Some Lessons Learnt From Environmental Labelling Information Schemes:
Could Certification Of Inclusive Robotics Follow A Similar Path?

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I. The Current Opportunities Offered By The Labelling Information Schemes

Labelling Information Schemes, whether mandatory or voluntary, are not by themselves solutions for Environmental, Social and Governance (ESG) protection, but they can serve to find solutions in a broader context including mandatory regulation and incentives. In general, labelling schemes, particularly certification, are beneficial when they work hand in hand with regulation. However, it is not clear under what conditions they complement or substitute mandatory minimum quality standards.

Certification is usually easy to adopt, flexible and cheap, which makes it suitable also for developing countries. Many experts consider certification systems an option that allows government agencies to avoid controversy among powerful political players, be more effective, and spend less money.

Taxes and subsidies provide market signals and, along with regulations and Labelling Information Schemes, can be used to leverage more environment-

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2 “Certification raises the standards for market leaders while regulation forces up the standards for laggards. In contrast, certification is harmful if it saps the political demand for legislation that would impose minimum performance standards, thereby weakening overall environmental performance across the market”. A. Prag, T. Lyon, A. Russillo, Multiplication of Environmental Labelling and Information Schemes (ELIS): Implications for Environment and Trade, OECD Environment Working Papers 106 (2016) 27. “The ‘certification’ route may be preferred because the certifying body provides increased credibility in the eye of users. But employing this route also runs some reputational risk if the certifier is found at fault, even for a completely different product or company. Furthermore, it may require costly supply-chain adaptations. Still, a majority of companies prefer to use this route, thereby outsourcing their environmental strategy. In contrast, the ‘private standard’ route allows the company to choose its objectives, and follow its preferred method, in a potentially more efficient way, and to better control reputation risks, provided it ensures full transparency (Mak, 2013). At the same time, self-declarations are generally viewed with greater scepticism by users who may perceive them as greenwashing”. G. Gruère, A Characterisation of Environmental Labelling and Information Schemes, OECD Environment Working Papers 62 (2013) 10. DOI: http://dx.doi.org/10.1787/5k3z1hpdq2-en Despite this difference, broadly speaking, sometimes certification and label are used indistinctly in literature.

3 “According to Müller (2002), many policy makers and politicians around the world support certification because they recognize it as less controversial than other policy tools such as taxes or binding regulations, and therefore easier to adopt. Many also believe that private certification may allow greater flexibility for innovation than governments can provide, and they see certification as a self-sustaining system requiring few public resources. Developing countries with fewer resources (such as expertise and funding) to develop robust regulatory regimes may find private certification particularly attractive as a way to open or retain markets in developed countries for their own countries’ products”. Steering Committee of the State-of-Knowledge Assessment of Standards and Certification, Toward sustainability: The roles and limitations of certification, RESOLVE Inc., Washington DC (2012) 36. Available at http://www.resolv.org/site-assessment/files/2012/06/Toward-Sustainability-report-summary-and-appendicesv2.pdf
friendly production and consumption patterns. For instance, sometimes products that have been produced in an environmentally unfriendly way are not easy to recognise based on their physical properties. Market failures may occasionally occur in relation to information, both on the demand side and on the supply side. When consumers and businesses do not undertake (environmentally) favourable investments that would in the long run save them money because they do not have adequate information about the costs and benefits of the technologies, sometimes a tax preference could tip the balance. And for the suppliers of relevant goods or services, the potential inclusion of a product in a list of eligible technologies for a tax preference could serve as a motivating factor. Then again, a programme making relevant information available could address information gaps more cost-effectively. These reflections could be also considered in the case of promoting behaviours for more inclusive robotics.

