



Sustainable Development

ROUND TABLE ON SUSTAINABLE DEVELOPMENT

Private Voluntary Eco-labels: Trade Distorting, Discriminatory and Environmentally Disappointing

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Introduction¹

Over the past decade consumers have become increasingly interested in learning more about the way in which their purchasing decisions may affect the environment. One of the responses to this 'green consumerism' has been the establishment of private voluntary eco-labels. The appeal of this market-oriented mechanism for sustainable development is clear: it simultaneously informs consumers about the

environmental impact of their consumption while providing producers with a way to extract a price premium by accurately translating the mood of consumers into environmentally friendly product development. It is an apparent model therefore of the economist's beloved win-win principle. That's the good news.

Box 1. What are 'eco-labels'?

Eco-labels differ from more general environmental labelling schemes¹ in that they are voluntary and provide information on a wider range of issues thereby offering a more complete picture of the environmental impact of a product. Perhaps the most helpful definition of 'eco-labels'² is 'voluntary labels which convey information to consumers about the environmental implications associated with all elements in the product's 'life', i.e. its production, distribution, use and disposal.'³

The focus of this paper is on a distinct category of such schemes: private (ie non-government) voluntary eco-labels.

The bad news is that the win-win situation is not so clear in practice. Private voluntary eco-labels can be expensive for developing countries and price premiums for eco-labeled goods are not as significant as proponents have argued. Further, the evidence that such labels are even affecting positive environmental outcomes is mixed. Thus even within a single economy, neither "win" is assured. The situation, though, becomes even more unpredictable in the context of international

trade. In theory, there is a risk that eco-labels may offer scope for discriminatory and protectionist practices. Although WTO rules would seem to prevent such distortions, in fact the situation is complicated in the case of private voluntary eco-labelling programmes. This paper outlines the relationship between such schemes and WTO rules and then details some of their trade-related and other shortcomings. Finally, the paper suggests how these might be addressed.

WTO Rules and Private Voluntary Eco-labels

The WTO Agreement on Technical Barriers to Trade (TBT)⁴ is a government-to-government agreement. It ensures the legitimacy of regulations and standards designed for, among other objectives the protection of human health and the environment. In particular, it seeks to ensure that such measures do not create unnecessary obstacles to international trade.⁵ The TBT Agreement extends to both mandatory and voluntary measures.⁶ In this context government-administered voluntary eco-label programmes are covered by the terms of the Agreement, including specifically the Code of Good Practice for the Preparation, Adoption and Application of Standards, which is annexed to the TBT.⁷

Conversely, private voluntary eco-labelling programmes created by companies (often in association with NGOs) are not governed by the TBT.⁸ However, to the extent that private sector initiatives have been developed in consultation with governments (or even received financial assistance from them) they raise the possibility of legal challenges under WTO rules.⁹ Support from Scandinavian Governments for the Nordic Swan programme (including modest budgetary assistance), for instance, potentially establishes a

¹ This paper benefited enormously from the comments and suggestions provided by Simon Upton, Ronald Steenblik, Anne Harrison, Ken Ruffing, Meredith Stokdijk and Crawford Falconer. Needless to say, all errors, omissions and other comments are the *sole responsibility* of the author and none of the views expressed should be attributed to them or their employers.

legal link between this eco-label and the Government. Similarly, some government procurement schemes (such as those implemented by the Danish and German Governments (including at Länder level)) seek voluntary eco-labelling on the part of suppliers and this may also suffice as a sufficient link for a legal challenge at the WTO.¹⁰

There is a further complication. Under WTO rules, ‘like’ products must be treated alike.¹¹ In terms of labelling under the TBT, this means that products with similar characteristics should be treated in the same way. Almost by definition eco-labels seek to inform consumers not just about what a product is like, but *how* it was produced, i.e. they delve ‘behind’ the product and make claims about its ‘life cycle’. This immediately raises a WTO-related problem. WTO rules do not prevent countries from imposing different requirements (including those that relate to labels) on products that have different characteristics. But where the requirements relate to things which have no bearing on the commercial or indeed practical substitutability of the good but to the way in which the good is produced, discrimination is established and may contravene WTO rules.¹² It is worth emphasising, however, that there are shades of gray here. It is argued, for instance, that the WTO Appellate Body ruling in the shrimp-turtle case removed the restriction on using process and production measures (PPMs) for the development of environmental regulations, as long as these were implemented in a manner that conforms to WTO rules.¹³ The argument runs that if there is no WTO-related restriction on PPM-based environmental regulations, then there should not be a difficulty with eco-labels using a similar approach. In the absence of a dispute settlement case on a specific eco-label, however, it is difficult to be quite so categorical. In short, the matter remains both controversial and complicated.

