



Sustainability Challenge # 16

Certification as sustainable self-regulation

1. Introduction: sustainability through self-regulation¹

The issue of regulating the behaviour of companies through self-regulation has been a controversial topic. Proponents argue that self-regulation might provide a good alternative to command and control regulation. It is considered to be more effective, efficient, flexible, less time consuming and is able to 'repair' government failures (Van Amstel, 2007). Besides this, private parties might also deal with matters that governments can not, due to limitations by national borders and other nations' sovereignty, or international agreements and regulations. It is also said to increase compliance and to increase industry responsibility (Dutch Ministry of Economic Affairs, 2003). Opponents, however, state that self-regulation is 'weak, ineffective and serves private interests rather than public interests it claims to serve' (Van Amstel, 2007: 23).

This issue dossier examines certification as a way to ensure sustainable behaviour of companies in general. The dossier is based on research into certification as a tool to ensure the sustainability of biomass and bio-energy.² Therefore in some cases sustainable biomass certification systems are used as examples (e.g. Forest Stewardship Council (FSC) and Sustainable Agricultural Network of the Rainforest Alliance (SAN/RA)). Sustainability certification lies at the intersection of three important concepts: *sustainability*, *regulation* and *certification*.

This dossier starts with an explanation of these three concepts and discusses their relationships. Firstly, the regulation of sustainability issues is discussed from different stakeholders' perspectives. Secondly, the (theoretical) function of certification as a self-regulating tool is examined. Finally, the third relationship will be discussed; the effectiveness of certification when it comes to ensuring sustainability. This is done in order to determine the effects, the key success factors and barriers of certification as a form of sustainable self-regulation. Figure 1 presents an overview of this theoretical framework.

¹ This issue dossier was written by Jasper van de Staij. It is intended to explain the concept of certification as a regulating tool for sustainable behaviour. It builds on chapter 7 (dealing with the public-private interface in society) and chapter 12 (dealing with CSR 'regimes') of the book "International Business-Society Management" (Van Tulder with Van der Zwart, 2006). Last updated: August 2008.

² Cf. Issue dossier #15 on sustainable Bio-energy.

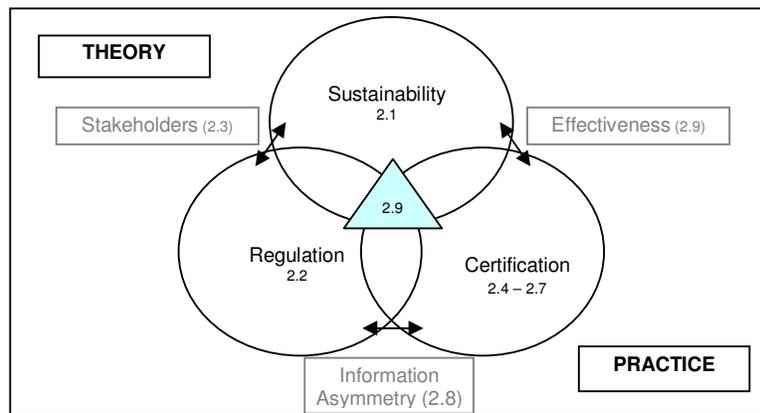


Figure 1: Theoretical framework

2. Regulation and self-regulation

In recent years, a change in roles of societal actors has taken place. Globalization has increased awareness of global issues such as global warming, concerns about the global environment, labour circumstances and working conditions in developing countries. Western governments have receded in order to give more room to manoeuvre to multinational corporations. With a receding government, companies and NGOs have filled gaps in society and take responsibility for new issues. Other gaps and issues remain ‘ownerless’, since societal actors have not yet determined who is responsible (Van Tulder with Van der Zwart, 2006).

In order to ensure sustainable behaviour by companies different options exist; Governments may decide to leave matters to market players or to civil society to be dealt with. Another option is to ensure that things are dealt with by either regulating things themselves or by teaming up with other societal actors in order to deal with the matters at hand. Companies have been more inclined to self regulate themselves in recent years (Van Tulder with Van der Zwart, 2006; Haufler, 2001). Most common forms of self-regulation consist either of the adoption of international standards via ISO or voluntary measures, such as the adoption of corporate codes of conduct or certification and labelling schemes (Campins-Eritja and Gupta, 2002). This section goes deeper into the concept of regulation in general and deals with when and where certification is effective as a regulating tool in specific.

Market failures

From an economic perspective, a free market system is preferred over a market regulated by the government, unless government regulation or interference enhances the efficiency of the market. In the case of market failure – to some extent present in virtually all markets – the government has a role to fulfil, depending on the extent of the market failure.

According to Baarsma et al. (2003) four types of market failure exist. When competition is hindered (e.g. in the case of a monopoly or high concentration of economic power); when there is information asymmetry (e.g. customers are unaware of specific product characteristics, thus hindering them in making the optimal choice with the best price-quality ratio, possibly leading to adverse selection or in the case of bounded rationality); when there are (negative) external effects (e.g. pollution or a lack of investment in innovation, because of the fear of competitors profiting from it); and an inability to take care of the provision of public goods (a positive external effect).

Table 1: Market failures

Lack of competition	Information asymmetry	External effects	Inability to provide public goods
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In case market failures exist, governments might want to intervene to correct or steer towards a more effective or equitable market. Other motives for the government to regulate matters, other than to intervene with the previous four kinds of market failure are not economic motives. They are motives related to (social) justice, legal certainty, distribution of wealth, ethics, morals, or even matters related to sustainability. The non-economic motives can be divided into three categories; preventing or resolving unequal distribution (i). In case of inequitable or unfair results of the market, regulation is aimed at achieving a more equitable result (e.g. progressive tax system); paternalistic motives (ii), whereby government actions are aimed at discouraging or restricting production and consumption of harmful products and behaviour (e.g. smoking or drugs) or are aimed at stimulating and promoting products and behaviour that have positive effects (e.g. education and wearing seatbelts); and interference in situations with an societal imbalance (iii) (e.g. high inflation or unemployment) (Baarsma et al., 2003).

Table 2: Non-economic political motives to regulate

Unequal distribution	Paternalistic motives	Imbalance
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Not only market mechanisms have imperfections, government regulation or interference itself is in some cases also prone to unwanted or negative effects on society, known as government failure or regulation failure. There are four different kinds of government failure: unwanted and unexpected effects because of the complexity of the situation (e.g. negative impacts by setting high bio-energy targets and setting quantitative targets for education, leading to a decrease in quality); failure because of information asymmetry between government and society (e.g. limited budgets for healthcare when there is a specific need for it, with the consequence that there is inadequate healthcare); net increase of transaction costs, the costs that the regulation brings – consisting of institutional costs and compliance costs - are higher than the gains from the adjustments (e.g. too strict inspections and intensive control from governments); and increase of economic costs: regulation can lower efficiency (e.g. agricultural policy of the EU) (Baarsma et al. 2003).

Other factors and issues that influence and relate to regulation are: rent-seeking behaviour by interest groups that are able to influence government actions; public choice theory dilemmas, whereby politicians might strive towards personal goals instead of towards public goals; and other issues such as corruption, bribery and nepotism.

3. Stakeholder perspectives: Regulation and self-regulation of sustainability issues

Regulation is seen as a set of fundamental rules and a legal system to resolve conflicts and maintain justice. In economic theory such a legal system and fundamental rules, such as property rights and contract laws, are essential and fundamental to the functioning of markets. Regulation sets limits to behaviour of individuals or organizations, by using involuntary rules and standards. Traditionally, regulation is seen as a function of the national government that corrects the private sector, also known as command and control regulation (Van Amstel, 2007). *Self-regulation* stems from the concept of regulation and concerns the notion that societal actors have a certain responsibility in formulating, enacting and maintaining rules (Baarsma et al, 2004; Haufler, 2003).

Typically, regulation is viewed more as an opposition between public-private interests, while self-regulation has a less distinct separation (Baarsma et al., 2003).

Four broad categories of forms of regulation can be conceptualized, ranging from traditional regulation to co-regulation, industry self-regulation and multi-stakeholder regulation (Haufler, 2003). Traditional regulation is developed and enforced by national governments. This kind of regulation and its use has seen a change in recent years due to globalization and issues that transcend national borders. It is argued that due to national governments' races-to-the-bottom, other forms of regulation might become more suitable (Van Tulder with Van der Zwart, 2006).

Co-regulation involves both the private sector and the government together in regulatory actions, and was a result of the search for more 'market-friendly ways' to regulate matters in the 1990s (Haufler, 2003). Industry self-regulation is based on voluntary measures and voluntary actions by companies and industries. Examples of self-regulation are codes of conducts. Finally, multi-stakeholder regulation is a form of regulation that includes different societal stakeholders from the market, the government and civil society that come to a consensus on a regulatory framework. Often issues sought to regulate are international policy issues. Examples are the Global Reporting Initiative and the Forest Stewardship Council. Haufler (2003: pp. 238) states:

These initiatives typically establish a set of standards and/or goals, a framework for decision-making, and a process for achieving the standards. These programs often include the development of certification systems, which are intended to provide market incentives for compliance.

