on an output, and produces a spidergram based on these. Larger spidergrams indicate higher overall impact of a commodity, while smaller ones indicate lower impacts. The spidergram provides values for each indicator, but does not combine them into a single overarching value to show a crop's overall impact. The Fieldprint calculator is currently in the pilot stage. Future plans for the initiative include grower involvement in calculator and resource development, incorporation of additional indicators (e.g. water quality and biodiversity) into the calculator, and further partnering with other groups.

Key parties involved in this scheme include the Keystone Center, Field to Market members, and participating growers.

Stakeholders

Keystone 'Field to Market' participants

Good Guide

(http://www.goodguide.com) Own entity

Verification By Good Guide

Production scope Consumer goods

Sustainability metrics Environmental, health and social

Scheme access Proprietary

Organisational overview

Good Guide is an information source for environmental, social, and health impacts of household products. Good Guide is US-based but provides detailed accounts of products from around the world.

Description

Good Guide is a "for benefit" organisation that serves to fill the information gap that exists for data about many commonly used household products. Good Guide's aim is to make available the most useful, comprehensive, and reliable information on products and businesses. The website currently provides environmental, health, and social scores for over 70,000 food, toy, household and personal care products. Website users have an option to view a simple overall rating, or to get more information on what data was considered and how ratings were determined. This appeals to those who want a simple overview of how well a product scores in environmental, health, and social categories, as well as to those who want a more detailed and comprehensive account of a product's score.

The methodology behind Good Guide ratings makes use of over 1,000 base criteria to assess products and organisations. Environmental, health and social impacts are identified through environmental impact assessment, health hazard assessment, and social impact assessment. Extensive information on methodology, ratings, data quality management and approach to data gaps is available on the website.

Stakeholders

Parties involved include Google, MIT, the University of California, and eBay. Good Guide also partners with the top 4 socially responsible investment firms (Innovest, RiskMetrics, Asset4, KLD Research), as well as numerous non-profit organisations (e.g. Women's Voices for the Earth, Center for Food Safety).

Indice Carbone Casino

(http://www.groupe-casino.fr/en/The-Casino-Carbon-Index-a-green.html)
Groupe Casino

Verification ADEME

Production scope Casino private label products

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

They are the 13th largest retailer in the world with banner sales in 2009 of €49bn (Planet Retail). They have 10,000 stores in France and around the world, and 200 000 employees.

Description

The Indice Carbon Casino green label is a PCF label symbolised by a green leaf. The label indicates the amount of GHG emissions resulting from a product through 5 steps of its lifecycle: agriculture, product manufacture, transport (from field to Casino Group buildings), packaging (from material extraction to recycling) and distribution (from Casino buildings to consumer's dwelling).

It is expressed in grams of Co2 equivalent per 100g of finished product.

The goal of the label is to enable consumers to make informed decisions when they shop. Casino Group suppliers are provided with software that allows them to calculate their contribution to the overall carbon index, through their production systems and materials purchasing choices. The methodology has been developed by Bio Intelligence Service, and validated by the French government agency, ADEME.

Key players in this scheme are consumers, retailers, and product manufacturers.

Casino Group wants to have the most global and far-reaching understanding of its products as possible.

Casino Group itself is based in France, but is also focusing efforts on emerging countries in South

America and Southeast Asia.

Stakeholders

Casino, French government agency ADEME

Stewardship Index for Specialty Crops (SISC)

(http://www.stewardshipindex.org)
Self managed

Verification

Production scope Fruits, vegetables, nuts, and horticulture

Sustainability metrics People, planet and profit

Scheme access Open

Organisational overview

SISC was initiated by staff at the National Resources Defense Council (NRDC), a not-for-profit environmental action group based in the United States. Its mission is "to safeguard the Earth: its people, its plants and animals and the natural systems on which all life depends". Now the SISC has it's own multi-stakeholder governance including grower, buyer, and public interest groups.

Description

SISC is a multi-stakeholder initiative that aims to develop a system to measure sustainable performance in the specialty crop (fruits, vegetables, nuts, and horticulture) supply chain. It offers a series of outcomes-based metrics to enable operator benchmarking, comparison, and communication of performance at any point along the supply chain. This project does not seek to establish standards but rather provides a tool for measuring sustainable outcomes. It helps identify opportunities for increasing efficiency and reducing costs in supply chain operations (farms, distributors, processors, retailers, etc); reduces reduplication of efforts in measuring by providing a standardised system of measurement; allows individuals to move along the sustainability journey regardless of their current level; addresses needs of specialty crops while furthering sustainability goals; enables data-backed and verifiable claims; help reduces the likelihood of future regulations; encourage best practice innovation.

To further these broad goals it hosts webinars on various topics, and a pilot group is currently developing measurement tools. The first draft metrics are being piloted in 2010 with funding from the United States Department of Agriculture.

Stakeholders

SISC's coordinating council involves 30 organisations such as environmental and public interest groups (e.g. WWF, NRDC); growers, suppliers, and trade associations (National Potato Council, Wine Institute); buyers and trade associations (SYSCO, Walmart, Unilever); Sustainable Food Lab and University of Arkansas. Financial support comes from The David and Lucille Packard Foundation.

PAS 2050

(http://www.bsigroup.com/Standards-and-Publications/How-we-can-help-you/Professional-Standards-Service/PAS-2050)
British Standards Institution (BSI)

Verification Third party

Production scope Consumer goods

Sustainability metrics Carbon

Scheme access Open

Organisational overview

PAS 2050 was developed by British Standards Institution (BSI). BSI engages in various standards-related activities, including development of private, national, and international standards; training and information on standards; product and system certification; performance management software. BSI was founded in the UK but has grown into a strong global organisation.

Description

PAS 2050 is a publicly available specification (PAS) for assessing product life cycle greenhouse gas (GHG) emissions. The aim of the PAS is to enable organisations to measure the impacts of their goods and services as a first step to identify where these impacts can be reduced, and ultimately, to reduce them. It is the first national-level attempt to create a standardised basis for assessing Product Carbon Footprints (PCFs).

PAS 2050 has been prepared by BSI and co-sponsored by Carbon Trust and the UK Government Department of the Environment, Food and Rural Affairs (Defra). It is an independent standard that has been developed through two international consultation rounds and with input from stakeholders including non-governmental organisations, academics, business, and government representatives. The focus of PAS 2050 is GHG emissions throughout a product's life cycle (where product is taken to include both physical products (goods) and service products (services)). It has been designed for application to all goods and services, and takes into account GHG emissions from a product's entire life cycle, from raw materials to end of life. It does not include other environmental impacts (e.g. biodiversity, water use) or social impacts (e.g. labour standards). PAS 2050 encompasses the six GHGs as identified under the Kyoto Protocol (carbon dioxide (CO2), methane (CH4), nitrous oxide (N20), sulfur hexafluoride (SF6), as well as families of gases including hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs)). It can be used for business to business (B2B) or business to consumer (B2C) products. PAS 2050 is anchored in 5 key guiding principles: Relevance, Completeness, Consistency, Accuracy, and Transparency.

Different levels of analysis are required for the standard, depending on how the PCF will be used. For example very precise analysis is required if the PAS 2050 is used to communicate a PCF to consumers. If it is used internally to identify "hot spot" areas where GHG emissions can be reduced, a lower level of precision is required, but the PCF will not pass third party verification.

The PAS is a consultative document that can be considered as a pre-standard. It differs from a British Standard in that any organisation can commission a PAS if it passes the BSI acceptance process, whereas a British Standard is a published document that is intended for consistent use "as a rule, guideline, or definition" (http://www.standardsuk.com/FAQs.php). A British Standard requires full consensus on technical issues from all stakeholders, while anyone can comment on a PAS, though these comments need not necessarily be incorporated.

PAS 2050 can be used by organisations of all sizes to measure GHG emissions across their product life cycles. It does not address any other elements of sustainability, which must be considered when assessing a product's overall impact.

Key players involved in the scheme include BSI, Carbon Trust, and Defra. The PAS 2050 steering committee is made up of representatives from e.g. Defra, Carbon Trust, CBI, Surrey University, and The Climate Group. Additional stakeholders include those who were involved in the initial consultation. Any organisation who uses PAS 2050 to measure PCFs is also a key player, as well as any government or regulatory body that uses it as a stepping stone for development of future regulation.

Stakeholders

BSI, UK Government (Defra), Carbon Trust and its clients.

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Stop Climate Change

(http://www.stop-climate-change.de/de) AGRA-teg Agrar

Verification Third party

Production scope Consumer goods and services

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

This scheme was initiated by AGRA-teg Agrar- und Umwelttechnick GmbH, a branch of the University of Göttingen.

Description

The goal of SCC is to compensate for damage caused to the environment during production of goods and services. The "SCC" label requires the implementation of an Environmental Management System (EMS) either for an entire company or for a specific product. The 4 steps of the process are: analysis, reduction, neutralisation, certification. This system accounts for emissions through production, transport, storage and logistics phases of a product's life (and does NOT include use and disposal). Through this procedure a company is able to measure emissions resulting from the organisation as a whole or from individual products. After certification, companies can use the SCC logo on their company websites, products, etc.

The ultimate driver behind the SCC label is the idea that if companies measure their emissions, they can identify areas for reduction, reduce emissions where possible and offset the rest, thus leading to greenhouse gas "neutralisation".

Key parties in the SCC Scheme include consumers, certified organisations, the University of Göttingen, the Patron and Governing Board, and the scheme trustee (GLS Bank). Some examples of certified products are: Biotropic bananas; and OFFSET COMPANY Druckereigesellschaft mbH, Wuppertal. Certified companies with neutralised emissions include: Kornhaus Naturkost; bio verlag gmbh, Aschaffenburg. AGRA-teg Agrar- und Umwelttechnick GmbH, under the University of Göttingen, is responsible for setting and updating certification standards for the scheme. These standards have a high degree of independence and transparency, and are laid out in a comprehensive document that is not yet available in English.