II. The Rapid Growth Of Environmental Labelling Information Schemes And The Multiplication Of The Role Of Public Authorities: The Need To Be Cautious If Designing This Type Of Measures For Robotics

The number of Environmental Labelling Information Schemes (ELIS) has increased rapidly, especially in the late 1990s and in the period 2007-2010. Most still operate at the national level, and a growing share of ELIS use third party auditing or verification. Some ELIS are still non-transparent in their standard-setting process, however there is a limited but relatively faster increase in transparent schemes. The growth of ELIS could either strengthen or weaken

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6 The growth of ELIS is unequal, “according to different characteristics, such as communication means, channels, scope, and the standards on which they are based. Several shifts are noted, including from organic certification and ecolabels to single-issue labels and ISO type III labels, from non-profit to privately-owned ELIS”. “A high proportion of ELIS in the database does not use life-cycle approaches
political pressure to impose more stringent minimum quality standards. Additionally, the recent evolution of ELIS could impact favourably on the future design of tax rules around the world.

As civil society receives more and better information through ELIS, governments are able to act accordingly. Labelling is quite a complex affair, but a future common label or certification showing compliance with strict sustainable goals could imply certain minimum fiscal consequences everywhere—if globally agreed. In fact, the current convergence of standards in some sectors may serve to develop a new set of common tax expenditures.

ELIS suppliers and users are flanked by five types of institutions: supporting institutions, inventoring institutions, policy support institutions, platforms and consortium and framing institutions. The public authorities may play a multifaceted role: as suppliers, governments may act beyond their responsibility on mandatory regulations as standard-setters and leaders, certifiers and promoters; and as users, public authorities may support schemes directly via green public procurement measures, or indirectly by promoting the use of specific schemes in meeting regulatory requirements. They can promote the use of ELIS via awareness campaigns and education programmes, as opinion shapers, and additionally act to link up with one or more institutional groups, providing funding and promoting specific groups, funding inventories and consumer guidance efforts, regulating claims and labels, and interacting directly with platforms and policy supporting institutional actors. The case is exactly the same for robotics.

<table>
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<tr>
<th>Institutional role</th>
<th>Identified specific role</th>
<th>Observed examples in</th>
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and relies on standards based on non-product-related processes and production methods”. Gruère, supra n.1, at 37.

7 Prag et al., supra n.1, at 27.


9 Gruère, supra n.1, at 20.
| As ELIS supplier | 1. Setting Standard  
2. Managing Standard  
3. Certification  
4. Promotion | Public ELIS examples  
Type I labels |
| As ELIS user | 5. Public procurement  
6. Regulatory compliance | EU procurement programme  
EU biofuel directive |
| With supporting institutions | 7. Member of group  
8. Contributing to activities of the group  
9. Funding activities of the group  
10. General awareness and education | GEN membership  
Mutual recognition of organic schemes  
Agencies funding IFOAM  
General consumer education programmes |
| With inventorying institutions | 11. Leading public inventory  
12. Promoting inventories and guides  
13. Funding activities | Danish guidance forbrug.dk  
Support of ITC Standard Map  
Ecolabel.be in Belgium. |
| With policy support institutions | 14. As part of international organisations  
15. Leading analysis or dialogue internally  
16. Funding analysis or dialogue externally  
17. Funding academic research | UNFSS, OECD, others  
Ademe (France)  
ENTWINED (Sweden)  
PEF project (Germany)  
EU Research Frameworks |
| With platforms and consortia | 18. Member of a platform  
19. Funding a platform | Product Sustainability Forum (UK)  
Global Report Initiative |
| As framing institutions | 20. Regulating and guiding claims | US Green Codes  
France’s practical guide on environmental claims  
EU Energy label  
Korea’s Carbon footprint label  
France (Grenelle 1 et 2 laws)  
Canada’s EnerGuide  
ISO members  
Contribution to FAO and ITTO guidelines  
US and Mexico: Dolphin-Tuna WTO disputes |
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<tr>
<td>21. Regulating labels or information systems</td>
<td>22. Obligatory disclosure</td>
<td>Sources: Gruère, 2013&lt;sup&gt;10&lt;/sup&gt;.</td>
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Certainly, Governments possess the capacity to advance certification systems, as they often have access to considerable technical expertise that can contribute to the development and maintenance of certification schemes, and Government endorsements can add credibility and legitimacy<sup>11</sup>. Not all agency action is based on industry “capture”, and environmental and social issues inherently reflect values of some kind. At its core, the mission of environmental agencies is value-laden<sup>12</sup>. The same would happen with European Union agencies dealing with robotics and AI.

