

# STANDARD SETTING OF PEFC™-ENDORSED FOREST CERTIFICATION SCHEMES

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## LIST OF ABBREVIATIONS

<b>BUND</b>	<b>Bund für Umwelt und Naturschutz Deutschland (Union for Environment and Nature Conservation Germany)</b>
<b>CPET</b>	<b>Central Point of Expertise on Timber</b>
<b>CSA</b>	<b>Canadian Standards Association</b>
<b>FCAG</b>	<b>Forest Certification Assessment Guide</b>
<b>FSC</b>	<b>Forest Stewardship Council</b>
<b>ha</b>	<b>Hectares</b>
<b>IEC</b>	<b>International Electrotechnical Commission</b>
<b>IGO</b>	<b>International Governmental Organizations</b>
<b>IPCC</b>	<b>Intergovernmental Panel on Climate Change</b>
<b>ISEAL Alliance</b>	<b>International Social and Environmental Accreditation and Labelling Alliance</b>
<b>ISEAL Code of Good Practice for Setting Social and Environmental Standards</b>	<b>ISEAL's Standard Setting Code</b>
<b>ISO</b>	<b>International Organization for Standardization</b>
<b>MTCS</b>	<b>Malaysia Timber Certification Scheme</b>
<b>NGO</b>	<b>Non-Governmental Organization</b>
<b>PEFC</b>	<b>The Programme for Endorsement of Forest Certification Schemes</b>
<b>SFI</b>	<b>Sustainable Forestry Initiative</b>
<b>SSI</b>	<b>The State of Sustainable Initiatives</b>
<b>TAPC</b>	<b>Timber Procurement Assessment Committee</b>
<b>UNESCAP</b>	<b>Economic and Social Commission for Asia and Pacific</b>
<b>WCED</b>	<b>World Commission on Environment and Development</b>
<b>WTO</b>	<b>World Trade Organization</b>
<b>WWF</b>	<b>World Wide Fund for Nature</b>

## 1. INTRODUCTION

People's awareness about the scarcity of resources and threatened environments and species, especially their care for tropical forests, grew during the 1970's (Elling *et al.* 2007). During the 1980's societies from developed countries mainly recognized the seriousness of illegal tropical timber logging and large-scale deforestation. The Intergovernmental Panel on Climate Change (IPCC) (2007) states that nowadays deforestation, after fossil fuel consumption, is seen as the second largest driver for climate change.

While governments worldwide failed to combat deforestation and illegal logging, Non-Governmental-Organizations (NGOs) campaigned for bans on tropical timber and demonstrated against deforestation in tropical forests (Simula and Nussbaum 2005). The World Wide Fund for Nature (WWF) soon understood that bans on using tropical timber were not the only way forward. Instead, WWF saw a more positive attempt to stop the destruction of forest eco systems. To link responsible forest management and businesses through market activities seemed to be the future. Retailers, sensitized by campaigns, realized that for a long time they had neglected the question of where the timber they traded came from. Retailers became aware that their purchasing decisions resulted in social and environmental impacts. The demand for timber and forest products from responsible sources would stimulate markets for the better (Simula and Nussbaum 2005).

Therefore, forest certification was initiated as a global governance approach (Patosari 2004) to meet the demand of retailers for products from responsibly managed forests. In this approach certification serves as a mechanism to ensure a product or production process meets a set of criteria that is best captured in a standard (Simula and Nussbaum 2005),

*"(...) a document, established by consensus and approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context,"* (International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC), Page 1).



The people who develop standards are usually referred to as the standard-setting group. During the standard setting process, the content of a standard is established. Certified forests are managed according to these standards. Therefore, standards and the standard-setting group play a major role, and determine what a certification scheme delivers regarding practical forest management (Simula and Nussbaum 2005).

Forest certification in particular is a non-governmental market instrument that steers and stimulates the market. A higher demand for certified products and a higher supply of certified forest areas are pursued, while setting binding and enforceable rules. These rules should guarantee the fulfilment of pre-set socially responsible, environmentally sustainable and economically viable objectives (Schlyter *et al.* 2009). The Forest Stewardship Council (FSC), the earliest adopted forest certification scheme that was initially targeted at large-scale forest enterprises, was founded in 1993 (Kaechele *et al.* 2011; FSC 2012). The Programme for Endorsement of Forest Certification Schemes, formerly known as the Pan European Forest Certification Scheme (PEFC), was founded 1999 in reaction to the FSC in order primarily to serve the interests of small-scale private forest owners (Kaechele *et al.* 2011; Johansson and Lidestav 2011). Today FSC and PEFC, initially a European initiative, both work internationally and have established different ways to approach forest certification. While FSC has developed its own set of international principles and criteria that are theoretically applicable everywhere in the world, PEFC has put mechanisms into place that recognize and endorse existing national forest certification schemes that meet PEFC requirements (Simula and Nussbaum 2005). In the FSC scheme the interests of economic, social and environmental chambers are equally important, whereas in the PEFC scheme private forest owners have a dominating role and a final say in decision-making forums (Johansson and Lidestav 2011). PEFC's endorsed countries develop their own standards "(...) *tailored to the political, economic, social, environmental and cultural realities of their respective countries*" (PEFC International 2012c, Page 1). Such an endorsement process results in standards that are deliberately different from each other (Simula and Nussbaum 2005).

A comparison of the standard setting of PEFC-endorsed countries has not been the subject of any scientific studies in the past even though it is widely recognized how important standard setting processes are. Indeed, standard development processes

define the quality of national standards that provide the input for forest management in future and consequently determine the forest ecosystem as a whole (Burger 2005).

The standard development process involves a multitude of stakeholders. Such multi-stakeholder processes are relatively new governance structures that deal with issues that concern public interests. In order to establish national forest standards that are accepted by their stakeholders, they shall be legitimate. In the given context, legitimacy is the popular acceptance of a governance authority. PEFC, as an example of such an authority, can enforce compliance with national forest standards. In order to reach legitimacy during a standard setting process the following elements are crucial:

- inclusiveness of the stakeholders
- transparency of the process
- the perceptions and transparency of participation
- ability of stakeholders to participate in a meaningful dialogue
- openness and respect (Vallejo and Hauselmann 2004).

This research compares and evaluates the standard setting performance of six PEFC-endorsed countries on major principles of good practice of standard development: stakeholder balance, credibility of consensus finding, decision-making, and complaint resolution mechanisms. It provides insight into the occurrence of differences and similarities between standard setting processes in various countries. The underlying assumption is that analysing the process that results in a standard is a suitable strategy to work out the comparable aspects of different PEFC-endorsed certification schemes. Based on this evaluation, a discussion is presented about whether or not a mutual PEFC-label for forest products from different origins with different yet PEFC-endorsed standards is justified.

## 2.METHODOLOGY

### 2.1. Research Questions

The research was guided by the following research questions:

- 1a) What are relevant major principles of good practice of standard development?
- 1b) What are criteria and indicators of good practice of standard development?
- 1c) How do PEFC-endorsed certification schemes score on relevant major principles of good practice of standard development?

The research was limited to standard setting in six - of a total of 33 - PEFC-endorsed countries: Canada, USA, Finland, Sweden, Germany and Malaysia. All countries are in the top 10 countries with the greatest certified forest area (see Tab. 1).

Tab. 1 Top 10 Ranking of the global PEFC certified forest area (PEFC International 2012b).

Position	PEFC-endorsed countries	PEFC-certified Area in [ha]
1	Canada	110,671,131
2	USA	35,479,646
3	Finland	21,068,333
4	Sweden	10,998,289
5	Australia	10,064,331
6	Norway	9,115,902
7	Belarus	7,852,200
8	Germany	7,397,094
9	Poland	5,743,514
10	Malaysia	4,646,068

Their combined area amounts to 78% of the entire 245 Million hectares (ha) of PEFC-endorsed forests and to 7% of the 272 billion ha global forest area. Standard setting in these countries combined determines the forest management of 190,260,561 ha of forest area (PEFC International 2012b: status quo December 2012). Standard setting of PEFC-endorsed countries follows the steps displayed in Fig. 1.



Fig. 1 Steps of the standard setting process of PEFC-endorsed countries (PEFC International 2012c, Page 12).

The applied research methodology is displayed in the following chapters for each particular research question.

## 2.2. Data Analysis

### 2.2.1. Major Principles for Good Practice of Standard Development

In September 2011, Greenpeace in collaboration with social and environmental NGOs published the report: "On the ground 2011 – The controversies of PEFC and SFI". The report encompassed 21 'on the ground' case studies that focussed on the forest management performance of PEFC-endorsed national certification schemes. To display the arguments of both parties in their genuine character, only direct quotes were used. (Greenpeace *et al.* 2011). Greenpeace *et al.* (2011, Page 4) concluded:

*"(...) Principal drivers for PEFC's current weaknesses include weak standards, weak governance, poor or non-existent stakeholder consultation, a lack of transparency, an inadequate dispute resolution system and audit practices that cannot meet the expectations of a system for ensuring practices on the ground meet even the current weak standards".*

On October 17<sup>th</sup> 2011, PEFC (2011) released its response “On the Ground 2011 – The Controversy of Greenpeace *et al.*” They highlight that the organizations which published the earlier report have “*close links and vested interests in FSC and [rely] to a large extent on sources which are directly or indirectly linked to FSC, a competing certification system and/ or Greenpeace itself*” (Greenpeace *et al.* 2011, Page 1). In defence, Greenpeace *et al.* (2011, Page 2) state that “*The primary interest of organisations that supported the ‘On-the-ground’ report is that forests are being properly conserved.*”

It is assumed that the debate between Greenpeace *et al.* and PEFC from 2011 is a sound basis to extract major principles of good practice of a standard setting process (see Fig. 1) and is therefore suited to answer research question 1a) cf. 2.1. For this purpose, three major documents were analysed: first the report of Greenpeace *et al.* (2011), second the response of the PEFC Council (2011), and third a general summary of the debate from Greenpeace (2011). The debate is centred on PEFC’s performance in the field, and arguments were first opposed, summarized and then related to standard setting itself. Eventually arguments were categorized to extract four major principles (see Chapter 3.1. and Tab. 6). These principles relate the analysis of standard setting processes in different countries to relevant and socially important issues, instead of comparing a wide range of technical details. The major principles represent the cornerstones for the development of an evaluation system for good practice of standard setting that is described in Chapter 2.2.2.

### 2.2.2. Evaluation System for Good Practice of Standard Development

In 2002 a number of international accreditation bodies have formed the globally working NGO ISEAL Alliance (Simula and Nussbaum 2005). ISEAL published the Standard Setting Code for Setting Social and Environmental Standards in 2010. Their objectives are:

- Demonstration and improvement of standards’ impacts
- Improvement of standards’ effectiveness
- Definition of credibility for sustainability standards
- Increasing the adoption of credible sustainability standards (ISEAL Alliance 2010).

The guideline is comprised of major characteristics of good governance defined by the Economic and Social Commission for Asia and Pacific (UNESCAP) in 2013:

- Transparency,
- Accountability
- Equitability and Inclusiveness
- Participation
- Consensus Finding

ISEAL's Standard Setting Code incorporates the widely adopted ISO Guide 59 and applicable World Trade Organization (WTO) guidance. "*ISEAL's documents and procedures can be regarded as an appropriate framework for assessment of standard-setting processes*" (WWF and World Bank Global Forest Alliance 2006, Page 5).

For the first step, criteria and indicators were extracted and related to the four major principles of good practice of standard setting (cf. 3.1 and Tab. 2 until Tab. 6) That the principles were a component of ISEAL's guideline also supports the relevance of the chosen issues for good practice of standard development.

Sets of criteria and indicators usually follow a common hierarchical framework. In Fig. 2 such a framework was created based on the following definitions:

- *Principles* are a fundamental truth that form the basis for reasoning. In the context of sustainable forest management, they provide the justification for criteria and indicators.
- *Criteria* add meaning to a principle without being direct measures of performance.
- *Indicators* are variables or components that can be used to infer attributes to a criterion" (Mendoza and Prahbu 2000).

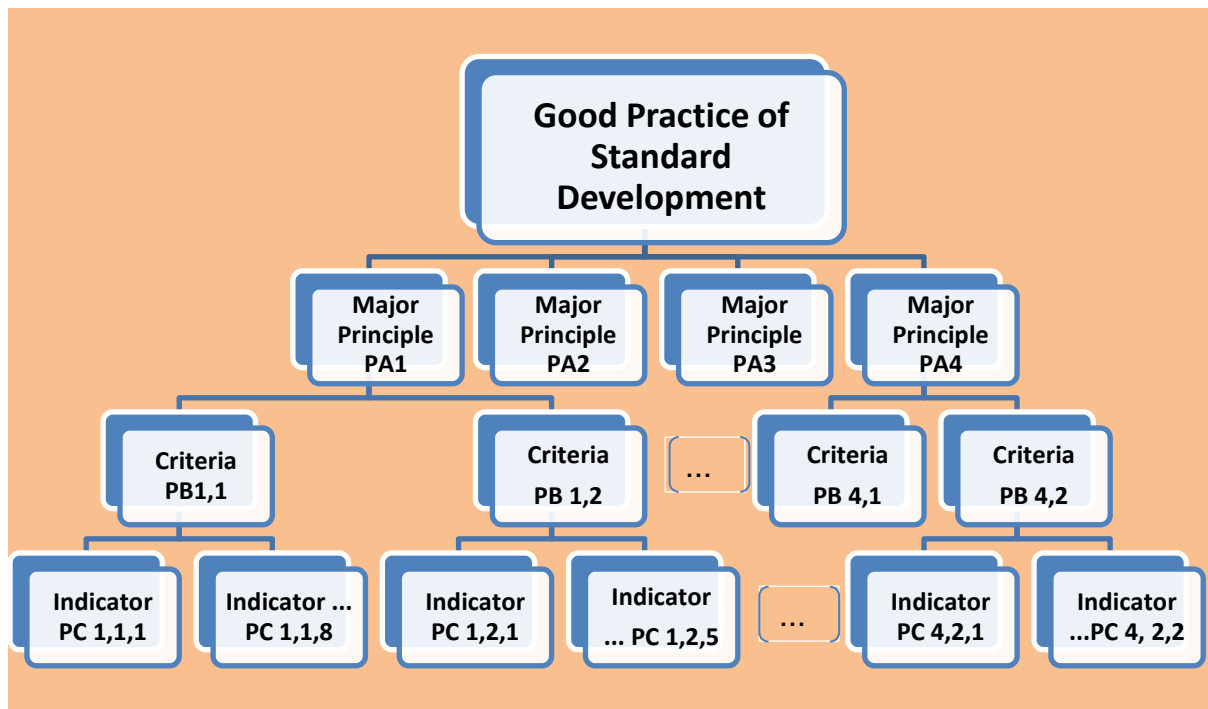


Fig. 2 Hierarchical framework for good practice of standard development. Based on Mendoza and Prahbu (2000).

The first level of the hierarchy consists of four principles for good practice of standard setting that were established by the answer to research question 1a) (see 2.1). Criteria and indicators were derived from ISEAL's Standard Setting Code (2010) by direct quotation in order to display the genuine character of the guideline (cf. 3.1 and Tab. 2 until Tab. 6). Each of the four principles then consists of two criteria which form the second level of the hierarchy. The third level consists of a total of 25 indicators. To each criterion, a number of indicators that varies between two and six was assigned. In some cases, ISEAL's Standard Setting Code (2010) provided detailed information to infer a criterion with more than two indicators, whereas in other cases it provided either less information or a criterion was already clearly met by two indicators only. Chapter 2.2.3 explains how a ranking system was established based on the evaluation system for good practice of standard development.

