

Environmental labelling and information schemes

POLICY PERSPECTIVES



OECD work on environmental labelling: past and present

The OECD has a long history of influencing the development of environmental labels. Following the first report on environmental labelling in 1976, extensive reviews of existing and planned schemes were carried out in the 1980s and into the 1990s, contributing to promoting their use and effectiveness. Later work turned to interactions of environmental labelling and information schemes (ELIS) and international trade, notably from the late 1990s. Recent OECD work has focused on the multiplication of schemes, through a joint project of the Joint Working Party on Trade and Environment (JWPT) and the Working Party on Integrating Environmental and Economic Policies (WPIEEP). The joint project produced three reports since 2013, which form the basis for this synthesis report:

- The first report (Gruère, 2013) documented the scale and nature of this growth and multiplication. It provided a new characterisation of the many types of scheme and presented quantified growth trends. The report also mapped the complex and dynamic landscape of ELIS actors, including suppliers and users as well as other institutions and stakeholders involved in development and operation of schemes.
- A second strand of the work (Prag et al., 2016) investigated the implications of the rapid growth of schemes around the world, notably for environmental effectiveness and international trade. The report also considered responses to ELIS multiplication by government and non-government actors, as well as the implications of these responses for environment and trade.
- A third report (Klintman, 2016) centred on how public policies have guided and regulated ELIS, with a particular focus on self-made environmental claims. This included a comparative analysis of guidelines and regulatory instruments examined definitions, standards, labelling requirements as well as monitoring and enforcement.

What's in this synthesis report?

This synthesis report presents key findings from three recent OECD reports on Environmental labelling and information schemes (ELIS). While ELIS have been used for over forty years, recent growth has led to the family of ELIS now covering an increasingly wide set of policies and initiatives providing information to external users about one or more aspects of the environmental performance of a product or service.

The first public eco-labelling schemes in the 1970s were designed to provide seals on products with the best environmental characteristics. So-called “single-issue” certification schemes (tending to focus on particular environmental issues, often in individual sectors) and various private standards followed in the 1980s and 1990s. The last fifteen years have seen a multiplication of ELIS of varying scope and nature, including the emergence of new types of schemes, notably quantitative “footprint” schemes for GHG and broader environmental impact.

The current landscape of ELIS therefore goes beyond labels using a single seal or logo, also including diverse quantitative declarations and a wide variety of textual claims such as “biodegradable”, “natural” and “sustainably sourced”. ELIS now provide communication channels between business or government on the one hand and business, governments and consumers on the other. Schemes involve either business-to-business (B2B) or business-to-consumer (B2C) communication, or both simultaneously. They are developed and managed by public agencies, private companies or non-profit organisations, individually or in partnership.

The growth in the overall number of schemes as well as the increasing complexity of the ELIS landscape has led to a number of policy-relevant questions emerging. These include whether the multiplication of schemes may have implications for the overall environmental effectiveness of ELIS, whether multiplication has implications for international trade, and what policy responses might be appropriate. The recent OECD project aimed to explore these questions, and the key findings are summarised here.

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The growth of environmental labelling and information schemes

Facts and Figures

What are the different types of scheme?

Recognising the shortfalls of the widely-used ISO typology of labelling schemes, recent OECD work moved towards a broader categorisation that captures the wide variety of modern schemes (Box 1). Schemes are characterised according to the type of communication they use and the nature of the standards on which they are based.

ELIS generally rely on one of three types of communication:

1. The first category includes environmental seals based on certification. While obtaining the seal may require sophisticated environmental information about multiple environmental areas, the information is provided in a simple, immediately visible format.
2. A second category relies on complex reporting methods (such as comprehensive reports or footprinting) which are closer to environmental audits and require more time for users to understand. They focus on environmental attributes that can be measured.
3. Intermediate schemes provide simplified semi-quantitative information, e.g. a multi-tier rating, so as to catch the eye of the user and yet enable a more advanced categorisation than a seal.

Turning to the nature of the standards used, schemes can be characterised according to the ownership of the standard, notably whether they are private, public, non-profit or hybrid. The line between private and public schemes is increasingly being blurred as governments and non-profit organisations are involved in joint-ventures with private schemes, such as recent roundtable certification schemes which rely on partnerships between public and private sector actors.

An important distinction is whether schemes are voluntary or mandatory in nature. Mandatory schemes remain an exception (largely confined to energy efficiency labelling), though some voluntary schemes include mandatory requirements that apply should a party choose to use the label. A further useful distinction is whether the scheme is self-setting or certified externally, and whether monitoring and auditing are carried out on a first-, second- or third-party

basis. These criteria are often related: for instance self-set standards are often privately developed, voluntary, and first- or second- party audited.

Although difficult to categorise, uncertified self-made environmental claims are also a type of ELIS. This includes claims that are unsubstantiated by data, or use terms that are inherently vague when referring to environmental characteristics (e.g. “biodegradable”, “compostable” and “recyclable”) or to specific production principles or processes (such as “natural” or “organic”). Many government-based guidelines focus on improving the voluntary use of this type of ELIS.

Who is involved in the development and operation of schemes?

“Suppliers” and “users” are two key groups of actors in the ELIS value chain. Suppliers define what information is delivered, on what product, under what format and how it is conveyed.

They generally carry out a number of tasks, including:

- Designing a standard.
- Applying it to internal or external products or services.
- Verifying implementation or overseeing certification.
- Promoting it externally.

Examples include companies publishing environmental declarations, non-profit organisations offering certifications services or government agencies running national Type I ecolabels.

BOX 1: TYPES OF ELIS

The three standards in the ISO 14020 series do not, despite their wide coverage, represent the full diversity of ELIS. For instance, some of the most widely used labels on consumer products are third-party audited certification schemes that are neither life-cycle based nor multi-criteria, such as organic-certified products. Third-party audited quantitative reporting that is not life-cycle based, such as energy performance ELIS, is also excluded from this typology.

ISO standard	Definition	Examples
Type I - Ecolabels (ISO 14024)	<ul style="list-style-type: none"> Seal or logo based on a set of multi-attribute criteria Third-party-certified, voluntary schemes focusing on non-food products Typically aimed at consumers 	Nordic Swan Japanese Eco-Mark Canadian Environmental Choice
Type II – Self-declared environmental claims (ISO 14021)	<ul style="list-style-type: none"> Claims made privately by companies describing a product based on characteristics following general guiding principles Not third-party certified, but expected to be verifiable and accurate 	Recyclable content Biodegradable
Type III – Environmental declarations (ISO 14025)	<ul style="list-style-type: none"> Quantitative indicators of environmental performance based on LCA for objective comparisons between products fulfilling the same function Generally B2B, or used in public procurement 	Eco-Leaf Korean Environmental Declaration of Products

The table below shows the OECD categorisation that aims to provide a more comprehensive picture. There are twelve criteria organised around the mode of communication and four focusing on the characteristics of the standard.