Certification bodies are GfRS - Gesellschaft für Ressourcenschutz GmbH); IBD Certifications (Brazil); Biolatina (Peru). AGRA-TEG GmbH recognises various projects (e.g. energy efficiency projects, renewables projects, etc.) that can contribute to "climatic neutralisation". These projects must comply with the following principles: that reductions in greenhouse gases result additionally and have not occurred otherwise (additionality), that reductions in greenhouse gases have really occurred and will also occur in the future, that reductions in greenhouse gases are permanent (permanence), that independent third parties inspect if the calculated reduction of GHGs really occurred and will have continuity in the future (by means of validation, verification, certification), that reductions in GHGs do not cause additional emissions in other places (leakage), that reductions in emissions are not considered again as reductions in other places (double counting).

Stakeholders

Biotropic bananas; and OFFSET COMPANY Druckereigesellschaft mbH, Wuppertal. Certified companies with neturalised emissions include: Kornhaus Naturkost; bio verlag gmbh, Aschaffenburg.

Social Hotspots Database

(http://www.lcacenter.org/LCA9/presentations/1053.pdf)
Sylvatica, the University of New Hampshire

Verification

Production scope Consumer goods and services

Sustainability metrics Social
Scheme access Open

Description

This scheme aims to provide a database that helps identify "social and socio-economic areas of concern or opportunity in product life cycles". The database is being developed in an open-source format, to allow public access to the data once the system and database have been completed. The system will also be included in sources such as Earthster.org (also covered in schemes section). The database is intended to be and provide: a transparent data source; uncertainty quantification; transparent validation; and a transparent characterisation model.

Hotspots are "unit processes in the life cycle providing higher opportunity to address issues of concern/risks". Social hotspots are four-dimensional, and cover: confidence in data; severity of the issue; the sharing of relevant activity variables within a life cycle; and the level of assessed risk. They could be reputational risks, risks of violations, or issues that need to be addressed when business is done in particular regions or countries.

The project intends to develop hotspot characterisation factors to enable qualification of severity for different situations; to develop results visualization tools; to assemble a database of best publicly available data on issues related to rights, to promote positive business practices, and investment in communities and people; and to incrementally enhance publicly available data with participant contributions. In the initial stages, the scheme will develop risk tables for child labour, living wage, worker hours, community infrastructure, and forced labour.

The Social Hotspots Database is currently in development, though it is already being used by Walmart in three pilot projects. It is hoped that this project will greatly contribute to advancing Social Life Cycle Analysis.

Stakeholders

Initial database members are HP, New Standards, Walmart, and Canadian Business for Social Responsibility (CBSR). The Social Hotspots Database operates in partnership with the Sustainability Consortium. Members at further stages will include representatives from the private sector, nongovernmental organisations, consultants, fair trade representatives, academics, and development agencies. The database team is currently open to partnerships with new funding members.

The Climate Registry

(http://www.theclimateregistry.org)
Not applicable

Verification Third party

Production scope Organisations

Sustainability metrics Carbon

Scheme access Proprietary

Organisational overview

The Climate Registry is a policy-neutral, non-profit cooperative effort between states, provinces, territories, and Native Sovereign Nations in North America. It aims to establish transparent and consistent standards for businesses and governments to measure and publicly report on GHG emissions in a single registry.

Description

The Climate Registry commitments include establishing a single framework for both voluntary and mandatory emissions reduction programs and reporting; encouraging best practice in emissions reporting; minimising members' reporting burden; helping members find their emissions baseline and keep track of mitigation activities; developing a reliable and consistent emissions reporting platform; and encouraging full, public disclosure of GHG emissions. The public is welcome to offer comments on the development of accounting protocols.

Organisations can join the Registry by completing and submitting a statement of intent, available on the website. The Registry operates on a tiered fee structure, ranging from \$450 to \$10 000 depending on the nature of the organisation. By submitting the statement of intent, members indicate that they will calculate both direct and indirect GHG emissions. Measuring and reporting is not restricted to carbon dioxide; participating members also measure and report on methane, nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). Reports must then be verified by certified third-party verifiers, who are private companies with proven experience in GHG emissions accounting.

Stakeholders

As of March 23, 2010, the Registry had 4117 members. These include, amongst others, Agromin, National Grid, the United States Postal Service, Driftwood Dairy, Johnson & Johnson, and the World Resources Institute. Member resources include reporting and verification guidelines, the Climate Registry Information System (an online greenhouse gas (GHG) calculation, reporting, and verification tool), and a Reporting Toolkit. The Registry hosts various events, and its website is also a source of information on climate-related news, and features a blog and the "climate pages" directory for finding information on carbon experts.

Sedex (www.sedex.org.uk) Own entity

Verification Sedex itself does not verify information.

Production scope Consumer goods

Sustainability metrics Environment, business integrity, labour standards, and health and

safety

Scheme access Proprietary

Organisational overview

Sedex is London-based non-profit membership organisation for "businesses committed to continuous improvement of the ethical performance of their supply chains". Sedex is currently expanding and membership is open to any company in the world.

Description

Sedex was initially founded with the aim of easing auditing burden for suppliers, and of driving improved labour standards at employment locations around the world. It strives to provide companies with a secure database for holding and sharing ethical data, such as audit reports, self-assessment, and corrective action reports and status. It serves as a tool for facilitating access to information.

Companies who join Sedex enjoy benefits such as opportunities to use the web-based system, to be involved in governance, to engage with and share best practice with other members, and to use value-added services offered by Sedex. Member companies can be transparent about their supply chain practices through the Sedex data exchange process.

Sedex is a flexible platform focused around four broad issues: environment, business integrity, labour standards, and health and safety. It aims to avoid information duplication. Sedex does not specify compliance with any particular code, or implement a pass/fail system. Rather it holds data on ethical and responsible practices covered by ILO Conventions, Ethical Trading Initiative Base Code, SA8000, ISO14001 and industry specific codes of conduct. Members can use the Sedex information base to assess their suppliers against these codes. Information provided by organisations is not verified through Sedex, but through third party auditors and verifiers.

Sedex uses "SMETA", the Sedex Members Ethical Trade Audit, as a shared audit format. which allows information to be shared and compared. It increases transparency while avoiding duplication. SMETA is not a new code, it is an amalgamation of existing best practice techniques. It incorporates three elements: guidance on best practice in conducting ethical trade audits; a common audit report format; and a common corrective action plan format. SMETA is not restricted to Sedex member companies. Sedex works with a range of non-profit organisations, non-governmental organisations, multi-stakeholder initiatives, non-governmental organisations, trade union representatives, and socially responsible investors. Companies can become members on various levels, depending on the level of involvement and information they are seeking.

Stakeholders

Member companies include founding member Tesco, Aldi UK, Nestle, Unilever, Groupe Danone and Greenpeace. There are over 300 companies involved with 22,000 sites of employment on the database with a total employment of 8.5 million workers.

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The UNEP-SETAC Life Cycle Initiative

(http://www.estis.net/sites/Icinit)
UNEP and SETAC

Verification Will provide a platform for peer-reviewed life cycle data

Production scope Consumer goods and services

Sustainability metrics Environmental, social, and economic.

Scheme access Proprietary

Organisational overview

This initiative was founded by UNEP, the United Nations Environment Programme, and SETAC, the Society for Environmental Toxicology and Chemistry.

Description

The overarching aims of this Initiative are to encourage moving life cycle thinking into practice, and to improve life cycle tools by providing improved data and indicators. Its mission is "to develop and disseminate practical tools for evaluating the opportunities, risks and trade-offs associated with products and services over their entire life cycle to achieve sustainable development". Specific goals are to provide an arena for capacity building, increase the availability of quality LCA methods and data, to provide a platform for knowledge-sharing on LCA and other tools, easing the use of life cycle-based methods and information, and collecting and spreading information on good examples of life-cycle thinking. The initiative provides accessible reliable information, and will help lead to universal applicability and dissemination of information and prepare industry for increasing consumer pressure. In the long term, the initiative will work in accordance with the following:

It will be moved forward by the implementation and dissemination of life cycle thinking with training modules for those with less experience with LCA thinking, and a compilation of life cycle studies to pinpoint best practice in different sectors and areas;

It will ease the inclusion of Life Cycle thinking and the three pillars of sustainability (environmental, economic, and social) into management practices by integrating existing decision-making tools and concepts on sustainable products in a Life Cycle Management framework; providing benchmarking guidance; providing communication strategies for transmitting life cycle information to the relevant people;

It will establish best practice in LCA by delivering an information system for accessible peer reviewed Life Cycle Inventory databases, will recommend Life Cycle Impact Assessment methods, models and factors, and will provide user guides for tools and applications.

Stakeholders

A variety of stakeholders are invited to participate in this initiative, including industries, governments, research centres and institutes, consumer organisations, non-governmental organisations, companies, and foundations. There are various levels of membership, and fees operate on a sliding scale. Affiliated partners include, among others, Natural Resources Canada, the International Council on Mining and Metals, the German Federal Ministry of Education and Research, Johnson & Johnson, and GDF Suez. The initiative is also linked to the World Business Council for Sustainable Development (WBCSD) and other UN programmes including the Sustainable Buildings and Construction Initiative (SBCI) and the Strategic Approach to International Chemicals Management (SAICM).

Ecoinvent

(http://www.ecoinvent.ch)
Ecoinvent

Verification Data quality is assured through a standardised five step validation

process whereby datasets and their documentation are reviewed by

another participating institution.

Production scope Consumer goods, processes and services

Sustainability metrics Environmental, social, and economic

Scheme access Proprietary

Organisational overview

Ecoinvent is a Swiss initiative, originally named the Swiss Centre for Life Cycle Inventories. It is a collaborative effort between the Swiss Federal Institute of Technology Zürich (ETH Zurich), the Paul Scherrer Institute (PSI), the Swiss Federal Laboratories for Materials Testing and Research (Empa), and the Swiss Federal Research Station Agroscope Reckenholz-Tänikon (ART). Ecoinvent relies on German company ifu Hamburg GmbH for technical expertise and software development and operation.