These last two categories can be classified as self-regulation and are often referred to as corporate citizenship, business ethics and corporate social responsibility (csr), emphasizing on the voluntary nature. However, they also have a regulatory function. Often societal pressure plays an important role in the realization of self-regulation. Table 3 depicts the four kinds of regulation.

Table 3 Varieties of regulation

Multi-stakeholder regulation	Industry self-regulation	Co-regulation	Traditional regulation
 <p><i>Increasing variety of societal actors</i></p>			

3.1 Self-regulation

The Dutch government has been more inclined to embrace self-regulation and stimulate initiatives that are formulated by companies (preferably in cooperation with civil society) themselves in order to regulate certain matters in a wide variety of issues, ranging from media broadcasts (media codes) to roundtables for sustainable commodities (Baarsma et al., 2004).

Government influenced self-regulation and spontaneous self-regulation

Self-regulation might be an alternative or an addition to regulation from the government. It might also occur in order to prevent (stricter) government regulation or, in a situation without

government presence, on the initiative of the market (for example to prevent a negative image of the market). Corporate social responsibility is also an example of self-regulation. Complex and dynamic sectors might also be better off with self-regulated measures than with relative slow and inflexible government regulation, or in the case where a government is reluctant to interfere (for example, on foreign markets where fundamental rights play an important role and the market is able to regulate itself). In some cases the government may prevent self-regulation or redo self-regulating initiatives when they conflict with the ‘Laws on Competition’ (Van Amstel, 2007; Baarsma et al., 2003).

3.2 Motivations for self-regulation

The most important motivation for companies to engage in self-regulation is self-interest, to gain a positive image, prevent reputational and economic damage or prevent stricter regulation (Van Driel, 1989). In general there are three situations where societal actors can be interested in self-regulation (Baarsma et al., 2003):

1) Situations where there is market failure or other relevant political motives exist:
 - to prevent government regulation

2) Situations where there is market failure or another relevant political motive, but where government regulation is not likely:

- the nature of the issue does not constitute government regulation
- the space to operate for government is limited (e.g. because of WTO regulations)
- required knowledge or expertise is not present in the government

3) On markets own initiative:

- to complement government rules or to improve present situation

The following table presents an overview of the benefits and downsides of self-regulation.

Table 4: Benefits and downsides of self-regulation

Benefits	Downsides
<ul style="list-style-type: none"> - Specific knowledge is often better and more accurate in the market compared to the government or is available at lower cost, - Better insight into the nature of the issue and the feasibility of the solutions. - Transaction costs might be lower through self-regulation, since companies have an interest to lower their costs. - More engagement and willingness to comply from actors involved (less compliance costs for the government). - More flexibility, less bureaucratic than government - Less strain on governmental system, reduction of burden. - Engagement community or society is higher. - Communication between actors is better 	<ul style="list-style-type: none"> - Might be hindering competition since existing companies prevent new comers on the market, through barriers or exclusion. - Legal certainty is limited. - It might be argued that the regulating entity tries to continue or even expand its present position, leading to increased transaction costs. - Unequal representation of interests, dominant actors/groups might have relatively unequal influence (cf. lobbying and rent-seeking behaviour with government regulation) - Pre-emptive effects; Path dependence; through self-regulation the market might chose a certain direction, making it harder to redirect the market, at the moment government regulation might be wanted or desirable. - Potential danger of censorship or window dressing

3.3 The choice for an instrument

Not in all cases self-regulation might be a good option. The choice of a self-regulating instrument depends on a combination of the definition of the issue, the involved actors and the availability of other and/or additional instruments. These elements decide what policy tool is most effective and appropriate and will determine the likelihood of success.

Six different kinds of self-regulation instruments can be distinguished (Baarsma et al., 2003):

- technical oriented instruments (e.g. normalization, regulation through engineering)
- behaviour oriented instruments (e.g. code of conduct, corporate codes, covenant)
- informing instruments (e.g. certification, labelling)
- contractual instruments (e.g. general conditions deliberations)
- dispute settling instruments (e.g. mediation, binding advice)
- legal organisation (e.g. trade/sector/industry organisations)

In relation to corporate social responsibility, informing instruments and behaviour oriented instruments are most in order. Behaviour oriented instruments are agreements in place to ensure that organizations either refrain from or adhere to a certain type of behaviour or conduct. Informing instruments are mostly in place when there is a lack of transparency in the market because of information asymmetry. By providing extra information before end use, consumer confidence can be enhanced and market opportunities enlarged. In some cases more than one kind of instrument might be applied. For example, a company might have a corporate code with regard to working conditions of its employees, but might also apply for certification that also covers social criteria. Certification systems as a self-regulating instrument can be seen as an informing instrument.

4. Understanding certification

In scientific literature and in the present international debate different terminology is used with relation to certification. Words like inspection, audit, verification and assessment, for example, are sometimes used to indicate the same, sometimes to indicate a slightly different matter. This section goes deeper into the concept of certification; it discussed the process of certification and clearly distinguishes the different aspects and bodies involved in certification, in order to determine a clear set of definitions.

4.1 Definition of certification

‘Certification is the (voluntary) assessment and approval by an (accredited) party on an (accredited) standard’ (Meuwissen et al., 2003, in Jahn et al., 2005: pp. 57). This accredited party is called a certifier or certification body, and is usually an independent, reliable, expert third party. The certifier confirms that (there is justified cause to trust that) a product, process, company (system) or person conforms to the requirements specified in the standard by giving a written assurance (Dutch Ministry of Economic Affairs, 2003; Lewandowski and Faaij, 2006). This certificate is a declaration of conformity with the standard or norm. Conformity is determined on the basis of testing, inspecting and/or audits. As a result, in some cases a company can use a visual label in its communication or on its products to show that its systems, processes, products or people comply with the requirements laid down in the standard. According to KEMA (2007) certification is about ‘giving confidence to third parties with a certificate based on ongoing objective assessment of an object using (inter)national standards to determine conformity’. The third party in this definition is an organization that is interested that an object fulfils the requirements.

Certification is often used in economic traffic between producers and buyers to ensure transactions. It is also used to improve the compatibility and exchangeability of products and services, and to increase transparency for buyers and consumers.

4.2 Process of certification

Usually, the process of certification comprises the following steps. First, a company applies to an independent accredited certifier for certification. Often the application is taken care of by a project team, specially assigned to guide the application. The project team prepares the application and takes the request to start certification to the certification body. Secondly, the certification body, or certifier, conducts a pre-assessment and decides whether or not to start the certification procedure. This leads to an actual application for certification. The certifier starts conducting (field) audits and/or inspections. Finally, when the organization, process, person or product complies with the requirements and criteria in the standard, the certifier issues a certificate. In general, the applying organization that wants to become certified will take up the cost for the audits and the certification³ (Hatanaka et al., 2005). Figure 2 depicts a simplified overview of the process of certification.

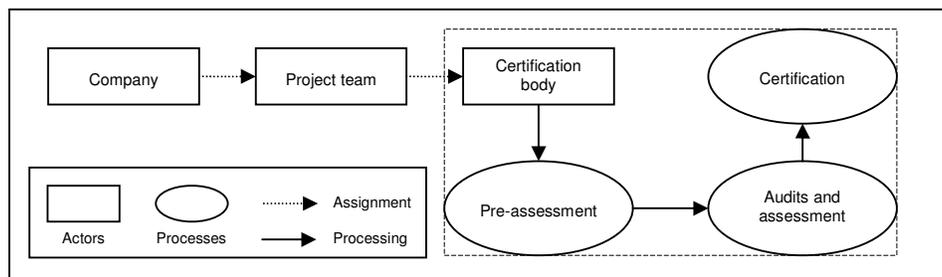


Figure 2 Process of certification

4.3 Norms and Standards: Principles, criteria and indicators

Every certification system contains a standard, or so called norm. The demands of a certification system that are tested against are set down in a norm. A normative document contains rules that in general have a bearing on the quality of a product or service (like quality level, safety and measurements). A norm is determined by deliberation between involved and concerned stakeholders. Usually, sustainability norms are made up out of principles, criteria and indicators. Principles are the basis of a certification system. They are formulated as objectives and determine in general what the certification scheme wants to accomplish. Criteria are the translation of the principles into concrete requirements that have to be fulfilled. Criteria are already more specific than principles, which are more abstract and non-quantifiable. Often, indicators are used to work criteria out into measurable and verifiable specifications (Dutch Ministry of Economic Affairs, 2003).