Criteria	Description	Examples
Mode of communication		
Channel	B2B, B2C, B2G, G2C	B2B: Abengoa RED; B2C: Krav Organic; G2C: Japanese Eco-Mark
Means	Seal, reporting, declaration	Seal: ISO Type I; Declaration: ISO Type III
Scope	Agriculture & food, textiles, forest products, buildings & furniture, energy, transport, biofuels, tourism, household appliances, electronics, cosmetics, cleaning products	Agriculture & food: Protected Harvest; Textiles: Oeko Tex Standard 100; Forest products: Forest Stewardship Council; Biofuels: 2Bsvs; Tourism: Blue Flag
Content	Natural resource, energy, source of pollution (chemicals), climate, waste, other, multiple	Natural resource: Water Stewardship; Energy: Energy Star; Biodiversity: Shade Grown Coffee; Climate: Carbonlabels.org; Waste: Biodegradable
Standard characteristics		
Standard setter	Self-setting, external certifier	Self-setting: ISO Type II; External certifier: ISEAL Alliance
Leadership or ownership	Private, public, non-profit, hybrid	Private: Casino Carbon Index; Public: Korean Carbon Footprint Label; Non-profit: Friend of the Sea; Hybrid: Roundtable on Sustainable Soy Association
Mode of governance	Voluntary, mandatory	Voluntary: UL Environment; Mandatory: EnerGuide
Transparency	Information on standard-setting process: available, or not	Open: EU Ecolabel; Not: Bonsucro
Environmental assessment method	LCA-based, or not	LCA-based: Environmental Choice Canada; Non-LCA-based: US Dept of Agriculture National Organic Program
Monitoring and auditing	First-party, second-party, third-party	First-party: EPA Smartway; Second-party: Green Seal; Third-party: Bioswiss
Focus	Product standard, processes and production methods (PPM), product-related or not (prPPM or nprPPM)	Product standard: Energy efficiency labels; prPPM: Imprim'vert; nprPPM: Timberland Green Index
Scope	Regional, national, international	Regional: Pure Catskills; National: Korean Ecolabel; International: Marine Stewardship Council

A further distinction is also relevant for understanding ELIS growth:

- practice-based standards require producers to implement better management practices according to criteria specified in the standard (e.g. the Marine Stewardship Council standard);
- outcome-based standards measure environmental or pollution outcomes without specifying how the outcome can be achieved, allowing flexibility (e.g. product carbon footprinting schemes measure GHG emissions but do not specify what technology is used to reduce emissions).

ELIS users are the target audience for schemes, but they do not always use the information provided. For instance, surveys show that many environmental labels on household consumer products are recognised by a small proportion of consumers, and used by an even smaller number in their purchasing decision. Product-based labels compete with other information on packaging (such as nutritional data or brand specifics) and some studies suggest the multiplicity of labels can lead to confusion or apathy. Similarly, producers may provide B2B communication to meet requirements of a given buyer, but the investment made to achieve certification may not be useful for another buyer.

The distinction between suppliers and users is not clear-cut: the private sector plays a crucial role in many aspects of the ELIS market, and businesses can be suppliers, users and even creators of schemes, depending on their scale and position within a supply-chain. NGOs have been instrumental in creating, developing and operating schemes, while public bodies have often provided the regulatory framework, and, in some countries, created and operated government-run schemes. Public agencies are also ELIS users, notably through public procurement guidelines (e.g. by specifying requirements such as Forest Stewardship Council or Fair Trade).

The landscape of organisations involved in the labelling world is complex and extends beyond just suppliers and users, with a variety of private and public institutions directly or indirectly involved in many aspects of their development and operation (Box 2), for example:

- Groups of ELIS suppliers that have formed alliances to develop codes of conduct and reach mutually beneficial goals.
- Institutions that generate and manage databases providing guidance to specific users.
- Institutions that contribute to analysis and debate about labelling and related policies.
- More recently, platforms of private companies and public entities promoting jointly designed schemes.

In addition to their role as scheme operators, national governments have also developed and applied policy instruments to influence and control the ELIS market, using guidelines and regulations. Guidelines issued by public bodies are an essential tool in supporting and managing the growing number of schemes, as well as encouraging their self-regulation. Many governments have issued voluntary guidelines that define which types of environmental claims are appropriate, based on criteria of accuracy, clarity, relevance, substance, verifiability, comparability, and of not being misleading. Such guidelines tend to be largely formulated in terms of what not to do. However, certain countries also state explicitly that the purpose of their guidelines is not only to avoid unsubstantiated green claims, but also to encourage valid green claims.

Where regulations apply to mandatory schemes (to date, mainly energy efficiency labelling) governments are responsible for a range of compliance and enforcement measures. They are also involved in the control of false or misleading environmental claims, using regulation such as consumer protection laws, used in many countries if self-made environmental claims are shown to be fraudulent.

The growth and variety of schemes can be partly explained by this wide range and increasing number of businesses, public agencies, non-profit organisations and civil society groups involved in and contributing to the extensive effort required to collect, analyse, verify and promote environmental information.



BOX 2: TYPES OF INSTITUTIONS ACTIVE IN ELIS

- Supporting institutions and associations** play a prominent role in promoting specific schemes and supporting the goals of their members. The International Federation of Organic Agriculture Movements (IFOAM) has been instrumental in harmonising the highly fragmented international market of organic certifications. The Global Ecolabelling Network (GEN) is a non-profit association of organisations promoting ISO Type I ecolabels and environmental products in over 50 countries. The ISEAL Alliance develops and implements codes of good practice for standard-setting members representing some of the most widely used single-issue environmental labels, such as those of the Marine Stewardship Alliance and the Rainforest Alliance.
- Inventorying institutions** are not directly involved in development and use of schemes. Some inventories are developed for commercial rather than environmental purposes, though they all aim at providing guidance in the context of the multiplication of ELIS. Examples include Greener Choices, an Internet tool to guide consumers around the growing number of schemes and deter greenwashing claims, and the EcoLabel Index (developed by the company BigRoom), the largest inventory of international ELIS. On the industry side, BASF Select maintains a large technically detailed database of schemes for its customers and partners. Several public institutions have also developed databases for public guidance. The International Trade Centre (ITC) operates Standards Map, a website with detailed information on over 100 standards and a tool to help exporters choose a scheme. The Japanese Ministry of Environment has developed an Environmental Label Database.
- Policy support institutions** facilitate discussion among institutional actors and provide analytical support, usually independently from ELIS suppliers. The United Nations Environment Program (UNEP) has long been active in this area and is leading a programme on Product Sustainability Information to develop common principles for the large number of environmental performance information tools, including labels. The UN Forum on Sustainability Standards (UNFSS) was established to provide information and analysis on voluntary sustainability standards. Think-tanks, academics and private consulting firms are also involved in ELIS policy support.
- Platforms and consortiums** bring together private ELIS suppliers and policy support institutions to develop, apply and promote common credible standards for their own sustainability reporting or labelling schemes on private goods. Most have been founded in the last decade by large companies with input from academics, NGOs or government agencies. The Global Reporting Initiative (GRI) is a non-profit organisation promoting the use of a common reporting framework on sustainability, with over 500 members, including businesses, civil society groups and governmental agencies. The Sustainable Consortium was set up by Wal-Mart Co. and other companies associated with academic researchers to determine a common set of sustainability standards for their products.
- Framing institutions** define and implement rules and regulations to avoid the misuse of ELIS. The World Trade Organization (WTO) applies rules that are relevant to the use of ELIS, notably with respect potential trade distortions. The International Organization for Standardization (ISO) is the most widely known international standard setter, serving as a reference for the WTO. At national level, a number of countries have published guidelines and promote regulations to control the use of environmental claims.