From an environmental perspective it makes sense to be concerned about whether some products have been produced in a more environmentally harmful manner than others. Nevertheless, allowing discrimination based on PPMs that have no bearing on the end-use of the final product may pose certain risks. In theory, a private voluntary eco-label based on domestic PPMs could give local producers a small (but possibly crucial) edge over more efficient foreign products, even though the latter may also be produced sustainably. An industry group might, for instance, conduct an inventory of the environmentally preferable PPMs used by its members and apply these as the standard for a voluntary eco-label secure in the knowledge that third country traders would find it difficult to comply with these very specific domestic requirements.¹⁶ Furthermore, some private voluntary eco-labelling schemes may not even provide for the possibility of third-country participation. The failed attempt in the early 1990s by Uzbek tomato producers to even register their produce with the Dutch ‘butterfly’ label programme is a case in point (Box 2).

Box 2. *Organic Tomatoes from Uzbekistan*¹⁴

Following the collapse of the Soviet Union, domestic support to the Uzbek fruit and vegetable sector collapsed. This led to the ‘forced organicisation’ of the industry, which turned to natural crop protection agents (etc) in place of synthetic pesticides and nitrogen fertilisers. Sensing an opportunity, an Uzbek producer concern (UzbekOboshFruktoviProm) sought to have its tomatoes certified by the Dutch industry-led voluntary eco-label Milieuwaste Voedingstuinbouw (Environmentally Conscious Cultivation), which uses a butterfly as its logo.¹⁵ In the early 1990s this was one of the main eco-labels for goods sold through the lucrative Dutch auction system. Unfortunately, it was discovered that the ‘butterfly’ logo could only be awarded to growers registered with a Dutch fruit and vegetable auction and only Dutch growers and traders are eligible to register.

environmentally preferable PPMs used by its members and apply these as the standard for a voluntary eco-label secure in the knowledge that third country traders would find it difficult to comply with these very specific domestic requirements.¹⁶ Furthermore, some private voluntary eco-labelling schemes may not even provide for the possibility of third-country participation. The failed attempt in the early 1990s by Uzbek tomato producers to even register their produce with the Dutch ‘butterfly’ label programme is a case in point (Box 2).

Not surprisingly therefore, there is something of an impasse on eco-labels at the WTO. Taken together, the concerns noted above were significant factors behind the decision taken at the Doha WTO Ministerial that eco-labelling was not an issue suitable for formal negotiation in any new Round. Nevertheless, Ministers

did agree that “...labelling requirements for environmental purposes...” should be the subject of further study at the Committee for Trade and the Environment.¹⁷ More recently, while the Johannesburg Plan of Implementation does not contain a specific reference to ‘eco-labels,’ it does recognise the importance of consumer information related to sustainable consumption and explicitly notes the need to continue work in the area.¹⁸

The Impact of Private Voluntary Eco-Labels on Market Access

In theory, one of the main trade-related risks presented by private voluntary eco-labelling programmes is that they may act as a kind of non-tariff barrier favouring particular process and production technologies. Such technologies may be unavailable, unsuitable or prohibitively expensive for trading partners and there is a suspicion that private voluntary eco-labels may therefore have the potential to negatively affect market access for third countries.¹⁹

Feeding this suspicion is the phenomenon that the (WTO-driven) downward trend in tariff measures for certain goods in developed countries in the 1990s has been matched by a rise in the use of private voluntary eco-labels for those same products. In the late 1990s, for instance, tariffs on certain textiles (garments) and cut flowers in the European Union were progressively reduced in line with WTO commitments. At the same time, there was a rise in the use of private voluntary eco-labels for these goods. There may be many reasons for this increase and one hesitates therefore to draw a causal link between developed country tariff rate reductions and an increase in the use of such schemes. Nevertheless, it is certainly an intriguing phenomenon worthy of further examination, not least to see whether the use of private voluntary eco-labels gave developed country producers a modest marketing edge to help alleviate the impact of tariff reductions.²⁰

In this context, some of the main concerns about private voluntary eco-labels rest on three inter-related points. First, some of these programmes may have the potential to become a de facto market standard against which consumers assess all products. Second, many of these schemes apply a ‘one-size-fits-all’ approach. This fails to reflect the possibility of differing circumstances, whereby one process or production method may be appropriate in one part of the world, but quite inappropriate in another. Third, many private voluntary eco-labels are developed with significant input from domestic producers and, in theory at least, they may have vested (i.e. protectionist) interests in establishing particular standards.