Description

Ecoinvent's mission is "to establish and provide scientifically sound and transparent international life cycle assessment (LCA) and life cycle management (LCM) data and services to industry, consultancies, public authorities, and research institutions". Its data and services provide support in "enhancing the environmental performance of your products, processes, and services". The database is host to over 4000 industrial life cycle inventory (LCI) datasets. These cover products in various sectors including transport, agriculture, metals, biofuels and biomaterials, bulk and specialty chemicals, waste management, ICT and electronics. Datasets have been put together by renowned research institutes and consultants, and are based on industrial data. Data is in EcoSpold data format, which is ISO/TS 14048 compliant and is compatible with major LCA and eco-design software tools. Users can search the database by various areas and using different criteria. Access to datasets help users work towards integrated product policy (IPP), environmental management systems (EMS), design for environment (DfE) and product stewardship efforts. Ecoinvent also offers training and knowledge on LCA databases. Data quality is assured through a standardised five step validation process whereby datasets and their documentation are reviewed by another participating institution. Datasets based on information received from partners or associations must also be approved.

Interested users can get an overview of the database content free of charge by registering as a guest. For full access users must register at the price of €1800 excl. VAT.

The website stresses the importance of transparency and proper documentation, and provides detailed reports explaining sources of various numbers in a dataset. The first three of these are available to the public and the others are for paying users only.

Current activities include work towards updating the new database, which will be available shortly; expanding the ecoinvent team; and plans to hold workshops at upcoming conferences.

Stakeholders

Ecoinvent is linked formally or informally to the following institutions: the Swiss LCA discussion forum; LCAInfo; the LCA information platform, Switzerland; the UNEP / SETAC life cycle initiative; COST action 530; the German LCI network; and the USA Life Cycle Inventory Database.

People 4 Earth

(http://www.people4earth.org)
Own entity

Verification

Production scope Consumer goods and services

Sustainability metrics Environmental, social, and economic

Scheme access Proprietary

Organisational overview

People 4 Earth is "a global non-profit organization improving the well-being of people and the health of our planet by providing a global sustainability Standard & Index for products and services". Its key values are transparency, simplicity, truth and oneness.

Description

People 4 Earth has developed a global sustainability standard and open platform. It intends to promote global sustainability by making the marketplace more transparent, and by informing consumers of the true impact of their purchases. It aims to provide a platform where consumers and businesses can access systems that will enable them to make more sustainable choices. It also strives to encourage NGOs to cooperate and share best practice, and governments to develop sustainability-geared regulations.

People 4 Earth aims to encourage collaboration and advance the use of standards in the market by encouraging a common language for sustainable production and consumption; providing decision-support tools that bring innovation opportunities in materials and processes in the value chain; putting forward an Index that provides reliable, straightforward, comprehensive information on measurements of sustainability. It offers a standard for measurement, a platform to improve, and an index for communication.

Its standard is focused on 4 pillars: "pure", "fair", "life" and "renew". Use of the standard allows companies to communicate to their consumers their sustainability practices. All reported details are available in an online sustainability Index and companies can display People4Earth logos with a four level "Trustmark". People 4 Earth requires continuous improvement for a company to continue to use the sustainability Index.

Stakeholders

People 4 Earth is a member of ISEAL, and is supported by various other organisations such as Green America and Social Venture Network Netherlands.

T4SD (Trade for Sustainable Development)

(http://vi.unctad.org/files/studytour/stcolog/docs/stcolhagen.pdf) UNCTAD, ISEAL, IISD, and various other organisations

Verification Uncertain

Production scope Voluntary and environmental standards

Sustainability metrics Environmental, social, and economic

Scheme access

Description

Trade for Sustainable Development (T4SD) Project is a partnership between UNCTAD, ISEAL, the International Institute for Sustainable Development, and several other organisations who are involved in standards. T4SD aims to encourage transparency in voluntary and environmental standards and, through these standards, help lead to more sustainable trade globally. The project will lead to the development of an interactive web database with accessible information on trade and sustainable development. This will include information on voluntary sustainable standards and research on standards, trade, and sustainable development. The ultimate goal is that this information will lead to improved, sustainable trade practices.

The scheme will initially target exporters and trade support institutions, and producers to increase access to information and sustainability awareness. Full implementation is expected to occur in 2010-2011.

Stakeholders

UNCTAD, ISEAL, IISD, and various other organisations.

Organisations

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Sustainable Agriculture Initiative Platform (SAI Platform)

(www.saiplatform.org)

What it is

SAI Platform is an organisation based in Europe but with global membership. It has been created by the brand manufacturers to facilitate worldwide communication and involve stakeholders in developing sustainable agriculture.

SAI Platform supports agricultural practices and production systems that preserve the future availability of current resources and enhances their efficiency.

It aims to implement the 3 pillars of sustainability into agriculture (environmental, economic, social).

Types of activities

SAI Platform's ultimate aim is

"the development of sustainable agricultural practices which are harmonised along the food chain." To further this goal, SAI Platform's activities follow four themes:

- 1. Knowledge building and management;
- 2. Awareness raising;
- 3. Stakeholder involvement;
- 4. Support to the implementation of sustainable agriculture practices.

Current examples

Various working groups, e.g. a working group on dairy compared 27 different methodologies for measuring GHGs at farm level.

Organising educational conferences and pilot projects.

Relationships

Members include Coca Cola, Danone, Nestlé and Unilever Affiliate members are CIAA, EISA, Global Dairy Platform.

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Field to Market: The Keystone Alliance for Sustainable Agriculture

(www.keystone.org www.fieldtomarket.org)

What it is

The Keystone Center is a US based non-profit organisation that seeks to solve "society's most challenging environmental, energy, and public health problems". It brings together public, private and civil society leaders to address these issues.

Field to Market: The Keystone Alliance for Sustainable Agriculture was formed to ensure a sustainable future in agriculture to meet the needs of 9 billion people by 2050. It aims to reduce negative impacts on the environment, increase resource efficiency, and enhance natural resource quality. This will be done through communication and collaboration between members.

Types of activities

Development of online self assessment tool.

Collaborative working for measuring sustainability.

Current examples

The Fieldprint Calculator is a free, confidential online tool developed with input from a diverse group of grower organisations, agribusinesses, food companies, economists and conservation groups, to help farmers evaluate natural resource use on their operation compared with industry averages. These measures could help improve production efficiencies and profit potential.

The Keystone Center has also launched the Green Products Roundtable (GPR), and facilitates this voluntary group of stakeholders from the private, non-profit, and government sectors. The roundtable aims to minimise misunderstandings about the "green" marketplace, and improve manufacturer, consumer, and producer production and purchase decisions. It is currently made up of 35 representatives from green products manufacturing, research, certification, distribution, and consumer education.

Relationships

Various corporations, trade associations, organisations, and research institutes including General Mills, Natural Corn Growers Association, Monsanto, John Deere, American Soybean Association.

International Forum on Assessing Sustainability in Agriculture (INFASA)

(http://www.iisd.org/measure/connecting/infasa/)

What it is

INFASA was established by the International Institute for Sustainable Development (IISD) and Swiss College of Agriculture in 2006 in order to advance sustainable agriculture through the development and effective use of indicator and assessment systems. It facilitates dialogue between different stakeholders (scientists, policymakers, producers, food industry leaders, consumers). It aims to lead to a convergence of ideas, policy positions and practices on what sustainability means in agriculture, how to measure it, and it can be promoted through the knowledge generated by this dialogue.

Types of activities

INFASA held a symposium in Switzerland that brought together various actors, including representatives from NGOs, farmers, businesses, policymakers, researchers and farmers. The symposium focused on various indicator and assessment systems.

Current examples

Future aims include establishing common ground with other major international initiatives that focus on how societies measure sustainable development progress, and disseminate information and tools to wider stakeholder audience.

Relationships

INFASA is chaired by Fritz Haeni at Swiss College for Agriculture (SHL) and Laszlo Pinter at International Institute for Sustainable Development (IISD).

INFASA project group RISE (Response-Inducing Sustainability Evaluation) has developed a model to measure farm sustainability.

IISD's Measurement and Assessment Program carries out theoretical work related to sustainability metrics.

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COPA-COGECA 'The united voice of farmers and their co-operatives in the European Union'

(www.copa-cogeca.be)

What it is

COPA is the Committee of Professional Agricultural Organisations.

It is made up of 60 organisations from the countries of the European Union and 36 partner organisations from other European countries.

COPA represents broad and specific interests of farmers in the EU.

COGECA is the General Confederation of Agricultural Cooperatives.

It is a European umbrella organisation for agricultural cooperatives. COGECA is recognised as a "spokesperson" for the entire agriculture sector including fisheries cooperatives. It has 35 full members and 4 affiliate members in the EU, as well as 36 partner members. It represents the interests of some 400 000 farmers' cooperatives employing some 660 000 people.

Types of activities

COPA's main objectives are to examine matters related to the development of the Common Agricultural Policy, represent the interests of the agriculture sector, come to solutions that respect the common interest, and maintain and build relationships with Community authority and other European-level organisations or partners.

COGECA's main objectives are to represent the interests of European agricultural, forestry, fisheries and agri-food cooperatives and contribute to cooperatives' development; influence decisions that affect cooperatives' activities by lobbying at EU and international levels; promote the role of cooperatives; provide a platform for discussions and exchanging views on policy issues; seek solutions on issues of common interest; provide networking opportunities for members; promote discussions with COPA; undertake legal, economic, financial, social or other studies of interest to cooperatives; shape and develop relevant policies.

Current examples

Current activities include publication of a position paper on climate change, publication of new EU cereal forecasts, and a press release highlighting measures to protect the EU dairy sector.

Relationships

European Commission; European civil society who are directly or indirectly related to the agriculture sector. Other international actors such as US equivalents.

Confederation of the Food and Drink Industries of the EU - The Sustainable Production and Consumption Roundtable: CIAA-SCP Roundtable

What it is

The EU "Sustainable Consumption and Production Action Plan" provides the framework for the SCP Roundtable which aims:

- ★ To establish scientifically reliable and standardised environmental assessment methodologies for food and drink products;
- **★** To identify means of voluntary communication along product supply chain and to consumers;
- ★ To enable them to make informed choices.