Source: Gruère (2013).



What are the key trends in the growth of ELIS?

To analyse the growth of schemes, the OECD compiled a dataset covering 544 schemes worldwide between 1970 and 2012, combining the EcoLabel index with a review of the literature and consultations with experts. The data show a rapid increase in the overall number of schemes, especially in the late 1990s and between 2007 and 2010, followed by a possible slowdown up to 2012 (Box 3). The main trends are:

- **Schemes owned or operated by governments are a minority, with non-governmental bodies (private-sector or non-profit) forming the bulk of schemes introduced over the past 20 years.**
- **Over the same period, there has been a shift from non-profit to privately-owned schemes.**
- **B2C schemes represent 70% of all ELIS, indicating that businesses remain the main drivers of new schemes, though G2C have also grown strongly.**

The analysis also shows shifts in the characteristics of schemes, notably:

- A shift from organic certification and Type I ecolabels which together accounted for 83% of all schemes in 1990, to other single-issue labels and ISO Type III labels, which accounted for 49% in 2012. Nevertheless, the share of organic labels remains significant at 15%.
- A shift from biodiversity to climate change related schemes, especially from 1995 onwards, whilst natural resources and chemical control remain the largest areas of environmental focus for ELIS.

Other findings include the fact that many schemes still do not rely on life-cycle approaches; certifying full life-cycle impacts can be prohibitively expensive and does not necessarily bring big gains in environmental transparency. That said, many schemes use standards based on impacts of the production phase of goods, without necessarily affecting the physical characteristics of the end product itself (known as “non-product-related processes and production methods (nprPPM)” in trade policy jargon). Another finding is a growing share of third-party auditing or verification. Nevertheless, ELIS generally remain quite non-transparent in their standard-setting process, though transparency does appear to be improving.

Although complex, the growth trends can be typified by two indicative key trends:

- “Intensification”: a sustained increase in the number of seemingly competing “traditional” ELIS (typified by single-issue seals).
- “Extensification”: the parallel emergence of new varieties of ELIS (typified by quantitative, life-cycle based energy and carbon reporting).

Intensification results in increased competition between traditionally dominant forms of ELIS, notably for particular product types and environmental targets. They represent the largest group introduced in the past 25 years and many of the more familiar consumer labels are of this type, including the Marine Stewardship Council and the Forest Stewardship Council (FSC). These schemes were originally seen as B2C schemes, though this distinction has blurred with B2B purchasers now also using consumer-facing standards in their supply chains. While there is wide variety within this category, a typical label might concern food, agriculture or forest products; be governed by a non-profit voluntary organisation; and use nprPPM with a focus on sustainable production, rather than life-cycle assessment.

The extensification trend refers to the introduction of new more diverse schemes, often focusing on communicating quantified information. This trend has involved new quantitative footprint schemes using life-cycle assessment approaches that are less exposed to direct competition but face significant entry challenges. Two important types are product carbon footprint (PCF) and product environmental footprint (PEF) schemes. They use outcome-based standards that generally aim to measure life-cycle impacts for particular products across one or more environmental dimensions. Both rely on quantifying life-cycle impacts which depend on the local context and conditions. As a result, the multiplication of quantitative footprint labels brings new data-related, methodological and transparency challenges for stakeholders, including consumers.

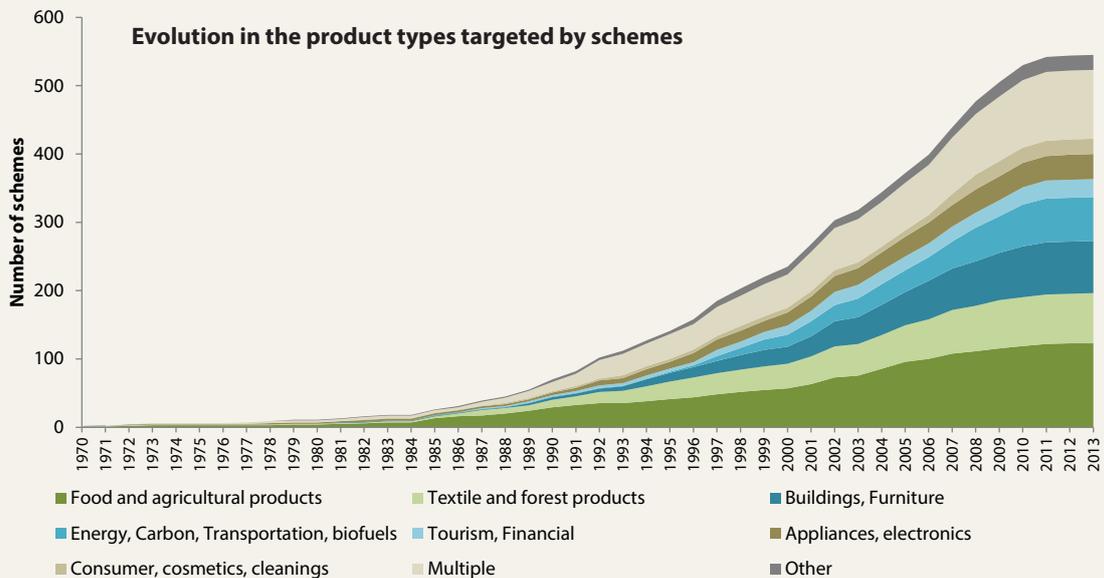
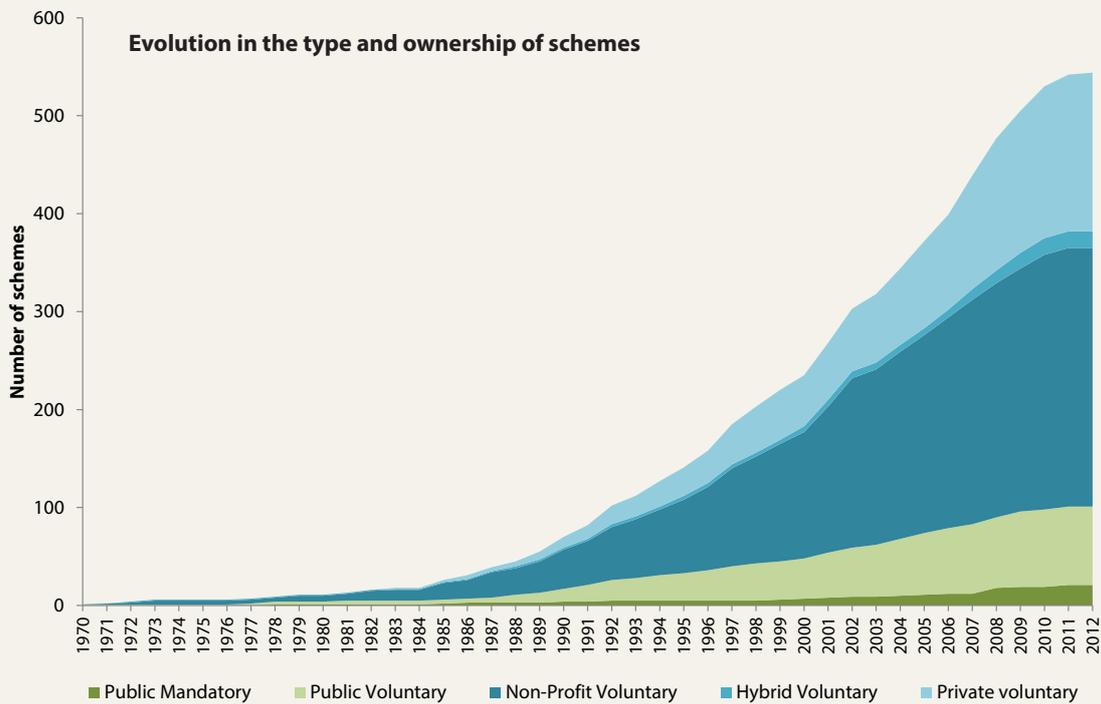
A further important trend is the international coverage of schemes. Some schemes designed in one country, with the intention of being applied only to products being sold in that country, are used elsewhere because of demand-driven voluntary market uptake in other countries, or endorsement by foreign governments. Others are designed so they can be recognised and applied in many countries. While most schemes originate in Europe and North America, recent growth has been stronger elsewhere. Data also shows that some country markets have a greater proportion of labels originating from other parts of the world: in some OECD