These predetermined demands (norm or standard) are used for inspections and assessments. These demands can be formulated as formal norms, national agreements and private standards (NEN,

³ In exceptional cases the organization that wants to become certified does not bear all of the cost of the audit or certification. E.g. Fairtrade Labelling Organizations International (FLO) has established a mechanism whereby consumers bear (a part of) the cost of the audit and certification in order to maximize the returns to small producers in developing countries (www.fairtrade.net, 2007).

2007). Formal norms consist of national, European or international norms (respective national, CEN/EN or ISO norms). Also national agreements are used, like a ‘Nederlands Technische Afspraak’ (NTA), which is not determined by a norm committee (as is the case for a formal norm), but on the basis of consensus amongst participants of workshops. Finally, private norms (often referred to as standards) are drawn up by private initiatives like FSC and roundtables.

When talking about a norm or standard, people refer to the set of principles, criteria and underlying indicators. To illustrate this; the Cramer committee has included that the production of biomass may not be at the cost of protected or vulnerable biodiversity. Where possible, the production of biomass should contribute to and strengthen biodiversity. This is one of the principles for a sustainable production of biomass. Subsequently, this is further elaborated into five criteria. The first criterion states that there may be no violation of national rules and legislations that are applicable for the production and production area. Whether this is the case can be determined by the use of the indicator that states that as a minimum requirement, there has to be compliance with relevant national and local rules, with regard to (amongst others) landownership and land use rights, forest and plantation management and exploitation, and national rules stemming from international conventions

Indicators are measurable and of a qualitative or quantitative nature. Indicators need to be remarkably clear, so there is no room for different interpretations. Auditors use indicators in the field to check whether the inspected object meets the criteria. In its definition, criteria and indicators incorporate the norm or standard; the reference value that the inspected object needs to meet in order to qualify for certification (Lammers van Bueren, 1997). ‘The standards define the aim of certification and describe the product or [...] process specific requirements to be fulfilled for certification’ (Lewandowski and Faaij, 2006: pp. 89). The standard or norm can be seen as the content of a certification system.

4.4 Certification scheme

The certification scheme describes the set of specific norms, prescriptions and rules, and procedures used. The certification scheme contains in general the following components:

- the (interpretation of the) norm(s)
- the operating procedures and methodology to be used for inspections
- the certification criteria and rules with regard to non-compliance
- additional qualification criteria and demands for certification personnel

Where the norm can be seen as the content specific side of the certification system, the way how to assess, audit or inspect, the demands with regard to the auditor or assessor and the supervisory model can be seen as the technical (impact likelihood) side of the certification system.

4.5 Certification body

A certification body or certifier is an independent, usually private, organization that inspects a product, process, system or competences of a person and verifies whether this/these complies with specific requirements. ‘Certification/inspection’ by a company itself (first-party certification), or by a hired technician or consultant (second-party certification) is also possible, but is not a part of the formal definition of certification and is not a part of the scope of this thesis.

4.6 Control

The certification body that grants the certificate also supervises whether the standard keeps on being met. This is done by regularly checking (usually announced, in some systems also unexpected) and by reacting upon received complaints of others. If a company does not meet the

criteria anymore, in the worst case the certificate can be withdrawn.

4.7 Accreditation

In order to ensure the quality of certifiers and their assessments, certification bodies are accredited. Accreditation is the whole set of activities on the basis of which an authoritative organization determines and gives a formal written recognition that a body or person is competent to perform certain tasks, like described in the certification scheme (Hatanaka et al., 2005). The rules of certification and accreditation itself are also based on ISO/IEC guidelines. These describe the sets of rules for validation/verification bodies and processes. Accreditation rules include general requirements for the certifier (Jahn et al., 2005) on the qualification of staff, control and reporting procedures and can be seen as a standard or list of requirements to be fulfilled by a third-party to qualify as certifier themselves. In the Netherlands the foundation 'Raad voor Accreditatie' (RvA) is the Dutch accreditation board. The RvA is the only national accreditation board in the public domain. In some cases the RvA checks certification bodies for the government. About half of its activities are in the public domain, and in turn 20% of these are legally arranged. The other half of its activities has a private character (www.rva.nl, 2007; Dutch Ministry of Economic Affairs, 2003). Accreditation can also be referred to as 'the supervising of supervisors' (Van Tulder with Van der Zwart, 2006: pp. 118).

4.8 (Central) Committees of Experts

For certification systems with a more national character, the norm and certification scheme is often determined by a (Central) Committees of Experts ((C)CvD), also referred to as standard owner or (scheme) administrator. In this committee involved actors and experts take place. During the operational phase of the certification system the Committee of Experts is responsible for the content of the certification scheme and it deals with risen interpretation problems. Usually, this committee is accommodated in a legal entity. Through its position and contacts in the field it has an overview of the functioning of a certification system and it ensures through the multi-stakeholder representation the objectivity (Dutch Ministry of Economic Affairs, 2003).

4.9 Normalisation bodies

NEN, CEN and ISO are the respective national, European and international normalisation organizations. They operate conform the WTO Technical Barriers to Trade Agreement (TBT) (NEN, 2007). There is a close linkage between these organizations to ensure harmonisation of normalisation. For example, when CEN is working on a norm and through a request of its member ISO also starts working on a norm for the same topic, they will use the work previously done by CEN and CEN will stop its activities.

Normalisation bodies have formal trajectories to formulate so called formal norms. Their status differs from private norms. However, if formal normalisation procedures get stuck, there is also a possibility to formulate a national NTA (Nederlands Technische Afspraak) through NEN or a CWA (CEN Workshop Agreement), which has a less formal status. Formal norms take more time to develop and include all relevant stakeholders in an open process. A private norm is often the result of one or more selected companies.

Table 5: Formal norms through standardization bodies

Benefits	Downsides
<ul style="list-style-type: none"> - In line with WTO agreements - Open stakeholder process involves all relevant parties - Strong formal status - Support from many actors - Basis for possible legislations (national and EU) 	<ul style="list-style-type: none"> - Takes more time - More actors involved increases complexity and chance of failure - Less flexible

4.10 Relation certification scheme and label

If an organization, process, product or person lives up to the criteria as defined in the standard and this is recognized with the granting of a certificate, the organization can use a label or to indicate this (e.g. on the product or in their communication). *‘A label is a device in the form of a symbol or logo that communicates highly compressed information to consumers about the standards that are met by the product’* (Campins-Eritja and Gupta, 2002: pp. 222). Labels are not merely messages, but are claims on particular properties of characteristics of a product or service.

The process where an independent certification body assesses and a certificate is granted is referred to as a first-degree label. Labels can also come from a company itself, from product boards or sector associations. These are not part of the scope of this thesis however. The difference between a brand and a certificate or label is the measure of legal protection. A registered brand offers a firm legal protection, while a certificate is a declaration of the origin or characteristics of a product (HP de Tijd, 22 June 2007).

4.11 Role of quality labels

Quality marks, labels or certificates enable *‘a company or a group of companies to communicate its commitment to society and provide stakeholders with information on the quality and contents of products.’* (Van Tulder with van der Zwart, 2006: 243). There are numerous quality marks, labels and certificates: sector quality marks, labour condition quality marks (Oké Bananas, Fair Wear, Fair Trade), production conditions quality marks (FSC certificate, Rainforest Alliance), recycling or organic quality marks (Eco-O.K.), human resources policy quality marks (Investor in People), product quality marks and CSR-related quality marks, often classified as *‘idealistic quality marks’*. Sometimes it is unclear what a quality mark, label or certification comprises; it may refer to the organization, the production process, the management system, the product itself or the packaging (ibid).

Labels and certificates lose their credibility and impact when it is not clear to consumers what they comprise. If consumers get confused by a multitude of marks and labels and are not able to make a clear distinction between the different quality marks and labels, quality labels and certificates are also less effective. A risk of damage to a quality mark, label or certification may also exist in the case of one certified company/product being involved in a scandal, reflecting the company’s misconduct on the label.

5. Theories of Certification

Different stakeholders have different interests in certification. For some it is an instrument to control a part of the supply chain, others use it to inform customers about unobservable quality or process characteristics. It can be used to ensure the sustainability of certain flows of goods or to enable easy recognition of products with specific characteristics. There are different kinds of certification for different units of certification. Organizations in general, and mostly companies in specific, can apply for certification for the organization as a whole (system certification), for (a part of) their (production) processes, for their product(s) and even for (the professional skills and competences of) its people. A distinction can be made on the basis of the extent of whether the certification system is public or private, its position in the chain, its ambitions, and the number of issues and flows targeted.