### 2.2.3. Scoring Countries on Major Principles of Good Practice of Standard Development

National certification systems that strive for PEFC recognition must undergo an endorsement process, which is summarized in Fig. 3. During this process the General Assembly that comprises all PEFC members, decides whether a certification scheme will be endorsed. An assessment process conducted by an independent assessor shall verify compliance with PEFC's Sustainability Benchmarks. The standard setting process shown in Fig. 1 comprises a set of requirements that is part of these benchmarks.

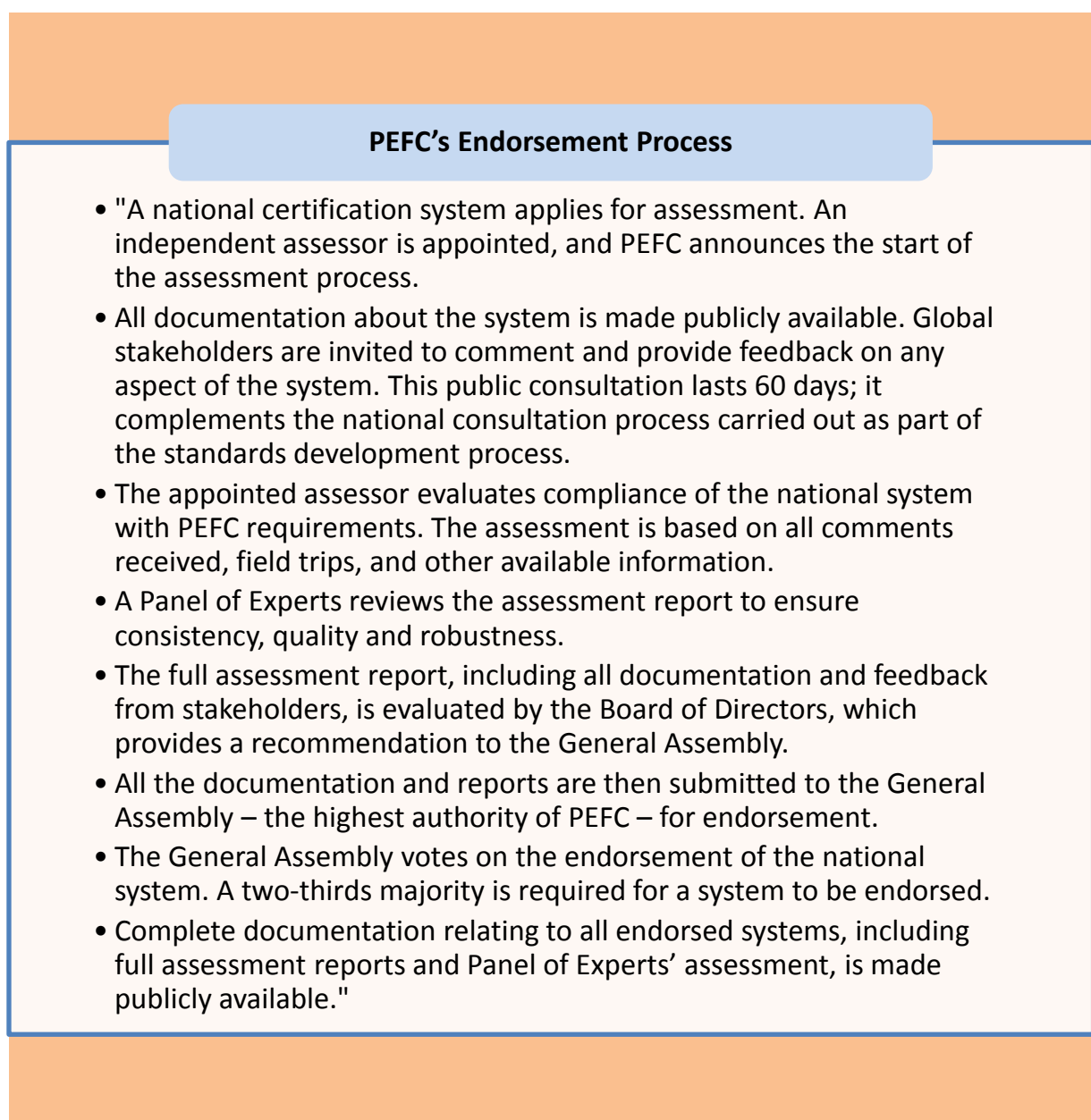


Fig. 3 Summary of the PEFC endorsement process (PEFC International 2012c, Page 1).



PEFC International (2012c, Page 1) state:

*“The endorsement process ensures that national standards comply with PEFC’s Sustainability Benchmark and that all requirements are rigorously and consistently applied across all national certification systems. Mutual recognition among PEFC-endorsed national systems allows PEFC-certified wood to be identified and accepted globally under one, easily recognizable eco-label.”*

The assessment report and documentation of the endorsement process for each endorsed country is available on PEFC’s international website for the public (PEFC International 2012a). These reports were used to answer research question 1c) (cf. 2.1) and give scores for the performance of chosen countries (cf. Chapter 3.3) according to the major principles (see Tab. 6) of good practice for standard development. The criteria and indicators, extracted from ISEAL’s’ Code of Good Practice, were used to establish a scoring system for each country for each major principle. For the data collection, all assessment reports and documentation files were downloaded from PEFC’s website (PEFC International 2012a) and converted to PDF files. By means of the Adobe® Acrobat® Reader XI Professional package all assessment reports and full documentation of different countries were scanned for key words and phrases (see 3.2.5 and Tab. 18) to ascertain whether or not an indicator was met. Every indicator consists of a set of key words that are listed in Tab. 18. The program version XI Professional offers the possibility to import a list of words under the command ‘edit’ under ‘advanced search’. Furthermore, it allows the user to save documents with highlighted words in a new PDF file.

The scoring scheme was based on the hierarchical framework in Fig. 2 and adheres to the following equations. The sum of all indicators  $PC_{i,j,k}$  per criterion  $P_{Bi,j}$  was calculated arriving at a score for each principle  $PA_i$ . A high score for each principle  $PA_i$  indicates that a country is in accordance with four principles of good practice of standard setting (see Tab. 6), whereas a low score indicates the opposite. The maximum total score for one country for all indicators follows the equation:  $P = PA_1 + PA_2 + PA_3 + PA_4 = 100$  points (cf. Fig. 4).

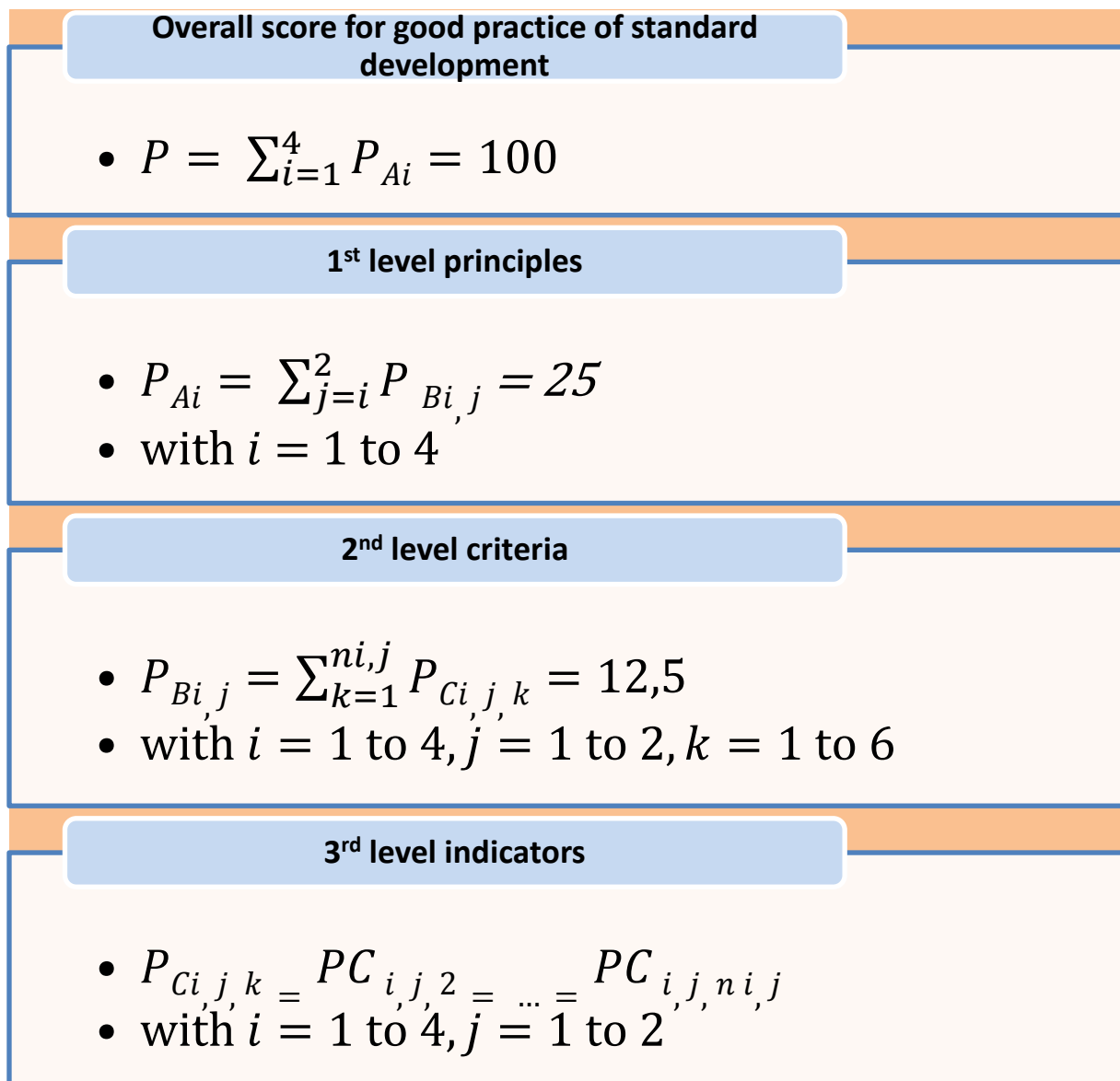


Fig. 4 Hierarchical framework for good practice of standard development. *A* denotes the first level of principles, *B* the second level of criteria and *C* the third level of indicators, respectively; *i* denotes the number of principles, *j* denotes the number of criteria and *k* denotes the number of indicators per criterion.

ISEAL states that their code shall only be adopted in its entirety and therefore express all principles and criteria that are mentioned with equal importance (ISEAL Alliance 2010). In consequence, each principle  $PA_i$  scores the same amount of 25 points. The maximum sub scores of each of the eight criteria  $PBi,j$  equals 12.5 points. Each indicator  $PCi,j,k$  was formulated as a question that could be answered by *yes* or *no* (cf. 3.2). If the key word search (see 3.2.5) of the assessment report did not result in an answer, the full documentation was also consulted. Hereby, the answer *yes* scored to the following conditions

$$PCi,j,k = \frac{12,5 \text{ points}}{\text{number of particular indicators per each criterion}} \text{ (cf. Fig. 4).}$$

The answer *no*, and cases where information was not available, scored 0 points. The underlying assumption was therefore that if the answer to an indicator question was *no* or information was not available this indicates that certain issues have not been taken into consideration to decide upon the endorsement. Therefore, both answers scored the same amount of points. The sum of indicators  $PCi,j,k$  per criterion  $PBi,j$  amounts to a maximum of 12.5 points, while the indicators' particular value depended on the number of indicators that were extracted to infer a criterion with information.

Overall, five bar charts were made (see Fig. 8 until Fig. 12) to compare the scores of the different countries. Fig. 8 until Tab. 11 show the performance of all countries per principle  $PA_i$  on a percentage scale by displaying the score per criterion  $PBi,j$  and the mean of two criteria inferring one principle. Fig. 12 shows the mean scores of the overall performance of all countries.

All means were displayed with error bars to show the limits in which the true value of the mean may lie. If the error bars do not overlap this is an indicator for a significant difference between the different countries, whereas an overlap indicates the opposite (Field 2005). The results of this comparison inform the discussion that is described in the following chapter 2.3.

### 2.3. One Universal Label for all PEFC-endorsed Countries

After PEFC has endorsed a certification scheme, forest owners and managers can obtain a license for the usage of a PEFC logo to indicate that their forest areas are PEFC-certified (PEFC International 2012e). A logo or label licence can be distributed either by the PEFC Council itself or by an authorized licencing agent. This can be any

PEFC-endorsed forest certification scheme that through endorsement has become a PEFC member (PEFC International 2012d). Forest products originating from PEFC-certified forests can be indicated by a globally recognizable PEFC logo and label (see Fig.5).



Fig. 5 Elements of the PEFC label (PEFC International 2012e). The PEFC logo is indicated by number one and two.

*“[These] globally trusted registered trademarks which assist businesses, consumers, forest owners and managers, and other stakeholders to identify and promote merchandise and goods from sustainably-managed forests. They indicate that wood, non-wood or wood-based products originate from PEFC-certified timber.”* (PEFC International 2012e, Page 1).

However, ‘promises’ communicated by labels are not tangible and we simply cannot distinguish forest products from conventional, responsible or even illegal sources by their texture or appearance. Consequently, consumers cannot immediately know where the labelled product in question came from and what the social, environmental and economic conditions were on site. This means that labels or logos need to convey credibility to convince buyers to choose certified products over others, especially if certified options are more expensive. Not only this, but also the increasing demand for certified products burdens certification schemes with high responsibility towards costumers and consumers (Simula and Nussbaum 2005). PEFC-certified products access European markets under a mutual PEFC label that expresses a certain comparable benefit compared to other non-certified products (PEFC International 2012e). In Chapter 4 the justification of one mutual PEFC-label for forest products that originate from different PEFC-endorsed forest certification schemes is discussed. The assumption was made that a global label is justified if there are no significant differences amongst scores of different PEFC-endorsed countries concerning the four major principles for good practice of standard development. Significant differences would indicate a contradiction of the essence of standards: *“to provide for common and repeated use and the achievement of an optimum degree of order”* (ISO 2009, Page 1). Therefore, usage of a mutual label would be disputable.

## 3.RESULTS

### 3.1. Major Principles for Good Practice of Standard Development

The results of this section relate to the methodology in chapter 2.2.1 and answer research question 1a) (see 2.1.).

The major arguments of Greenpeace (2011) and the response of PEFC Council (2011) were opposed and summarized. Arguments made by both parties fell into two main categories. The first encompassed issues that relate to the contents of standards and the second summarized those that are concerned with the governance structures of PEFC (see Tab. 2 until Tab. 5).

#### 3.1.1. Issues Related to Contents of Standards

Greenpeace *et al.* (2011) stated that weak PEFC-endorsed standards fail to protect “*key forest conservation values (...) and social parameters*” (PEFC Council 2011, Page 4). Therefore, they lack the credibility that a paper or wood buyer expects from a certified product (Greenpeace 2011, Page 1). Greenpeace *et al.* (2011) state that the poor performance of PEFC-endorsed certification schemes “on the ground” is the reason why some social and environmental NGOs still refuse to participate in the PEFC system. The PEFC Council (2011) on the other hand argued that they are not only the largest but also the most assessed forest certification system. The PEFC system, they stated, is widely accepted in national public procurement policies and is positively assessed by the Timber Procurement Assessment Committee (TAPC), the Central Point of Expertise on Timber (CPET) and by the WWF in their Forest Certification Assessment Guide (FCAG).