countries over 50% of the schemes present in their markets originate from other world regions. To understand the international spread of schemes, more reliable data is needed to track the growing influence of ELIS on producers in other

countries. For example, while 92% of all organic products are sold in North America and Europe, some 36% of the 1.9 million organic producers worldwide are based in Asia, with 600,000 small producers in India alone.

BOX 3: EVOLUTION IN THE NUMBER AND TYPE OF ELIS BETWEEN 1970 AND 2012

The upper panel shows that from a slow start, the number of schemes multiplied by a factor of five between 1988 and 2009, before reaching a plateau around 2010-12. It also shows that non-profit voluntary schemes dominate the landscape, though the number of private schemes has increased rapidly. The number of mandatory schemes remains very small (mostly confined to energy efficiency labels). An apparent slowing down in the overall growth of schemes after 2010 is also apparent. The lower panel shows how the growth in schemes has been divided among different product and service focus areas.



Source: Grùère (2013).

What drives the rapid growth of schemes?

All ELIS come into existence because a specific group of stakeholders determines a need for that particular scheme: the market growth is underpinned by a strong interest in environmental information from many quarters, often motivated by a combination of environmental and commercial concerns.

Drivers for growth include creating standards that are more or less stringent than existing schemes (vertical differentiation) or that target environmental impacts or products that are not yet covered (horizontal differentiation). This is the case for many agriculture and food products: horizontal differentiation (i.e., a greater variety of labels) occurs through emphasis on attributes such as organic, bird-friendly, fair trade, shade grown and biodiversity. Vertical differentiation (i.e., quality differentiation across labels) is the result of different levels of stringency: from an entry-level sustainability standard designed to attract incremental improvements in the worst performers (such as the 4C scheme for coffee producers), through to more demanding certification (such as the Rainforest Alliance scheme). Some labels focus on a single attribute with high standards, while others offer a range of attributes, all at a more moderate level of stringency. As a result labels that appear to be competing can in fact be differentiated across these two dimensions.

Civil society (through NGOs) has driven much of the rapid growth of ELIS, in particular voluntary sustainability standards (VSS). NGO schemes have generally focused on particular environmental issues or product sectors and on one part of a product lifecycle (usually production), differentiating horizontally and vertically. Many are referred to as “single issue” schemes as they tend to focus on particular aspects or behaviours, though a more appropriate term is “single phase” standard (the production phase). Some labels have evolved towards more holistic approaches (e.g. Rainforest Alliance and Fair Trade), making it difficult to separate the environmental, social and economic dimensions of sustainability. Some NGOs promote sustainability-focused certification systems as a less confrontational form of environmental and social activism (“buy-cott not boycott”), or as a means to bypass political slowness in regulation.

In the private sector, primary producers (e.g. farmers or manufacturers), processors and retailers all have different motivations for adopting or creating particular schemes

Recent research indicates that consumer demand may no longer be the most important motivation for businesses to either adopt schemes, partly due to a result of perceived fragmentation and lack of consensus over qualifying criteria. A number of other drivers may lead businesses to adopt ELIS:

- Within the firm, certification to ELIS standards can lead to direct market advantages, such as securing long-term supply of a resource and creating barriers to entry for rival firms.
- External to the firm, businesses may pursue certification to respond to pressure from investors or demands from B2B buyers, such as major retailers, or even from insurers who view certification as a risk-reduction tool.
- Other drivers include risk mitigation from resource scarcity, and pre-empting potential future regulation making environmental labelling mandatory.

The influence of business on the ELIS market has become complex. In recent years firms have become increasingly involved in endorsing, investing in or even developing their own labelling schemes, with important implications for ELIS multiplication. Some major firms have made blanket purchasing decisions on behalf of their customers by stocking only products certified with a particular label, taking the choice away from the consumer. A number of major producers have chosen to develop bespoke, in-house standards, often based on those used by existing, third-party-certified labels, particularly in the agriculture and food sector. Using an in-house standard streamlines environmental communication, minimising the multiplication of labels on their own packaging, while allowing the firm to retain control over the standard used. However, to the consumer, the introduction of in-house labels can appear to add to the multiplicity of schemes, even if the underlying standards are the same or similar.

Governments have contributed to the growth of ELIS by establishing government (run or owned) national voluntary and mandatory schemes in cases where they have identified a gap in the market or a need for credible and “focal” schemes (e.g. Blue Angel, national organic labels). More generally, governments have embraced the introduction of reliable, genuine schemes as a useful environmental management tool, notably through the endorsement of NGO schemes, or recognition in public procurement guidelines.

2

The multiplication of ELIS

Key Findings

The drivers and trends outlined have led to a multiplicity of schemes in some sectors and markets. The multiplication of ELIS can have positive as well as negative effects for different stakeholders (Box 4).

These effects translate into a range of benefits and disadvantages for producers, manufacturers and retailers, suppliers and standard-setters as well as consumers, all of which can affect environmental and trade outcomes.

BOX 4: POSITIVE AND NEGATIVE EFFECTS OF ELIS MULTIPLICATION FOR DIFFERENT STAKEHOLDERS

	+ Positive	- Negative
Producers	<ul style="list-style-type: none"> Diversity of standards can mean local conditions and needs are considered A range of standards with different stringency can encourage step-wise improvements of lowest performers Can provide new trade opportunities through access to high-value niche markets 	<ul style="list-style-type: none"> Harder to determine which labels are valued by potential buyers in different markets, and which are appropriate to different production conditions Higher compliance costs (auditing and certification) to meet multiple requirements
Manufacturers & retailers	<ul style="list-style-type: none"> Choice of standards suited to particular markets and supply-chain partners Allows for flexibility to align risk strategy 	<ul style="list-style-type: none"> Increased cost (multiple compliance and customer communication channels) Increased complexity for managing supply chains
Label suppliers & standard setters	<ul style="list-style-type: none"> Competition for credibility and market share could lead to improved practices and more stringent standards Ability to respond to evolving issues with customised approaches 	<ul style="list-style-type: none"> Competition for short-term market share could lead to downward pressure on standard stringency, with consequences for environmental effects Higher differentiation costs (branding)
Consumers	<ul style="list-style-type: none"> Greater choice allowing consumers to buy products with labels targeting issues that they care about 	<ul style="list-style-type: none"> Difficulty in differentiating criteria behind schemes Confusion and misunderstanding of label meaning and environmental stringency, leading to loss of credibility

Source: Prag et al. (2016).