The Round Table has the goal of establishing a framework assessment methodology by 2011. It was founded by the brand manufacturers (the CIAA members) with the aim of bringing together key food chain players (policymakers, NGOs, scientists, civil society organisations), and to embed the food chain as a major contributor to sustainable consumption and production in Europe.

Types of activities

Establishment of working groups and principles, development of assessment methodologies.

Current examples

Development of principles for voluntary environmental assessment of food and drink products, as well as for communication of environmental information.

Relationships

Founding members include, among others, CIAA and COPA-COGECA. Also, links with The Retail Forum, DG Environment.

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Centre on Sustainable Consumption and Production (CSCP)

(www.scp-centre.org)

What it is

CSCP is an organisation that partners with UNEP and the University of Wuppertal, and that provides scientific support to activities undertaken by organisations involved in sustainable production and consumption.

Types of activities

CSCP is involved in the development, implementation, testing, and monitoring of projects, as well as organising conferences.

The overarching aim is to enable developing countries to "leapfrog" to sustainable consumption and production patterns.

Objectives are to monitor and report on global and regional trends in sustainable consumption and production; contribute to policies that promote SCP patterns both globally and regionally; raise awareness of SCP patterns within the private sector; raise consumer group awareness of sustainable consumption and production patterns; reach effective cooperation and leverage with partners.

Current examples

Several examples of projects: African Universities project, Energy project at University of Mexico, Green Lighting Procurement project, Making the Business Case for Low Carbon and Efficient Lifestyles, Retailers role towards SCP. Complete listing available here: http://www.scp-centre.org/projects/ongoing-projects.html

Relationships

The CSCP partners with UNEP, and with the Wuppertal Institute for Climate, Environment and Energy.

Carbon Trust (www.carbontrust.co.uk)

What it is

A not for profit organisation set up by the UK government to accelerate the move to a low carbon economy.

Types of activities

The Carbon Trust provides business and public sector support to help organisations cut emissions, save energy, and commercialise low carbon solutions. Its work focuses on cutting emissions both now and in the future. It has contributed to saving customers around 23 million tonnes of CO2 and £1.4 billion in energy costs, and the Carbon Trust anticipates that their future endeavours in low-carbon technology will save customers a further 20 million tonnes of CO2 a year by 2050.

Current examples

Cutting emissions now: work focuses on setting standards for carbon reduction (e.g. through Carbon Trust Footprinting Company and the Carbon Trust Standard) as well as providing specialist advice and financing (according to business size and type) to organisations. Cutting future emissions: work focuses on opening markets for low carbon technologies, leading industry collaborations for commercialising technologies, and investing in primary stages of low carbon companies.

Relationships

The Carbon Trust works with 75% of FTSE 100 companies, tens of thousands of small and medium enterprises, and over 2500 public sector bodies. Some customers include: AB Agri, ASDA, Cadbury, Coca-Cola, Marks & Spencer, Morrisons, Tate & Lyle and Tesco.

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Directorate-general for the Environment, European Commission (DG Environment)

(http://ec.europa.eu/environment/index en.htm)

What it is

The aim of DG Environment is to "protect, preserve and improve the environment for present and future generations". With this goal in mind, the DG puts forward policies that guarantee environmental protection in the European Union (EU), and promote a high quality of life for EU citizens.

Types of activities

DG Environment ensures that Member States correctly apply EU law with regards to environment. Through the LIFE program, it finances environment-related projects in the EU. It produces annual reports on environmental priorities, and strives to improve environmental behaviour at the European Commission. The four top priorities for DG Environment going forward until 2012 are natural resources and waste; climate change; nature and biodiversity; and environment, health, and quality of life. The EU "Sustainable Consumption and Production Action Plan" provides a framework for a number of projects.

Current examples

Works on EMAS registration for the Commission. Example of recent "best" LIFE projects:. Boreal forests, Restoration of boreal forests and forest-covered mires, Beneficiary: Metsähallitus, Etelä-Suomen luontopalvelut (Finland).

Relationships

Associated with the other Directorate-generals in the European Commission. It is involved in discussions with various non-governmental organisations, trade associations, and the European Parliament.

Dairy Management Inc. (DMI)

(www.dairyinfo.com)

What it is

Dairy Management Inc. is a not-for-profit organisation that helps encourage demand for US-produced dairy on behalf of dairy producers and furthers the success of the dairy industry.

Types of activities

Dairy Management Inc. has various initiatives to encourage dairy consumption. These take the form of websites, to which there are links on the Dairy Management Inc. website. There is not sufficient information on the Dairy Management Inc. website to gauge whether or not they do anything as an individual organisation, or whether their activities are made up of subsidiary organisations mentioned on the homepage.

Current examples

The "3-a-day" programme encourages individuals and families to consume 3 servings of dairy each day. The website (http://www.3aday.org/Pages/WelcomeDairy.aspx) has links to recipes, health and fitness tips. The 3-a-day logo is displayed on certain supermarket products to indicate that they are a good source of calcium. "I love cheese.com" is a website that has tips and recipes for boosting cheese consumption, and has a "Cheese A-Z" which is an encyclopedia of American cows' milk cheeses. "Fuel up to Play 60" is a program developed by the National Dairy Association and the National Football League with the aim to encourage students to eat more healthily and to be active at least 60 minutes a day, as well as offering students the opportunity to win prizes for their schools.

Relationships

American Dairy Association, National Dairy Council, U.S. Dairy Export Council, Innovation Center for US Dairy, California Milk Processor Board, National Football League.

Sustainable Food Laboratory

(www.sustainablefoodlab.org)

What it is

The Sustainable Food Laboratory is a consortium that aims to "accelerate the shift of sustainable food from niche to mainstream".

Types of activities

The Sustainable Food Laboratory facilitates market-based solutions for sustainable food to feed the world. These include climate, soil, water, and poverty. The Sustainable Food Lab encourages learning along all processes of the supply chain from food production to sale and distribution. Main activities include: testing and developing new ideas; measuring outcomes; sharing learning; and providing an innovation space for system leaders.

Current examples

The Sustainable Food Laboratory is managing the Global Agriculture Climate Assessment, which uses the Cool Farm Tool to analyse the GHG footprint and pragmatic practice change opportunities in farming systems around the world.

It also manages projects in several countries in Africa and Central America in which food companies are testing new business models for integrating small-scale farmers into their value chains.

Relationships

It is a consortium of businesses, non-profit and public organisations. Members include, among others, Unilever, General Mills, Pulse Canada, Sodexo, The Nature Conservancy, and the International Institute for Environment and Development (IIED).

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University of Arkansas - Center for Agricultural and Rural Sustainability (CARS) (http://uark.edu/ua/cars/)

What it is

Its mission is to increase prosperity for rural Arkansas through sustainable practices. It provides leadership in Arkansas and in the rest of the world to balance the demands of community, agriculture and ecosystems while fostering sustainable development.

Types of activities

It works to meet 4 main objectives: develop resources for analysis of potential economic development for agricultural communities in Arkansas; assess effects of agricultural, economic and environmental policy on rural prosperity; facilitate implementation of best sustainable practices by encouraging linkages between communities, businesses, non-profit organisations, academics and policy-leaders; develop criteria for assessing and implementing best sustainable practices at farm and regional level.

Current examples

Current activities not listed at the moment.

Relationships

Staff include university colleagues from various departments. Further information is not available on the website.

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United States Department of Agriculture (USDA)

What it is

The USDA is an American federal executive department for implementing federal policy on farming, agriculture, and food. It draws on public policy, best available science, and management to provide leadership on food, agriculture, natural resources, and related issues. It aims to be recognised as an organisation that can lead the changing food and agriculture landscape.

Types of activities

Various areas of focus including agriculture, education and outreach; food and nutrition; laws and regulations; marketing and trade; natural resources and environment; research and science; rural and community development; and travel and recreation. It serves as a source of information for all of these areas, and provides links to different informational websites. The USDA engages in resource conservation, research on various policies, economic research service. It has multiple operating units (e.g. Food Safety and Inspection Service, Risk Management Agency).

Current examples

The USDA has joined collaborative research on childhood obesity, updates on homeland security alert, National Organic Program (NOP) to regulate organic food, home financing in rural areas, and a farmers market promotion program.

Relationships

The USDA is a Department of the US Government.

Conservation International

(www.conservation.org)

What it is

Conservation International's mission statement is: "Building upon a strong foundation of science, partnership and field demonstration, CI empowers societies to responsibly and sustainably care for nature for the well-being of humanity." It aims to help communities adopt and implement sustainable development practices.

Types of activities

Areas of focus include climate change, fresh water, food, health, cultural services, and biodiversity.

Current examples

Conservation International offers a carbon footprint calculator, has developed a Safeguarding Fresh Water program, advocates for developing responsible land use, has a feature blog and articles about programs and initiatives, and is working on the "Protect an Acre" program.

Relationships

Conservation International partners with corporations (e.g. Walmart, 3M, Volkswagen), governments (e.g. US, China, Guyana), non-governmental organisations and individuals (e.g. African Butterfly Research Institute, National Fish and Wildlife Foundation), and communities (e.g. Sacred Lands in China, Wai Wai in Guyana).

Global Good Agricultural Practices (Global-GAP)

(www.globalgap.org)

What it is

Global-GAP is a private sector body set up by retailers in Northern Europe that aims to establish a single standard for agricultural products around the world. It serves as a reference for good agricultural practices in the marketplace, and translates consumer requirements into agricultural production. It is a pre-farm gate standard (covers processes until product leaves farm). Certification is carried out by over 100 independent and accredited certification parties.

Types of activities

It sets voluntary standards, minimises detrimental impacts on the farm, and serves as a knowledge base.

Current examples

Global-GAP holds conferences, is holding an upcoming aquaculture workshop in Belgium and an upcoming summit in London, and produces newsletters.

It has developed the GRASP Module, which is a tool to support farmers to demonstrate their compliance with international as well as national labour legislation. The GRASP Assessments are not complete social audits with in-depth investigations, but focus on the review of an implemented social management system.