**Tab. 2 Summary of arguments derived from debate between Greenpeace *et al.* (2011) and the PEFC Council (2011) that relate to Contents of Standards.**

<b>Greenpeace <i>et al.</i> (2011), Greenpeace (2011). On the ground 2011 – The controversies of PEFC and SFI</b>	<b>PEFC Council (2011) On the Ground 2011 – The Controversy of Greenpeace <i>et al.</i></b>
<b>Issues Related to Contents of Standards</b>	
<ul style="list-style-type: none"> <li>• “Poor practices concerning the protection of “key forest conservation values” caused by weak standards.” (PEFC Council 2011, Page 4)</li> <li>• “PEFC and SFI certified forests were to shown to fail on key ecological and social parameters that any wood and paper buyer would expect from a credibly certified product. (...)” (Greenpeace 2011, Page 1)</li> <li>• “PEFC and SFI certified products: Failed to protect forest values such as key habitats and endangered ecosystems. Failed adequately consider local and indigenous communities dependent on forests. Failed to prevent the conversion of natural ecosystems to industrial tree plantations.” (Greenpeace 2011, Page 1)</li> <li>• “The new PEFC forest management standard improvements may not lead to actual on-the-ground performance change for 2 years (...)” (Greenpeace 2011, Page 1)</li> <li>• “(...)The lack of trust in PEFC’s system was compounded by its past and current poor performance on the ground. Thus even though PEFC’s on paper efforts to improve participation of major environmental and social groups, most remain untrusting of the system and will continue to refuse to participate in the system until at the very least PEFC demonstrates a dramatic improvement of sustainable forest practices on the ground.” (Greenpeace 2011, Page 2)</li> <li>• “Both TAPC and CPET use a desktop analysis to assess compliance against their criteria for what constitutes sustainable forest management certification systems. This again goes right to the heart of the issue—the prevailing reality of PEFC (and its endorsed systems) certified operations are not practicing socially and ecologically responsible forest management on the ground.” (Greenpeace 2011, Page 3)</li> </ul>	<ul style="list-style-type: none"> <li>• “PEFC is the largest and most assessed forest certification system globally” (PEFC Council 2011, Page 4)</li> <li>• “PEFC certification accepted in national public procurement policies worldwide. (PEFC Council 2011, Page 4)</li> <li>• “PEFC system positively assessed by Timber TAPC and CPET who have developed a comprehensive catalogue of criteria against which certification systems are assessed. These criteria cover environmental, social and economic aspects of forest certification, and include a number of criteria pertaining to “key forest conservation values” (PEFC Council 2011, Page 4)</li> <li>• “WWF found in its Forest Certification Assessment Guide (FCAG) that PEFC fulfilled the requirement to protect ‘key conservation values” (PEFC Council 2011, Page 4)</li> </ul>

Because this research was centred on standard setting and not the actual contents of standards only issues that were relatable to standard setting were taken into further consideration. They fell into the second category, the governance structures of PEFC, and included *Stakeholder Balance*, *Stakeholder Consultation* and *Participation*, and *Complaint and Dispute Resolution*.

### 3.1.2. Issues Related to PEFC's Governance Structures

#### **Stakeholder Balance**

Greenpeace *et al.* (2011) raised the issue of insufficient stakeholder balance and transparency in decision-making in many of PEFC's governance structures (cf. Tab. 3). They furthermore argued that decision-making authorities e.g. the PEFC General Assembly and the PEFC International Board and international voting processes were often "*outweighed by economic industry representatives*" (Greenpeace 2011, Page 1). The PEFC Council (2011, Page 5), on the other hand, explained that they are "*(...) committed to balanced representation of various stakeholder interests.*" Furthermore they said: "*(...) stakeholder consensus based decision-making is a unique feature of PEFC*" (PEFC Council 2011, Page 7). They also pointed out that some groups often voluntarily chose not to participate, although they were invited to standard setting processes (PEFC Council 2011). Moreover, the PEFC Council (2011) doubted the effectiveness of the three-chamber system FSC has adopted, which includes social, environmental and economic chambers, weighed equally. They cited the State of Sustainability Initiatives (SSI) Review (2010), which found that key challenges for participatory governance are to enable mechanisms to empower stakeholders on global supply chains to participate in supply chain management. The SSI Review (2010 in PEFC Council 2011) categorized stakeholders by their supply chain role and divided them as follows:

- Producer
- Industry/private sector
- Workers' association/unions
- NGO & civil society and
- Others (e.g. consultants, law firms, financial institutions)

**Tab. 3 Summary of arguments derived from debate between Greenpeace *et al.* (2011) and the PEFC Council (2011) that relate to Stakeholder Balance within PEFC's Governance Structures.**

<b>Greenpeace <i>et al.</i> (2011), Greenpeace (2011). On the ground 2011 – The controversies of PEFC and SFI</b>	<b>PEFC Council (2011) On the Ground 2011 – The Controversy of Greenpeace <i>et al.</i></b>
<b>Issues Related to PEFC's Governance Structures</b>	
<b>Stakeholder Balance</b>	
<ul style="list-style-type: none"> <li>• “Balanced representation and real decision-making authority does not exist either at the level of the international governance of PEFC nor in many of the national-level governance structures” (PEFC Council 2011, Page 5)</li> <li>• “The new standards still do not address systematic weaknesses within the PEFC system including: (...) Limited transparency in decision making (...)” (Greenpeace 2011, Page 1)</li> <li>• “Inequitable and unbalanced participation of social, environmental and economic interests in governance—for example, the inclusion of NGO and other stakeholders in the PEFC General Assembly and PEFC International Board is still limited to a few representatives and is outweighed by economic industry representatives” (Greenpeace 2011, Page 1)</li> <li>• “Issues with standard setting and certification decisions—for example, the Australian PEFC standard setting voting process was dominated by economic interests.” (Greenpeace 2011, Page 1)</li> <li>• “Despite PEFC's recent attempts to improve its standard and engage a wider spectrum of environmental and social stakeholders, most major NGOs and indigenous groups refuse to participate or to support the system. This happened because it was known that PEFC's governance and decision making processes and policies were not balanced across stakeholder groups.” (Greenpeace 2011, Page 2)</li> </ul>	<ul style="list-style-type: none"> <li>• “PEFC is committed to balanced representation of various stakeholder interests.” (PEFC Council 2011, Page 5)</li> <li>• “PEFC is the only global forest certification system that makes explicit reference to the nine major groups as defined by Agenda 21 of the 1992 United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, as an example of stakeholders involved in/concerned by sustainable forest management.” (PEFC Council 2011, Page 5)</li> <li>• “Greenpeace itself has not adopted the three chamber system for its own organisation. In fact, the effectiveness and independence of the three-chamber system [social, environmental, economic chamber] is disputed.” (PEFC Council 2011, Page 5)</li> <li>• “The State of Sustainability Initiatives (SSI) Review 2010 finds that the key challenges for participatory governance has been to find mechanisms for empowering stakeholders upstream on global supply chains to participate in downstream supply chain management decision, and, with this in mind, distinguishes representation of stakeholders by their supply chain role: “Producer”, “Industry/private sector”, “Workers' association/unions”, “NGO &amp; civil society”, and “Other” (e.g. consultants, law firms, financial institutions). (...) With more representatives from the “NGO &amp; civil society” and “workers' associations/unions” roles than any other certification system in the forest sector.” (PEFC Council 2011, Page 5)</li> <li>• “Interested groups often voluntarily choose not to participate in the PEFC decision making bodies in spite of being invited.” (PEFC Council 2011, Page 5)</li> <li>• “Ensuring continuous improvement, through regular stakeholder consensus based decision-making is a unique feature of PEFC (...)” (PEFC Council 2011, Page 7)</li> </ul>



**Stakeholder Consultation and Participation**

It Tab. 4 below the PEFC Council (2011) explained that their stakeholders are involved at many stages and levels of the certification process, e.g. in the standard setting process. Greenpeace *et al.* (2011) on the other hand concluded: “PEFC systems around the world have been very weak on consulting and listening to stakeholders” (PEFC Council 2011, Page 6). They criticised ISO standards for their pure system-orientation, which may require a certain system to be put in place, but do not specify minimum performance thresholds. This means that a PEFC-certified business entity may be ISO-compliant, though it may still fail to protect high conservation forest values in practice (Greenpeace 2011).

**Tab. 4 Summary of arguments derived from debate between Greenpeace *et al.* (2011) and the PEFC Council (2011) that relate to Stakeholder Consultation and Participation within PEFC’s Governance Structures.**

<p><b>Greenpeace <i>et al.</i> (2011), Greenpeace (2011).</b>  <b>On the ground 2011 – The controversies of PEFC and SFI</b></p>	<p><b>PEFC Council (2011)</b>  <b>On the Ground 2011 – The Controversy of Greenpeace <i>et al.</i></b></p>
<p><b>Issues Related to PEFC’s Governance Structures</b></p>	
<p><b>Stakeholder Consultation and Participation</b></p>	
<ul style="list-style-type: none"> <li>• “PEFC systems around the world have been very weak on consulting and listening to stakeholders.” (PEFC Council 2011, Page 6)</li> <li>• “ISO standards may be useful tools when implementing quality management systems, but that does not necessarily make them efficient tools to achieve good environmental and social performance in a forest management operation. The ISO standards are what we might call system oriented standards, meaning that they require a certain system to be in place and require the certified organisation to document continuous improvements, but they don’t specify a minimum performance threshold that needs to be met in order to be certified. A PEFC certified operation may in other words be ISO compliant and still fail to conserve high conservation forest values, biodiversity etc.” (Greenpeace 2011, Page 2 ff.)</li> </ul>	<ul style="list-style-type: none"> <li>• “There are multiple levels at which stakeholders are involved in the certification process, first and foremost in the development of standards for forest management; the certification process itself; and through appeals and complaints procedures.” (PEFC Council 2011, Page 6)</li> <li>• “Stakeholders can get involved at any stage throughout the whole process.” (PEFC Council 2011, Page 6)</li> <li>• “PEFC is unique amongst global forest certification systems in that it requires stakeholder participation in the development of all sustainable forest management standards based on ISO/IEC Guide 59”. (PEFC Council 2011, Page 6) .</li> </ul>

**Complaint and Dispute Resolution**

The PEFC Council (2011) explained that their complaint resolution mechanisms are based on recognized ISO processes that offer various opportunities for their stakeholders to raise complaints. They further argued that the strength of their complaint resolution systems is that they work on different levels. Especially that their independence is what allows for maximum credibility. Greenpeace *et al.* (2011, Page 3) however, implied that “PEFC’s complaints and resolution mechanisms are poor.” (PEFC Council 2011, Page 8). They criticized that e.g. “PEFC has no routine role in resolving disputes about certified areas” (see. Tab. 5).

**Tab. 5 Summary of arguments derived from debate between Greenpeace *et al.* (2011) and the PEFC Council (2011) that relate to Complaint and Dispute Resolution within PEFC’s Governance Structures.**

<p><b>Greenpeace <i>et al.</i> (2011), Greenpeace (2011).</b>  <b>On the ground 2011 – The controversies of PEFC and SFI</b></p>	<p><b>PEFC Council (2011)</b>  <b>On the Ground 2011 – The Controversy of Greenpeace <i>et al.</i></b></p>
<p><b>Issues Related to PEFC’s Governance Structures</b></p>	
<p><b>Complaint and Dispute Resolution</b></p>	
<ul style="list-style-type: none"> <li>• “Greenpeace implies that PEFC’s complaints and disputes resolution mechanisms are poor.” (PEFC Council 2011, Page 8)</li> <li>• “Complaints about PEFC certified areas are dealt with in the first instance by certification bodies; however, there is no provision for dispute resolution at the PEFC International level if the certification bodies fail to resolve the disputes. At an international level PEFC has no routine role in resolving disputes about certified areas; it can only make a complaint to certification or accreditation authorities in the same way as any other stakeholder would. Because PEFC has no contractual relationship with the accreditation body (...), it does not have the ability to get accreditation auditors sent in quickly to investigate serious complaints and assess a certification body's performance.” (Greenpeace 2011, Page 3).</li> </ul>	<ul style="list-style-type: none"> <li>• “PEFC’s complaints and appeals mechanisms are based on the internationally recognised ISO processes.” (PEFC Council 2011, Page 8)</li> <li>• “PEFC’s complaints and appeals mechanism operate at different levels. (...) The strength of these complaint mechanisms is that each is independent of each other to ensure maximum credibility, and that no stakeholder can bring to bear undue influence or pressure on any of the mechanisms. PEFC is the only international forest certification system that uses these robust independent mechanisms.(...) Complaints against endorsed national certification systems are governed by the PEFC Council Procedures for the Investigation and Resolution of Complaints and Appeals.” (PEFC Council 2011, Page 8)</li> </ul>

Although both parties have opposing viewpoints, they still agree on key values of good practice of standard setting that are essential for credible forest certification schemes. The key values are:

- Importance of balanced stakeholder interests
- Frequent stakeholder consultations throughout all certification processes
- Transparent and consensus-based decision-making
- Importance of complaint resolution mechanisms

Based on Tab. 3, Tab. 4 and Tab. 5, four major principles for good practice of standard setting were eventually extracted and are displayed in Tab. 6.

**Tab. 6 Major principles for Good Practice of Standard Development derived from the debate between Greenpeace *et al.* (2011) and the PEFC Council (2011).**

Arguments of Greenpeace <i>et al.</i> (2011)	PEFC Council (2011)	Major Principles for Good Practice of Standard Development
<ul style="list-style-type: none"> <li>• Inequitable and unbalanced participation of social, environmental and economic interests in governance structures</li> <li>• PEFC standard setting voting process dominated by economic interests</li> <li>• Despite PEFC's attempt to engage a wider spectrum of environmental and social stakeholders, most major NGOs and indigenous groups refuse to participate or to support the system</li> <li>• Most social and environmental NGOs remain distrustful of the PEFC system and will continue to refuse to participate</li> </ul>	<ul style="list-style-type: none"> <li>• PEFC is committed to balanced representation of various stakeholder interests.</li> <li>• PEFC refers to nine major groups involved in/concerned by sustainable forest management. The nine stakeholder groups PEFC refers to are (i) business and industry, (ii) children and youth, (iii) forest owners, (iv) indigenous people, (v) local authorities, (vi) NGOs, (vii) scientific and technological community, (viii) women, and (ix) workers and trade unions (PEFC Council 2010).</li> <li>• PEFC includes representatives of all five stakeholder groups as board members: Producer, Industry/private sector, Workers' association/unions, NGO &amp; civil society and Other (e.g. consultants, law firms, financial institutions) (SSI Review (2010) in (PEFC Council 2011)</li> </ul>	<p><i>Balance of interests amongst stakeholders (PA1)</i></p>
<ul style="list-style-type: none"> <li>• Limited transparency in decision making</li> <li>• Environmental and social stakeholders and indigenous groups refuse to participate or to support the system because decision-making processes and policies were not balanced across stakeholder groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring continuous improvement, through regular stakeholder consensus based decision-making is a unique feature of PEFC</li> </ul>	<p><i>Credibility of decision making (PA2)</i></p>
<ul style="list-style-type: none"> <li>• Standard setting voting process dominated by economic interests</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring continuous improvement, through regular stakeholder consensus based decision-making is a unique feature of PEFC</li> </ul>	<p><i>Credibility of consensus finding (PA3)</i></p>
<ul style="list-style-type: none"> <li>• PEFC's complaints and disputes resolution mechanisms are poor</li> <li>• PEFC systems around the world have been very weak on consulting and listening to stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Complaints against endorsed national certification systems are governed by the PEFC Council Procedures for the Investigation and Resolution of Complaints and Appeals</li> <li>• The strength of these complaint mechanisms is that they are independent of each other to ensure maximum credibility, and that no stakeholder can bring to bear undue influence or pressure on any of the mechanisms</li> </ul>	<p><i>Credibility of complaint resolution system (PA4)</i></p>

These four principles constitute the evaluation system for good practice of standard setting that is described in section 3.2.