Nevertheless, in some cases, government officials may view certification as a threat to their power and can impede the progress of private certification efforts by creating competing government certification systems. However, Government roles change over time, depending on the needs of a nation's industries, the

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<sup>11</sup> Steering Committee, *supra* n. 2, at 34-35.

<sup>12</sup> Steering Committee, *supra* n. 2, at Appendix L A-255.
political climate or specific ways in which the certification scheme evolves at certain moments in time.

At each stage of the regulatory process, voluntary standards, certification and labelling systems may provide a unique solution to a governmental void and to situations in which government exists and has authority to act but does not take action because of regulatory fragmentation or race-to-the-bottom dynamics\textsuperscript{13}.

The risk of underperformance or stagnation is high in cases in which certification replaces regulation, or where certification reduces the necessity to regulate (e.g. because of its success, a certification programme might replace improvements in the government’s minimum standards). If the certification does not update or improve at a pace at least as rapid as what would be achieved by market forces, the risk is greater\textsuperscript{14}.

Voluntary standards, certification, and labelling systems may counter a race to the bottom by creating market incentives for stakeholders to eliminate, reduce or internalise social costs\textsuperscript{15}. Additionally, tax breaks are also powerful government

\textsuperscript{13} “Voluntary standards, certification, and labeling systems educate the public about the impacts of their consumption decisions, activate consumer norms, and facilitate the internalization into the price of a good the costs associated with avoiding social or environmental harm. In addition, they address the transaction costs that consumers face in locating and negotiating with the ‘cheapest cost avoider’ in global trade by creating structured links between those parties; they resolve both the information asymmetries and search costs that consumers face in purchasing credence goods by identifying conforming goods; they use structures that invite broad participation and deliberation, reducing the risk of capture during the standards-setting process; they provide training to develop an expanding number of experts to assist firms in adopting and implementing the standards; they use consumer markets and labels to incentivize compliance; they generate their own financial support—an important factor in maintaining legitimacy and effectiveness over time; and finally, their certification processes ensure that participants adhere to those standards”. Steering Committee, \textit{supra} n. 2, at Appendix L A-255. “Calabresi and Melamed suggest that if legislators are uncertain about whether a legal entitlement is worth its cost to society, they should allocate the costs to the party that will be able to avoid the social cost most cheaply (the “cheapest cost avoider”). Calabresi & Melamed, \textit{supra} [“Property Rules, Liability Rules and Inalienability Rules: One View of the Cathedral”, Harv. L. Rev., 85, 1972], at 1096–97. If legislators are uncertain about which party would be the cheapest cost avoider, they should allocate the costs to the party that can most cheaply (a) locate the cheapest cost avoider and (b) pay them to avoid those costs.” Steering Committee, \textit{supra} n. 2, at Appendix L A-223.

\textsuperscript{14} Steering Committee, \textit{ supra} n. 2, at 87.

\textsuperscript{15} Steering Committee, \textit{ supra} n. 2, at Appendix L A-224.
tools that can influence certification. A popular approach is to provide incentives, such as lower fees or tax credits, for meeting standards.

However, monetary incentives may “crowd out” some people's willingness to protect the environment “voluntarily”, with possible implications for policy choice and stringency. Another open question regarding payments for ecosystem services (e.g. grants and tenders) is whether they achieve “additionality”. That is, do they lead to environmental protection over and above the status quo?

III. How To Overcome The Problem Of Wrong Signalling To The Public

When the environmental signal that ELIS transmit deviates from the actual environmental performance of a certified product, either through “greenwashing” (self-certification that is misreported or not subject to verification) or “greenbashing” (underreporting of a product's actual environmental performance), this could discourage producers from further investing in the sustainability of their products.

The standards used to assess environmental performance for ELIS should be appropriated to accurately measure the environmental quality of a product and tailored to local conditions. A structured typology reflecting the environmental performance of products or services and the signal transmitted to consumers by ELIS is reproduced below.