5.1 Public – private standards

A distinction can be made on the basis of the standard owner, the developer of the standard and the body that controls the procedures. There are two categories of certification when making the distinction on the basis of the standard owner: public (state-run) and private initiatives (Jahn et al, 2005). Van Tulder with Van der Zwart (2007) also distinguish the categories semi-public and semi-private in chapter 7. In the case of sustainability certification schemes and standards, virtually all come from private initiatives.

Public certification systems

Governmental certification systems provide quality labels to improve market transparency to ensure consumer protection (Jahn et al., 2005), to ensure the provision of a certain public good, to prevent developments that might harm (a part of) society or the environment, or to ensure sustainable market mechanisms and set a minimum level of quality or sustainability level.

In theory public standards are enforced by public authorities. They prevent abuse of the label through laws and fines. Main disadvantages of public certification systems are a loss of flexibility and innovation, lock-in effects, and few incentives for over compliance (McCluskey, 2000) and an inability to deal with international effects and enforcement in a multinational context. In practice, the operative inspections are predominantly delegated to (semi)private certifiers monitored by public authorities (Jahn et al., 2005).

Private certification systems

Presently most certification systems are privately organized. The development of private certification systems has seen a rapid growth in the past few years. Advantages of private certification systems are the fact that they are more flexible, realizing availability of certified products in relatively short term. In situations where there is already a lot of specific knowledge in the market or at private actors a private standard is more cost-effective. Disadvantages of private standards might be the divergence of standards, where different consortia within a sector develop their own standards, confusing consumers with an overload of labels and standards. There is a risk of limited impact, because it might start with developing a solution before thorough analysis, practice might determine policy, rather than the other way around. And there is a risk of ‘green washing’, where a standard might cover less important or controversial issues, but at the meantime labelling a product sustainable. Also when the gains of cheating are high, free-rider behaviour might play a role, for example in biological agriculture, where a higher price is paid for certified products (Giannakas, 2002).

In general, standards that are developed by or with producers are more accepted than standards that

are developed by governments without consultation of those who it affects. In practice, a multitude of configurations is possible. Often standards are developed in multi-stakeholder platforms, where businesses, non-governmental organizations and governments cooperate. Privately developed certification systems exist, with public standard owners and public standards exist with private control.

5.2 Business-to-Business and Business-to-Consumers certification

Another classification of certification systems can be made on the basis of the position of certification in the supply chain. This also relates to their function. Sometimes certification is obligatory; demanded by governments or potential clients in order to be allowed to supply a component, product or service or to meet international standards. Possibly it might also be a distinguishing factor for companies to differentiate themselves or their products from those of competitors.

Certification schemes and their procedures tend to vary depending on whether the certification is to be used in communication towards consumers or whether it should meet the standards of other business further in the value chain. A well-known example of a business-to-business certification is ISO9000.

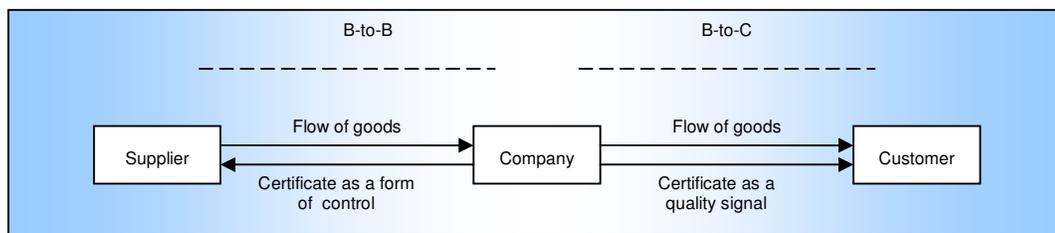


Figure 3: Business-to-Business and Business-to-Consumer certification

Often a product is certified – especially the case with sustainable certification – at the beginning of the supply chain, which might have implications for the rest of the chain or for the potential tradability of a product.

5.3 Certification as a minimum level or as an ideal

Certification can also be divided into the category idealistic and minimum level label. Max Havelaar, for example, has an ideal-type label; it only certifies coffee that has been produced according to (relatively) high social standards. Utz Kapeh, has a less stringent standard, and might be characterized as a more minimum level label. In organic farming labels are often constructed in a way that only the ones that meet the highest standards are certified. Often it is the case that within one sector several certifications systems are used, with different levels of standards and requirements. In forest management for example, there are several labels, with FSC as the best known and with the highest standard.

A certification system with room for improvements (minimum level standard) stimulates involved actors to keep on improving and investing, while a more stricter and static certification system (ideal standard), might appear to be too ambitious for some, or lack support from market players. It is also remarked that a standard in itself can create ‘the standard’ or benchmark for a market. In the case where a standard has a high market share, it no longer creates an elite standard, but becomes a

voluntary market standard (OECD, 1997).

5.4 Multi-flow and single-flow certification

Some certification systems aim at one type of feedstock. Others aim at more than one type of feedstock, often focussing on a certain kind of products, for example farm products. These kinds of labels are so called club labels or multi-unit certifications. Eco-labels are an example of this type. Single issue labels are directed at one homogenous product or feedstock, like RSPO for palm oil. Single flow standards are often more in-depth and have more specific criteria than more general multi flow standards. Cf. figure 4 for multi-flow and single-flow standards in the area of bio-certification.

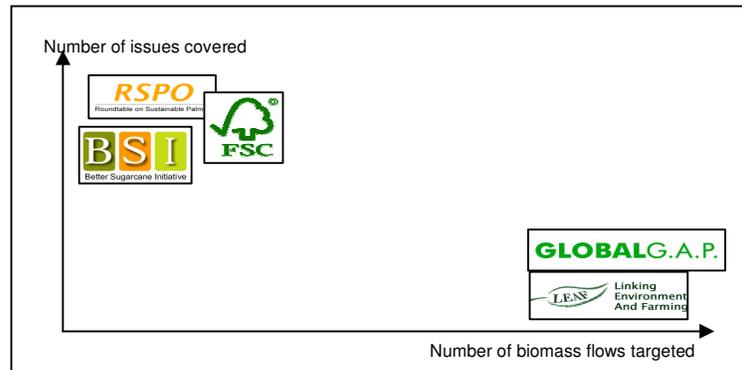


Figure 4: Scope and coverage of standards (based on Ecofys, 2007)

5.5 Structure of international certification systems

According to Lewandowski and Faaij (2006), who analyzed over forty (international) certification systems, sets of sustainability criteria and guidelines to stimulate the development of a certification system for sustainable biomass, the structure of different international certification systems is to a large extent similar (cf. figure 2.5). 22 of the total 46 identified systems are sets of criteria and guidelines. Among these are conventions from the International Labour Organization (ILO) and the United Nations (UN), but also guides from NGOs like WWF and companies like Unilever, who all developed sets of criteria. Four of them are fair trade certification or criteria systems, like Fairtrade. The rest of them are general, forestry and agriculture certification systems. The main forestry certification system they identified is FSC. For Agriculture this is the system of EUREPGAP and of the Sustainable Agriculture Network (SAN). Smaller national systems are also included.

In general the structure of a certification system is as follows (Lewandowski and Faaij, 2006): The international panel – or standard owner - is the chair of the system and nominates and coordinates the methodology panel. Together with the methodology panel, the international panel makes up the standard and sets the rules for certification and accreditation.

Sometimes international standards are more generic in nature and can be specified if necessary at the national or regional level. This is for example the case with FSC, which has national interpretations and criteria adapted to local circumstances and issues.

The International panel is also responsible for the coordination and nomination of the (possible) national representatives and the certification body (the third-party certifier). In some systems an

For NGOs certification provides them with an instrument that promotes sustainable management and consumption, provides information for policy advice and cooperation and provides transparency.

Table 6: Stakeholder groups and interests in certification

Stakeholders	Interest in sustainability certification
National governments	Policy instrument to promote sustainable management and sustainable consumption Provides information
Companies	Instruments for environmental/social marketing Allows differentiation Market access Prevent strict government regulation Tool for controlling origin and quality of inputs Provides information
NGOs	Provides information on the impacts of products Provides information whether a product meets standards Instrument to promote sustainable management practices and sustainable consumption
International bodies and initiatives	Instrument to promote sustainable management practices and sustainable consumption Prevents reputation damage to an industry

5.7 Responsible actors in the process of certification

In 2003 the Dutch Ministry of Economic Affairs determined a government position on the use of certification and accreditation. It states that different actors have their roles and responsibilities when it comes to certification and accreditation in the public domain:

The government is responsible for policy development, the legal framework, government supervision and enforcement of rules and regulation. The development of norms and the elaboration of these norms is a task of (central) expert committees. Often this is done by the NEN, the Dutch National normalisation institute. Next, certification bodies are responsible for the certification process on the basis of previously determined norms and standards. On behalf of the government the national accreditation board accredits certification bodies, determining whether they are qualified to perform inspections and to apply the certification. In the Netherlands the 'Raad van Accreditatie' is the national accreditation board. The national accreditation board is also responsible for ensuring that, once a certification body is approved, it keeps functioning properly. The board checks whether certification bodies make the prescribed amount of inspections and frequency. It does not, however, evaluate the standard, norm or certification scheme, determining that inspections should have another frequency or should incorporate other checks or criteria. The national accreditation board merely checks if a certification body does what is supposed to do according to the certification scheme.