### 3.2. Evaluation System for Good Practice of Standard Development

This chapter answers research question 1b) (cf. 2.1) and follows the methodology described in section 2.2.2. In Fig. 6 a hierarchical framework is shown that is based on the methodology described in section 2.2.2.

The first level of the hierarchy is related to the four major principles (PA1, PA2, PA3 and PA4), derived from the results in the previous section (cf. 3.1.2 and Tab. 6).

The second level consists of two criteria per principle. A varying number of indicators, ranging from one to six, constitutes a certain criterion. The mathematical relations between indicators, criteria and major principles are described in Fig. 4.

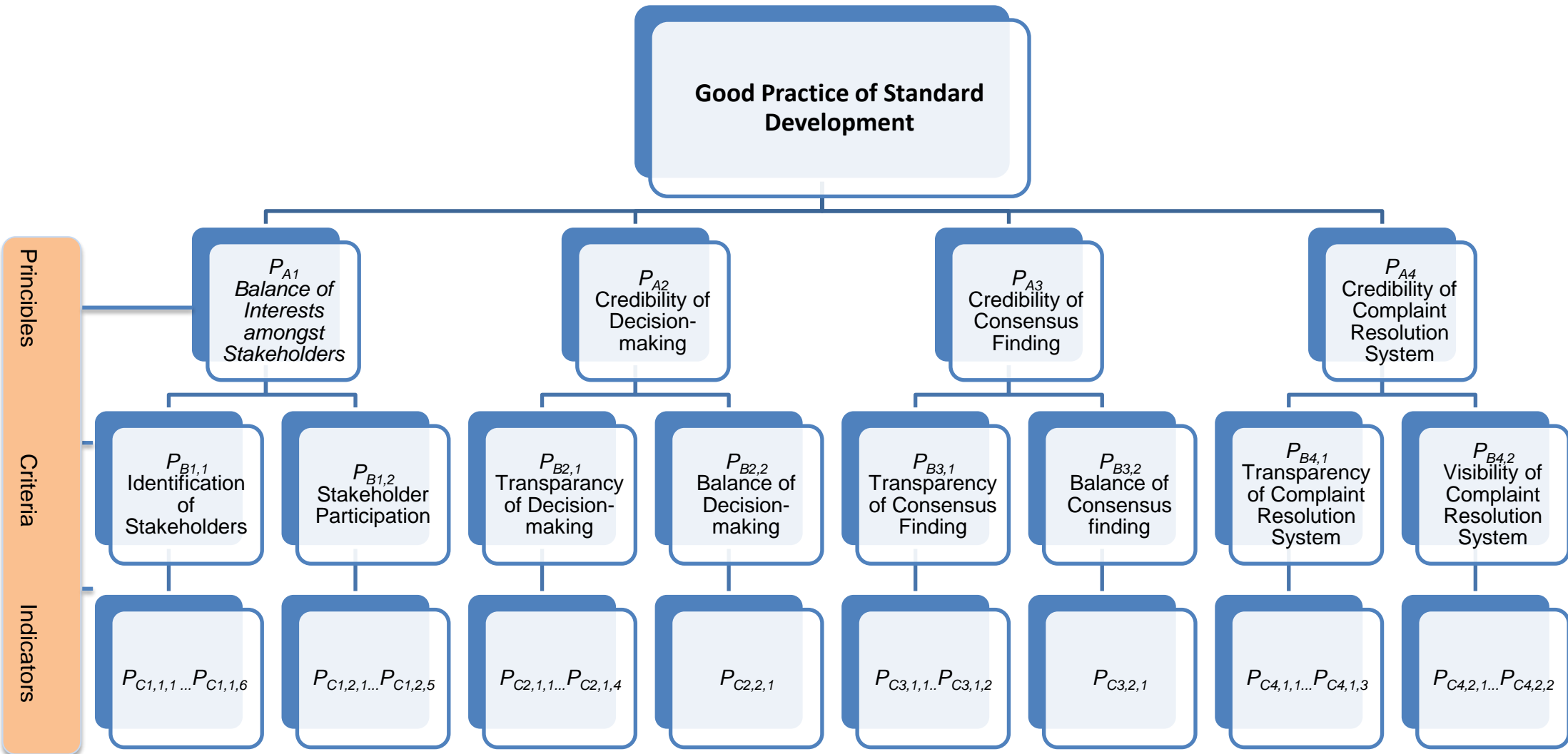


Fig. 6 Hierarchical framework for good practice of standard development. ISEAL's criteria and indicators are related to major principles (1<sup>st</sup> level) derived from the debate between Greenpeace *et al.* and PEFC (2011). ISEAL's Criteria build the 2<sup>nd</sup> level. 3<sup>rd</sup> level indicators determine whether a criterion was met. The last digit of the indicators tells how many of them a criterion consists of. Based on ISEAL Alliance (2010).

### 3.2.1. Balance of Interests amongst Stakeholders

This section describes the relation between criteria and indicators, which were extracted from ISEAL's Standard Setting Code (2010) and the major principles (see Tab. 6).

Tab. 7 quotes the parts of ISEAL's Code which connect to principle (PA1). *Balance of interests amongst stakeholders* may be achieved inter alia by conducting a stakeholder mapping exercise. This exercise identifies relevant interest sectors and key interested parties, their likely key issues and key stakeholders, and the means of communication that best reaches them. It also requires the setting of participation goals and targets, and the definition of success criteria. Furthermore, key stakeholders shall be approached actively to contribute during public consultation periods and shall be encouraged to submit comments on the standard's contents. This consultation shall be open to all interested parties and their comments shall be taken into consideration thoroughly. The balance of interests amongst stakeholders in decision-making structures shall be ensured especially during the standard setting phase (ISEAL Alliance 2010).

**Tab. 7 ISEAL’s criteria and indicators (2010) are related to major principle Balance of Interests amongst Stakeholders (PA1).**

Major principle <i>P<sub>A1</sub></i>	Balance of Interests amongst Stakeholders
<b>Criteria and Indicators</b>	“5.3 Stakeholder mapping
	<ul style="list-style-type: none"> <li>• 5.3.1 The standard-setting organisation shall carry out a stakeholder mapping exercise or shall update an existing stakeholder map at the beginning of a standard setting or revision process to identify major interest sectors and key interested parties, based on the standard’s objectives. The mapping exercise shall include defining which interest sectors are relevant and why, and, for each sector, what are likely to be the major principles, who are the key stakeholders, and what means of communication will best reach them. (...)</li> <li>• 5.3.2 Key stakeholders shall be proactively approached to contribute to the consultation. (...)</li> <li>• 5.3.3 Standard-setting organisations shall set stakeholder participation goals during this mapping so that there are clear participation targets and success criteria.” (ISEAL Alliance 2010, Page 7 )</li> </ul>
<b>Criteria and Indicators</b>	5.5 Balance of Interests
	<ul style="list-style-type: none"> <li>• “5.5.1 Standard-setting organisations shall ensure that participation in standards consultation is open to all interested parties and that participation and decision-making reflects a balance of interests among interested parties (...).” (ISEAL Alliance 2010, Page 8)</li> </ul>
<b>Criteria and Indicators</b>	5.7 Meaningful Opportunities to Contribute
	<ul style="list-style-type: none"> <li>• “5.7.1 Interested parties shall be provided with meaningful opportunities to contribute to the development or revision of a standard. Where discussions or decisions happen between a balanced group of stakeholders, the standard setting organisation should have a procedure in place to ensure that interested parties have an equal opportunity to be part of that group.” (ISEAL Alliance 2010, Page 9 f.).</li> </ul>

The principle *Balance of Interests amongst Stakeholders* consists then of two criteria *Identification of Stakeholders* (PB1,1) and *Stakeholder Participation* (PB1,2) (cf. Tab. 7).



## Identification of Stakeholders

Tab. 8 lists six indicators to determine whether criterion PB1 was met by any given PEFC-endorsed country.

**Tab. 8 ISEAL's indicators and questions (2010) that determine whether criterion Identification of Stakeholders (PB1,1) was met.**

1 <sup>st</sup> level principles ( $P_{Ai}$ )	$P_{A1}$ Balance of Interests amongst Stakeholders	
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{B1,1}$ Identification of Stakeholders	
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C1,1,1}$ "The standard-setting organisation shall [...] identify major interest sectors [...], based on the standard's objectives." (ISEAL Alliance 2010, Page 7)	$P_{C1,1,1}$ Have major interest sectors been identified, based on standards objectives?
	$P_{C1,1,2}$ "The standard-setting organisation shall [...] identify [...] key interested parties, based on the standard's objectives." (ISEAL Alliance 2010, Page 7)	$P_{C1,1,2}$ Have key interested parties been identified, based on standards objectives?
	$P_{C1,1,3}$ "The (stakeholder) mapping exercise shall include defining which interest sectors are relevant?" (ISEAL Alliance 2010, Page 7)	$P_{C1,1,3}$ Has it been identified which interest sectors are relevant?
	$P_{C1,1,4}$ "The standard-setting organisation shall [...] identify [...] for each sector, what are likely to be the key issues? (ISEAL Alliance 2010, Page 7)	$P_{C1,1,4}$ Has it been defined for each sector what the likely key issues are?
	$P_{C1,1,5}$ "The standard-setting organisation shall [...] identify [...] for each sector, who are the key stakeholders" (ISEAL Alliance 2010, Page 7)	$P_{C1,1,5}$ Has it been defined for each sector who the key stakeholders are?
	$P_{C1,1,6}$ "The standard-setting organisation shall [...] identify [...] what means of communication will best reach (key stakeholders). (ISEAL Alliance 2010, Page 7).	$P_{C1,1,6}$ Has it been defined for each key stakeholder what means of communication will best reach them?

## Stakeholder Participation

Five indicators and respective questions were found. The answer in this case give insights in a PEFC-endorsed country's performance on criterion *Stakeholder Participation* (PB1,2). They are shown in Tab. 9.

**Tab. 9 ISEAL's indicators and questions (ISEAL Alliance 2010) that determine whether criterion Stakeholder Participation (PB1,2) was met.**

<b>1<sup>st</sup> level principles (<math>P_{Ai}</math>)</b>	<b><math>P_{A1}</math> Balance of Interests amongst Stakeholders</b>	
<b>2<sup>nd</sup> level criteria (<math>P_{Bi,j}</math>)</b>	<b><math>P_{B1,2}</math> Stakeholder Participation</b>	
<b>3<sup>rd</sup> level indicators (<math>P_{Ci,j,ni,j}</math>)</b>	<b><math>P_{C1,2,1}</math></b> "Key stakeholders shall be proactively approached to contribute to the consultation." (ISEAL Alliance 2010, Page 7)	<b><math>P_{C1,2,1}</math></b> Have key stakeholders been proactively approached to contribute to the consultation?
	<b><math>P_{C1,2,2}</math></b> "Standard-setting organisations shall set stakeholder participation goals during this mapping so that there are clear participation targets and success criteria." (ISEAL Alliance 2010, Page 7)	<b><math>P_{C1,2,2}</math></b> Have stakeholder participation goals been set including clear participation targets and success criteria?
	<b><math>P_{C1,2,3}</math></b> "Standard-setting organisations shall ensure that participation in standards consultation is open to all interested parties" (ISEAL Alliance 2010, Page 8)	<b><math>P_{C1,2,3}</math></b> Is participation in standard consultation open to all interested parties?
	<b><math>P_{C1,2,4}</math></b> "Standard-setting organisations shall ensure that participation in standard consultation [...] reflects a balance of interests among interested parties." (ISEAL Alliance 2010, Page 8 )	<b><math>P_{C1,2,4}</math></b> Does participation in standard consultation reflect a balance of interests amongst interested parties?
	<b><math>P_{C1,2,5}</math></b> "Interested party (shall be) provided with an opportunity to submit comments at each stage of the standard setting or revision process", and that those comments are duly considered by the standard-setting organization." (ISEAL Alliance 2010, Page 8 )	<b><math>P_{C1,2,5}</math></b> Have all interested parties been provided with an opportunity to submit comments at each stage of the standard setting process and were these comments duly considered?

### 3.2.2. Credibility of Decision-making and Consensus Finding

*Credibility of Decision making* and *Credibility of Consensus Finding* (Major principle PA2 and PA3) may be achieved by the adoption of the following criteria and indicators (see Tab. 10).

The process in which a standard is developed shall result in consensus on the standard's contents. The consensus shall be achieved on a balance of interests. However, reaching a consensus is unlikely, especially if a wide range of interests was represented in the standard setting group. Because of this, alternative procedures shall also be defined in the case that a consensus fails. A document shall guide decision-making in order to ensure that no interest group dominates others, or is dominated itself. Decisions about the standard's contents and deliberations arriving at them shall be made available for the public (ISEAL Alliance 2010).

**Tab. 10 ISEAL's criteria and indicators (2010) are related to major principles Credibility of Decision making (PA2) and Credibility of Consensus Finding (PA3).**

Major principle <i>P<sub>A2</sub></i> and <i>P<sub>A3</sub></i>	Credibility of Decision making and of Consensus Finding
Criteria and Indicators	5.9 Decision-Making
<ul style="list-style-type: none"> <li>• “5.9.1 The standard-setting process shall strive for consensus on the content of the standard among a balance of interested parties. The standard-setting organisation shall define criteria to determine when alternative decision-making procedures should come into effect. In these cases, where standards are approved by vote, standard-setting organisations shall define in advance, decision-making thresholds that are considered to achieve consensus. (...)”</li> <li>• 5.9.2 The standard-setting organisation shall establish and document procedures to guide decision-making, including defining thresholds for voting that would be consistent with consensus. These procedures shall seek to ensure that no significant interest group can dominate nor be dominated in the decision-making process. (...)”</li> <li>• 5.9.3 The standard-setting organisation shall make public any decisions on the content of the standard as well as a summary of deliberations in arriving at the decision.” (ISEAL Alliance 2010, Page 11 f. )</li> </ul>	

The principle *Credibility of Decision-making* (PA2) consisted of two criteria that were derived from information presented in Tab. 10. Criterion ‘Transparency of decision-making’ (PB2,1) and criterion *Balance of Decision-making* (PB2,2).

### Transparency of Decision-making

Four indicator questions, listed in Tab. 11, were formulated in order to assess the level of achievement of criterion *Transparency of Decision-making* (PB2,1).

**Tab. 11 ISEAL’s indicators and questions (2010) that determine whether criterion Transparency of decision-making (PB2,1) was met.**

<b>1<sup>st</sup> level principles (<math>P_{Ai}</math>)</b>	<b><math>P_{A2}</math> Credibility of Decision-making</b>	
<b>2<sup>nd</sup> level criteria (<math>P_{Bi,j}</math>)</b>	<b><math>P_{B2,1}</math> Transparency of Decision-making</b>	
<b>3<sup>rd</sup> level indicators (<math>P_{Ci,j,ni,j}</math>)</b>	<b><math>P_{C2,1,1}</math></b> “The standard-setting organisation shall establish and document procedures to guide decision-making.” (ISEAL Alliance 2010, Page 11 )	<b><math>P_{C2,1,1}</math></b> Has a document been established to guide decision-making procedures?
	<b><math>P_{C2,1,2}</math></b> “The standard-setting organisation [...] makes an explicit effort to inform interested parties of (the decision-making) procedure before the start of the standard setting process.” (ISEAL Alliance 2010, Page 11)	<b><math>P_{C2,1,2}</math></b> Have interested parties been informed explicitly about decision-making procedures before the start of the standard setting process?
	<b><math>P_{C2,1,3}</math></b> “The standard-setting organisation shall make public any decisions on the content of the standard [...]” (ISEAL Alliance 2010, Page 11)	<b><math>P_{C2,1,3}</math></b> Has a document been made public that summarizes any decisions about the contents of the standard?
	<b><math>P_{C2,1,4}</math></b> “The standard-setting organisation shall make public [...] a summary of deliberations in arriving at the decision.” (ISEAL Alliance 2010, Page 11)	<b><math>P_{C2,1,4}</math></b> Has a document been made public that summarizes deliberations in arriving at decisions?

