

# ENVIRONMENTAL LABELLING EFFECTIVENESS FOR PRODUCTS

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Environmental labelling has become a vehicle for companies to communicate with consumers, favoring competitive advantages for manufacturers and expanding choice references for users. Traditional tariff barriers have been replaced by technical barriers to free trade due to the demand for certifications and/or environmental labels for the marketing of products and services, becoming a critical factor of economic and commercial competitiveness (THAI et al., 2010; HOUE; GRABOT, 2009; GOTTBORG et al., 2006; TEISL et al., 2008).

Despite the existence of several ecolabels (MUELLER et al., 2009; CASTKA; CORBETT, 2016), environmental labelling systems have been defined by the International Organization for Standardization (ISO) in its ISO 14020 series standards, being: ISO 14024 — type I labelling — Environmental Labelling Programs (ABNT, 2004); ISO 14021 — type II labelling — Environmental Self-declarations (ABNT, 2017) and; ISO 14025 — type III labelling — Environmental Product Declarations (ABNT, 2015). Among these, the type I labelling is that which is configured as the environmental seal of a product.

On one hand, environmental labelling has been useful in indicating (COBUT et al., 2013) that certain environmental criteria have been taken into account priori in the design and production of goods and services offered on the market.

On the other hand, the quantitative parameters (HOUE; GRABOT, 2009), and also qualitative, used to analyze each of the environmental criteria of the eco-label can be used systematically as a tool in the process of ecodesign, allowing a better environmental decision regarding the life cycle of the product, even if obtaining the label is not the goal of the company.

Nevertheless, an analysis of some labelling programs (type I) situation demonstrates the difficulties of companies in adopting such environmental labels.

These are some of the issues:

- The low number of companies participating in the labelling programs could be linked to the requirement of safety and use performance tests, and the difficulty of maintenance of the auditing structure by the certification bodies, ISO 14024 — type I requires that the products which request the label must respect not only environmental criteria, but also criteria related to use and safety;
  - How can a product not covered by the product categories of existing labelling programs be audited and given a label?
  - Investments may be inhibited due to a certain lack of credibility, due to the enormous variety of labels with different levels of demand; credibility is linked to factors such as who controls, who checks, who is accredited, what it covers, what it requires, etc. (MUELLER et al., 2009; CASTKA; CORBETT, 2016)?

Another complicating factor refers to the obstacles in interpreting the procedures for obtaining labelling, requiring the help of specialists (HOUE; GRABOT, 2009; ESPINOZA et al., 2012), which can be an obstacle for the participation of small companies (CLIFT, 1993).

## COMPARISON BETWEEN ENVIRONMENTAL LABELLING PROGRAMS

Research conducted in 2014<sup>1</sup> (PEREIRA, 2014) sought to investigate labelling programs (type I labelling), preferably linked to the Global Ecolabelling Network (GEN). Six programs were analyzed:

- ABNT Ecolabel – Associação Brasileira de Normas Técnicas ecolabelling (<http://www.abnt.org.br/rotulo/en/>);

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<sup>1</sup> Research conducted under the author's postdoctoral program carried out, in part, while visiting the University of New South Wales (UNSW) in Sydney, Australia.

- NF Environnement label (French norm for the environment) (<http://www.marque-nf.com/>);
- Japanese Eco Mark (<http://www.ecomark.jp/english/>);
- GECA Australian label – Good Environmental Choice Australia (<http://www.geca.org.au/standards/>);
- North American label – Green Seal (<http://www.greenseal.org/GreenBusiness/Standards.aspx?vid=ViewStandardDetail&cid=0&sid=5>);
- European Union Ecolabel – EU Ecolabel (<http://ec.europa.eu/environment/ecolabel/>).

Within the scope of this research, a comparative study was carried out between the ABNT Ecolabel (Brazil) and Good Environmental Choice Australia (GECA) labelling programs for the furniture product category, due to the availability of procedures in both programs for this category, as well as the use of the products in commercial and domestic environments.