Relationships

Partial benchmarking to the Global Food Safety Initiative Retail and food service members, producers, and associate members from input and service side of agriculture.

European Union Life Cycle Platform

(www.usda.gov)

What it is

The European Platform on Life Cycle Assessment provides tools and recommended methodologies for life cycle assessment studies. It has been set up by the European Commission's Joint Research Centre.

Types of activities

The Platform aims to provide business and public support for implementing Sustainable Consumption and Production. It offers guidance on data, and methodology for conducting assessments. The ultimate goal is to further the credibility of life cycle assessments.

Relationships

The Platform operates in collaboration with DG Environment, and the Directorate for Sustainable Development and Integration. It also supports the development of the International Reference Life Cycle Data System (ILCD), the International LCA Resources Directory, and the European Life Cycle Database (ELCD).

Consultations are developed with the 27 European Union Member States., as well as with UNEP and representatives of non-EU Life Cycle Assessment projects. The Platform also has various business, advisory, and developer partners.

Department for Environment, Food and Rural Affairs (DEFRA)

(www.defra.gov.uk)

What it is

Defra is a UK government department responsible for regulations and policy relating to environment, food, and rural affairs. Its purpose is to secure a healthy environment for current and future generations.

Types of activities

Defra's three priorities are to promote a healthy natural environment that is resilient to environmental risks; a sustainable low-carbon economy; and a thriving farming sector and sustainable food supply. Defra develops policy and legislation, using evidence-based policymaking, in areas of Environment, Food and Farming, Countryside and Wildlife.

It engages in policymaking, provides extensive information and resources, grants and funding, and organises consultations on policy issues.

Current examples

Defra offers help for communities to grow their own food. It is currently publishing a new report entitled "Air Pollution: Action in a Changing Climate". Its 2010 Climate Change Plan is released in April 2010.

Relationships

DEFRA is a Department of the UK Government.

The European Consumers Organisation (BEUC)

What it is

BEUC is an umbrella organisation for 43 independent national consumer organisations from 31 European countries.

Types of activities

BEUC lobbies to improve consumer rights. It investigates policies related to 8 priority areas identified by members: consumer contracts, digital rights, energy and sustainability, financial services, food, group action, health, safety. It promotes consumer rights to safety, information, choice, representation, redress, education, satisfaction of basic needs, and clean environment.

Current examples

BEUC issues reports and keeps consumers up to date with relevant issues. It also organises and holds events, such as the recent Multi-Stakeholder forum.

Relationships

Member organisations include independent consumer organisations, e.g. Consumers Association of Ireland, Altroconsumo (Italy), etc.

World Resources Institute (WRI)

(www.wri.org)

What it is

The WRI is an environmental policy research and analysis think-tank that aims to encourage sustainability in society, to protect the planet and to provide for current and future generations. Its 4 key goals are: Climate Change, Governance, Markets and Enterprise, and People and Ecosystems.

Types of activities

The WRI supports activities and initiatives related to environmental stewardship and sustainability, including: conferences, training, policy initiatives, and research. It is currently involved in over 50 active projects working on global climate change, sustainable markets, environmentally responsible governance, and ecosystem protection. It provides up to date research and analysis on climate change solutions and policies.

Current examples

Current activities include: U.S. Climate Action Partnership; a Working Paper on Comparability of Annex I Emission Reduction Pledges; an Eco-label Disclosure Survey (in cooperation with Ecolabelling.org); a Climate Analysis Indicators Tool (CAIT) that provide databases of GHG inventories, maps, and analytic tools, and is available at http://cait.wri.org/

Relationships

The WRI is part of a global community of non-profit organisations, corporations and individuals. It has partnered for a decade with the World Business Council for Sustainable Development (WBCSD), working on the GHG Protocol Initiative, the most widely use GHG emissions measurement tool. The WRI has recently joined The Climate Registry, which uses WRI accounting methodologies for its participants to quantify and report on emissions.

World Business Council for Sustainable Development (WBCSD)

(http://www.wbcsd.org/)

What it is

WBCSD is a global association of some 200 organisations that deals with business and sustainability. It provides participating companies with an opportunity to share knowledge and best practice, discuss issues of sustainable development, and put forward business positions. WBCSD works with governmental, non-governmental, and intergovernmental organisations. Membership is made up of representatives from over 30 countries and over 20 industrial sectors. WBCSD is part of a global network of some 60 business and regional partners. Its main objectives are: to be a leading business advocate on sustainable development; to participate in policy development; to demonstrate the business case for sustainable development; to show business's contribution to sustainable development; to promote a sustainable future.

Types of activities

WBCSD has 4 areas of focus: Energy and Climate, Development, The Business Role, Ecosystems. Activities to further these goals include publications, various council and sector projects, publication of E-newsletters, and events listings for business-related events.

Current examples

Council project on Water and Sustainable Development, Sector project on the Tire Industry, Recent publication "Vision 2050: The new agenda for business".

Relationships

Regional Network partners from Africa, Asia, Europe, North America, Latin America, and Oceania. Also many company members (e.g. Rio Tinto, BHP Billiton, The Coca-Cola Company, BP).

International Organization for Standardization (ISO) Development (WBCSD)

What it is

ISO is an organisation that launches new standards according to demand from stakeholders and sectors. An ISO standard is a living agreement with criteria and technical specifications to be used consistently to ensure that things such as services, products and processes are "fit for purpose". The general ISO process is that relevant stakeholders or sector representatives propose a new standard to an ISO member, who then passes on the proposal to the relevant technical committee that develops standards in that area. The proposal must then be supported by the majority of the technical committee. Technical committees are made up of expert representatives from the industrial, technical, and business sectors that have requested the standards and will be using them. In addition to these technical committees, ISO also has policy development committees that investigate the need for standard development in other areas: developing countries (DEVCO), consumers (COPOLCO), and conformity assessment (CASCO). To date, ISO has developed over 18 000 International Standards on various subjects, and some 1 100 new standards are published annually.

Types of activities

Development and drafting of international standards. Other ISO Deliverables include: ISO/PAS Publicly Available Specification, ISO/TS Technical Specification, ISO/TR Technical Report, IWA International Working Agreement, ISO Guide.

Current examples

Selected Environment related standards are:

- ★ ISO 14020:2000 (Environmental labels and declarations);
- **★** ISO 14063:2006 (Environmental communication);
- ★ ISO 14064 and 14065: (GHG emissions accounting and verification);
- **★** ISO 14040:2000 (Environmental management -- Life cycle assessment -- Principles and framework for life cycle analysis);
- **★** ISO 14001:2004 (Environmental management systems -- Requirements with guidance for use);
- ISO 14004:2004 (Environmental management systems -- General guidelines on principles, systems and support techniques);
- * ISO 14064/65 (a basic toolbox to develop flexible, regime- neutral tools for use in voluntary or regulatory GHG schemes, Promote and harmonise best practice, Support the environmental integrity of GHG assertions, Assist organisations to manage GHG-related opportunities and risks, and Support the development of GHG programmes and markets);

- **★** ISO/PC 242 on energy management standards.
- **★** ISO 14001:2004 (Environmental management systems-Requirements with guidance for use).

Relationships

ISO's network includes many UN bodies (UNFCCC, UNEP, UNIDO, FAO, WMO, UN Global Compact), the World Energy Council, the World Business Council for Sustainable Development, the World Resources Institute etc.

The Sustainable Commodity Initiative (SCI)

(http://www.wbcsd.org/)

What it is

The Sustainable Commodity Initiative is a multi-stakeholder alliance that aims to "build effectiveness across voluntary approaches to sustainable commodity production and trade by promoting good governance, impact analysis and information exchange as well as policy and initiative development".

Types of activities

Encouraging and facilitating debate, promoting policy and initiative development, furthering adoption of best practice. Facilitating learning, improving social and environmental performance. Work with Voluntary Sustainability Initiatives (VSIs) to align markets and social priorities.

Current examples

Currently involved in implementing 3 year roadmap, whose 4 elements are analytical research, a network of learning, outreach, and policy response. Current targets throughout roadmap implementation phase are sustainability issues in biofuel, fibre, food, and feed commodities. Initial targets are coffee, palm oil, sugar, bananas, tea, cotton, as well as commodities used for biofuels.

The State of Sustainability Initiative (SSI) is a global information sharing platform that conducts research and produces reports on voluntary, market-based approaches to sustainable trade and production. The SSI is coordinated by the Sustainable Commodities Initiative.

The SSI provides monthly online reports aimed at policymakers and the private sector. An annual Report including an overview of market trends and performance metrics is forthcoming in Spring 2010.

Relationships

Parties involved are the International Institute for Sustainable Development (IISD); the United Nations Conference on Trade and Development (UNCTAD); AID Environment; and the International Institute for Environment and Development (IIED).

Global Reporting Initiative (GRI)

(http://www.globalreporting.org)

What it is

GRI is an organisation that aims to streamline and ultimately improve sustainability reporting for companies. Its goal is to encourage sustainability reporting to be as mainstream, essential, and comparable as financial reporting. Its framework has been developed through consultation with a variety of diverse stakeholders, including representatives from business, civil society, and professional institutions. This network is open to those who wish to use the Reporting Framework, access information in GRI-based reports, or contribute to the GRI mission in other ways, both formal and informal.

The GRI framework is the most widely used sustainability reporting framework in the world. Sustainability reports that are written based on the GRI framework can be benchmarked and compared over time. The idea is that organisations using the GRI method are demonstrating their commitment to transparency and sustainability issues.

Types of activities

The GRI establishes conditions for reliable and comparable sustainability reporting. It also organises conferences and other events, produces a newsletter, and develops various plans to allow companies to showcase their sustainability reports.

GRI Sector supplements capture the unique set of sustainability issues faced by different sectors such as mining, automotive, banking, public agencies and the telecommunications industry.