**Balance of Decision-making**

Whether or not the criterion Balance of decision-making (PB2,2) was met, was indicated by the answer to two indicator questions (see Tab. 12).

**Tab. 12 ISEAL’s indicators and questions (2010) that determine whether criterion Balance of Decision-making (PB2,2) was met.**

<b>1<sup>st</sup> level principles (<math>P_{Ai}</math>)</b>	$P_{A2}$ Credibility of Decision making	
<b>2<sup>nd</sup> level criteria (<math>P_{Bi,j}</math>)</b>	$P_{B2,2}$ Balance of decision-making	
<b>3<sup>rd</sup> level indicators (<math>P_{Ci,j,ni,j}</math>)</b>	$P_{C2,2,1}$ “It is the responsibility of the standard-setting organisation to ensure that sectors are [...] balanced in their participation in the decision-making process.” (ISEAL Alliance 2010, Page 11 )	$P_{C2,2,1}$ Does decision-making reflect a balance of sectors in the decision-making process?
	$P_{C2,2,2}$ “(The standard-setting organisation shall establish and document procedures that) shall seek to ensure that no significant interest group can dominate nor be dominated in the decision-making process.”(ISEAL Alliance 2010, Page 11 )	$P_{C2,2,2}$ Have procedures been established that ensure that no significant interest group can dominate nor be dominated in the decision-making process?

3.2.3.Credibility of Consensus Finding

**Transparency of Consensus Finding**

The criteria and indicators that indicate whether principle *Credibility of Consensus Finding* (PA3) by PEFC-endorsed country in question was achieved, was also based on criteria and indicators extracted from ISEAL’s Standard Setting Code see Tab. 10).

In Tab. 13 those indicators are listed that clarify whether *Transparency of consensus Finding* (PB3,1) was reached during the standard-setting process of a particular PEFC-endorsed certification scheme.

**Tab. 13 ISEAL’s indicators and questions (2010) that determine whether criterion Transparency of Consensus Finding (PB3,1) was met.**

<b>1<sup>st</sup> level principles (<math>P_{Ai}</math>)</b>	<b><math>P_{A3}</math> Credibility of Consensus Finding</b>	
<b>2<sup>nd</sup> level criteria (<math>P_{Bi,j}</math>)</b>	<b><math>P_{B3,1}</math> Transparency of Consensus Finding</b>	
<b>3<sup>rd</sup> level indicators (<math>P_{Ci,j,ni,j}</math>)</b>	<b><math>P_{C3,1,1}</math></b> “Standard-setting organisations shall define in advance, decision-making thresholds that are considered to achieve consensus.” (ISEAL Alliance 2010, Page 11).	<b><math>P_{C3,1,1}</math></b> Have criteria been defined that determine when consensus has been reached?
	<b><math>P_{C3,1,2}</math></b> “The standard-setting organisation shall define criteria to determine when alternative decision-making procedures should come into effect.” (ISEAL Alliance 2010, Page 11).	<b><math>P_{C3,1,2}</math></b> Have criteria been defined that determine when alternative decision making procedures come into effect, in case a consensus is not reached?

### Balance of Consensus Finding

One indicator question was asked to assess whether *Balance of Consensus Finding* (PB3,2) was provided while the contents of a standard were discussed (see Tab. 14).

**Tab. 14 ISEAL’s indicators and question (ISEAL Alliance 2010) that determine whether criterion Balance of Consensus Finding (PB3,2) was met.**

<b>1<sup>st</sup> level principles (<math>P_{Ai}</math>)</b>	<b><math>P_{A3}</math> Credibility of Consensus Finding</b>	
<b>2<sup>nd</sup> level criteria (<math>P_{Bi,j}</math>)</b>	<b><math>P_{B3,2}</math> Balance of consensus Finding</b>	
<b>3<sup>rd</sup> level indicators (<math>P_{Ci,j,ni,j}</math>)</b>	<b><math>P_{C3,2,1}</math></b> “The standard-setting process shall strive for consensus on the content of the standard among a balance of interested parties.” (ISEAL Alliance 2010, Page 11).	<b><math>P_{C3,2,1}</math></b> Has a consensus been reached at a balance of interests?

### 3.2.4. Credibility of Complaint Resolution System

Credibility of Complaint Resolution System may be achieved by the placement of a complaint resolution mechanism that is accessible to all interested parties (see Tab. 15). Such a mechanism shall be made available for the public upon the publication of the initial standard. How a complaint will be resolved shall be documented. It is im-

portant to assign focal points, including contact information, where complaints and comments can be submitted (ISEAL Alliance 2010).

**Tab. 15 ISEAL’s criteria and indicators (2010) are related to major principle Credibility of Complaint Resolution System (PA4).**

<b>Major principle</b> <i>P<sub>A4</sub></i>	Credibility of Complaint Resolution System
<b>Criteria and Indicators</b>	4.4 Resolving Complaints
	<ul style="list-style-type: none"> <li>• “4.4.1 Standard-setting organisations shall have in place a complaints resolution mechanism for the impartial handling of procedural complaints. Interested parties shall have access to this complaints resolution mechanism.</li> <li>• 4.4.2 Standard-setting organisations shall make impartial and documented efforts to resolve complaints, based on their publicly documented complaints resolution mechanism. Decisions taken on complaints shall be disclosed at least to the affected parties.” <i>(ISEAL Alliance 2010, Page 12 f.)</i></li> </ul>
Criteria and Indicators	5.11 Review and Revision of Standards
	<ul style="list-style-type: none"> <li>• “5.11.1 A process to receive comments and requests for clarification shall be established and maintained upon publication of the initial standard. The standard-setting organisation shall identify at least one focal point for standards-related enquiries and for submission of comments, with contact information made publicly available. <i>(ISEAL Alliance 2010, Page 12 f.)</i></li> </ul>

## Transparency of Complaint Resolution System

The criterion *Transparency of Complaint Resolution System* (PB4,1) was met when the answer to the indicator questions, summarized in Tab. 16, are answered with yes.

**Tab. 16 ISEAL's indicators and questions (2010) that determine whether criterion Transparency of complaint resolution system (PB4,1) was met.**

<b>1<sup>st</sup> level principles (<math>P_{Ai}</math>)</b>	<b><math>P_{A4}</math> Credibility of Complaint Resolution System</b>	
<b>2<sup>nd</sup> level criteria (<math>P_{Bi,j}</math>)</b>	<b><math>P_{B4,1}</math> Transparency of complaint resolution system</b>	
<b>3<sup>rd</sup> level indicators (<math>P_{Ci,j,ni,j}</math>)</b>	<p><b><math>P_{C4,1,1}</math></b>            "Standard-setting organisations shall have in place a complaints resolution mechanism for the impartial handling of procedural complaints." (<i>ISEAL Alliance 2010, Page 6</i>)</p>	<p><b><math>P_{C4,1,1}</math></b>            Is a complaint resolution system in place for the impartial handling of procedural complaints?</p>
	<p><b><math>P_{C4,1,2}</math></b>            "Standard-setting organisations shall make [...] documented efforts to resolve complaints, based on their publicly documented complaints resolution mechanism." (<i>ISEAL Alliance 2010, Page 6</i>)</p>	<p><b><math>P_{C4,1,2}</math></b>            Have documented efforts been made to resolve complaints, based on their publicly documented complaints resolution mechanism?</p>
	<p><b><math>P_{C4,1,3}</math></b>            "A process to receive comments and requests for clarification shall be established and maintained upon publication of the initial standard." (<i>ISEAL Alliance 2010, Page 12</i>)</p>	<p><b><math>P_{C4,1,3}</math></b>            Has a process to receive complaints been established and made publically available upon publication of the initial standard?</p>



## Visibility of Complaint Resolution System

Tab. 17 lists those indicators that are important to reach the criterion *Visibility of Complaint Resolution System* (PB4,2).

**Tab. 17 ISEAL's indicators and questions (2010) that determine whether criterion Visibility of complaint resolution system (PB4,2) was met.**

1 <sup>st</sup> level principles ( $P_{Ai}$ )	$P_{A4}$ Credibility of Complaint Resolution System	
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{B4,2}$ Visibility of Complaint Resolution System	
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C4,2,1}$ "The standard-setting organisation shall identify at least one focal point for standards-related enquiries and for submission of complaints, with contact information made publicly available." ( <i>ISEAL Alliance 2010, Page 12</i> ).	$P_{C4,2,1}$ Has one focal point for standard-related enquiries and for submission of complaints with contact information been made publicly available?
	$P_{C4,2,2}$ "[...] Contact information (for submission of complaints) should be included on all documentation associated with the standard and the standard setting process. It should also be included on the website and the public summary." ( <i>ISEAL Alliance 2010, Page 12</i> )	$P_{C4,2,2}$ Has contact information for submission of complaints been included on all documentation associated with the standard and the standard setting process, included on the website and the public summary?

### 3.2.5. Key Word and Phrase Search

The previous chapters, especially the indicator questions, were used to extract words and phrases (see Tab. 18), which were used in the key word search described in chapter 2.2.3.

**Tab. 18** Key words and phrases for key word search in Adobe® Acrobat® Reader XI Professional to determine whether an indicator was met.

(major) interest(s)	contribution/contribute	guidelines
identification/ identified	participation goals	guidance
interest group(s)	target(s)	information/ informed
(standard) objectives	(success) criteria	informed decision making
major sector(s)	consultation process	decision making
(key) stakeholder	standard consultation	open/ openness
interested parties	balance of interests	content of standard
relevant	participation in standard consultation	public/ publically/ publication
key issue(s)	reflect(s)/ reflection	(summary of) deliberation(s)
(means of) communication	submission of comments	arriving at decision
approach(ed)	commenting	reaching decision
proactively	opportunity to submit	balance of sectors
resolve/ resolution	consideration	balance in decision making
(documentation) complaint(s)	consideration of comments	decision making process
procedural complaints	decision	dominate(d)
public summary	decision-making	discriminate
(receive) comment(s)	define/ definition	(criteria) consensus
contact	documentation	alternative decision procedures
focal point	documentation of decision-making	documentation decision making
standard enquiry(ies)	procedure(s)	standard development process
submission	guideline	

### 3.2.6. Endorsement Facts

In Tab. 19 important facts of the PEFC-endorsed countries are displayed. Inter alia references to assessment reports were given. Based on these reports PEFC's general assembly decided whether an applicant was endorsed. These documents were used to find answers to indicator questions by means of a key word search.

**Tab. 19 Summary of endorsement facts of PEFC-endorsed countries: Canada, USA, Finland, Sweden, Germany and Malaysia (PEFC International 2012c).**

PEFC-endorsed countries	Certification Scheme applying for (re)-endorsement	Endorsement dates	Assessor	Reference to assessment report
<b>Canada</b>	Canadian Standards Association (CSA)	First endorsement: 22 March 2005 Re-endorsement: 29 June 2011 Current endorsement valid until: 29 June 2016	dr. Michael Berger; Sophie Urmetzer Systain Consulting	(Berger and Urmetzer 2011)
<b>USA</b>	Sustainable Forest Initiative (SFI)	First endorsement: 6 December 2005 First re-endorsement: 3 November 2011 Current endorsement valid until: 3 November 2016	dr. Michael Berger; Sophie Urmetzer Systain Consulting	(Berger and Urmetzer 2010)
<b>Finland</b>	PEFC Finland	First endorsement: 24 May 2000 First re-endorsement: 7 March 2005 Second re-endorsement: 28 July 2010 Current endorsement valid until: 28 July 2015	Debora van Boven-Flier	(Boven-Flier 2010a)
<b>Sweden</b>	PEFC Sweden	First endorsement: 23 May 2000, First re-endorsement: 27 February 2006, Second re-endorsement: 2 November 2011, Current endorsement valid until: 2 November 2016	Debora van Boven-Flier	(Boven-Flier 2011)
<b>Malaysia</b>	Malaysian Timber Certification Scheme (MTCS)	First endorsement: 1 May 2009, Current endorsement valid until: 1 May 2014	Indufor Oy	(Indufor forest intelligence 2009)
<b>Germany</b>	PEFC Germany	First endorsement: 27 July 2000, First re-endorsement: 6 December 2005 Second re-endorsement: 5 November 2010, Current endorsement valid until: 5 November 2015	Debora van Boven-Flier	(Boven-Flier 2010b)

### 3.3. Scoring Countries on Major Principles of Good Practice of Standard Development

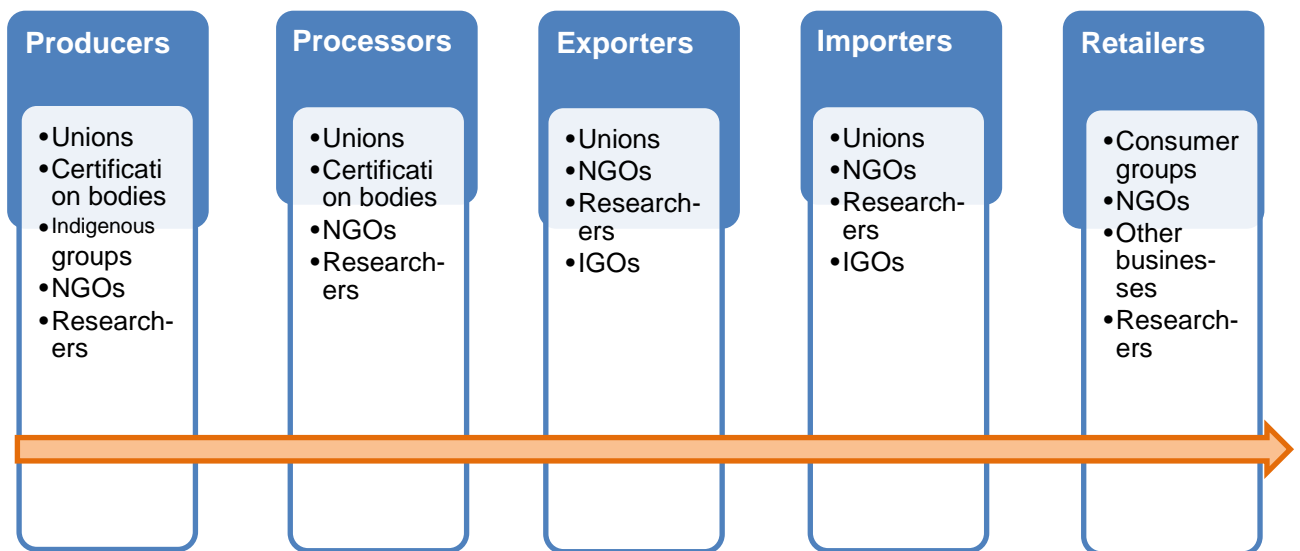
Chapter 3.3 answers research question 1c) (cf. 2.1), by adopting the methodology described in section 2.2.3. Tab. 20 until Tab. 27 present the score of the researched PEFC-endorsed countries for each major principle and criterion on a percentage scale. To indicate what the answer to an indicator question was a colour scheme was used. The colour green showed that a country has met an indicator. Red showed that this was not the case, and grey was used for those cases where information was not available. In total, 25 indicator questions were asked and answers were given by a total of six countries. In 88 cases the answer was not applicable, in eight cases the answer was no, and in 54 cases it was yes.