100% BIO

What are the environmental effects of the rapid growth of ELIS?

In theory, one could envisage that the multiplication of ELIS could lead to one of two opposing effects on environmental stringency.

On the one hand, multiplication can offer more choices to producers and users, potentially driving innovation and consolidation: multiplication would lead to a market-driven process of competition whereby weaker or less credible labels are driven out by stronger, high-quality schemes, improving environmental effectiveness. On the other hand, some stakeholders have raised concerns that the multiplication of ELIS could lead to consumers and procurers finding it harder to distinguish good from bad labels; that firms may bear excess costs in certifying with many different labels; and that competition may drive down the stringency of standards as different schemes bid for market share.

While the growth in the number of schemes can be quite easily tracked, the environmental impact of multiplication is more difficult to measure. The main reason is the challenge of isolating the effects of multiple schemes from other exogenous drivers of environmental change. Without accurate data about the market penetration of various schemes and trends in the stringency of standards that underpin ELIS, analysis relies largely on theoretical modelling, though some case-specific empirical studies are available.

There is a large theoretical literature on the role of environmental labels, but most such studies typically assume there is only one simple binary (seal-type) label in the market at any one time. The more recent, smaller literature on multiple environmental labels seeks to answer two broad questions: whether label competition actually enhances environmental performance, and what happens when consumers are uncertain about the quality of various labels and hence may be confused about which is more stringent.

Theoretical modelling of label competition provides some insights into possible impacts of ELIS multiplication. It suggests that competition between labels may reduce environmental performance compared to a single label with strict environmental goals. This appears more likely when the labels involve multiple performance tiers, or if the labels are binary in nature with most firms in the industry facing similar

costs to achieve certification. More generally, theoretical work suggests a tendency for markets with free entry to produce too many varieties of labels, with insufficient environmental quality. Theoretical studies do suggest that multiplication of schemes can be socially beneficial provided there is no “race-to-the-bottom” in terms of standards. However, the stylised nature of the models and the complexity of the real context for ELIS mean that the policy relevance of modelling may be limited.

There are few empirical studies of the effect of ELIS multiplication. There is some evidence that label competition has led to harmonisation and market-driven convergence in standards over time, in some sectors. For example in the forest certification sector, competition between multiple labels has gradually converged towards a global duopoly shared by the FSC and the Programme for the Endorsement of Forest Certification (PEFC) with strong government recognition and a push to ensuring standards are locally compatible. In the particular case of small-scale producers of coffee and cocoa, there is also evidence that certification to multiple sustainability standards (horizontally differentiated) can lead to productivity and welfare gains as well as environmental improvements for primary producers. This and other findings from empirical studies are summarised in Box 5.



Does the multiplication of ELIS affect trade?

The use of labelling schemes can have real economic implications for producers and other businesses, and in theory can create positive and negative trade impacts in two main ways: by modifying market access or by shifting the balance of international competitiveness.

Key questions are how multiplication might alter the implications of ELIS for trade, as well as the possible trade effects of responses to multiplication (notably through market convergence on particular labels).

Exporters have previously raised concerns that the use of ELIS could act as a barrier to market access, in particular if adoption of a particular standard or label is necessary to sell into a national market. Currently the only truly mandatory government labels in operation are for end-use energy efficiency of appliances, buildings and cars, and have not been challenged under trade law. However, market access concerns could also occur when the market dominance of a voluntary label turns it into a de facto market entry requirement.

BOX 5: EMPIRICAL FINDINGS ON COMPETITION AND MULTIPLICATION OF ELIS IN DIFFERENT SECTORS

Product categories	Key findings
Apparel	<ul style="list-style-type: none"> • Strong competition of labels; little organisation • Increasing domination of business-led programmes and standards; push-back of NGO standards • High industry fragmentation and heterogeneous interests hinder label consolidation • No assessment of effects of label multiplication on environmental impacts, prices or markets
Coffee & cocoa	<ul style="list-style-type: none"> • Consolidation and differentiation occurring simultaneously • Consolidation through mutual recognition among labels (e.g., organic and Fair Trade); adoption of best practice standards • Label differentiation to address distinctive features, target groups and stringency levels (horizontal and vertical differentiation) • Common multiple/double certification, which can be beneficial for farmers; accepted by consumers
Forestry	<ul style="list-style-type: none"> • Strong consolidation: FSC and PEFC are dominant labels that have converged and are now very similar • Some overlap: double certification, multiple labels from FSC, most Type I ecolabels also cover forestry products • No assessment of effects of label multiplication on environmental impacts, prices or markets
Seafood	<ul style="list-style-type: none"> • Shift away from highly specific single-issue labels (“dolphin-safe”) towards broader sustainability of wild capture and aquaculture fisheries • Recent emergence of ELIS/claims by major retailers; increasing self-certification • Many self-made claims are misleading, unverified or unverifiable despite frequent third-party certification (UK market) • No assessment of effects of multiple labels or vague claims on consumer decisions
Home appliances	<ul style="list-style-type: none"> • Limited competition due to strong presence of energy labels such as Energy Star, EU & US energy efficiency standards and labelling schemes • Emergence of some ELIS covering environmental sustainability beyond energy, with evidence of international coverage spreading

Source: Prag et al. (2016).

Such effects could be exacerbated if costs to adopt ELIS are high. Economic costs incurred due to adoption of schemes can affect producers differently in different countries and therefore also be perceived as contributing to market access issues. Costs for producers incurred due to labelling schemes include costs of switching to more expensive environmentally-friendly production methods and costs of adopting certification and audit procedures. A lack of infrastructure required for certification and traceability requirements means producers in developing countries can face greater hurdles for certification, with proportionately higher cost implications.

However, investing in ELIS certification can have direct economic benefits for producers and exporters. Certification may attract a price premium for a product and bring long-term contracts with buyers from major international firms. The production practices adopted to achieve certification may also reduce operating costs (through lower energy use or improved waste management), and increase productivity and welfare for producers. Such economic benefits can offset certification costs and be a trade-positive outcome of labelling.

Turning to effects on international competitiveness, the main concern is whether ELIS could affect competitiveness of products of different origins, once products are on the market. This could arise if the standard used for a voluntary scheme is challenged as not treating domestic and foreign products in the same way (affecting the principle of national treatment in trade law) or treating trading partners differently (affecting most-favoured-nation principle in trade law).

A potential concern in this respect is that standards focusing on nprPPM may not necessarily be suited to all types of production in all countries. A standard designed around one country's production conditions may provide an accurate signal of environmental impacts in that country but the same standard applied overseas with a "one size fits all" approach may provide a less accurate signal due to different production conditions. This problem is widely recognised and has led to schemes being adapted accordingly. For instance in the forest certification sector, the two main international standards both seek actively to ensure that the standards they use are flexible enough to be made appropriate to local conditions and therefore not affect competition between products from different countries.