Sector-specific reporting indicators are especially useful for those sectors that can benefit from tailored guidance. These indicators are designed by a multi-stakeholder working group of 18-20 individuals over a two year process. The development process is initiated when a need is expressed by several organisations from various regions within a single sector. Half of the working group is made up of sector stakeholders, and the other half is non-sector representatives (from areas such as social, environmental, health, labour, and fair trade organisations). This diverse representation means that different points of view, areas of expertise, and global perspectives are brought into the discussion. Before the sector-specific guidance is finalised, the public has two opportunities to feed back on draft versions. Sector-specific reporting indicators are available for Airports, Apparel and Footwear, Automotive, Construction & Real Estate, Electric Utilities, Events, Financial Services, Food Processing, Logistics & Transportation, Media, Mining & Metals, NGOs, Oil & Gas, Public Agency, and Telecommunications.

The Food Processing sector supplement is currently in development. A draft version is available at http://www.globalreporting.org/NR/rdonlyres/36B13F44-F37D-4BF0-8966-F387AF807C04/3212/DraftFinalFoodProcessingSectorSupplement.pdf

The Food Processing sector specification is justified by the fact that with new demands for information, and new sustainability requirements, food companies are new reporting challenges. The guidelines are being developed with the aim to assist food processing companies in their reporting of environmental, social and economic aspects of business performance.

Current examples

Refining of reporting framework. Annual "Readers Choice Awards" that highlight particularly strong sustainability reports. Annual conference. GRI speakers participate in various events, such as the Symposium on the Challenges of Sustainable Development in a Business Environment hosted by Heineken in April.

Relationships

As an international network based organisation, the GRI has thousands of members around the world including auditors and assurers, companies, academics, civil society organisations, investors, and trainers.

American National Standards Institute (ANSI) (http://www.ansi.org)

What it is

ANSI's mission is "to enhance both the global competitiveness of U.S. business and the U.S. quality of life by promoting and facilitating voluntary consensus standards and conformity assessment systems, and safeguarding their integrity".

It oversees the creation and use of norms and standards that impact businesses. It is also involved in accreditation processes that assess conformity to standards. ANSI upholds the principles of consensus, due process, and openness.

Types of activities

ANSI is involved in national and international standards. It does not itself develop American National Standards, but it does provide a platform for parties to come together on neutral ground to work towards common agreements. ANSI ensures that access to the standards process is made available to anyone who is potentially affected by a standard that is under development. This includes having in place an appeals mechanism.

ANSI also promotes the use of American standards internationally. ANSI is a proponent of the United States Standards Strategy (USS). ANSI works as an information provider between members and policymakers. Its website provides news and information to readers; and includes a library of speeches, presentations, and public documents.

Current examples

ANSI is running a "World Accreditation Day" paper competition. "People on the Move" is a website feature that highlights leaders in standardisation.

Relationships

ANSI is made up of government agencies, organisations, companies, academic and international bodies, and individuals. ANSI is the American representative to the International Organization for Standardization (ISO) and is a member of the International Accreditation Forum (IAF).

GS1 (http://www.gs1.org)

What it is

GSI is a neutral, non-profit member-based organisation that aims to spur innovation in the supply chain. Its mission is to "make it faster, cheaper and safer for... members to serve their customers. This is achieved by the industry wide adoption of global GS1 standards and locally delivered services". GS1 is the most popular supply chain standards system globally. It has offices in 108 countries, has 2000 contributors, and is funded by members.

Types of activities

GS1 provides products, services, and solutions to its members, to "improve efficiency and visibility of supply and demand chains". It operates across various sectors and industries.

One of its important features is a global IT reference system. Narrower goals include ensuring food safety, fighting against counterfeit products, and assisting with global communication strategies. Member Organisations initiate a lot of GS1's development. Their responsibilities include allocating unique numbers to products, which is the basis for standards; providing training and support for numbering and barcoding, and data synchronisation; and supplying information on standards.

Current examples

Continued implementation of barcodes, recent publication "GS1 System of Standards".

The Global Product Classification (GPC) system is one thread of GS1 that provides a common language for groups of similar products. This is especially useful for classifying products into different sectors. The GPC system classifies products according to a hierarchical structure, with the foundation called a "brick". A Global Trade Item Number (GTIN) can be assigned to a single brick (one example of a brick is "milk and milk substitutes (perishable)".

Relationships

GS1 works closely with many international organisations, such as ISO and the World Health Organisation (WHO). It works with several sector-based governmental and non-governmental organisations and associations, and trade associations, including the Consumer Goods Forum, Food Marketing Institute and the Grocery Manufacturers Association (GMA)

The Sustainability Consortium (http://www.sustainabilityconsortium.org)

What it is

The Sustainability Consortium is an independent global network organisation. It is made up of a range of diverse members who work together to improve the sustainability of product life cycles. The Sustainability Consortium advocates for scientific processes and transparency, rather than for individuals or organisations.

Types of activities

The Sustainability Consortium works to drive the development of products that contribute to the economic, social, and environmental well-being of society. It develops tools, methodologies, and strategies to encourage the advancement of sustainability, based on a scientific foundation. It aims to:

- Communicate and educate people on the economic, environmental, and social impacts of
- Improve these impacts over product lifecycless *
- * Balance business needs with sustainability goals.

The Sustainability Consortium:

- Ensures that all data, methods, and algorithms follow a transparent process and system so that participants know how metrics are derived and used;
- Leads a scientifically grounded approach to its activities; *
- * Offers members new tools:
- Attempts to balance growth, enrollment, cost effectiveness and data/methods development so that databases are widely accessible, affordable and verified;
- Models how innovations and changes in manufacturing and consumer use of products can address sustainability issues worldwide.

Current examples

The Consortium is working on 'Open IO'. This is a free and transparent Input/Output based system that provides sustainability and analysis information. This project has been jointly administered by the Sustainability Consortium and the University of Arkansas. The team is currently gathering further data on sustainability, social life cycle assessment, input-output mechanics, life cycle assessment and life cycle impact assessment.

It is currently working to develop Sustainability Measurements & Reporting Standards (SMRS), using a sector approach, to aggregate environmental and social impacts into meaningful metrics.

The Consortium is working to create a "Data and IT Ecosystem (Integrated data sharing environment)". This will be a transparent and freely available database for industry average LCI data. It will include a framework to ensure data availability and improvement of quality over time. It also aims to enable supply-chain specific life cycle studies without compromising companies' private information.

It is working to demonstrate the usefulness of these tools in sharing supply chain and life cycle methodology to improve sharing of supply chain and life cycle methodology. This will help the identification of opportunities for sustainability improvement in consumer products.

Other research will include:

- ★ Development of methods and standards for sustainability reporting;
- ★ Research to understand the impacts of consumer goods;
- * Research to better understand consumer behaviour.

Future plans include

- Developing a website section about actions consumers can take to reduce economic, environmental and social impacts;
- ★ Hosting workshops to inform members and non-members of the Consortium's Progress
- ▼ Publishing Consortium findings on website
- **★** Submitting articles for peer-reviews and general audience publications.

Relationships

The Consortium is jointly administered by the University of Arkansas and Arizona State University.

To further its aims, the Sustainability Consortium is seeking retail partners to work with, to help ensure that product sustainability reporting for consumer goods becomes an industry standard.

Organisations can join the initiative as Founder/Tier I or Tier II members.

Current Tier I Members include ASDA, defra, United States Environmental Protection Agency, syngenta, Walmart, Safeway, General Mills, Monsanto, KPMG, SAP, and MillerCoors.

Tier II members include 3M, Forest Product Association of Canada, Marks & Spencer, Johnson & Johnson and Toshiba.

NGOs are also able to have formal engagement with the Consortium. Current NGO members are BSR and WWF.

Big Room (http://www.bigroom.ca)

What it is

Big Room is a Canada-based organisation and 'for-benefit' company. It was created as collaboration between WWF, Ben Lee and Leo Burnett.

Types of activities

Big Room runs projects that help consumers make green choices.

Current examples

Projects include Ecolabelling.org and Dot Eco.

Ecolabelling.org is an information platform to help consumers and companies understand eco-labels. Ecolabelling.org helps users build greener businesses, purchase greener goods, and communicate to customers about green products. Users can search by label type: these include Food, Retail Goods, Forest Products, Energy, and Carbon. The site defines an ecolabel as "any consumer facing logo that claims an added environmental or social benefit". It aims to bring the entire world's ecolabels together into one platform, to provide data and analysis on the labels, and to help companies buy and sell ecolabelled products.

Dot Eco is "where internet, community, and sustainability meet". It is a global meeting-place for people who want to see an eco-friendly domain name ending in ".eco".

Relationships

Big Room is advised by sustainability experts, among them representatives from Hermes Equity Ownership Services, the Carbon Trust, the International Institute for Sustainable Development, and the World Business Council for Sustainable Development.

Intergovernmental Panel on Climate Change (IPCC) (http://www.ipcc.ch)

What it is

The Intergovernmental Panel on Climate Change was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO). It is an intergovernmental scientific body that leads climate change assessment, and that aims to provide an unbiased, scientific perspective on climate change and its potential consequences, both environmental and socioeconomic.

The IPCC is open to all member countries of the United Nations and the World Meteorological Organization; at the moment this includes 194 countries. The IPCC is made up of a Plenary, a Bureau, 3 working groups (The Physical Science Basis; Climate Change Impacts, Adaptation and Vulnerability; Mitigation of Climate Change) as well as a Task Force on National GHG Inventories, and numerous authors, reviewers, and contributors.

Types of activities

The IPCC aims to provide scientific, policy-relevant yet policy-neutral information to the world. The Panel does not conduct its own research or monitor climate-related data; rather, it assesses worldwide scientific, technical, and socio-economic information that contributes to advancing knowledge and understanding of climate change. Thousands of scientific experts contribute voluntarily to the IPCC. Review is very important to the IPCC process, to ensure that information is understood and passed on in an objective manner. National governments are able to participate in the IPCC review process, and plenary sessions where decisions are taken and reports are assessed.