Fig. 8 until Fig. 12 illustrate the ranking of countries' particular performance in bar charts, and additionally show standard errors.

#### 3.3.1. Balance of Interests amongst Stakeholders

##### **Identification of Stakeholders**

Major sectors were identified by all PEFC-endorsed certification schemes. The sectors relevant for forest certification schemes inter alia encompassed stakeholder from a basic value chain (see Fig. 7). Yet not all countries described who key interested parties in their particular country were. Finland, Sweden and Germany did not deliver further information, whereas Canada, USA and Malaysia did.



**Fig. 7** Illustration of a basic value chain with examples of interested parties noted at different points in the chain. Participants in the value chain itself (producers, processors, etc.) should be considered directly affected interested parties or sectors. The sub groups can be regarded as key stakeholders (ISEAL Alliance 2010).

No country defined per sector what the likely key issues are and only Malaysia and Canada gave detailed information on who their key stakeholders were. No country defined which means of communication will best reach them.

Tab. 20 shows the results for principle *Balance of Interests amongst Stakeholders* (PA1) and for criterion *Identification of Stakeholders* (PB1,1).

Tab. 20 Score per cent of different PEFC-endorsed countries on major principle PA1 and criterion PB1,1. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on ISEAL Alliance (2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
1 <sup>st</sup> level principles ( $P_{Ai}$ )	$P_{A1}$ Balance of Interests amongst Stakeholders	35 %	77 %	37 %	27 %	57 %	43 %
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{B1,1}$ Identification of Stakeholders	50 %	67 %	33 %	33 %	33 %	67 %
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C1,1,1}$ Have major interest sectors been identified, based on standards objectives?						
	$P_{C1,1,2}$ Have key interested parties been identified, based on standards objectives?						
	$P_{C1,1,3}$ Has it been identified which interest sectors are relevant?						
	$P_{C1,1,4}$ Has it been defined for each sector what the likely key issues are?						
	$P_{C1,1,5}$ Has it been defined for each sector who the key stakeholders are?						
	$P_{C1,1,6}$ Has it been defined for each key stakeholder what means of communication will best reach them?						

## Stakeholder Participation

Only USA, Sweden and Germany described in detail how stakeholders were approached to contribute. No country gave information on the specific participation goals they were striving for. Participation in standard consultation is open to interested parties in all countries, except in Sweden, where no information was available. In the case of Sweden a stakeholder exercise was mentioned (Boven-Flier 2011), but the cited document was not available for the public. For the same reason, it could not be assessed whether standard consultation reflected a balance of interests amongst interested parties in Sweden, as well as in Malaysia. In Canada, due to lack of response, meetings for standard consultation were cancelled for environmental NGO's and the General Public (PEFC Canada 2010). In Finland most environmental NGOs refused to participate in a standard consultation process (Boven-Flier 2010a). In Germany, environmental NGOs did not take part in the stakeholder forum. Yet they still submitted comments during the public consultation phase (Boven-Flier 2010b). Only in the USA and Germany did interested parties have the opportunity to submit their comments on a standard at each stage of the standard setting process. In the other countries no information was provided.

Tab. 21 shows the score for principle *Balance of Interests amongst Stakeholders* (PA1) and for criterion *Stakeholder Participation* (PB1,2).

Tab. 21 Score per cent of different PEFC-endorsed countries on major principle PA1 and criterion PB1,2. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on ISEAL Alliance (2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
1 <sup>st</sup> level principles ( $P_{Ai}$ )	$P_{A1}$ Balance of Interests amongst Stakeholders	35 %	77 %	37 %	27 %	57 %	43 %
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{B1,2}$ Stakeholder Participation	20 %	88 %	40 %	20 %	80 %	20 %
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C1,2,1}$ Have key stakeholders been proactively approached to contribute to the consultation?	Grey	Green	Grey	Green	Green	Grey
	$P_{C1,2,2}$ Have stakeholder participation goals been set including clear participation targets and success criteria?	Grey	Grey	Grey	Grey	Grey	Grey
	$P_{C1,2,3}$ Is participation in standard consultation open to all interested parties?	Green	Green	Green	Grey	Green	Green
	$P_{C1,2,4}$ Does participation in standard consultation reflect a balance of interests amongst interested parties?	Red	Green	Red	Grey	Green	Grey
	$P_{C1,2,5}$ Have all interested parties been provided with an opportunity to submit comments at each stage of the standard setting process and were these comments duly considered?	Grey	Green	Grey	Grey	Green	Grey



### **Ranking of Balance of Interests amongst Stakeholders**

Malaysia and USA ranked in joint first place with 67% on *Identification of Stakeholders* (PB1,1). The second place is held by Canada with 50% and the third place with 33% is shared by Finland, Sweden, and Germany.

The USA led the ranking of *Stakeholder Participation* (PB1,2) with 88%, Germany was second place with 80% and Finland was third with 40%. The last place, with 20%, was shared by Canada, Sweden and Malaysia, because of the lack of information.

Overall Canada ranked first on *Balance of Interests amongst Stakeholders* (PA1) with 77%, second was Germany with 57%. Malaysia ranked third with 43%. Canada with 35% was fourth, while Finland ranked fifth with 37 % and Sweden ranked last with 27%. The standard errors clearly showed that the mean score for principle *Balance of Interests amongst Stakeholders* (PA1) is comparable for Canada, Finland, and Sweden. Malaysia and Germany also have overlapping standard errors showing their comparable score. However, the USA has a significantly different score from the other two groups (see Fig. 8).

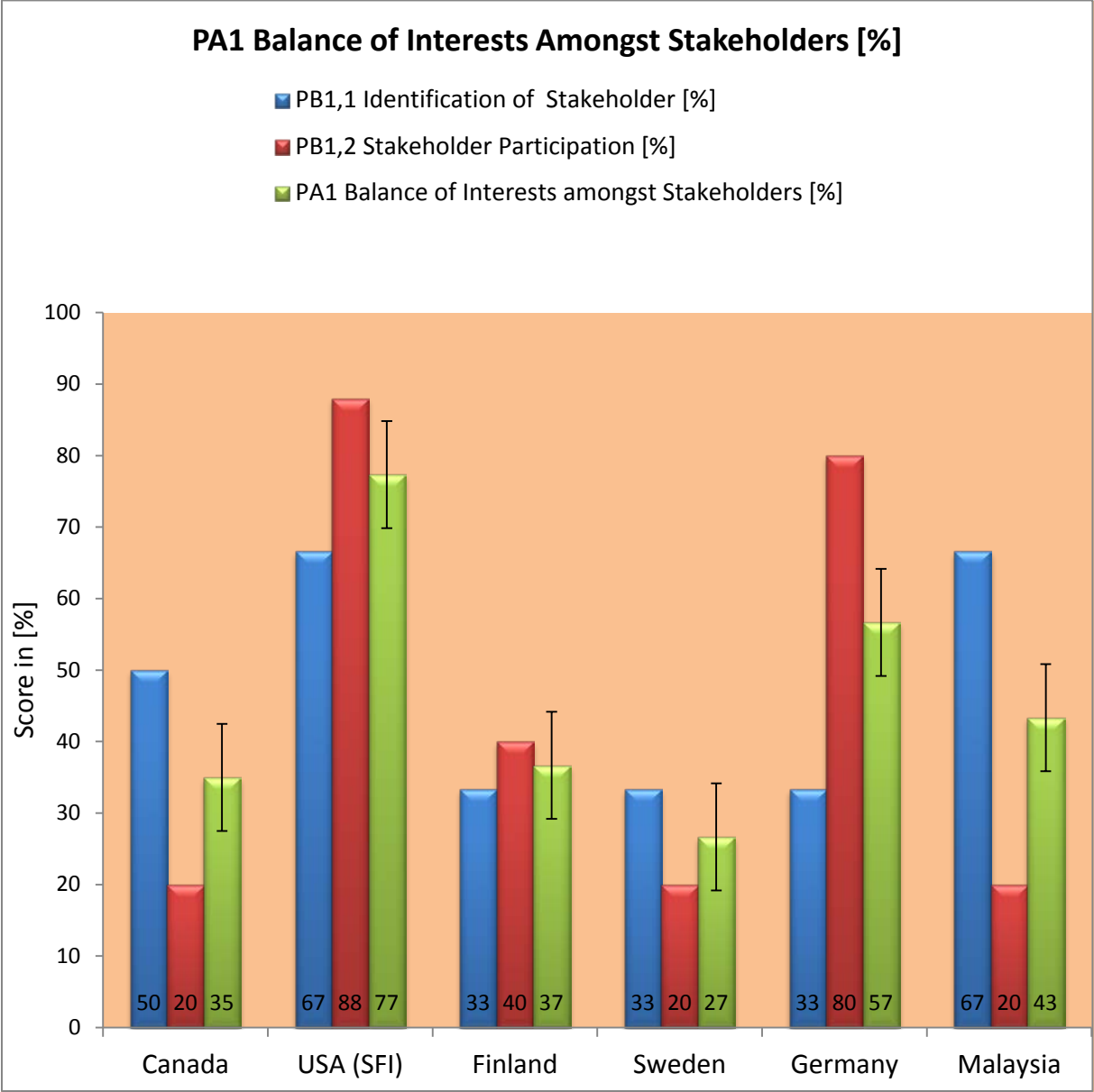


Fig. 8 Score of different PEFC-endorsed countries on major principle Balance of Interests amongst Stakeholders (PA1) in [%].

### 3.3.2.Credibility of Decision-making

#### Transparency of Decision-making

Only in Finland and Sweden was a document created to guide decision-making procedures. In Canada, USA and Germany this was not applicable, because information was lacking. In Malaysia an aspect that needed further consideration, according to Indufor forest intelligence (2009), was transparency in decision-making and reporting. *"Their consideration in a way that meets the current stakeholder objectives is the matter of further scheme development"* (Indufor forest intelligence 2009: Page 47). In no country was it applicable to determine whether the decision-making procedures were published before the standard setting process started. In the USA and Germany decisions that were made on the contents of the standard were published. In Finland, Sweden, and Malaysia such information was not accessible. In Canada documents that recorded responses to public comments and deliberations arriving at decisions are confidential and are only available on request (Berger and Urmetzer 2011). Deliberations arriving at decisions were only made public in Germany.

Tab. 22 shows the score for the principle *Credibility of Decision-making* (PA2) and for the criterion *Transparency of Decision-making* (PB2,1).

Tab. 22 Score per cent of different PEFC-endorsed countries on major principle PA2 and criterion PB2,1. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on ISEAL Alliance (2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
1 <sup>st</sup> level principles ( $P_{Ai}$ )	$P_{A2}$ Credibility of Decision-making	0%	63%	13%	13%	25%	0%
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{B2,1}$ Transparency of Decision-making	0%	25%	25%	25%	50%	0%
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C2,1,1}$ Has a document been established to guide decision-making procedures?	Grey	Grey	Green	Green	Grey	Red
	$P_{C2,1,2}$ Have interested parties been informed explicitly about decision-making procedures before the start of the standard setting process?	Grey	Grey	Grey	Grey	Grey	Grey
	$P_{C2,1,3}$ Has a document been made public that summarizes any decisions about the content of the standard?	Red	Green	Grey	Grey	Green	Grey
	$P_{C2,1,4}$ Has a document been made public that summarizes deliberations in arriving at the decision?	Red	Grey	Grey	Grey	Green	Grey

### Balance of Decision-making

Information concerning whether decision-making reflected a balance of sectors was only given in the USA. In Canada, Finland, Sweden and Malaysia no information was available. In Germany environmental NGOs, e.g. Greenpeace and Bund für Umwelt und Naturschutz Deutschland<sup>1</sup> (BUND) did not participate in a standard setting group (Boven-Flier 2010b). Only the USA specified procedures to ensure that domination of one group over others in does not occur in decision-making forums. They have adopted a three-chamber structure in SFI’s Board of Directors to ensure that economic, environmental and social needs were equally weighed (Berger and Urmetzer 2010).

The score for principle *Credibility of Decision-making* (PA2) and for criterion *Balance of Decision-making* (PB2,2) is given in Tab. 23.

Tab. 23 Score per cent of different PEFC-endorsed countries on major principle PA2 and criterion PB2,2. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on ISEAL Alliance (2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{A2}$ Credibility of Decision making	0%	63 %	13 %	13 %	25 %	0%
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{B2,2}$ Balance of Decision-making	0%	100 %	0%	0%	0%	0%
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C2,2,1}$ Does decision-making reflect a balance of sectors in the decision-making process?	Grey	Green	Grey	Grey	Red	Grey
	$P_{C2,2,2}$ Have procedures been established that ensure that no significant interest group can dominate nor be dominated in the decision-making process?	Grey	Green	Grey	Grey	Grey	Grey

<sup>1</sup> In English BUND translates to Union for the Environment and Nature Conservation Germany.

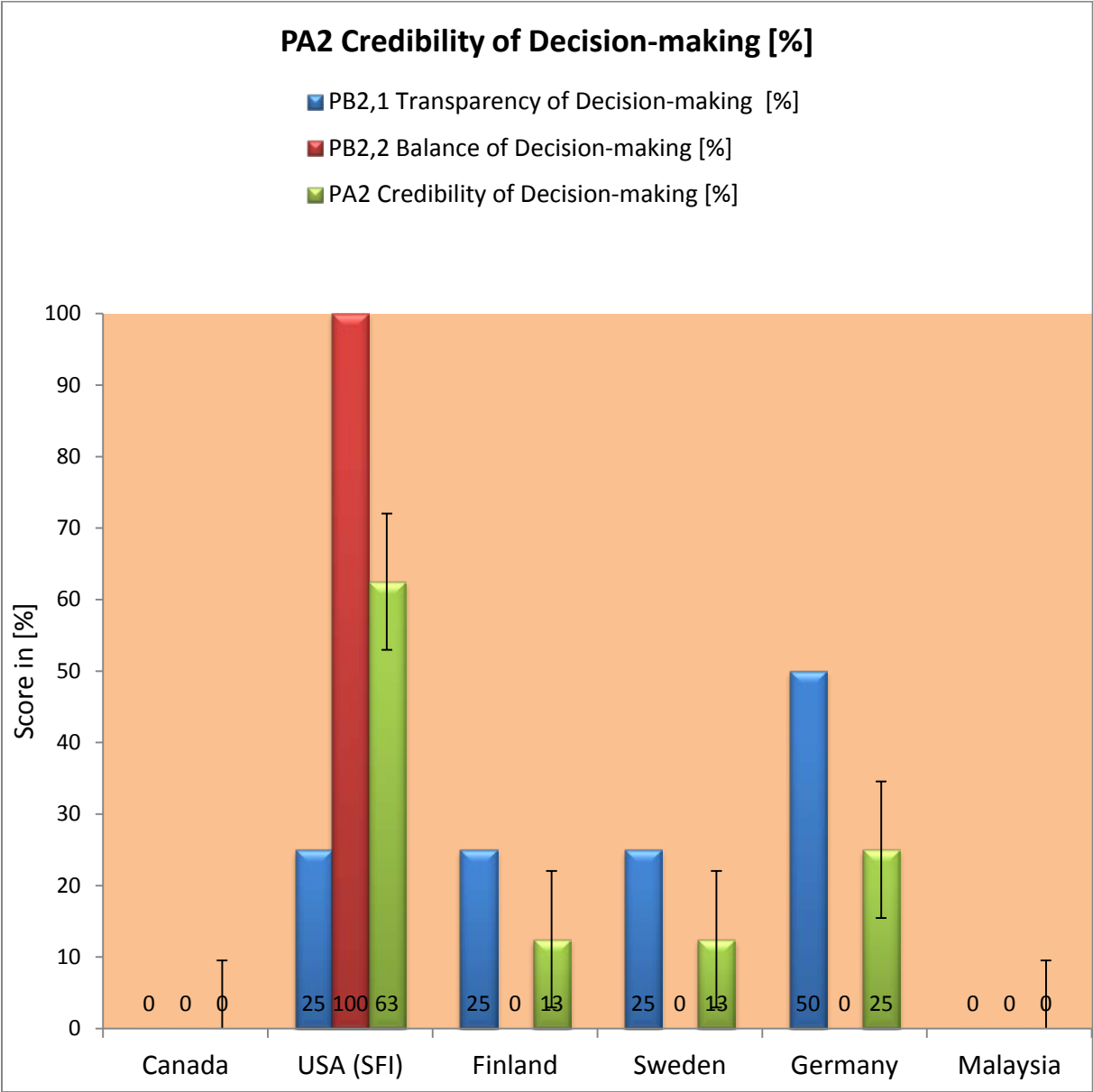
## Ranking of Credibility of Decision-making

The ranking of *Transparency of Decision-making* (PB2,1) was led by Germany with 50%, while USA, Finland and Sweden rank second place with 25%. Canada and Malaysia ranked last with 0%.