Table 7: Responsible actors in the process of certification

Responsible actor	Government	Commission of experts	Certification bodies	Board of Accreditation
Responsible for:	Policy development Legal framework Supervision and enforcement of rules	- Development of norms and standards - Draw up/work out standards into documents	- Certify on the basis of norms and standards	- Accreditation of certification bodies - Ensure properly functioning of certification bodies

6. Certification as a basis for government policies

In 2003 the Dutch cabinet formulated their stance on certification and accreditation on the basis of research conducted by Twijnstra & Gudde and the University of Tilburg (Eijlander et al., 2003). In this position, written by the Dutch Ministry of Economic Affairs, three kinds of certification arrangements are distinguished. These arrangements can be used to meet the public need of certification. These arrangements can be classified on the basis of policy application and the extent the government depends on the certification. Table 8 depicts these arrangements in increasing extent of government dependence on the results of certification.

Table 8: Certification as a basis for policy application

Self-regulating variant	Supervision supporting variant	Legislative variant <ul style="list-style-type: none"> • conditional • unconditional
<i>Government depends in increasing extent on certification systems</i> →		

6.1 Self-regulating variant

The self-regulating arrangement, that realizes a public goal or societal interest, is a form of government policy that leaves the market in control of developing and realizing certification and ensuring the public aim. Governments can stimulate certification by means of promotion and financial backing. This is most common when the government can and wants to rely on the self-regulating capacity of the market. This variant has the same characteristics as a totally private certification system, without public interests. There is no relation to legislation and there are no consequences for having or not having a certificate.

6.2 Supervision supporting variant

This variant is used by the government when executing its supervision and control policies in light of legal arrangements. There is no explicit role for certification in legislation. The certificate is an indication that a company is dedicated to meeting specific rules or objectives, to show that it meets certain demands as formulated by governments. Reason for governments to apply this kind of arrangement is in general that certification contributes to increased awareness among companies and efficient government supervision. There is a relation between the certification arrangement and legal norms or objectives. The government has certain demands, put forward in its legislation, for example with regard to hygiene in restaurants and bars. One of the ways companies can confirm they meet these legal demands is by showing a certificate, like in the example, a HACCP certificate. There are, however, no consequences for having or not having a certificate. Since there are also other ways companies can show they meet the needs of the government.

6.3 Legislative variant

The legislative variant of certification arrangements consists of two forms:

- a) conditional admittance variant
- b) unconditional admittance variant

With the conditional admittance variant, the government grants the certificate owner access to a market or specific activities. The government also inspects and checks to see whether legal rules are fulfilled.

With the unconditional admittance variant – also referred to as recognition variant – the government accepts the certificate as a license to operate without further inspections.

Within the legislative variant a distinction can be made between voluntary and mandatory certification. With mandatory certification the ownership of a certificate is a precondition. Basically, a mandatory certificate is similar to a permit. With the voluntary form, certification is one of the possibilities to comply with legal prescriptions. In the legislative certification arrangement, the certificate is part of a legal regulation, the possession (or lack of) a certificate has legal consequences.

6.4 Government: a role to play

Governments are often involved in certification systems. They may develop their own certification system or leave matters to the market. Globally, there are four government roles related to certification that can be distinguished with an increasing extent of government involvement and dependence on the results of certification, when governments are in a way involved. A situation where the government has no interest or stake at all in certification most resembles the situation found with the endorsing role of government, but without any involvement.

The government can leave certification to the market and societal actors and embrace their efforts by *endorsing* these, trusting on the markets self-regulatory capacity. This role is characterized by a pro-active attitude of companies, which provides a platform for private self-regulation. If governments want to adopt a policy for certification, it is most likely to be a self-regulating or market-arranging policy variant. An example of a private initiative that is endorsed by the Dutch government is RSPO. There is no direct (financial) support, but there is political and policy support, in the sense that the initiative is publicly praised.

Governments can also decide to build on the principle of co-regulation and choose to team up with societal actors and support them by *partnering* or *facilitating* by helping them to develop certification. Government policies in this role use certification to support supervision; one of the ways companies can indicate that they meet certain demands is by showing a certificate. Governments support or work together with active companies and other stakeholders. Regulation

is characterized by a semi-private or semi-public nature, depending on the extent of government involvement. An example of a private initiative to set up a certification system that receives financial support from governments is the Roundtable on Responsible Soy (RTRS).

On the other end of the spectrum with a more strict form of (public) regulation is the *mandating* role, where governments incorporate certification into legislation as a pre-requisite to enter or act on a certain market. There is limited room for private initiatives and companies' attitudes are often reactive or even inactive, which might be a reason to take on a mandating role in the first place. Examples of certification systems that are used in the legislative policy variant are elevator instalment certification systems. Such a certificate is required of a company in order to be granted access to the market.

Table 9 presents a schematic overview of the different government roles, with their respective principles, policy arrangements and instruments and company involvement and attitudes in the area of certification.

7. Traceability of information: Chain of Custody

An important aspect of a certification system is the way reliable information goes through the value chain, the so-called 'chain of custody'. Basically, there are three systems for this, the book and claim system, the mass balance system and the track and trace system. This section goes deeper into the three chain of custody systems and deals with their respective advantages and disadvantages, with regard to implementation and verifiability. This overview is based on the work of the Project group 'Sustainable Production of Biomass' (2007).

7.1 Book and Claim system (negotiable certificates)

The book and claim system uses negotiable certificates, whereby the physical goods are decoupled from the certificates. This system has the least additional costs and is applicable for both small and large volumes originating from both long and complex chains and short well-organized chains. The characteristics of the book and claim system:

- The certified product is not traceable through the supply chain
- The first step in the chain (primary producer) is certified
- The end user buys and submits certificates that guarantee the production of a certain quantity of goods with certain characteristics.

The parties involved are only the primary producers and the end users (final seller - consumers). Companies in between are not directly involved in the certification. The willingness of primary producers to cooperate to certification and demands and wishes from the end user will be great, since there is a financial remuneration.

Disadvantages of the book and claim system:

- Less number of checks increases the chance of opportunistic behaviour and misuse; lower control.
- Some NGOs, like friends of the Earth and Greenpeace are opposed to this system, since it doesn't prevent companies to engage in certain unsustainable activities, but at the meantime selling their products as sustainable, by purchasing certificates.

The book and claim system is for instance applied in the green power market in the Netherlands. The book and claim system is depicted in figure 6.

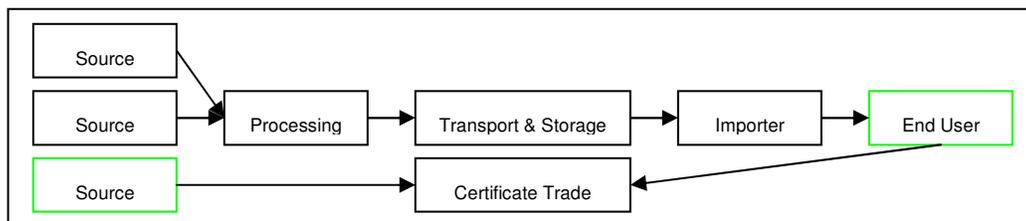


Figure 6: Book & claim certification system (negotiable certificates) (source: Project group 'Sustainable Production of Biomass', 2007)

7.2 Mass balance system

The mass balance system mixes certified and non-certified products. This system is best applicable in short supply chains with homogenous products and for both small and large volumes. The characteristics of the mass balance system:

- The certified product is partly traceable through the supply chain.
- During the production and processing phase the product may be mixed with non-certified products.
- All the companies in the 'certified products chain' are certified.

The following needs to be considered:

- Companies are somewhat restricted in selling a shipment of certified products, since once a certified lot has left the tracing system, such a lot can never be sold as certified.
- Additional costs are limited to some additional administrative activities and the certification itself, since the certified flow of goods does not need to be transported or processed physically separated.

Example of the mass balance system is the FSC paper industry. The mass balance system is depicted in figure 7.