Current examples

Information is transmitted to the public mainly in the form of reports (the 5th Assessment Report is forthcoming); special reports (a report on Renewable Energy Sources and Climate Change Mitigation will be released in 2010); methodology reports (the last of these was the 2006 IPCC Guidelines for National Greenhouse Gas Inventories); development of new scenarios, and information and outreach activities (disseminating findings from 4th Assessment Report).

Relationships

UNEP, WMO, participating countries, and participating members.

United Nations Framework Convention on Climate Change (UNFCCC)

(http://www.unfccc.int)

What it is

The UNFCCC is an international treaty, established on 21 March 1994 and joined by most countries, with the aim of determining what can be done to mitigate and adapt to climate change on a global level. The UNFCC recognises that effects of climate change are not restricted to the areas in which they are caused, and that climate change solutions require a global effort. It determines a framework outlining intergovernmental efforts to address climate change issues. The Convention is governed by the Conference of Parties (COP), which meets annually. Convention text is available here: http://unfccc.int/resource/docs/convkp/conveng.pdf

UNFCCC is also the name of the UN Secretariat that supports the operation of this convention, and whose offices are in Bonn, Germany.

Types of activities

Under the Convention, governments can collaborate to prepare for climate change adaptation; share information on policies, GHG emissions, and best practice; and launch national strategies for GHG emissions mitigation and adaptation.

The Kyoto Protocol is an international agreement linked to the UNFCCC. The Kyoto Protocol sets binding targets for 37 industrialised nations and the European community for reducing GHG emissions. These reductions add up to an average of 5% emissions reduction between 2008 and 2012, compared with 1990 emissions levels. While the UNFCCC is encouraged, the Kyoto Protocol is a commitment with legally binding targets. The Protocol places more pressure on industrialised nations that have been polluting heavily for years, under the principle of "common but differentiated responsibilities". Under the Kyoto Protocol, countries are offered three market-based mechanisms as means to meet their targets in addition to national measures: these are emissions trading (the carbon market); the clean development mechanism (CDM); and joint implementation (JI). Country's emissions are tracked and recorded according to registry systems, an international report log, a compliance system, and an Adaptation Fund that helps fund adaptation projects.

Current examples

The UNFCCC is currently working on establishing a new framework that will have to be negotiated and ratified by the end of the first Kyoto Protocol commitment period, in 2010. It must deliver the reductions that the IPCC has deemed necessary.

The UNFCCC will hold the next Conference of Parties (COP 16) in Cancun in 2010.

Relationships

The UNFCCC is a UN initiative, and cooperates with many governments and international bodies. Over 985 non-governmental organisations and 67 intergovernmental organisations are also admitted as observers to the Conference of Parties sessions. Representatives from civil society are also able to be admitted to COP sessions. The UNFCCC recognises the IPCC as a credible source of climate change information. The IPCC reports influence and inform UNFCCC negotiations.

The International Trade Centre (ITC)

(http://www.intercen.org)

What it is

The International Trade Centre, established in 1964, helps small businesses in developing countries export their products. Its overarching goal is to "help developing and transition countries achieve sustainable human development through exports". It is a joint agency, between the World Trade Organization (WTO) and the United Nations Conference on Trade and Development (UNCTAD).

Types of activities

The ITC helps smaller businesses by providing trade development programmes to policymakers, trade associations, and the private sector. It emphasises competitiveness while initiating and delivering projects.

It is a source of expertise in product and market development, and market analysis.

Current examples

Recent publications include a paper on Latin American and Caribbean region. The ITC is currently conducting a "Central Asian Textile and Clothing Suppliers on Paris Study Tour" to increase market knowledge.

Relationships

The ITC helps the WTO and the UNCTAD move their strategies into practice. The ITC works with national, regional, and international bodies, as well as business people and policymakers.

The ISEAL Alliance

(http://www.isealalliance.org)

What it is

The ISEAL Alliance is a global member-based social and environmental standards association. ISEAL members are international standard-setting and accreditation organisations that comply with or are approaching compliance with ISEAL Codes of Good Practice.

Types of activities

It works with voluntary standards systems, developing guidance and strengthening the standards' impact and effectiveness. ISEAL also helps companies, non-profit organisations, and governments use and apply voluntary standards. It helps consumers choose ethically sourced products that do not have negative impacts on the environment, and have positive impacts for producers.

Current examples

ISEAL has developed the "Code of Good Practice for Setting Social and Environmental Standards", which is now the "global reference for good social and environmental standard-setting processes". This code draws on World Trade Organisation (WTO) principles of openness, transparency and participation. When a standard-setting organisation uses this code, it is more likely that the standard will lead to measurable advancement towards their social and environmental goals.

Future plans include the launch of a new Code of Good Practice for Assessing the Impacts of Standards Systems (Impacts Code) in 2010, which will require the use of consistent methodologies in measuring and demonstrating standards' organisations' social and environmental impacts. ISEAL is also developing a Verification Code of Good Practice to outline good practices in accreditation, certification and auditing to social and environmental standards.

Relationships

Founding members are: Fairtrade Labelling Organizations International (FLO); Forest Stewardship Council (FSC); International Federation of Organic Agriculture Movements (IFOAM); International Organic Accreditation Service (IOAS); Marine Aquarium Council (MAC); Marine Stewardship Council (MSC); Rainforest Alliance; and Social Accountability International (SAI). Financial support comes from a variety of partners, including the World Bank, the United Nations Food and Agriculture Organisation, GTZ (Germany) and DEFRA (UK). Partners also include Ecofys, PricewaterhouseCoopers Germany, and AccountAbility.

Water Footprint Network

(http://www.waterfootprint.org)

What it is

The Water Footprint Network aims to encourage the transition towards "sustainable, fair and efficient use of fresh water resources worldwide" by putting forward the idea of the 'water footprint' as an indicator; increasing awareness of the water footprint and understanding of consumption implications on water amongst businesses, communities, and governments; encouraging modes of water governance that reduce the negative impacts of water footprints amongst businesses, countries, and national governments. The water footprint is an indicator of water use accounts for a consumer' or producer's direct and indirect water use. The water footprint of an individual, community or business is defined as "the total volume of freshwater that is used to produce the goods and services consumed by the individual or community or produced by the business".

Types of activities

Broad activities include: standard development for water footprint accounting, impact assessment and reduction; developing support tools for water footprint accounting; providing information and education on the idea of the water footprint; encouraging knowledge sharing about water footprints; supporting organisations who are trying to measure and reduce their water footprints and develop sustainable water policy; providing advice and certification on the water footprint.

Current examples

The website provides information on individual, corporate, national, and global water footprints.

Relationships

Partners include academic institutions, non-governmental organisations, businesses, government agencies, and international organisations. Some of these are the Alliance for Water Stewardship, The Nature Conservancy, UNEP, and the World Business Council for Sustainable Development.

The Alliance for Water Stewardship (AWS)

(http://www.allianceforwaterstewardship.org)

What it is

The mission of the Alliance for Water Stewardship (AWS) is to "promote responsible use of fresh water that is both socially beneficial and environmentally sustainable". Its focus is advancing water stewardship. It recognises that environmentally sustainable water use prevents damage to biodiversity, and socially beneficial water use secures long-term benefits for individuals and society.

Types of activities

The AWS is building an organisation featuring a global water stewardship system. Once this has been established, it will be implemented regionally and will serve to define water stewardship standards and recognise those who meet the standards through certification.

The AWS will work with stakeholders including environmentalists, companies, water authorities, and community members to come up with a voluntary water certification programme. This will provide standards, verification, branding, and training and education.

Current examples

This project is currently in the development phase.

Relationships

Partners include the Nature Conservancy, the Water Stewardship Initiative, Pacific Institute, WWF, Water Witness, Water Environment Federation, and the European Water Partnership.

International Dairy Federation (IDF)

(http://www.fil-idf.org)

What it is

The IDF is a centre for dairy expertise. It aims to advance scientific knowledge, foster information exchange, address global developments, and assist networking inside and outside the sector.

Types of activities

Activity types include dairy labs, events, publications, and press releases. The IDF provides scientific information for the dairy sector, and for international organisations, governments, and legislators. Its work areas include: economics and marketing, dairy farming, food standards, analytical methods, nutrition, hygiene and safety, and science and technology.

Current examples

The IDF has produced a "Good Dairy Farming Practices" guide in cooperation with the FAO. It has also cooperated with UNEP to assess the dairy life cycle.

The IDF, in cooperation with ISO, is holding IDF/ISO Analytical Week in May 2010, which will be an event for experts in the field of standardisation of methods in analysis and sampling for milk and milk products. It will also by holding a Symposium on Science and Technology of Fermented Milk in Norway. Current publications include "Standard methods of analysis and sampling" (in cooperation with ISO).

Relationships

The IDF cooperates with many organisations, include the FAO, UNEP, the WHO, and ISO.

The Consumer Goods Forum

(http://www.theconsumergoodsforum.com)

What it is

The Consumer Goods Forum is an independent global network of consumer goods retailers, manufacturers, service providers, and other stakeholders. Created in 2009, it provides a platform for knowledge-sharing, networking, and thought leadership among members.

The Forum was created in June 2009 by the merger of CIES - The Food Business Forum, the Global Commerce Initiative (GCI) and the Global CEO Forum.

Types of activities

It develops common positions on issues that affect the consumer goods business. Its many programmes and working groups cover areas of Knowledge Sharing & People Development, Health and Wellness, Sustainability, Emerging Trends, and Operational Excellence. The Forum produces reports and publications. It is not a lobbying organisation.

Current examples

The Forum has various programmes, initiatives and work groups, including the Global Food Safety Initiative (GFSI), the Global Social Compliance Forum (GSCF), the "project on the role of the consumer in tackling climate change", and the Global Score Card Initiative.

Relationships

Roughly 650 members from retailers, manufacturers, service providers, and other stakeholders participate in the Consumer Goods Forum.

Sustainable Consumption Institute, The University of Manchester (SCI)

What it is

SCI is a "multidisciplinary programme of world class research examining issues linked to sustainable consumption and sustainable development".