Matching Environmental Performance with ELIS Signals

16 The Tuscany Regional Government supported small and medium-sized enterprises seeking to become certified to the SA8000 standard for social accountability by providing tax breaks on national insurance and regional tax payments. Steering Committee, supra n. 2, at 34.

17 Steering Committee, supra n. 2, at 75-76.

18 However, since it is difficult to know whose behaviour is likely to be “crowded out” by a given policy instrument and for which reasons (intrinsic or social) this remains an area requiring further research. J. Shogren, Behavioural Economics and Environmental Incentives, OECD Environment Working Papers, 49 (2012) 7. DOI: http://dx.doi.org/10.1787/5k8zwbhqs1xn-en


Enforcement against misleading claims should be effective at penalising false environmental claims, preventing them in the future and encouraging valid claims. The tax rules could, indeed, indirectly help to improve enforcement in cases where a label has been unduly alleged to secure a tax incentive, since the improper enjoyment of tax incentives is already punishable in every domestic legal order.

IV. The Required Interaction Of Standards Systems

In a system combining several tools or approaches, the real contributions of standards and certification can be gauged by asking first whether and how sustainability outcomes would change if the standards and certification had never existed, and second, whether and how sustainability outcomes would change if they were taken away. The importance of the dynamic impacts of a standard

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21 “Instances of correct quality-signal matching can be found in the (green) cells along the diagonal running from the top-left corner to the bottom-right corner. Greenwashing (red) and greenbashing (yellow) – the most extreme cases of misalignment between label signal and environmental performance – are located in the top right and bottom left corner of the matrix, respectively. Examples of moderate misalignment can occur along two dimensions”. Prag et al., supra n.1, at 24.

22 “The evidence indicates that Energy Star played a key role in catalyzing widespread improvements in energy efficiency for consumer goods, including changing the expectations of consumers. And it is not clear that without Energy Star, this change would have occurred (at least in the absence of other actions). If the programme were to suddenly disappear, it would not be expected to significantly impact the status quo. This indicates a need for different approaches going forward. One would be to update Energy Star so
(through updates or the establishment of new ones) and the need to be clear about
the roles of different forms of governance (e.g. local regulations incorporating
standards being used to provide tax credits for the best performers or used to set
minimum standards for anyone involved with some projects) must be stressed.

In the coming future, the private sector and the public authorities could rely
on certain internationally accepted certificates to, respectively, enjoy (while
exerting their corporate social responsibility) and grant (with a better control),
more efficient and fairer tax incentives, aligned with the sustainable development
goals.

Abusive behaviour in relation to the “greening” of imported products may
be counteracted by the use of a well-defined certification system23. To generate
such a system, government and non-government bodies may respond to ELIS
multiplication through mutual recognition of schemes and the creation of focal
standards. Convergence in some sectors, such as forest certification, may lead to
more holistic and streamlined ELIS24.

**Interactions of Standards Systems**

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<table>
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<tr>
<th>Description</th>
<th>Examples</th>
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<tr>
<td><strong>Full Mutual recognition (equivalency)</strong></td>
<td>Agreement among and between two or more ELIS whereby the systems and standards of schemes are assessed and agreed by each scheme as being equivalent to one another</td>
</tr>
<tr>
<td><strong>Unilateral recognition and other means of “stepping up”</strong></td>
<td>One-way recognition whereby all the systems and standards of one scheme are assessed as being equivalent by another scheme, but this is not reciprocal. Other means of “stepping up” include specifying that producers should graduate to more stringent ELIS</td>
</tr>
<tr>
<td><strong>Harmonisation and inter-operability</strong></td>
<td>Adjustment of differences and inconsistencies among different standards, systems or definitions to make them uniform or mutually compatible, including sharing of assurance systems</td>
</tr>
<tr>
<td><strong>“Meta-regulation” or meta-coordination</strong></td>
<td>ELIS operators, standards bodies and/or private sector stakeholders collaborating to reinforce a credibility advantage, at the same time acting to maintain more stringent standards and coordinate standards, processes, etc.</td>
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A multi-government-backed label or certification might promote worldwide sustainability in specific sectors, for instance by sharing the economic impact of related tax expenditures among the countries in the whole production chain. This could be, at least, useful for sustainability-transition.