The trade effects of the *multiplication* of ELIS are somewhat different, in terms of both market access and competitiveness. Multiplication via the intensification trend can increase costs: co-existence of multiple overlapping schemes could affect the producer cost-benefit balance described above. The actual cost impact of the intensification trend is likely to depend on how systems are implemented, including the degree of interoperability of the various audit and certification processes – for example if a producer can achieve multiple certifications via a single audit provider, that keeps costs down. Furthermore, the increased prevalence of ELIS can stimulate the entry of audit and certification companies in countries where producers are sited, including in developing countries. This can also help to reduce costs over time.

The intensification trend has led to a multiplication of logo-type schemes, many of which are sector- and issue-specific and relate to commodities grown in the global south, which accentuates the concerns that standards are appropriate to local conditions. As a result, growing awareness of such issues has encouraged many operators of VSS to make significant efforts to render their standard-setting process more consultative and adapted to specific countries, as well as accessible to smaller producers if necessary. More generally, investments are often necessary for producers to meet environmental standards required by ELIS, both for practice- and outcome-based standards. If producers pursue certification to multiple schemes based on practice-based standards, the changes in practices required for different schemes might not be complementary (in terms of both escalating costs and environmental impact). In addition, the investment could disfavour smaller producers, in particular in developing countries. This has been apparent for products based on renewable natural resources, such as agriculture and fisheries.



The extensification trend also has cost implications, for example the costs of data collection and management for quantitative labels. With the growth of footprint labels the cost of providing GHG data of a high enough quality for PCF can be perceived as a barrier that is disproportionately higher for smaller producers in both developed and developing countries. Although some schemes allow the use of default emission factors to overcome certification costs, this may introduce a level of subjectivity that could be perceived as affecting different countries unevenly. A situation could arise whereby producers choose between locally-specific data and default factors for different parts of the footprint calculation, depending on which is more beneficial for their score. For PEF, a greater number of LCA calculations required may exacerbate this effect, in particular for hard-to-quantify metrics such as biodiversity. Footprint standards need to seek a balance between accuracy, accessibility and even-handedness.

In theory well-designed PCF and PEF schemes would provide objective life-cycle data on environmental impacts so that even with multiple schemes competing, there would not

be any inherent risk of competitiveness impacts. However, the design and appropriateness of the standards used is key, notably for tackling challenges posed by missing data. Concerns have been raised that rapid growth of such schemes internationally could make it more difficult for producers and ELIS users to understand where footprinting schemes are balanced and where they may be giving uneven scores.

Despite these potential influences of multiplication on the costs, benefits and evenness of application of schemes, multiplication by its nature means a large number of co-existing schemes. Multiplication itself is therefore unlikely to lead to a significant market share for any particular scheme that could then constitute a de facto market entry requirement. However, the way that various actors (including but not exclusively government agencies) respond to the multiplication can also have implications for the relationship of ELIS with international trade. This is discussed below.



3 Responses to ELIS multiplication by governments and other stakeholders

A range of government and non-government stakeholders have recognised that ELIS multiplication is happening and have taken action to respond to the real or perceived effects of multiplication. Some initiatives are explicitly targeted at multiplication, others less so. Some aim to reduce complexity in the ELIS marketplace, while others focus on maintaining high standards. These government- or market-led responses can be broadly categorised as interaction and collaboration on the one hand, and consolidation and convergence on the other.

Box 6 provides an overview of the ways ELIS systems interact and collaborate as a response to multiplication. Harmonisation and mutual recognition of other schemes can eliminate

duplication and reduce costs across international markets. Recognition means that if a product is certified by one scheme, it is automatically considered certified to the other scheme, and vice versa. There are strong incentives for this kind of harmonisation, including reduced administrative costs and increased international trade of environmentally-certified goods, as well as advantages for the private sector to operate in a more internationally consistent environment. Though harmonisation has not necessarily been a consideration at the design or operation stage of certain schemes, there are areas where cross-border consistency makes increased harmonisation a realistic objective. National standards for organic agriculture are one example where this has occurred.

BOX 6: RESPONSES TO ELIS MULTIPLICATION: INTERACTION OF SYSTEMS AND STANDARDS

	Description	Examples
Full mutual recognition (equivalency)	Agreement among and between two or more ELIS whereby the systems and standards of schemes are assessed and agreed by each scheme as being equivalent to one another	Type-I ecolabels, as coordinated through the GEN, product labels such as Energy Star, various national organic standards
Unilateral recognition and other means of “stepping up”	One-way recognition whereby all the systems and standards of one scheme are assessed as being equivalent by another scheme, but this is not reciprocal. Other means of “stepping up” include specifying that producers should graduate to more stringent ELIS	4C, Rainforest Alliance, UTZ (coffee) Controlled Wood - Forest management (FSC)
Harmonisation and inter-operability	Adjustment of differences and inconsistencies among different standards, systems or definitions to make them uniform or mutually compatible including sharing of assurance systems	Union for Ethical Bioproducts and Rainforest Alliance
Meta-regulation or meta-coordination	ELIS operators, standards bodies and/or private sector stakeholders collaborating to reinforce a credibility advantage, at the same time acting to maintain more stringent standards and coordinate standards processes etc.	ISEAL, Global Sustainable standards processes etc. Seafood Initiative Sustainability Consortium

Source: Prag et al. (2016).

Many Type I ecolabels have also sought harmonisation, with the Global Ecolabel Network (GEN) providing an international forum allowing ecolabel organisations to harmonise development of criteria and take steps towards mutual recognition. In cases where ELIS are vertically differentiated, a system of unilateral recognition may be adopted. In this way the more stringent scheme is assumed to be sufficient to meet the needs of the less stringent scheme, but not vice-versa. This is sometimes combined with a “stepping up” procedure providing incentives for producers to graduate from a less stringent to a more stringent scheme over time. Where standards are horizontally differentiated, a system of interoperability may be adopted, whereby standards recognise parts of each other’s systems. This can take a modular approach (e.g. a social sustainability standard being used as a social ‘module’ for an environmental standard which otherwise has no social aspect) or rest on an agreement to use the same certification or auditing processes.

Another form of interaction has occurred via collaboration of standard setters. Some of the better-known non-government sustainability standards bodies collaborate through the ISEAL Alliance, a membership association for voluntary standard-setting bodies. ISEAL has created codes of conduct that act as a voluntary benchmark for other standards operating or entering into the market. This aims to boost the credibility of high-quality schemes, thereby raising market expectations and pushing up the quality of standards across the board, including new schemes entering the market in a multiplication scenario. ISEAL also assists and encourages its members to conform with or surpass any requirements under WTO rules for recognition as legitimate standardisation bodies in order to avoid trade disputes.

In addition, a number of collaborative programmes have been initiated to help users navigate and analyse information about ELIS, and determine those with highest environmental quality. They are created and supported by a variety of actors using high quality, globally accepted methodologies and often involve input from the private sector, NGOs, intergovernmental organisations and national government agencies. Such multi-partner “meta-initiatives” provide evaluations of standards’ performance against user-defined preferences and benchmarks, support mutual recognition between standards and help users understand what influences standard performance. Examples include:

- Web-based comparison tools such as International Trade Centre’s Standards Map (intergovernmental) and the “Sustainability Standards Comparison Tool” (government-NGO partnership).