Types of activities

It conducts research on 4 main areas: climate change and carbon, making development more sustainable, sustainable consumer behaviour and lifestyle, and sustainable products and distribution. Interdisciplinary research on sustainability of water resources is under consideration. The SCI aims to draw on expertise from across the University of Manchester; provide a platform to bring together global expertise, with targeted research programmes commissioned at Manchester and other centres around the world; provide a focal point for the training of the next generation of researchers, policymakers and advisors in the public and private sectors in the area of sustainable consumption through by training postgraduate students.

Current examples

The Sustainable Consumption Institute (SCI) at the University of Manchester has begun working with Tesco and other companies to develop a harmonised methodology for carbon labelling.

Relationships

Tesco provided the initial funding for SCI.

Food and Agricultural Organization of the United Nations (FAO)

(http://www.fao.org)

What it is

The FAO is a neutral forum that leads international efforts to eliminate hunger, where all countries can meet on equal footing to discuss agreements and policy. The FAO acts as a source of knowledge and information. It serves developed and developing nations, helping developing countries take steps towards modernisation and improve their agriculture, forestry and fisheries practices while at the same time ensuring proper nutrition. Since its inception in 1945 the FAO has had a special focus on rural development.

Types of activities

FAO's mission is to achieve food security for all: "to make sure people have regular access to enough high-quality food to lead active, healthy lives." It works to improve the lives of those in rural communities, boost agricultural productivity, increase nutritional levels, and contribute to the growth of the world economy. It aims to provide tools, training and techniques to help people and nations help themselves.

Its activities are spread across its eight departments: Agriculture and Consumer Protection; Knowledge and Communication Economic and Social Development; Natural Resources Management and Environment; Fisheries and Aquaculture; Forestry; Human, Financial and Physical Resources; and Technical Cooperation.

Current examples

Current documents include the Strategic Framework for FAO 2010-2019 and the Medium Term Plan 2010-2013 and Programme of Work and Budget 2010-2011. The FAO is currently working with the World Bank on the new Global Agriculture and Food Security Program (GAFSP) initiative.

Relationships

FAO partners with a variety of institutions, including non-governmental organisations, foundations, companies, other UN bodies, national governments, and professional associations. Amongst these are the International Food First Information and Action Network (FIAN), Carrefour, the World Food Programme (WFP), and the International Fund for Agricultural Development (IFAD).

United Nations Environment Programme (UNEP)

(http://www.unep.org)

What it is

UNEP's mission is "to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations".

Types of activities

UNEP works to establish panels and declarations that help further the goal of protecting the environment. It has put forward, for example, the Montreal Protocol on Substances that Deplete the Ozone Layer, and founded the IPCC. It runs various campaigns, initiatives and councils. It is also a source of information for governments, journalists, civil society, children, business, and scientists. UNEP's six areas of focus for the 21st century are climate change, environmental governance, disasters and conflict, harmful substances, resource efficiency, and ecosystem management.

Current examples

UNEP has been "climate neutral" since 1 January 2008, and has made a commitment to reduce their emissions as far as possible and to offset any remaining emissions. It is leading efforts towards "greening the UN". Sportswear company PUMA has recently joined UNEP's Climate Neutral Network, and intends to offset the CO2 footprint of PUMA-sponsored national football teams participating in the 2010 World Cup, which totals 336 players and officials. Recent publications include "Clearing the Waters: a Focus on Water Quality Solutions", UNEP Annual Report 2009, and an interactive e-book on "Moving Towards a Climate Neutral United Nations".

Relationships

UNEP partners with, among others, Global International Waters Assessment (GIWA), Commission on Sustainable Development.

Advisory partners are the Ecosystem Conservation Group (ECG); the Intergovernmental Panel on Climate Change (IPCC); the Joint Group of Experts on the Scientific Aspects of Marine Environment Protection (GESAMP); the Scientific and Technical Advisory Panel (STAP).

European Committee for Standardisation (CEN) (http://www.cen.eu)

What it is

CEN is a non-profit organisation that offers a platform for the development of European Standards (ENs) and other consensus-based documents. Its National Members cooperate on these documents in many sectors to work towards removing trade barriers, strengthening Europe's place in the world economy, and building the European market in goods and services.

Types of activities

CEN works to develop new business and promote the use of standards in new markets; offers guidance and information on how to integrate research, innovation, and standards; provides support for SMEs; provides education about standards; and provides a range of European standards and publications for implementation and recognition of assessment practices.

Current examples

Events include informational conferences, publications, workshops, and information days alongside standard in addition to acting as a platform for standard development.

Relationships

CEN national members are the National Standards Organizations (NSOs) of the 27 European Union countries, along with Croatia and the three countries of the European Free Trade Association (EFTA). The standardisation system in Europe is based on the national pillars, formed by the National Standardization Bodies or the members of CEN.

The CEN network involves over 60 000 experts from areas of academia, societal organisations, and industry. CEN is counselled by the European Commission (EC) and the European Free Trade Association Secretariat (EFTA).

Organisation for Economic Co-Operation and Development (OECD)

(http://www.oecd.org)

What it is

OECD brings together democratic countries' governments to help them gain prosperity and eliminate poverty through economic growth and financial stability. OECD aims to ensure that the environment is considered when encouraging economic and social development.

Types of activities

Overarching OECD goals are to raise levels of employment and standards of living, contribute to world trade growth, support sustainable economic growth, and maintain financial sustainability. Through OECD, governments have a platform to share best practice, compare policy experiences, coordinate policies, and engage in problem-solving.

OECD is a source of comparable statistics, economic and social data. It monitors trends, analyses and forecasts economic developments, and researches changes and patterns in areas of environment, agriculture, and trade, amongst other things. It also engages in publishing documents on economic and public policy.

Its method of working is as follows: data collection, analysis, discussion, decisions, implementation, followed by peer reviews and multilateral surveillance. The Council guides OECD decision-making, and is made up of one representative per member country and a representative of the European Commission. Over 250 Committees, made up of member country representatives, meet to put forward ideas and review progress in areas, such as economics, trade, science, employment, education or financial markets.

Current examples

Current activities include: "road maps" as a starting point for future expansion to Chile, Estonia, Slovenia, Russia and Israel; a Review on Better Regulation in Germany; a call to governments to increase emissions reduction targets; and a conference on "Road to Recovery: Innovation, Jobs & Clean Growth".

OECD has produced a report on environmental indicators, which are key to following environmental progress, supporting policy evaluation and keeping the public informed. These key indicators are taken selected from larger groups and are used to report on significant environmental issues. The OECD initiated the development of international environmental indicators and continues to support member countries in their efforts towards their adoption and use. OECD key indicators are climate change, ozone layer, air quality (SOx and NOx emission intensities), waste generation, freshwater quality, freshwater resources, forest resources, fish resources, energy resources, and biodiversity.

Relationships

OECD has 30 member countries, and plans to expand to others. It has links with non-member economies through the Centre for Co-operation with Non-Members, and is also engaged in a joint project with the European Union called Support for Improvement in Governance and Management, targeted at Central and Eastern Europe. OECD is linked to civil society, parliamentarians, and business, labour, and non-governmental organisations.

WWF (World Wide Fund For Nature)

(http://www.wwf.org)

What it is

WWF is an independent conservation organisation. It has a global presence and acts locally through offices around the world. Its central secretariat is in Gland, Switzerland. Its mission is to stop further degradation of the environment and to build a harmonious future for humans and nature.

Types of activities

WWF furthers its mission through various types of activities. It works to preserve biological diversity. It promotes the reduction of pollution and unsustainable consumption. It works to ensure that consumption of natural resources is sustainable.

Current examples

WWF runs roughly 1300 different projects at any one time. Current projects include a Global Fresh Water Programme and a joint initiative with industry representatives to prevent harm to fisheries. WWF engages in continuous campaigning to support its cause. It offers a wealth of information on its website, including a section on safeguarding crop security.

WWF works with key companies and stakeholders to identify global benchmarks and stimulate the improvement of production practices for commodities through their 'roundtables' for cotton, sugar, soy and palm oil. Commodity production standards are created based on better management practices with a focus on reducing the key adverse impacts. New roundtables are planned for meat and water.

Relationships

WWF cooperates with UN organisations, the International Union for Conservation of Nature, development agencies such as USAID and the World Bank, and business and industries.

EDF (Environmental Defense Fund)

(http://www.edf.org/home.cfm)

What it is

The EDF is a charity that takes on the world's most serious environmental problems. It is dedicated to environmental rights for all. This includes access to clean water, sufficient nourishing food, and healthy ecosystems.

Types of activities

EDF uses science, economic incentives, corporate alliances, and law to address environmental issues. It aims to analyse environmental problems and find ways to address them. Science is used to identify policy goals. Market incentives for good environmental behaviour are used to establish the business case for environmental improvement. EDF works with the corporate community to harness the power of business for good, and also seeks to safeguard the environment through legislation.

Current examples

Current activities include attempting to mitigate damage to the environment from an oil spill in the Gulf of Mexico; working to reform the USA toxic chemicals policy; seeking to restore abundance of fish in oceans. It also works to protect people's health through efforts to reduce air pollution.

Relationships

EDF partners with governments and community actors to tackle environmental problems. It has many partnerships with the corporate community, from farmers to Fortune 500 companies.

Global Research Alliance on Agricultural Greenhouse Gas Emissions

What it is

This is an outcomes-based, voluntary alliance that was launched at the Copenhagen climate conference in December 2009. New Zealand acts as the current secretariat.

Types of activities

This research alliance aims to better understand and prevent greenhouse gas emissions from farms. It aims to strengthen national collaboration on climate change mitigation in agriculture.

Current examples

The Alliance held its inaugural meeting in Wellington, New Zealand, in April 2010. This meeting aimed to establish a rough plan for the alliance going forward. Three research groups were decided at this meeting. These are: livestock (led by New Zealand and the Netherlands); croplands (led by the USA); and paddy rice (led by Japan). Member states can join those research groups that are most relevant to their needs. It was decided at the inaugural meeting that a draft charter will be agreed by 2011.

Relationships

It is based in New Zealand and currently has 29 member countries, including the USA, Canada, the UK, Ghana, and Colombia, among others.