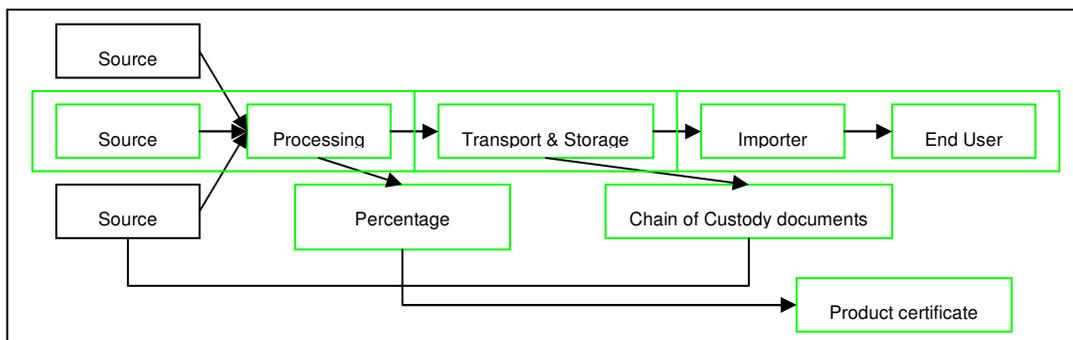


Figure 7: Mass balance certification system (source: Project group 'Sustainable Production of Biomass', 2007)

7.3 Track and trace system

The track and trace system is a closed certification system whereby every company in the supply chain is certified. This system is best applicable to short chains and in small volumes, since it involves greater cost and control. It is generally only applied in niche markets. The characteristics of the track and trace system:

- The certified product is fully traceable to its source.
- All companies in the 'certified supply chain' are certified.
- During the whole production and processing phase the certified product is completely separated from non-certified products.

It is unlikely that this system is used for long and complex supply chains with large volumes because of the following:

- The obligation to keep certified products physically separated from non-certified products entails higher operational costs for all the companies processing and transporting the product.
- Traders of raw materials are restricted in their commercial practices with whom they will be able to do business or not, since a certified batch can never leave a certified chain, without losing its 'certified' status.
- The willingness of the primary producers involved to adjust their business operations will be smaller, as the chain is longer.

The track and trace system is, for instance, used with Fairtrade and organic products. The track and trace system is depicted in figure 8.

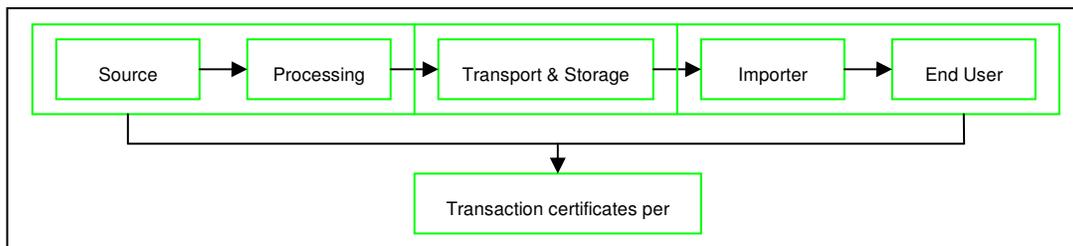


Figure 8: Track and trace certification system (source: Project group ‘Sustainable Production of Biomass’, 2007)

The latter two systems have higher costs attached than the book and claim system. However, the book and claim system has lower control to prevent misuse, where the track and trace system and the mass balance system have more control. Table 10 depicts the verifiability of the different systems.

Table 10: Verifiability of different certification systems (source: Project group ‘Sustainable Production of Biomass’, 2007)

Chain of Custody	Verification	Risk with respect to verification of actual delivery
Track and trace	A lot of verification moments (chance of misuses is small) viz: <ul style="list-style-type: none"> - Verification if supplier has been certified by each customer in the chain; - Periodical (physical and administrative) verification of the producers by an independent party; - Verification of each transaction between two parties in the chain by an independent party. 	Farmer/forester supplies more certified product than he could actually have produced.
Mass balance	Idem as in Track and trace	Idem as in Track and trace
Negotiable certificates (Book and claim)	Small number of verification moments (chance of misuses is relatively large), viz: <ul style="list-style-type: none"> - Periodically (physical and administrative) verification of the producers by an independent party; - It is of the essence to set up a good registration and redemption system. In case of conversion steps after production, certification must also take place 	Double issue of certificates by producers and double claims when certificates are used.

8. Functions of certification as a regulating tool: decreasing information asymmetry

Information asymmetry is one of the four types of market failure. While the traditional economic model assumes the exchange of homogenous products, where suppliers and buyers are fully informed, reality is different. A market model where there is information asymmetry is best described as a market where different actors do not have the same level of or access to knowledge. On one side is the producer, who has complete knowledge about his product characteristics and production processes. On the other side, the consumer or end user has limited knowledge about the product or its production process. Often this information only comes from information provided by the producer on the packaging and in marketing campaigns, or from the use of the product.

A distinction can be made in the type of product/service characteristics by four kinds of attributes, with increasing levels of information asymmetry (Jahn et al., 2005). Attributes of products that can be characterized as search attributes, are attributes that can be known before purchase. For example, one can judge the freshness of a banana by looking at its appearance. Experience attributes, like the taste of the banana, however, can only be experienced after consumption, which often implies: after purchasing. Credence attributes, are attributes that can be known by a customer, once he has bought the product, but only at very high cost, that are not in proportion with the price of the product. For example, to determine the nutritional value of one banana would bring disproportional cost for a single consumer. Process attributes (Jahn et al. refer to Potemkin attributes) are aspects that relate to production processes (both product related and non-product related). For users at the end of the value chain these attributes are hidden, even when products are tested or inspected in laboratories. In the example of the banana, without additional information, it remains uncertain to the customer whether the plantation the banana came from respects workers rights or applies sound environmental management policies. With a strict system of monitoring and inspection by third-parties and a high disclosure rate, credence attributes can theoretically be seen as experience attributes (McCluskey, 2000).

Search attribute	Experience attribute	Credence attribute	Process attribute
Qualities, which are known before purchase	Qualities, which are known only after consumption	Qualities, which can be observed by a single customer only to prohibitive costs,	Process-oriented qualities, which are hidden for third parties as well as for
		but buyers can rely on third-party judgements	customers at the end product level
Freshness, appearance	Taste, shelf life	Nutrition, contamination	Animal welfare, fair trade



 Increasing information asymmetry

Figure 9: Typology of goods based on Information Economics (source: Jahn et al., 2005)

Akerlof (1970) describes how a market with information asymmetry works in his example of 'the market for lemons'. In this example he assumes a used car market, with both high quality and low-quality cars (lemons). Potential customers are not able to judge the quality of the car in first instance, and can only do this after a few days of usage (experience attributes). Sellers, however, have complete information and know whether the car is a 'lemon' or not. Unfortunately, the customer does not get the chance to test the product before purchase and has a risk of buying a low-quality car. He will take this risk into account when buying a car. Akerlof incorporates in the price of a car, the risk that the car is a 'lemon', and the respective chance that the car is fine. Next, also the value of the 'lemon' and the value of a good quality car are taken into account. As a result the price for a car on the market will be lower than the actual value of a proper car. Owners of such cars will no longer be interested in selling their cars, while owners of 'lemons' gain from selling their cars. Consequently, this so called process of adverse selection, leads to the fact that good products disappear from the markets, while bad products will gain market share (Akerlof, 1970). Eventually, the consumer is likely to adapt this leakage of quality products and will adjust his price, with the same process all over again. Thus, leading to a downwards spiral of decreasing prices and quality levels (Hanley, 1997). This has also led to the argument that high information asymmetries create strong incentives to cheat (Jahn et al., 2005; Giannakas, 2002).

It is difficult to deal with information asymmetry related to process attributes through traditional forms of advertising and branding. These hidden quality characteristics are only revealed through direct monitoring of internal company production processes. In general, there is little risk for companies of disclosure about quality statements, since public authorities, NGOs or consumer organizations are not able to verify these claims or discover opportunistic behaviour. To solve these issues Jahn et al. (2005: pp. 56) state that an investigation scheme is needed 'that covers the whole supply chain and ensures on-site inspections throughout the production process'. Certification schemes include these inspections and can cover the whole supply chain. The main function of certification systems, standards and labelling is the reduction of information asymmetry in the market.

A typical value chain for biomass consists of a large chain with complex processes with a large uncertainty realm⁴ from the point of view of the company. Information asymmetry also exists between the company and the customer. The customer also has an uncertainty realm that is the same as for the company with the inclusion of the company as well. Through inspections at the production plant and control in the chain of custody certification contributes to a significant reduction of the information asymmetry. But certification (and standards or labels for that matter) does not provide full guarantee. It provides credible information for a justified belief that a certain object conforms to certain demands (personal communication Harold Pauwels, 25 October, 2007). This seems to be acceptable for society and in line with the way our legal system works. Laws

⁴ The concept of uncertainty realm is derived from Davies and Crane (2003) that use it to refer to uncertainty in certain areas for ethical decision making

and regulations do not prevent fraud completely. Guarantees are theoretically possible, but costs for guarantees would be out of proportions. It would require auditors present at plantations 24/7, or traffic police at every intersection. Figure 10 depicts the function of certification.