- Systems for assessing compliance of ELIS against an agreed set of rules, such as the Global Social Compliance Program (business-led).
- Periodic reviews of particular standards, with a view to providing information to stakeholders on the effectiveness of programmes (e.g. SSI).

In the private sector, major retailers and end-product manufacturers have also responded to perceived confusion and multiplication in the ELIS market. Some have chosen, either individually or collaboratively, to adopt particular voluntary non-government schemes, which could have the effect of that scheme becoming a dominant market standard. Others have decided to develop their own “be-spoke” labelling schemes, often by adopting parts of a pre-existing voluntary standard. This can be either a brand-specific label, or a collaboration driven by private-sector collaboration, such as those developed by The Sustainability Consortium.

Some responses to multiplication of ELIS, whether initiated by scheme operators or regulators, and whether by government, NGOs or the private sector, can therefore lead to consolidation of the ELIS market around certain labels and standards. In time, this could lead to those scheme becoming sufficiently dominant in the market that supply chain actors feel obliged to adopt them in order to gain market access or share, even though the schemes are actually voluntary. As mentioned above, multiplication tends to spread the market share for any particular scheme, so that it is the government or market-led response to ELIS multiplication that could in fact lead to convergence of the market onto a particular label or standard, which could then come to be seen as a de facto market entry requirement.

In some cases governments have chosen to steer the ELIS market through the introduction of a focal voluntary label or standard on which non-government schemes can be based. This can have the effect of ensuring that convergence leads to more holistic and streamlined schemes without weakening stringency and quality. Such focal ELIS should take into account trade concerns about market access, for example by ensuring that procedures are clear and easy to follow, providing streamlined procedures for small and medium enterprises, ensuring that worse performers have an entry point, and providing capacity building and information campaigns. Furthermore, governments can be well placed to provide the framing context for labelling requirements that cannot be seen in isolation, because they come in addition to a long list of market access requirements (e.g. for food products being imported to OECD countries, often subject to stringent food safety standards).

There are many instances where government responses have sought to bring consistency into the crowded ELIS marketplace whilst seeking to improve environmental performance and limit trade concerns. PCF- and PEF-based schemes provide examples of such government involvement: in practice, although many private-sector and NGO carbon footprint labels have been developed, there has often been strong government involvement or support for the underlying standards (including the UK, Japan and Korea). The current European PEF programme, while not a labelling scheme in itself, can be seen as a focal initiative aiming at improving coherence across quantitative footprint schemes that explicitly aims to reduce trade barriers by limiting diversity in approaches and standards used to calculate environmental impacts of products. The consultative nature of the rule-making process, involving diverse international stakeholders, is intended to make the programme widely applicable to international supply chains.

Governments have also influenced the market for more credible labels by developing criteria for green public procurement, thereby helping to establish the reputation of those labels (including NGO labels). In some cases impartiality requirements means labels cannot be referred to explicitly (for instance in EU Green Procurement rules), but criteria underpinning the labels can be specified. While public procurement is focused on particular product categories,

thereby limiting direct market influence, the credibility afforded to ELIS that are compliant with public procurement rules can lead to significant indirect market influence. For example, an ELIS appearing on an approved list for government procurement will likely enjoy increased credibility in the wider marketplace, leading to broader uptake by consumers and businesses.

Finally, governments have responded to the multiplication of uncertified self-made environmental claims by increasing the number of relevant guidelines and regulations that have been issued. Enforcement measures are partly a response to public criticism of “greenwashing” by companies, and the multiplication of ELIS has made it necessary to devote more attention to regulating misleading or false environmental claims. A study of ELIS in a set of 11 OECD countries shows that while the number of prosecutions has generally been increasing, it is difficult to say whether this indicates more effective regulation or whether the increase is simply due to overall higher numbers of environmental claims being made. The study also shows similarities among national guidelines for what types of environmental claims are correct, misleading or false. This can be related to the fact that in many cases government guidelines are derived in part from the internationally agreed ISO 14020 series of standards, even if self-reported claims are mostly governed by domestic regulations and legal processes.



4

Conclusions ELIS fit for the future?

Though the rate of growth of schemes seems to have slowed since 2010, the number of schemes is still increasing. The growth has been uneven, and ELIS have not multiplied for all types of products and environmental topics in all countries: schemes are focused in particular thematic areas, with more found in OECD countries. Recent developments suggest that growth will continue, through both intensification and extensification, as well as into broader international markets.

The growing ELIS market is however changing and evolving, with the main growth area being non-government (especially businesses), and with a shift to new scheme types such as quantified footprint schemes. At the same time, the distinction between ELIS suppliers and users is becoming blurred, as is that between B2B and B2C schemes, with a trend for manufacturers and retailers adopting in-house standards. The number of uncertified self-made environmental claims – for example textual claims to be “environmentally friendly” – also seems to be growing, though this trend is more difficult to track.

The continued growth demonstrates a strong ongoing interest in environmental information from many quarters, with an increasing diversity of actors involved in schemes ownership and operation. The resulting multiplication of schemes can offer more choices to producers and users of ELIS, potentially

driving innovation and consolidation through competition. As the number of schemes increases and types diversify, there is evidence that the different actors involved in ELIS are increasingly pooling their resources and efforts, in some cases converging towards common commercial and environmental goals.

The effect of multiplication on environmental effectiveness is difficult to measure, either theoretically or empirically. There might not be a simple answer to the question of the environmental implications of the growth of ELIS, but it is clear that the rapidly growing market, and the influence of competing standards, need to be taken into account in the design and operation of new ELIS to ensure that standards are not compromised.

This multiplication also has implications for the possible impact of ELIS on trade, which has long been a topic of debate. While multiplication makes it less likely for any single scheme to command the market share necessary to constitute a de facto market requirement, presence of multiple schemes can nevertheless affect the costs and benefits felt by producers facing incentives to adopt labelling schemes. New types of ELIS such as PCF and PEF schemes are powerful, but bring fresh data and compatibility challenges.

ELIS multiplication has brought a range of responses on the part of scheme operators and regulators, sometimes aimed at consolidation and convergence. These responses can be aimed at addressing multiplication and, more generally, at improving transparency and maintaining high standards across the range of ELIS, with the aim of “weeding” out lower quality schemes. Non-government actions include mutual recognition agreements between existing scheme operators, establishment of voluntary codes and development of many ELIS comparison and benchmarking tools. Governments have also responded, including introducing “focal” schemes (or standards on which non-government schemes can be based) and developing criteria to guide public procurement. These responses are an important knock-on effect of multiplication, and they can themselves have implications for trade and environmental effectiveness.

While the future growth of ELIS can have new and significant implications for the environment, markets and trade, the total number of schemes is not the only important factor: the way that schemes are implemented and the details of the standards they use can affect their impact and effectiveness. For example if two different labels use the same standard and auditing procedures, a high level of inter-operability will limit costs for producers and supply chain actors, even if two different labels appear in the marketplace. A key determinant of the impact of multiplication is the extent to which different ELIS are actually intended to be inter-operable from the design stage (e.g. similar criteria and audit procedures, or mutual recognition).