V. Labels And Standards: Their Possible Use in Public Procurement In Support Of Common Societal Goals In the European Union

After the European Union case law detected some inconsistencies (e.g. Judgment of the EU Court of Justice of 10 May 2012, European Commission v Kingdom of the Netherlands\textsuperscript{26}), the existing public procurement rules, adopted

\textsuperscript{25} Prag et al., \textit{supra} n.1, at 40.

\textsuperscript{26} NL:EUCJ, 12 May 2012, Case C-368/10, \textit{European Commission v Kingdom of the Netherlands} [2012] ECLI:EU:C:2012:284. The Court (Third Chamber) declared that “on account of the fact that, in the tendering procedure for a public contract for the supply and management of coffee machines, which was the subject of a contract notice published in the Official Journal of the European Union on 16 Aug. 2008, the province of North Holland:

\begin{itemize}
  \item established a technical specification incompatible with Article 23(6) of Directive 2004/18 of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts, as amended by Commission Regulation (EC) No 1422/2007 of 4 December 2007, by requiring that certain products to be supplied were to bear a specific eco-label, rather than using detailed specifications;
  \item established award criteria incompatible with Article 53(1)(a) of Directive 2004/18 by providing that the fact that certain products to be supplied bore specific labels would give rise to the grant of a certain number of points in the choice of the most economically advantageous tender, without having listed the criteria underlying those labels and without having allowed proof that a product satisfies those underlying criteria by all appropriate means;
  \item established a minimum level of technical ability not authorised by Articles 44(2) and 48 of Directive 2004/18 by requiring, on the basis of suitability requirements and minimum capacity levels stated in the specifications applicable in the context of that contract, that tenderers comply with the ‘criteria of sustainable purchasing and socially responsible business’ and state how they comply with those criteria and ‘contribute to improving the sustainability of the coffee market and to environmentally, socially and economically responsible coffee production’, and
  \item prescribed a clause contrary to the obligation of transparency provided for in Article 2 of Directive 2004/18 by requiring that tenderers comply with ‘the criteria of sustainable purchasing and socially responsible business’ and state how they comply with those criteria and ‘contribute to improving the sustainability of the coffee market and to environmentally, socially and economically responsible coffee production’;
\end{itemize}

the Kingdom of the Netherlands has failed to fulfil its obligations under the aforementioned provisions”.

\textit{Source:} Prag et al., 2016\textsuperscript{25}
pursuant to Directive 2004/17/EC and Directive 2004/18/EC of the European Parliament and of the Council, were revised in order to “increase the efficiency of public spending” and to “enable procurers to make better use of public procurement in support of common societal goals”, as stated in Recital 2 of the Preamble to Directive 2014/24/EU.

The EU Law on public procurement now in force allows environmental concerns to be considered at the different stages of the procurement procedure, as socially responsible public contracts expand at different territorial levels of government.

Environmental criteria can be included in the contract as long as they do not produce direct or indirect discrimination. There is flexibility to choose on price-quality ratios —and quality can include environmental aspects. In particular, Green Public Procurement rules allow the public authorities to make references to labels subject to particular conditions, and criteria underpinning the labels can also be specified. Contracting authorities can refer to particular labels, such as the European eco-label, multi-national eco-labels or any other label provided that the requirements for the label are linked to the subject matter of the contract. They should keep in mind the nature of the contract and the specific goal pursued in each case at stake. The requirements should be adopted on the basis of objectively verifiable criteria, using a procedure in which stakeholders can participate and should assure that the label is accessible and available to all interested parties—Recital 75 of the Directive 2014/24/EU.

VI. Final remarks

The current research carried out on Environmental Labelling Information Schemes has paid attention to the problems and solutions experienced in this field, according to the most recent literature. It shows a path that could be quite easily followed when trying to adopt criteria for inclusive robotics and its promotion for

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a sustainable future in the global agenda. In addition, some supranational rules addressing public procurement could be used in support of this challenging common societal goal.