On *Balance of Decision-making* (PB2,2) only the USA received points and with 100% they take first position. All other countries ranked 0% and are in last place.

During the overall ranking of principle *Credibility of Decision-making* (PA2) USA rank first with 63%, Germany is second with 25%. Finland and Sweden rank third with 13% and Canada and Malaysia rank last with 0% each.

The standard errors of the means show that the scores of Canada Finland and Malaysia are comparable. Germany's score is comparable to Sweden and Finland, but is significantly different from the scores of Malaysia, Canada and the USA. Again the score of the USA is significantly different from all others (see Fig. 9).



**Fig. 9** Score of different PEFC-endorsed countries on major principle Credibility of Decision-making (PA2) in [%].

### 3.3.3. Credibility of Consensus Finding

#### Transparency of Consensus Finding

In all countries, criteria have been defined to determine when a consensus was reached. In the USA, Sweden, Finland and Malaysia it was additionally defined which alternative decision-making procedure comes into effect in cases when a consensus approach fails. Only in Sweden, information was not applicable. In Canada and Germany, no information regarding this matter was available.

The score for principle *Credibility of Consensus Finding* (PA3) and for criterion *Transparency of Consensus Finding* (PB3,1) is presented in Tab. 24.

Tab. 24 Score per cent of different PEFC-endorsed countries on major principle PA3 and criterion PB3,1. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on ISEAL Alliance (2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{A3}$ Credibility of Consensus Finding	25 %	100 %	50 %	25 %	25 %	50 %
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{B3,1}$ Transparency of Consensus Finding	50 %	100 %	100 %	50 % &	50 %	100 %
	$P_{C3,1,1}$ Have criteria been defined that determine when consensus has been reached?						
	$P_{C3,1,2}$ Have criteria been defined that determine when alternative decision making procedures come into effect, in case a consensus is not reached?						



### Balance of Consensus Finding

A balanced consensus amongst interested parties was only reached in the USA. There, a three chamber system guaranteed such balance (Berger and Urmetzer 2010). In Canada, Sweden and Finland information was not accessible. In Finland, environmental NGOs, e.g. Greenpeace and WWF, were invited but did not participate in a standard setting group (Boven-Flier 2010a). The board of directors is the decision-making authority of PEFC Sweden. However, it was not mentioned which interests the particular board members represent (Boven-Flier 2011). Therefore, it cannot be stated whether a balance of sectors in decision-making procedures was provided. In Germany environmental NGOs did not participate in the standard development group (Boven-Flier 2010b). However, a balance in consensus finding was not attained. In Malaysia it was stated that *“Some participants commented that the interests represented by a greater number of representatives got more attention and the minority views did not always have an influence on the decisions made.”* (Indufor forest intelligence 2009, Page 15).

How countries scored on principle *Credibility of Consensus Finding* (PA3) and on criterion *Balance of Consensus Finding* (PB3,2) can be seen from Tab. 25.

Tab. 25 Score per cent of different PEFC-endorsed countries on major principle PA3 and criterion PB3,2. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on ISEAL Alliance (2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{A3}$ Credibility of Consensus Finding	0%	100%	50%	25%	25%	50%
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{B3,2}$ Balance of Consensus Finding	0%	100%	0%	0%	0%	0%
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C3,2,1}$ Has a consensus been reached at a balance of interests?	Grey	Green	Grey	Grey	Red	Red

## Ranking of Credibility of Consensus Finding

On *Transparency of Consensus Finding* (PB3,1) USA, Finland, and Malaysia rank first with 100%. The second place is shared by Canada, Sweden, and Germany with 50% each.

Only USA received 100% for *Balance of Consensus Finding* (PB3,2). All other countries rank last with 0%.

The overall ranking of *Credibility of Consensus Finding (PA3)* showed that the USA score first with 100%. Finland and Malaysia score 50% and are in second position. Canada, Sweden and Germany scored 25% and are placed third .

The mean score of Canada, Sweden and Germany overlaps and shows the comparability of scores. Malaysia and Finland have significantly different scores from the first group, but show comparable results. For the third time the score for the USA is significantly different from all the others (Fig. 10).

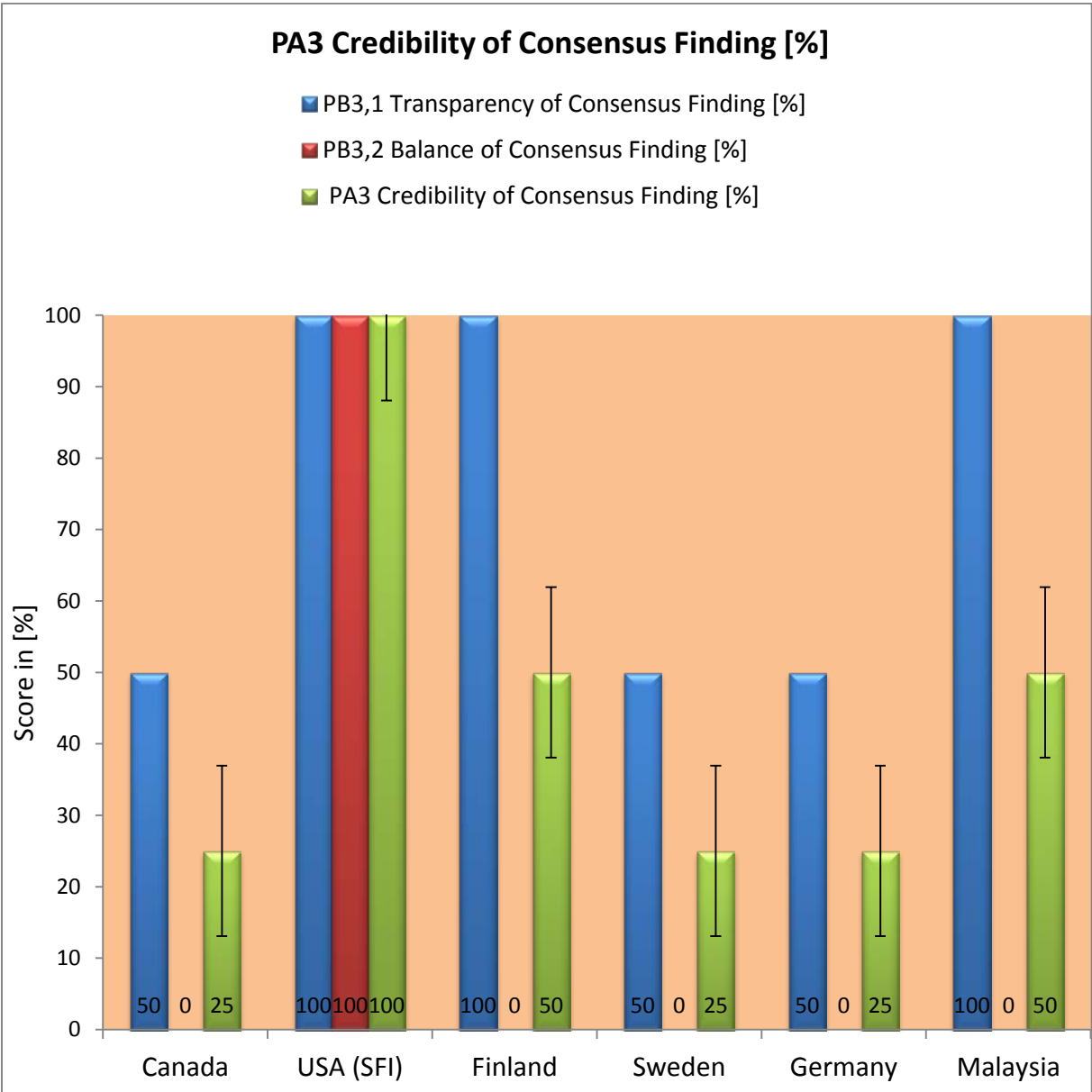


Fig. 10 Score of different PEFC-endorsed countries on major principle Credibility of Consensus Finding (PA3) in [%].

### 3.3.4. Credibility of Complaint Resolution System

#### Transparency of Complaint Resolution System

All countries have a complaint resolution mechanism in place. Documented efforts made to resolve complaints were only accessible in Finland. There, it was specified how complaints would be resolved in detail (Boven-Flier 2010a). Whether a document was established to guide the resolution of complaints could not be assessed, because information in all countries was lacking.

Tab. 26 presents the scores on *Credibility of Complaint Resolution System* (PA4) and *Transparency of Complaint Resolution System* (PB4,1).

Tab. 26 Score per cent of different PEFC-endorsed countries on major principle PA4 and criterion PB4,1. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on ISEAL Alliance (2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{A4}$ Credibility of Complaint Resolution System	42 %	17 %	33 %	17 %	17 %	17 %
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{B4,1}$ Transparency of complaint resolution system	33 %	33 %	67 %	33 %	33 %	33 %
	$P_{C4,1,1}$ Is a complaint resolution system in place for the impartial handling of procedural complaints?						
	$P_{C4,1,2}$ Have documented efforts been made to resolve complaints, based on their publicly documented complaints resolution mechanism?						
	$P_{C4,1,3}$ Has a process to receive complaints been established and made publically available upon publication of the initial standard?						

## Visibility of Complaint Resolution System

A focal point to receive complaints, with accessible contact details, was only established in Canada. In all other countries, information on this matter was not available. Whether contact information was given on all documents that are related to standard setting could not be assessed for every country.

In Tab. 27 the scores for *Credibility of Complaint Resolution System* (PA4) and *Visibility of Complaint Resolution System* (PB4,2) is shown.

Tab. 27 Score per cent of different PEFC-endorsed countries on major principle PA4 and criterion PB4,2. The colours indicate the particular answer to an indicator question. Green was used for the answer yes, red for the answer no and grey for cases, where information was not available. Criteria and indicators are based on (ISEAL Alliance 2010).

Good Practice of Standard Development		Canada	USA	Finland	Sweden	Germany	Malaysia
2 <sup>nd</sup> level criteria ( $P_{Bi,j}$ )	$P_{A4}$ Credibility of Complaint Resolution System	42 %	17 %	33 %	17 %	17 %	17 %
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{B4,2}$ Visibility of Complaint Resolution System	50 %	0%	0%	0%	0%	0%
3 <sup>rd</sup> level indicators ( $P_{Ci,j,ni,j}$ )	$P_{C4,2,1}$ Has one focal point for standard-related enquiries and for submission of complaints with contact information been made publicly available?						
	$P_{C4,2,2}$ Has contact information for submission of complaints been included on all documentation associated with the standard and the standard setting process, included on the website and the public summary?						

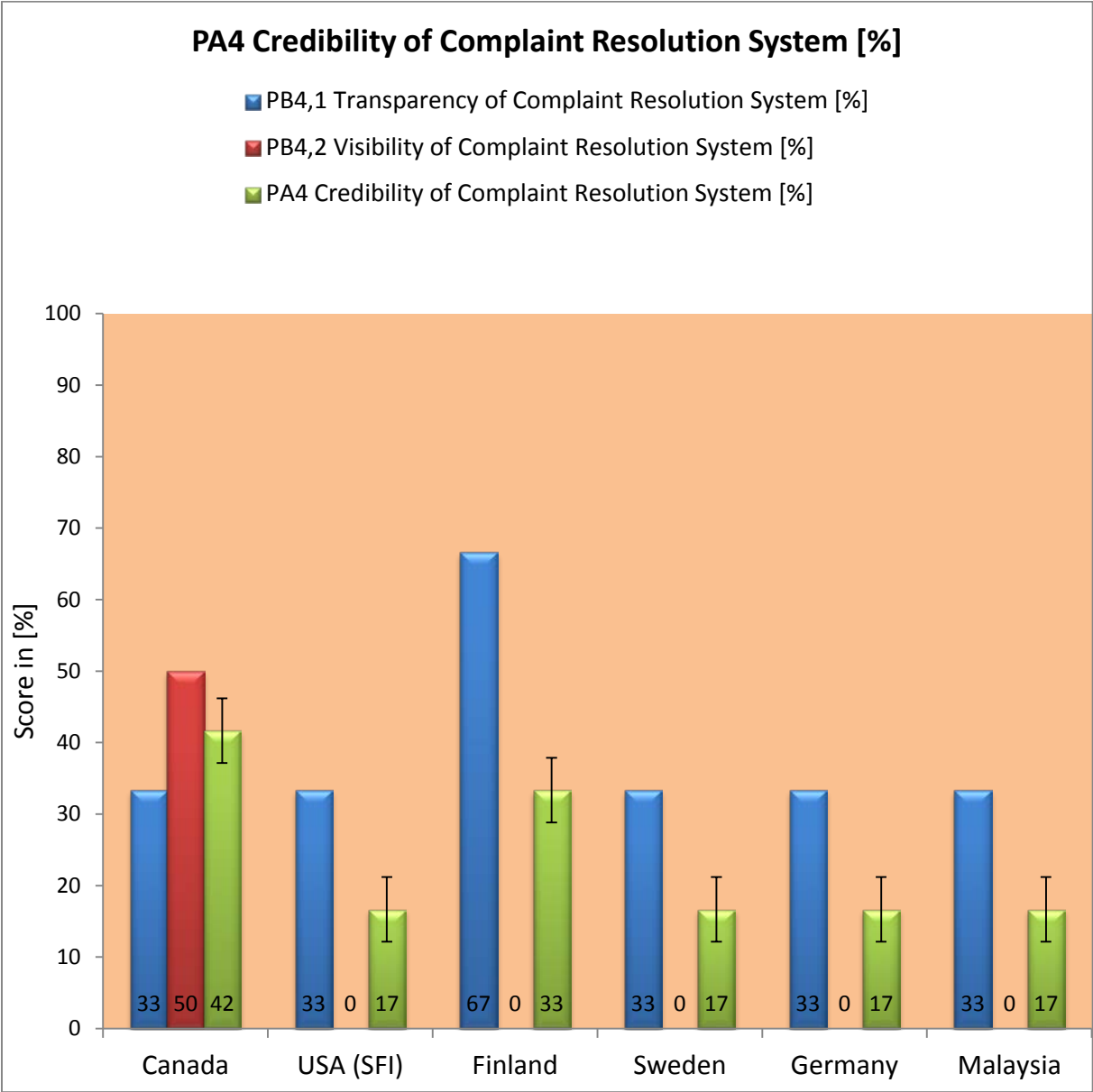
## Ranking of Credibility of Consensus Finding

On *Transparency of Complaint Resolution System* (PB4,1) Finland rank first with 67%. Canada, USA, Sweden, Germany and Malaysia are last with 33%.