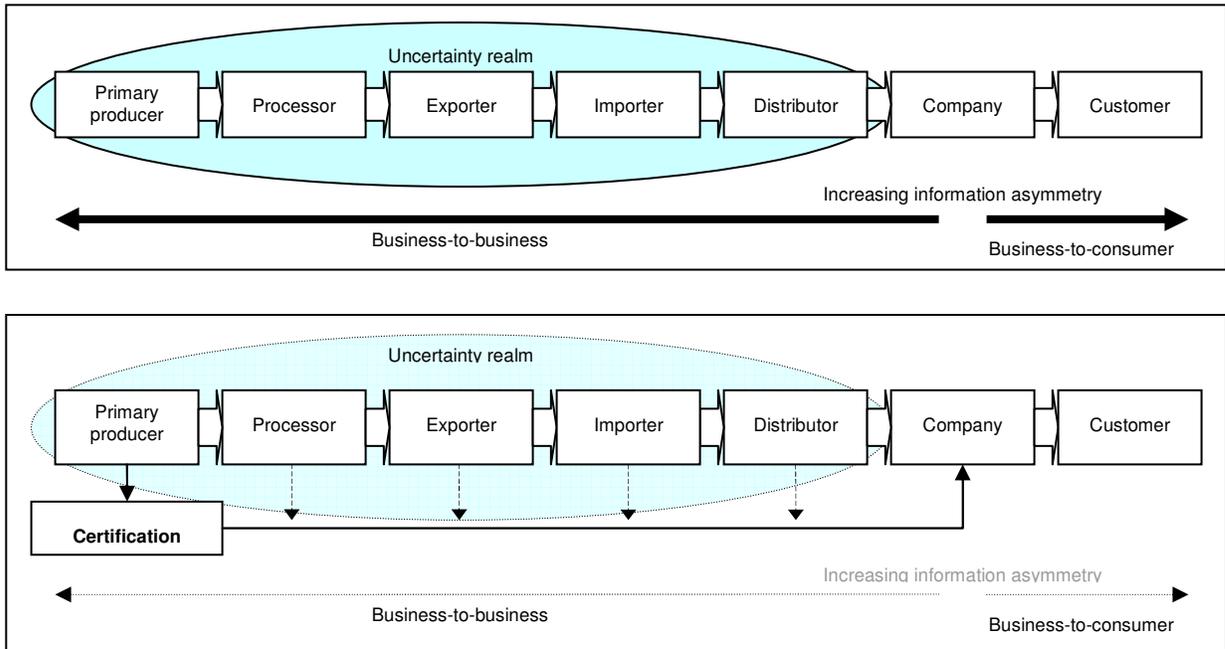


Figure 10: Function of certification in the supply chain with uncertainty realm

9. Effectiveness of sustainability certification: Reliability of Certification

The reliability and effectiveness of certification and quality labels is dependent on different factors. An important aspect is the chain of custody as discussed in the previous section. One other important factor for the reliability of certification is the way it is controlled, monitored and how (external) audits are performed. Usually certification is carried out by a third party, however, first party certification (by the organization itself) or second-party certification (by consultants/technicians or others paid by the organization) (Tanner, 2000) although less common, are also possible.

A quality label can be deemed successful in building up a reliable reputation if the certifiers are able to succeed in revealing certain critical aspects (as identified in the standard) and opportunistic behaviour (Jahn et al., 2005). One of the downsides certification and quality labels are potentially confronted with is falling victim to opportunistic behaviour. Rough estimations by Giannakas (2002) state that for the southern states of the EU between 15% and 40% in organic labelling allege frauds.

Financial auditing crises such as with Enron and Parmalat in the last few years reflect the potential shortcomings of third party control procedures. Therefore, building up a reliable

reputation is necessary for a quality label to serve as a reliable quality signal. Jahn et al. (2005) subtly describe the risks of certification systems. In a situation where an organisation can choose its own auditor, there might be misleading incentives.

The starting point is the flow of goods from supplier to customer (cf. figure 11). For different reasons possible, a company ('supplier' in figure 11) wants to show its customers that its products possess certain quality characteristics. Therefore, he supplies a certificate to state the quality or specific characteristics of the product. The certificate is issued by an independent third-party certifier if the producer, process, product or its people conform to a certain standard. The certifier is in turn accredited by an accreditation body, thus proving their ability to carry out certification in a certain way. In practice this accreditation is a formal act and does not closely investigate the actual functioning of the certification body. In some cases there is a control body to control the controller (either a private institution or a public authority), once they have been accredited (Jahn et al., 2005).

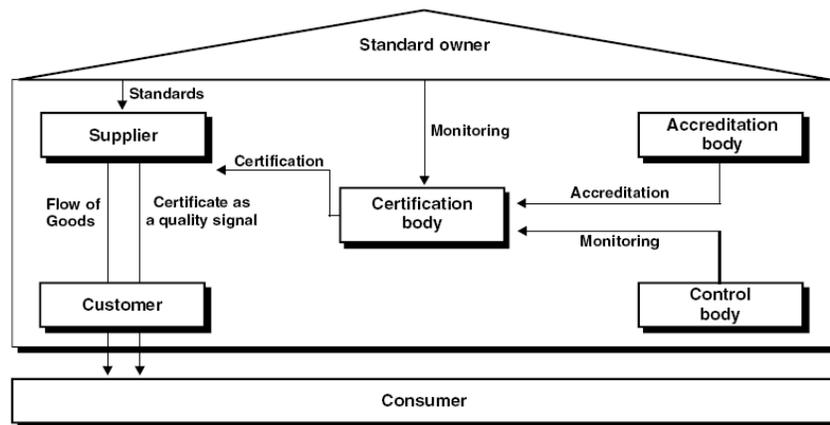


Figure 11: Basic structure of certification (source: Jahn et al., 2005)

In practice, other motives, contracts and relations might come into play. It is suggested that in some cases companies feel that certification is demanded by customers, rather than choosing for them their selves (Jahn et al., 2005). If this is the case, motives to acquire certification other than improving quality standards, increasing sustainable production methods or limiting negative externalities might come into play (for example, acquiring it as easily as possible). And while strict inspections and ambitious criteria increase the chance of failing to meet these demands, and the wanted certificate, there is an incentive to choose standards with less stringent demands and auditors/inspectors with lower inspection standards (Pierce and Sweeney, 2004). Companies will seek to minimise their cost in doing so (Jahn et al., 2005). Figure 12 gives an overview of hypothesized structural components, relations, and contracts (ibid). It suggests that besides the selection of standards and certifiers, there might also be the problem of the principal-agent theory, suggesting that agents might go for their own gains, making them receptive for bribery.

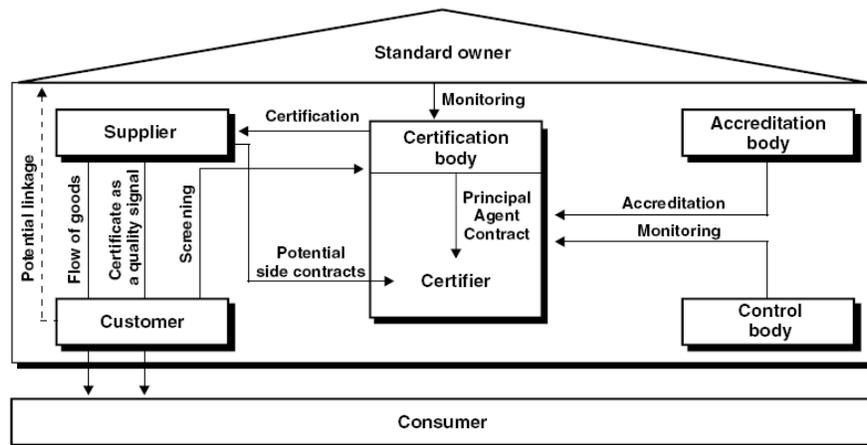


Figure 12: Basic institutional economics structure of certification (source: Jahn et al., 2005)

Another issue to be kept in mind is the power of voluntary action. When using a legal variant of a certification arrangement (cf. Chapter 6), often the choice is made for a voluntary certificate. An obligation to possess a certificate does not offer companies a way to differentiate themselves. They will try to acquire the certificate for the lowest possible price. This is likely to lead to competition between, often private and for-profit, certification bodies which in turn leads to the selection of a certification body on other aspects than the content, like prices. This can lead to a loss of quality (Dutch Ministry of Economic Affairs, 2003).