The ABNT Ecolabel evaluates products in the furniture category under two procedures: Ecolabel for Chairs and Office Furniture (PE-165) and Ecolabel for Wood Panel (PE-205). The products include workstation, cabinet, chair, drawer, tabletop, sliding shelves for files, folding screen and partition, MDF/MDP (medium density fiberboard) panels.

Good Environmental Choice Australia evaluates products in the interior category, considering products such as tables, furniture, chairs/benches and office equipment, workstation systems, partitions, recomposed wood panels, public use furniture, educational furniture (schools and libraries), outdoor furniture, chairs/benches for domestic use, residential tables, recycled furniture. These products are analyzed by the Furniture, Fittings and Foam procedure.

The amount of labelled furniture, raised in 2014, by type of product, by ABNT Ecolabel and by GECA is shown in Table 1.

The ABNT Ecolabel has existed since 2012. In 2014, nine companies have received the label for the furniture category. More than 88% of the 149 certified products have been office furniture and the rest have been also products for use in offices, such as partitions and wall systems. No residential product has received the label and the program does not yet have procedures for home furniture.

The GECA label for furniture has been awarded since 2006. In 2014, 70 companies received the ecolabel, counting 1269 labelled products. Only 130 products, about 10%, were for residential use, the majority was for commercial use. About 79% of the labelled products were specifically directed to products

for use in office environments and about 11% for products used in commercial and public outdoor areas, educational, school and library furniture.

As shown in Table 1, the products labelled the most by ABNT are office furniture/equipment, drawers, cabinets (60 products), 40.3% of the total labelled furniture, involving 6 suppliers in Brazil. Next are office desks (29.5%), wall partitions/systems, recomposed wood panels (11.4%), office workstation systems (10.1%) and office chairs/benches (8.7%).

The products labelled the most by GECA are office chairs/benches (387 products), 30.5% of total furniture, involving 30 Australian suppliers. Next are office furniture/equipment, drawers, cabinets (20.6%), office desks (14.7%), residential chairs/benches and desks (10.2%), educational, school and library furniture (9.8%), office workstation systems (7.9%), partitions/wall systems, recomposed wood panels (5.3%), commercial and public outdoor furniture (0.5%), outdoor furniture (0.4%) and recycled furniture (0.1%).

**Table 1** – Comparison between labelling programs: ABNT Ecolabel and GECA

TYPE OF PRODUCT	QUANTITY OF LABELLED PRODUCTS		TOTAL OF SUPPLIERS	
	ABNT	GECA	BRAZIL	AUSTRALIA
Furniture/equipment for office, drawer, cupboard	60	261	6	33
Office desks	44	187	5	32
Wall partitions/systems, recomposed wood panel	17	67	7	16
Working station systems for offices	15	101	3	28
Chairs/bunches for offices	13	387	1	30
Furniture for commercial and public external use	-	6		2
Educational, school and library furniture	-	124		8
Furnitures for external use	-	5		3
Chairs/bunches for houses	-	130		15
Recycled furniture	-	1		1
Total	149	1269	-	-

Source: Elaborated by the author from ABNT (2014) and GECA (2014).

It was observed that office chairs/benches were the most contemplated type of product in Australia, involving most suppliers, while this type of product was the least contemplated in Brazil, comprising only one company.

Good Environmental Choice Australia involved 30 suppliers, 43% of the companies, manufacturing the type of product that received the most labels: office chairs/benches. ABNT Ecolabel involved six suppliers, 66% of the companies, manufacturing the product that received the most labels: office furniture/equipment, drawers, cabinets.

Two companies have more than 100 labelled products and seven have between 54 and 70 (all Australian). Twelve companies have between 22 and 44 labelled products (three Brazilian). Thirteen companies have between 10 and 19 labelled products (three Brazilian) and 45 companies have between one and nine labelled products (three Brazilian).

In Brazil, all products have been labelled by ABNT since 2012 and, in Australia, 640 products have been labelled by GECA since 2006 for 38 companies, and 629 since 2010 for 32 companies.

## THE COMPANIES AND THE ENVIRONMENTAL LABELLING

In 2018, continuing the research<sup>2</sup>, semi-structured interviews were conducted with companies in the furniture sector in Minas Gerais, as well as with ABNT.