Canada ranked first on *Visibility of Complaint Resolution System* (PB4,2) with 50%. USA, Finland, Sweden, Germany, and Malaysia scored 0%.

Canada scored 42% and leads the overall ranking of *Credibility of Complaint Resolution System (PA4)*. Finland was second with 33%. USA, Sweden, Germany and Malaysia scored third with 17% each.

The error bars of the mean showed that the scores of USA, Finland, Sweden, Germany and Malaysia are comparable. The scores of Finland and the USA are comparable, yet they differed significantly from the first group (see. Fig. 11).



**Fig. 11** Score of different PEFC-endorsed countries on major principle *Credibility of Complaint Resolution System (PA4)* in [%].

### 3.3.5. Overall Ranking for Principles of Good Practice of Standard Development

The overall ranking for principles of *Good Practice of Standard Development* is led by the USA with 64%. Finland is second with an overall performance of 33%. Germany closely followed in third place with 31%. Malaysia is fourth with 28%. Canada scored 25% and is in fifth position. With 20%, Sweden is last.

Within Canada's performance on major principles the error bars indicated significant differences of PA3 in comparison to all other principles. The error bars for PA3 overlapped with the one for PA1. The mean scores for PA4 and PA1 were comparable but differed significantly from the ones for PA3 and PA2.

The overall score of the USA showed comparable results for PA1 and PA2. This group significantly differed from PA3 and PA4.

In Finland the mean scores of PA1 and PA4 were comparable. This was the case for PA1, PA3 and PA4 too. However, PA3 and PA4 differed significantly. The results for PA2 were significantly different from all others.

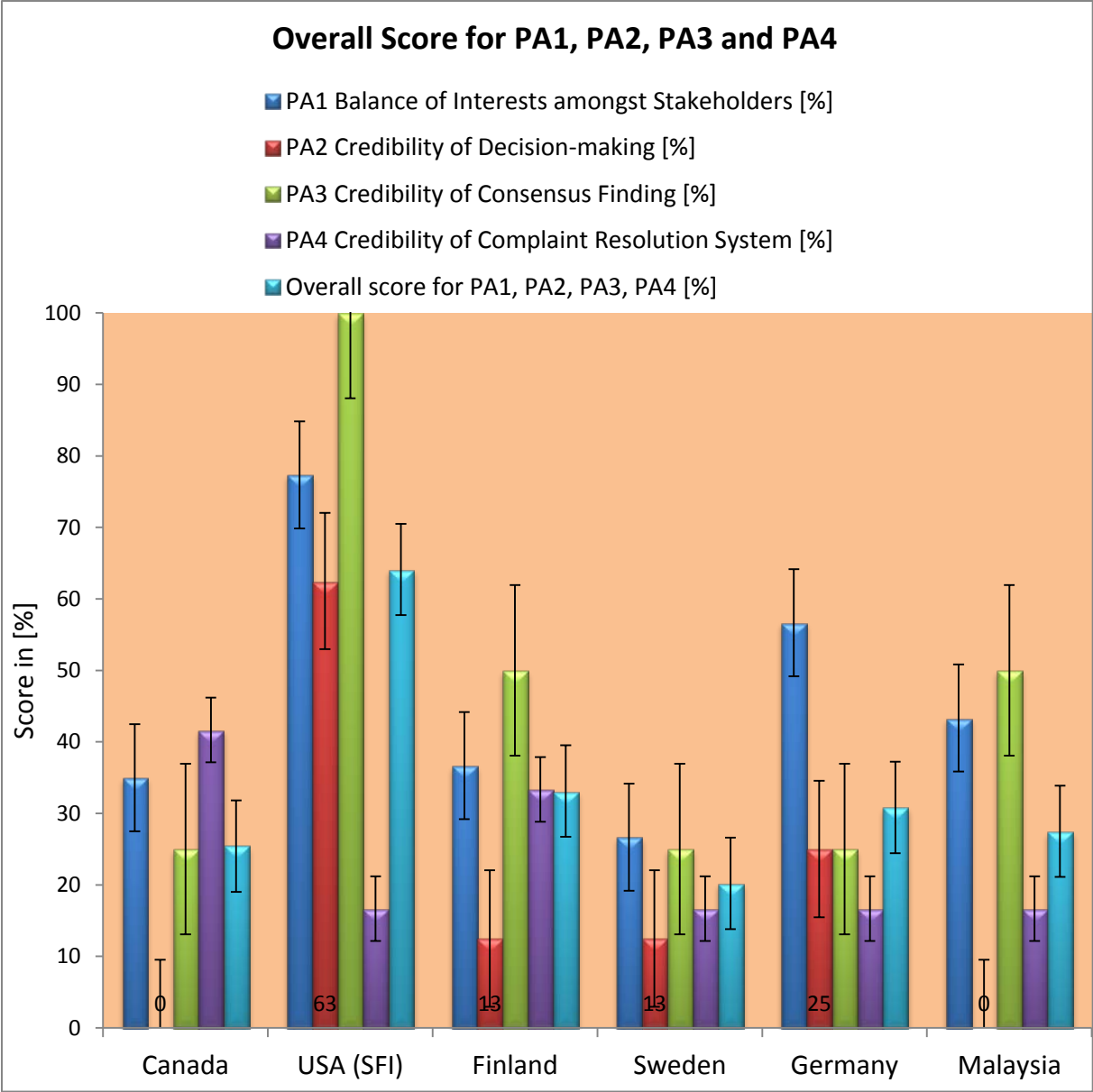
Sweden's error bars for all principles' mean scores showed an overlap and therefore indicate their comparability.

The results for PA2, PA3 and PA4 in the case of Germany were equivalent. However, the score for PA1 differed significantly from the rest.

In Malaysia the differences of the means and error bars was biggest and only two showed an overlap. Whereas in all other countries at least three scores were comparable to each other. PA1 and PA3 had comparable results but differed significantly from PA2 and PA4.

The overall performance for Canada, Finland, Sweden, Germany and Malaysia was similar. Significant differences occurred between Finland and Sweden and the overall score of the USA differed from those of all other countries (see Fig. 12).





**Fig. 12 Overall score of different PEFC-endorsed countries on major principles' score for PA1, PA2, PA3 and PA4 in [%].**

## 4. DISCUSSION

This research was limited to the performance of six PEFC-endorsed countries, concerning four *Major Principles of Good Practice of Standard Development*. To determine the score of one country on a principle, criteria and indicators were extracted from ISEAL's Code of Good Practice.

These limitations only allow for a relatively broad discussion, and this study therefore does not attempt to resolve the question of whether one universal PEFC label for all endorsed forest certification schemes is justified.

The underlying assumption was that one consistent label is justified if the mean total score for all four principles of all countries are comparable and the error bars of the mean overlap. Significant differences between scores would indicate that the efficacy of a uniform label is disputable, because this would contradict the consistency that a label expresses in its very essence.

The results of this research show that significant differences between the mean total score for the four major principles occur. The scores for Sweden and Finland differ significantly from each other, and the mean score of the USA diverges greatly from that of all other countries. The performance of Canada, Finland, Sweden, Germany and Malaysia, however, is comparable, as is indicated by the overlapping standard errors of their means.

There are also significant differences of scores per principle within the countries. Sweden has the lowest mean score of 20% for all principles and is the only country that has comparable scores for each particular principle. In all other countries, at least two criteria scores per principle differ significantly from each other.

The results showed that, of all 25 indicator questions that were asked in each of the six PEFC-endorsed countries by using their particular assessment reports to infer answers, in more than 50% of the cases the answer was not applicable. Therefore, it is highly recommended to provide detailed information in the assessment reports. This is especially important because the General Assembly reaches the decision, based upon these documents, whether a country will be endorsed or re-endorsed.

Even though Sweden was already endorsed by the PEFC in 2000, and has since then been re-endorsed twice, it has the lowest total score of all principles. This indicates that re-endorsement does not lead to significant improvements. However, these processes especially contain many opportunities to enhance the quality of standard setting processes with regard to the four major principles.

PEFC's Standard for Standard Setting should provide for common and repeated use. Yet, this research suggests that usage of one universal PEFC label is problematic because of the significant differences amongst the countries scores, which indicate that there is no common and repeated use. The results, furthermore, show that the mean performance for all major principles of all countries, with the exception of the USA, is below 50%, indicating that no optimum degree of order was achieved concerning *Major Principles of Good Standard Development*.

PEFC's Standard for Standard Setting (2010) is based on the ISO Guide 59 for Good Practice of Standardization. This Guide was created in 1994, when forest certification schemes did not yet exist. ISO standards require a certain system to be in place, but they do not specify a minimum performance threshold. This may be one reason for the low score of the PEFC-endorsed countries. Another reason may be that the assessment reports did not deliver all of the information needed to decide whether or not an indicator was met.

A recommendation to attain higher performance and standardized results is compliance with ISEAL's Code of Good Practice. The newest PEFC Standard for Standard Setting (2010) has in fact already adopted some of ISEAL's criteria and indicators. The recommendation would be to adopt the entire document to reach better stakeholder balance, full credibility of decision-making, as well as effective consensus finding and complaint resolution mechanisms.

## 5. CONCLUSIONS

The overall conclusions of the current research are drawn here and the answers to research questions (cf. 2.1) are given.

### **1a) What are relevant major principles of good practice of standard development?**

The following four major principles were found. On the one hand, they were based on a debate between Greenpeace *et al.* and PEFC from 2011, and on the other hand were found in ISEAL's Standard Setting Code for Setting Social and Environmental Standards (2010), which restates their relevance for good practice of standard development.

- *Balance of Interests amongst Stakeholders* (Principle PA1)
- *Credibility of Decision-making* (Principle PA2)
- *Credibility of Consensus Finding* (Principle PA3)
- *Credibility of Complaint Resolution System* (Principle PA4)

### **1b) What are criteria and indicators of good practice of standard development?**

The criteria and indicators that relate to the major principles were extracted from ISEAL's Standard Setting Code (2010) and are summarized below. Each principle consists of two criteria. A number between two and six indicators was assigned to each criterion and is presented in question form.

#### *Balance of Interests amongst Stakeholders* (Principle PA1)

- *Identification of Stakeholders* (Criterion PB1,1)
  - Have major interest sectors been identified, based on standards objectives? Indicator (PC1,1,1)
  - Have key interested parties been identified, based on standards objectives? Indicator (PC1,1,2)
  - Has it been identified which interest sectors are relevant? Indicator PC1,1,3
  - Has it been defined for each sector what the likely key issues are? Indicator (PC1,1,4)
  - Has it been defined for each sector who the key stakeholders are? Indicator (PC1,1,5)
  - Has it been defined for each key stakeholder what means of communication will best reach them? Indicator (PC1,1,6)

- *Stakeholder Participation* (Criterion PB1,2)
  - Have key stakeholders been proactively approached to contribute to the consultation? Indicator (PC1,2,1)
  - Have stakeholder participation goals been set, including clear participation targets and success criteria? Indicator (PC1,2,2)
  - Is participation in standard consultation open to all interested parties? (PC1,2,3)
  - Does participation in standard consultation reflect a balance of interests amongst interested parties? Indicator (PC1,2,4)
  - Have all interested parties been provided with an opportunity to submit comments at each stage of the standard setting process, and were these comments duly considered? Indicator (PC1,2,5)

### Credibility of Decision-making (Principle PA2)

- *Transparency of Decision-making* (Criterion PB2,1)
  - Has a document been established to guide decision-making procedures? Indicator (PC2,1,1)
  - Have interested parties been explicitly informed about decision-making procedures before the start of the standard setting process? Indicator (PC2,1,2)
  - Has a document been made public that summarizes any decisions about the content of the standard? Indicator (PC2,1,3)
  - Has a document been made public that summarizes deliberations in arriving at the decision? Indicator (PC2,1,4)
- *Balance of Decision-making* (Criterion PB2,2)
  - Does decision-making reflect a balance of sectors in the decision-making process? Indicator (PC2,2,1)
  - Have procedures been established that ensure that no significant interest group can dominate nor be dominated in the decision-making process? Indicator (PC2,2,2)

### Credibility of Consensus Finding (Principle PA3)

- *Transparency of Consensus Finding* (Criterion PB3,1)
  - Have criteria been defined that determine when consensus has been reached? Indicator (PC3,1,1)
  - Have criteria been defined that determine when alternative decision making procedures come into effect, in case a consensus is not reached? Indicator (PC3,1,2)
- *Balance of Consensus Finding* (Criterion PB3,2)
  - Has a consensus been reached at a balance of interests? Indicator (PC3,2,1)

### Credibility of Complaint Resolution System (Principle PA4)

- *Transparency of Complaint Resolution System* (Criterion PB4,1)
  - Is a complaint resolution system in place for the impartial handling of procedural complaints? Indicator (PC4,1,1)
  - Have documented efforts been made to resolve complaints, based on their publicly documented complaints resolution mechanism? Indicator (PC4,1,2)
  - Has a process to receive complaints been established and made publically available upon publication of the initial standard? Indicator (PC4,1,3)
- *Visibility of Complaint Resolution System* (Criterion PB4,2)
  - Has one focal point for standard-related enquiries and for submission of complaints with contact information been made publicly available? Indicator (PC4,2,1)
  - Has contact information for submission of complaints been included on all documentation associated with the standard and the standard setting process, included on the website and the public summary? Indicator (PC4,2,2)

### **1c) How do PEFC-endorsed certification schemes score on relevant major principles of good practice of standard development?**

On the major principle *Balance of Interests amongst Stakeholders* (PA1) Canada scored 77% and holds the first place in the ranking of *Good Practice for Standard Development*. Second was Germany with a total of 57%. Malaysia scored 43% and ranked third. Canada with 35% is in fourth place, while Finland ranked fifth with 37%. Sweden is last with 27%. In the overall ranking of the principle *Credibility of Decision-making* (PA2), the USA scored most with 63% and are first in the ranking. Germany is second with 25%. Finland and Sweden both scored 13% and share the third place. Canada and Malaysia are last with 0% each.

The ranking of *Credibility of Consensus Finding*, major principle (PA3), is led by the USA which scored 100%. Finland and Malaysia reached 50% and share the second position. Canada, Sweden and Germany scored 25% and therefore share third place.

Canada with 42% leads the overall ranking of *Credibility of Complaint Resolution System* (PA4). Finland was second with a score of 33%. USA, Sweden, Germany and Malaysia are placed in third position with 17%.

The overall ranking for *Principles of Good Standard Development* (PA1, PA2, PA3 and PA4) is led by the USA with 64%. Finland, overall, is second with a 33%. Germany closely follows in third place with 31%. Malaysia is fourth with 28%. Canada scored 25% and occupies the fifth position. Sweden with 20%.is in the last position.

**Discussion: Is a universal PEFC-label for forest products from different origins with different PEFC-endorsed standards justified?**

PEFC's standard for standard setting should provide for common and repeated use. Yet, this research suggests that usage of one common PEFC label is disputable, because of the significant differences amongst the countries' scores that indicate that there is no common and repeated use with regard to stakeholder balance, credibility of decision-making, consensus finding and complaint resolution mechanisms.

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Herewith I confirm that this thesis is solely my own work and that it has not been submitted previously for assessment as a whole or in part, nor published. All material which is quoted is accurately indicated as such, and I have acknowledged all sources employed fully and accurately.

Freiburg, 7<sup>th</sup> of August 2013

Mareike Kröner

A handwritten signature in grey ink, appearing to read 'M. Kröner', written over the printed name.