Along with high quality non-government harmonisation initiatives, there is scope for inter-governmental responses that could further promote inter-operable design schemes. Also, governments and NGOs seeking to influence the design, operation and further development of the ELIS market could collaborate to create trusted sources of comparison information across different scheme types. Such initiatives should build on the experience of existing international initiatives in the public and private spheres, and government responses to multiplication should consider the many non-government initiatives that have been taken in this area.

With the number of schemes set to continue growing, monitoring and analysis will be increasingly necessary to ensure that the effects of their multiplication can be better understood and responses can be assessed. Although the data are not conclusive on how multiplication affects ELIS quality in general, it is likely that there is wide variation by sector and label type. The recent OECD project indicates that such a task is challenging and more work is needed: theoretical studies to date have only provided limited insights, while data and methodological issues mean that the empirical literature has barely begun to explore the impacts of ELIS, much less the effects of multiplication.



A

Acronyms and abbreviations

B2B	Business to Business
B2C	Business to Consumer
ELIS	Environmental Labelling and Information Schemes
FSC	Forest Stewardship Council
G2C	Government to Consumer
GEN	Global Ecolabel Network
GHG	Greenhouse gas
GSCP	Global Social Compliance Programme
GRI	Global Reporting Initiative
IFOAM	International Federation of Organic Agriculture Movements
ISO	International Organization for Standardization
ITC	UN International Trade Centre
JWPTE	Joint Working Party for Trade and Environment
LCA	Life cycle assessment
NGO	Non-governmental Organisation
nprPPM	non-product-related processes and production methods
PCF	Product carbon footprinting
PEF	Product environmental footprinting
PEFC	Programme for the Endorsement of Forest Certification
SSI	State of Sustainability Initiatives
UNEP	United Nations Environment Programme
UNFSS	UN Forum on Sustainability Standards
VSS	Voluntary sustainability standards
WTO	World Trade Organization

B

Definition of some key concepts

Horizontal differentiation

ELIS growth through an increasing variety of labels, generally targeting environmental impacts not covered by existing ELIS.

Vertical differentiation

ELIS growth through quality differentiation across labels, with the creation of standards that are more or less stringent than those of existing schemes.

Intensification

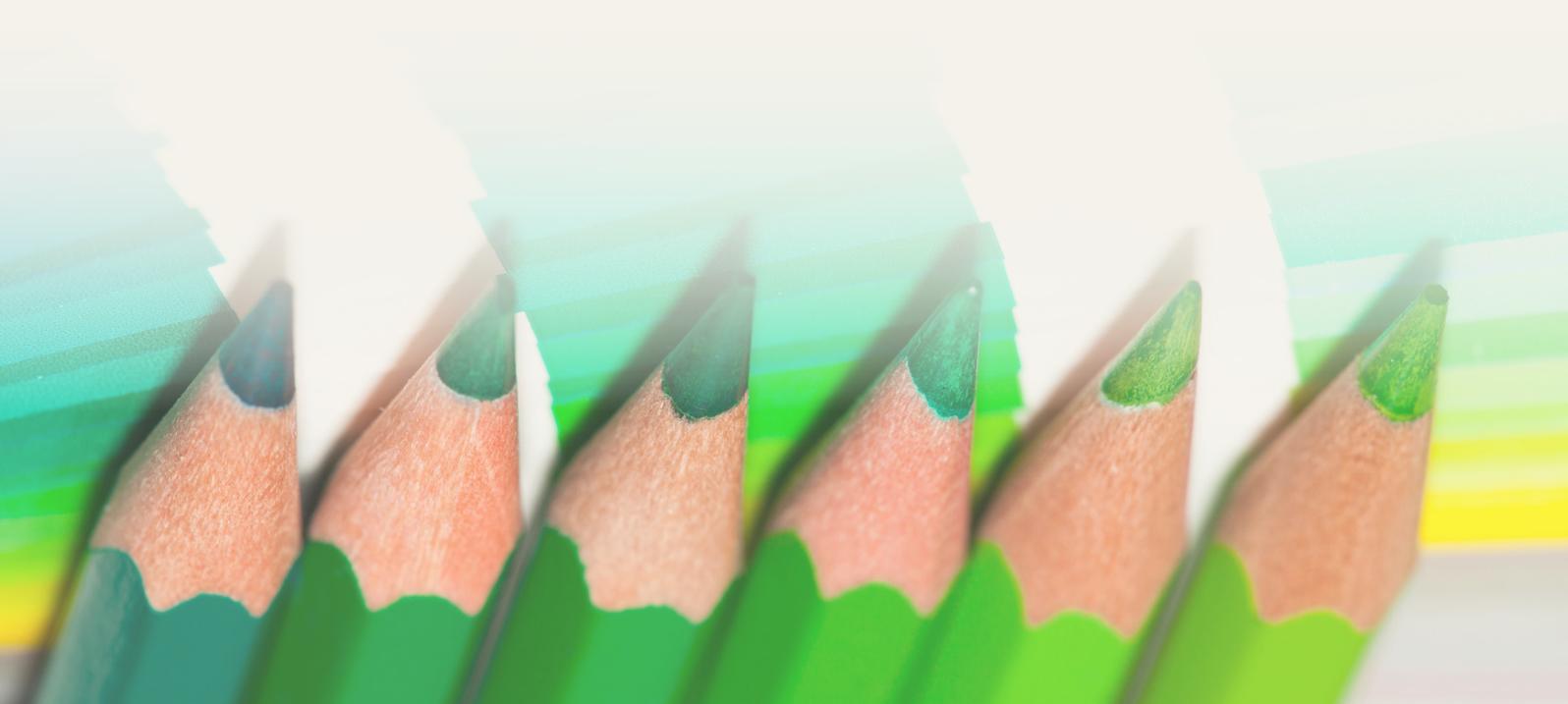
Increase in the number of traditional ELIS (typified by single-issue seals), leading to stronger competition among such ELIS, notably for particular product types and environmental targets.

Extensification

Emergence of new varieties of ELIS: in recent years, quantitative footprint schemes using life-cycle assessment approaches, notably product carbon footprint (PCF) and product environmental footprint (PEF) schemes.

Inter-operability

Ability for two or more ELIS to adopt or recognise parts of each other's systems, notably auditing and certification processes, so as to enable a degree of mutual compatibility or recognition. Can be integrated at the design stage, or evolved as part of an effort to harmonise different ELIS, including internationally.



For further reading see the following OECD Environment working papers on which this synthesis report is based:

Gruère, G. (2013), "A Characterisation of Environmental Labelling and Information Schemes (ELIS)", *OECD Environment Working Paper No.62*. DOI: 10.1787/5k3z11hpdgq2-en.

Prag A., T. Lyon and A. Russillo (2016), "Multiplication of Environmental Labelling and Information Schemes ELIS): Implications for Environment and Trade", *OECD Environment Working Paper No.106*. DOI : 10.1787/5jm0p33z27wf-en.

Klintman, M. (2016), "A Review of Public Policies Relating to the Use of Environmental Labelling and Information Schemes (ELIS), *OECD Environment Working Paper. No.105* . DOI: 10.1787/5jm0p34bk7hb-en.

For more information:

[www.oecd.org/tad/envtrade/
environmentallabellingandtrade.htm](http://www.oecd.org/tad/envtrade/environmentallabellingandtrade.htm)

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