The specific objectives were, on one hand, to understand, along with the furniture industry, its perception about what are the environmental label scopes, which environmental actions adopted, which limitations for the implementation of the ABNT Ecolabel. On the other hand, to understand, next to the labelling organism, which are the observed limitations.

For this, it was sent, via e-mail, open questions to 19 companies that have the ABNT ecological label, obtaining answers from five companies (Table 2). In the same way, with the support of the Sindicato Intermunicipal das Indústrias do Mobiliário de Ubá/MG (INTERSIND) (municipality with the largest number of furniture industries in Minas Gerais, approximately 300 companies), it was sent, via e-mail, open questions to 79 companies that do not have the ABNT Ecolabel (Table 3). Of these, only three companies answered.

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<sup>2</sup> Study conducted with the collaboration of the fellow student of the UFMG Design Course, Thainá Laura Sousa de Almeida, under the guidance of the author, within the scope of the Scholarship Program of Scientific Initiation / Conselho Nacional de Desenvolvimento Científico e Tecnológico (PIBIC/CNPq), Public Notice of Pró-Reitoria de Pesquisa da Universidade Federal de Minas Gerais (PRPq/UFMG Notice - 05/2017).

Despite the low return on the part of the companies, it was found that some companies that already have the environmental label claim that the great difficulty is in finding suppliers of inputs that meet the requirements, without the acquisition of them generating impacts on the price of the final product. All companies have stated that the great benefit concerns the management and control of waste, in addition to considering the ABNT Ecolabel a differential in the face of competition, because it provides a brand value. All companies intend to continue to renew the label, because of the numerous benefits that it provides. According to one of the companies, public organs are demanding more and more a label. The companies that make exportation guarantee that the ABNT Ecolabel prints brand relevance on the foreign market, in special in Europe, the United States of America and in some Latin American countries.

**Table 2** – Interview with companies which hold the ABNT Ecolabel

QUESTIONS	COMPANY 1	COMPANY 2	COMPANY 3	COMPANY 4	COMPANY 5
<p>Does your company have the ABNT Ecolabel? What were the difficulties /limitations faced in obtaining it?</p>	<p>“[...] it was already certified in ISO 14001, so we already met several requirements [...] The biggest difficulty was in material adjustments, where we had to replace raw materials.”</p>	<p>“[...] already certified all its product lines with ABNT and had obtained the ISO 14001, FSC and CERFLOR certifications. Thus, there were no difficulties [...]”</p>	<p>“Finding suppliers that have the products that attend the technical demands in the furniture manufacturing, and that at the same time attend the label requirements [...] due to the low offer in relation to these products, the cost of some raw materials go up and bring a limitation in cost too.”</p>	<p>“The main difficulties were the interpretation of the norm, since in our region there is no course available for it.”</p>	<p>“Adjust the stock of wood products with the formaldehyde category established in the ABNT standard, because the existing suppliers in the market, either did not have the material in this category or sometimes the value was exorbitant, which increased too much of the value of the final product, no longer competitive.”</p>
<p>What benefits were achieved after obtaining the ABNT Ecolabel?</p>	<p>“The main benefit is maintaining the ABNT ecolabelling is due to the requirements of this ecolabel in bidding and also for sale closing with large companies.”</p>	<p>“Today all the emissions are controlled, the feedstock is certified, risk analysis are made [...]. The environmental impact of the products tends to diminish more each time and the environmental conscience of the team is always improving. The company also had access to new clients [...]”</p>	<p>“[...] in the plant operation with well positioned disposal points in the process, general cleaning of the plant, recycling waste disposal, compliance with legal requirements. The economic benefits happen due to recycling, brand valorization and waste reduction.”</p>	<p>“Better waste control; daily indicators on the waste part; better understanding of the environmental part.”</p>	<p>“Differential of the competition; better waste management.”</p>