Certification is able to contribute to increasing sustainability in an industry, when certification is commonly accepted as a standard in an industry or sector. It is even possible that a single certification system is able to increase the level of sustainability throughout the whole market. This was the case of Max Havelaar. The Max Havelaar label created awareness among customers in the coffee-market and soon companies in the coffee-market sought for their own labels (like Utz Kapeh and private company standards, e.g. Starbucks and Nespresso). Although Max Havelaar is known as the most ambitious standard, the others helped to improve, for example, working conditions and income of other farmers.

10. Certification as a form of sustainable (self-)regulation

Society is expecting more and more from corporations that they account for their actions, especially when these have negative external effects. Transparency is an important aspect of doing business in our present markets. Openness on sustainability is increasingly becoming a public interest. Certification offers the possibility to collect and transport information with a high degree of reliability through the value chain in a cost-effective manner. Table 11 gives an overview of the benefits and downsides of certification for relevant stakeholder group.

Table 11: Benefits and downsides of certification as a form of sustainable self-regulation

Benefits	Downsides
Government	
<ul style="list-style-type: none"> - Certification criteria give government a ‘feeling’ of what is common in an industry - Basis for regulation and/or legislation - Government can nominate certification bodies, that are allowed to give certain certificates - Increases transparency in the market - Less need for rules (possibility for deregulation) - Less supervision and enforcement costs - Flexible - Use expertise and experience of involved actors 	<ul style="list-style-type: none"> - Certification bodies and national accreditation boards do not always operate transparently, making it hard for the government to determine what certification really entails or whether criteria or standards are actually met - Criteria set by the market might be deemed insufficient or inadequate by government - Government can not enforce/determine content of the certification (except with involuntary legal certification arrangements) - Effectiveness instrument decreases when government demands and obliges more - Little possibility for guidance when not functioning correctly as self-regulation
Market	
<ul style="list-style-type: none"> - Basis for differentiation - Consumer recognition - Increased consumer confidence can be translated into higher market potential and/or higher prices - Knowledge of the market is an input for the norm setting, this can contribute to the visibility, clarity and usability of the norms - Anticipation for possible government regulation 	<ul style="list-style-type: none"> - Competitive advantage (with regard to differentiation) lapses in case of involuntary certification - Certification might bring a lot of administrative work and related costs (inspections, audits, fees) - Costs might prevent small firms or organizations from trying to get certified
Consumers	
<ul style="list-style-type: none"> - Certification simplifies identification and recognition of products with certain characteristics (e.g. sustainability, health and safety) - Increases transparency of the value chain, product and its origin - ‘Protection’ against harmful/dangerous/unsafe products 	<ul style="list-style-type: none"> - Large number of different labels can be confusing - Competition between certifications/labels can lead to a selection on the basis of non-content specific aspects, such as the price. - ‘Greenwashing’, where a certain image is claimed for the product/service, process or organization as a whole, while the main issues not or only partly addressed - Consumers might think that the government is checking whether a certified product really meets the demands set out by the standard, and therefore feeling confident about the product, while this is not the case (false confidence) - Exclusion of certain products (e.g. sustainable products) that are not certified as such
NGOs	
<ul style="list-style-type: none"> - Instrument for the promotion of sustainable management and consumption - Provides information for policy advice and cooperation - Provides transparency 	<ul style="list-style-type: none"> - Company can ‘hide’ behind certified products/services, processes or systems, while continuing unsustainable practices elsewhere.

11. Conclusion: Effects of sustainability certification

In case strict regulation by government is not likely in the short term, self-regulation and co-regulation might provide room to (quickly) manoeuvre and deal with issues at hand in an effective way; societal movements and current interests justifies a base for self-regulation.

Three conditions need to be met in order for self-regulation to find a constructive base: There needs to be a certain level of knowledge in the industry/society (i), there needs to be support of or within the industry/society (ii) and there needs to be a certain level of organisation within the involved stakeholder groups (iii) (Baarsma et al., 2003).

When dealing with problems that stem from *information asymmetry* and *external effects*, self-regulation might be a good option. The decision on which self-regulating tool to use depends on a combination of three elements; the definition of the issue, the involved actors and the configuration of other (policy) instruments.

Certification can contribute to the enhancement of sustainability by providing reliable and verifiable information on the origin and production of certain products. Under asymmetric information conditions, process-oriented quality characteristics - such as sustainability, fair social practices and sound ecological practices - raise the demand for reliable information. Certification can be used to ensure certain claims on unobservable quality characteristics in a cost-effective manner. It enhances the control of the value chain and helps to allocate margins more equally, by providing insight into origins and quality, and increases transparency. Certification also gives companies the opportunity to take responsibility for public interests and offers them a chance to distinguish themselves in a positive manner.

Besides this, certification can serve as a base for regulation and legislation. It helps consumers in recognising product traits that they deem important. It provides companies with a tool to distinguish their products and services from those of others. Voluntary certification is more flexible than formal legislation, so shortcomings can be corrected sooner and it is easier to learn from previous experiences and adapt accordingly. However, large amounts of labels might be confusing to consumers and create competition between labels on aspects other than the ones it aims to improve, i.e. price. Certification might also lead to the exclusion of sustainable products without certification or smallholders who cannot afford the cost of certification.

Certification, whether or not complemented and supported by other instruments, has a clear potential to contribute to managing issues.

- Certification provides transparency by providing reliable and verifiable data on the origin and production methods of products

- Certification decreases information asymmetry, by providing measurable and verifiable data
- Certification has a high degree of acceptance among societal actors
- Short term cost-effective implementation
- Certification is a system of prevention and increases the control within a chain
- It offers a way to differentiate in a positive way

There are two main aspects to determine or predict the effectiveness of a certification system. The first is the *specificity* of the criteria and indicators that make up the standard of a certification scheme; the more specific the criteria and indicators, the more effect living up to the standard will have. The specificity dimension also provides insight in what issues and issue themes are covered under the certificate and what the focus of the system is. The other aspect focuses on the more technical aspects of a certification system; e.g. how are inspections carried out, what are the requirements or qualifications for a certifier or auditor in order to be allowed to carry out inspections, what is the commitment of the organization and what are the sanctions for minor and major non-compliance. This makes up the *impact likelihood*; or in other words, the likelihood that a certification system is able to impact operations.

Critical success factors and limitations

The criteria for an effective sustainable certification system are (success factors):

- International harmonisation and coordination
- Economic viability and sufficient funding (system is able to support itself financially)
- Independence and credibility
- Clear and unambiguous set of criteria and indicators
- Adapted to local/national issues and circumstances
- Clarity for consumer
- Support from involved actors
- Open and balanced stakeholder process
- High specificity of the standard and sound technical design combined enable positive impact

Economic viability is a precondition for a certification system to function properly and to prevent cheating. The independence and credibility of a certification system determine the trust customers have in such a system. This credibility is partly determined by the content of the standard and partly in the way the system operates. The success of a certification system is also determined by the support of important stakeholders from all societal spheres, which grants it credibility as well. Further, for a certification system to contribute to sustainability it needs to contain a clear standard that is very specific and includes criteria that effectively deal with the most urgent issues. Besides this, it also needs to check whether these criteria are met in such a way that an assurance can be given that a company meets the requirements posed by the certification scheme.

A certification system (e.g. for biomass) will only be effective in ensuring a global

system of sustainable products if it includes all relevant applications (in the example of biomass: food, feed, non-food as well as fuel) and is internationally harmonised. If only serving a part of the total market (either geographically or application-wise), non certified products will go to markets where sustainability is not so much an issue. This leaves room for producers to provide sustainable products to one market, while unsustainable practices are being continued to serve other markets.

Limitations of certification as a tool to ensure sustainability are:

- Certification as a tool is as effective as the impact likelihood of the certification system
- It is not a guarantee for sustainability
- Certification is a positive instrument by nature, a system of prevention, not a repressive one
- Inability to deal with indirect effects and limited in dealing with macro effects
- Certification does not solve information asymmetry completely. There is a dependence on the certification body for providing information. Often the certification body only communicates its knowledge (to a certain limited) on the certificate itself. So there is still an information gap, albeit significantly smaller, between the producer and the buyer (Van Amstel et al., 2006).

Certification as a part of legislation is not recommended in case (Dutch Ministry of Economic Affairs, 2003, pp. 17):

- Certification is aimed purely at supervision
- The nature of the public interest and the private system of certification are not compatible
- Significant direct financial gains can be made by a certificate owner when cheating
- There is too little involvement in the market, leading to free-rider behaviour
- Motivations to use certification is purely driven by savings in supervisory costs for governments
- Direct government action is required to solve acute or short term issues
- There is inadequate threat of sanctions when not complying with the private norm.

Certification can play a role in harnessing the self-regulatory capacity of the market and putting it to use for public interests. It is fit to promote good practices, but is not a guarantee for sustainability (Doornbosch and Steenblik, 2007).

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