<p>Does your company intend to seek the renewal of the ABNT Ecolabel? Why?</p>	<p>“[...] The company has a strong market interest for the maintenance of this certificate.”</p>	<p>“It is important to maintain environmental certifications because they are important management tools. [...] these certifications contribute to the corporate development of the company, to the improvement of its image in the market and to the valorization of the brand.”</p>	<p>“[...] brings benefits in relation to the organization of the company in legal matters, CETESB – City Hall, and others. It brings benefits in the management of internal processes in relation to waste management, recycling and others.”</p>	<p>“Yes. We are in the third year of certification. The company works with bidding and this is a requirement of our customers.”</p>	<p>“Yes, due to market necessity.”</p>
<p>Can you tell if there are difficulties for the renewal of the ABNT Ecolabel?</p>	<p>“We did not have any difficulty in the ABNT label renewal. [...]”</p>	<p>“Once the requirements are fulfilled there is no difficulty. [...]”</p>	<p>“There is not, the label maintenance process is well managed by ABNT [...]”</p>	<p>“We found no difficulty during the renewal.”</p>	<p>“There is no difficulty.”</p>
<p>What is your company perception of the impacts of ABNT Ecolabel on sustainable public procurement?</p>	<p>“positive perception of the demand for a green label in sustainable bidding. This pushes the market towards a production process committed to the environment. [...] also has FSC Chain of Custody certification [...]”</p>	<p>“The impact has been considerable. Some public agencies and companies are demanding labelling for their purchases. [...] is undoubtedly an important factor in improving the environmental policies of companies in the furniture sector.”</p>	<p>“The company does not have a performance in public procurement, so we do not have this experience to share.”</p>	<p>“It is a great control for companies regardless of size, because you can track and get an idea of how the company treats its environmental part, even not having the ISO 14:001 certification.”</p>	<p>“Equalization of committed companies that seek continuous improvement of their processes and services. In the case of public agencies, they are sure of the purchase of suppliers of furniture, where the whole chain was structured to generate the least possible impact on the environment.”</p>

<p>Does your company export products? In a positive case, do you consider that the environmental labelling can bring benefits to the foreign market?</p>	<p><i>"[...] exports to Bolivia, Paraguay and Uruguay [...]. Our biggest demand for the ecological label is national, but sometimes we manage to justify through the ecological label, the fulfilment of requirements of other certifications. On the international market, we have verified an increase on the Greenguard certification exigency."</i></p>	<p><i>"It is starting sales in the foreign market and no doubt the labelling helps in the process, especially for the USA and EU."</i></p>	<p><i>"We do not export."</i></p>	<p><i>"No."</i></p>	<p><i>"We do not export."</i></p>
<p>Other observations</p>	<p><i>"We realized that the great demand for environmental certifications comes from public and private bids and also from large companies. Smaller companies commonly do not require certifications, and are more focused on quality and price."</i></p>	<p>—</p>	<p><i>"The ecological label serves in relation to the correct environmental image of the company, avoiding green washings and bringing a differentiated positioning of the company in relation to sustainability."</i></p>	<p>—</p>	<p>—</p>

Source: Elaborated by the author.

In relation to the companies that do not have the ABNT Ecolabel, they informed to have little knowledge about the subject, alleging, yet, that the label obtaining is something bureaucratic and of high cost. One of the companies emphasized the low recognition of the final consumers in relation to the actions adopted by the companies, including the efforts to obtain the environmental labels.

**Table 3** – Interview with companies that do not have the ABNT Ecolabel

QUESTION	COMPANY 1	COMPANY 2	COMPANY 3
Nowadays, even more products must be manufactured taking into account their impacts on the environment. Does your company consider these factors in the production of the products?	<i>“We certainly look a lot at the environmental part of the products manufactured by our company.”</i>	<i>“Yes, we use wood and fabric cutting planning software to generate the least possible residue. And these leftovers are reused in other processes, minimizing the maximum environmental impact.”</i>	<i>“Yes, for some issues, such as the reduction of waste generated, reduction in consumption of materials and consequently reduction in costs.”</i>
Environmental labels, or green labels, have become one of the most common ways of showing the public the environmental actions implemented by companies. Does your company have any kind of green label?	<i>“No label, despite doing a lot for the environment and having already won several awards for our environmental actions, we still do not have any label.”</i>	<i>“No, our company is up to date with the environmental licenses, complying with the requested conditions.”</i>	<i>“Unfortunately, we still do not have any program that can evaluate and issue this label, but it is a wish that we can start using a label to have more visibility and highlight in the market.”</i>
Do you consider that having an environmental label can bring benefits to your company?	<i>“I believe that yes, it can help, but it will not be a determining factor of the purchase yet, we have to evolve a lot yet.”</i>	<i>“It could, but it is not that important. Due to the risk degree of our company. The truth is that the consumers or population does not value these actions that the companies do, they only remember when a tragedy occurs.”</i>	<i>“Yes, I believe that the problem is that for the company to prepare itself to have a label, it will have some costs that many consumers do not value and are not willing to pay more for it.”</i>
In your opinion, what are the difficulties/ limitations for obtaining a green label?	<i>“The bureaucracy is still big, due to some wanting to circumvent the requirements and get the seal even without having done anything, there is a series of bureaucracies that make it impossible to get the seal.”</i>	<i>“Costs, excessive bureaucracy, excessive controls and the own benefit this would bring us.”</i>	<i>“I have no technical knowledge of what criteria are required to have the label.”</i>

Does your company know the ABNT Ecolabel?	"No."	"No."	"We have no knowledge about environmental labelling, but what we know are high costs that ABNT charges for services and other certifications".
Why does your company not have the ABNT Ecolabel?	"We do not know it."	"[...] the excess of bureaucracy and low benefit. Consumers do not give value to this type of label. The conscience in fact is ours, company, in generating less impact as possible, without intention of using this for marketing."	"Really for not knowing the program, and which requirements should be attended, in addition to the possible adaptation costs that we believe are high and the other stricter conditions that the company will need to have the label."
Does your company export products? Do you consider that the labelling can bring benefits to the foreign market?	"It is still little demanded and where it is demanded, it would not be buying markets of our products."	"We do not export."	"No."
Other observations	–	"Nowadays, the industries are the ones that worry and are charged for the environmental control, the population is the one that pollutes the most, with sewage, garbage, use of chemical products in the day to day, they are not aware of this fact and no control [...]."	"ABNT is an institution that validates companies and issues certificates and labels, but the costs are too high to be associated and high costs for technicians to provide the surveys, it is immoral. (unfortunately, this is the reality)."

Source: Elaborated by the author.

For ABNT (Table 4), the environmental labelling program is an important tool to guide more demanding customers, being more focused on the B2B (business to business) market. The label has been promoted by the government, which has used ABNT Ecolabel as one of the requirements for sustainable public procurement. However, ABNT also notes that environmental labelling is still seen "as something superfluous by a large part of the Brazilian market". According to the institution, actions have been taken to allow its Ecolabel to be better known by final consumers.

**Table 4 – Interview with the ABNT Certification Management**

Questions	ABNT
<p>Environmental labels, or green labels, are becoming one of the most promising ways of showing the public the environmental actions implemented by companies. What is ABNT perception about the scope and reach of the ABNT Ecolabel with companies?</p>	<p><i>“ABNT environmental labelling program is an important tool to guide more demanding customers who aim to acquire products that have less impact on the environment and people’s health when compared to other products that only follow the legislation. ABNT Ecolabel has been leveraged by the government that uses ABNT certification as one of the requirements for purchasing sustainable products. Thus, our engagement is much more focused on the B2B market, but ABNT is interested in certifying products that are directly linked to the final consumer and has been taking actions to become a better known and closer seal to final consumers.”</i></p>
<p>What is ABNT perception of the fact that only 11 companies in the Brazilian furniture sector are part of ABNT’s Environmental Labelling Program?</p>	<p><i>“Currently, we have 16 companies that have the ABNT Ecolabel certification with the objective of meeting requirements demanded in public bids. Thus, we see the importance of the government in requesting this type of requirement in order to develop the awareness of acquiring products that impact less on the environment and people’s health.”</i></p>
<p>What is ABNT perception of the fact that only large companies seek to obtain the ABNT Ecolabel?</p>	<p><i>“Although we have large companies that have ABNT certification, such as Samsung, ArcelorMittal, Gerdau, the greatest demands in search of ABNT Ecolabel come from medium and small companies. This is due to the fact that small companies are in search of market insertion through differentiated products that have less impact on the environment. On the other hand, we see that many large companies are not interested in ABNT Ecolabel, because they have products that do not fit the criteria of ABNT, which is more restrictive than legislation.”</i></p>
<p>What is ABNT perception of the difficulties encountered by microenterprises in being part of the ABNT Environmental Labelling Program?</p>	<p><i>“We see a lot of willpower on the part of small companies in obtaining certification. When we talk about small companies, the main aspect, almost always, will be the financial due to the demand of ABNT Ecolabel. Nothing should be talked about prohibitive cost of the certification, since the certification of ABNT has values well accessible to any kind of company.”</i></p>
<p>Is ABNT interested in increasing the number of products/companies that have its Ecolabel? Which actions are made in this sense?</p>	<p><i>“Yes. However, the great challenge of ABNT has been to show the real benefits that certification can bring. Unfortunately, an environmental certification is still seen as something superfluous by a large part of the Brazilian market.”</i></p>
<p>Is there any public policy to encourage an increase in the number of products/companies with the ABNT Ecolabel?</p>	<p><i>“The only public policy we are aware of are the bids that have been requesting the certification of environmental labelling in some calls for tender and some parallel projects between the UN environment and the Brazilian government to encourage the practice of environmental labelling.”</i></p>

<p>What is ABNT perception of the impacts of ABNT Environmental Labelling Program in relation to sustainable public procurement?</p>	<p><i>“In fact, by acquiring products that have the ABNT Ecolabel, we have an unquestionable improvement in relation to the environmental quality of these, since we managed to reduce the quantity and concentration of substances harmful to health and the environment. As an example, we can talk about the restriction to formaldehyde, a substance proven to be carcinogenic which is used in wood panel adhesives. The products certified by ABNT present lower contents than the ones commercialized in the Brazilian market”.</i></p>
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Source: Elaborated by the author.

## CONCLUDING REMARKS

According to the testimonies of companies that have the ABNT Ecolabel, collected in this study, it was possible to observe that, in fact, the environmental label brings benefits, indicating that environmental criteria were taken into account in the conception and production of goods and services offered in the market, giving differential in face of national and international competition, since the label provides brand valuation.

In this sense, as placed in the statements of the companies and by ABNT itself, the labelling can favor competitive advantages for manufacturers, especially because the environmental labelling has been configuring itself as a vehicle of communication focused on the B2B (business to business) market, besides becoming, increasingly, a tool used/demanded by governments as one of the requirements for sustainable public procurement.

However, the low adherence of companies to environmental labelling programs is observed in several countries.

The comparative study conducted in 2014 for the ABNT (Brazil) and GECA (Australia) labelling programs explains the small number of companies involved, considering the furniture product category. In Australia, between 2006 and 2010, 38 companies received the GECA label and from 2010 to 2014 there were 32 more companies, totaling 70 companies that year. In Brazil, from 2012 to 2014, 9 companies received the ABNT label and, according to information from the institution, currently there are 16 companies that have the ABNT label certification.

In spite of the low return by the companies, according to the testimonies of those which do not have the ABNT ecological label, collected in this study, it is possible to verify the great disinformation. Some companies allege the high costs and the bureaucracy of the process as the obstacles to obtaining environmental labelling, although they admit their lack of knowledge on the subject.

Another impeditive factor would be linked to the low recognition by final consumers in relation to the actions adopted by the companies, including the efforts to obtain the environmental labels, argued by one of the companies, but also observed by ABNT, which understands that great part of the Brazilian market still sees the environmental labelling as dispensable.

In view of this and although it is notorious that many ecolabels can amplify users' choice references, such as product energy efficiency labels, it is possible to conclude that the understanding of environmental labelling as a vehicle for companies to communicate with final consumers is still a fragile approach, which requires greater dissemination and research.

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## **AUTHOR'S BIOGRAPHY**

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