Private Voluntary Eco-labels as Possible de facto Market Standards: Eco-labels can be powerful marketing tools in the hands of domestic NGOs and industry groups for lobbying consumers. This is a point that some exporters have discovered to their cost. In 1996, the United States banned shrimp imports from countries that did not have national programs requiring the use of turtle exclusion devices (TEDs) on their fishing trawlers.²¹ While the WTO did not disagree with the use of PPMs in the development of the U.S. regulations, it did rule that it was unreasonable for the U.S. to insist other countries adopt turtle conservation rules identical to theirs, noting that this measure was applied in a manner that was arbitrary, unjustifiable and constituted a disguised barrier to trade.²²

Subsequently, a number of U.S. NGO groups,²³ including the Sierra Club and the Earth Land Institute worked with the US shrimp fishing industry to establish a ‘turtle friendly’ label for shrimp products produced using the TED technology. The NGOs campaigned successfully within the US market to persuade supermarket chains to stock only goods labelled as ‘turtle friendly.’ By 1999, it was estimated that the lobbying campaign had ensured that more than 75% of the U.S. retail shrimp market was dominated by the ‘turtle-friendly’ label, with negative implications on imports from several developing country suppliers.²⁴

Throughout the United States, local producer groups have established numerous state-level or multi-state level private voluntary eco-labels. These include *Salmon-Safe* (covering Washington, Alaska, Idaho,

Montana and Utah), *Predator Friendly Wool* (Montana), *Tall Grass Beef* (Kansas) or *California Clean* and their certification processes appear to only take into account domestic and in some cases specifically local conditions and circumstances.²⁵ At the local level, many of these schemes have also become a defacto market standard against which local consumers judge all other similar goods. This has had the effect (intended or not) of penalising not only third country exporters but even competitors from other states. Given that many of the U.S. states in themselves represent significant high value niche markets, it is difficult not to have some sympathy for the concern of developing countries about such approaches.²⁶

While the programmes cited above have been largely industry-led, the experience of Colombian exporters of cut flowers to Germany outlined in Box 3 provides an example of the impact which a powerful domestic

Box 3. Defacto Market Standards: Colombia, Cut Flowers and German Eco-labels²⁷

With 10% of the international market, Colombia is a significant global trader in cut flowers and this generates more than half a billion euros a year for the industry. Between 1992-1996, when global trade in cut flowers was expanding, Colombia's flower exports to Germany declined, registering a fall of nearly 25% between 1995 and 1996. Colombia explicitly cited a private, voluntary eco-labelling programme (Flower Label Programme (FLP)) for this reduction. The FLP was established in the early 1990s in Germany and, thanks to effective NGO lobbying, it rapidly became the de facto market standard. Colombia criticised this scheme for its distortive impact on trade, citing in particular its lack of respect for WTO rules, including its use of inappropriate one-size-fits-all standards; and its opaque and costly certification requirements.

NGO-driven voluntary eco-label can have on a developing country's trade prospects. Colombia has argued that the Flower Label Programme, which it considered discriminatory, became the de facto benchmark in Germany for cut flowers in the early 1990s and that this had significant effects on Colombian growers' access to this high-value market.

'One-size-fits-all' Approaches May Ignore Differing Domestic Circumstances: The design of many private voluntary eco-labels frequently fails to take into account the different circumstances prevailing in other producer countries. One of the main reasons, for instance, some developing countries were unable or refused to comply with the 'turtle friendly' eco-label promoting the use of TEDs reported

above, was that the U.S. technology simply did not suit local circumstances. Many developing countries fish for shrimp in shallow waters, whereas the U.S. TEDs were designed for deep-water fishing.²⁸

In order to maintain market access in the EU, Thai textile manufacturers, many of them small and medium sized enterprises, have had to comply with private voluntary eco-labelling requirements which they have argued are unnecessary and costly. In particular, many Thai companies complained that a requirement for a high level of water consumption during 'wet treatment' of textiles was too great for a developing country suffering seasonal water shortages. Common practice in developing countries is for water consumption of around half the EU level. Turkey, an OECD member, has faced similar difficulties.²⁹

European private voluntary eco-labels that incorporate standards on the levels of effluent at the end-of-pipe have also been problematic for developing countries. It is argued that these do not take into account the fact that environmental conditions across many developing countries vary considerably. In some parts of developing countries, particularly in Asia and Africa, for instance, the levels of fresh water in rivers and streams change with the seasons. Thus an acceptable end-of-pipe concentration in the rainy season will be completely unacceptable in the dry season.³⁰

The point about differing domestic conditions has also been a key factor underpinning developing-country concerns about the Marine Stewardship Council's (MSC) eco-labelling programme.³¹ Should demand for

eco-labelled fish become a reality, many developing countries are concerned that the MSC certification process may act as a non-tariff barrier to high-value markets in developed countries.³²

With over 90% of workers in the fishing sectors of developing countries involved in artisanal or small-scale fishing enterprises, the FAO among others has pointed out the difficulty inherent in the MSC's approach. Applying a one-size-fits-all approach to assessing management of such fisheries is complicated due to the lack of reliable data and the multi-species characteristics of many fisheries.³³ This is a point supported by the International Collective in Support of Fishworkers (ICSF). The ICSF has noted that the developed country criteria applied by the MSC are discriminatory and that by effectively excluding small scale artisanal fishers it is "almost impossible" for developing country fisheries to receive the MSC seal of approval.³⁴

Vested Interests and Protectionism: Eco-label programmes require extensive information on the 'life cycle' of a product, as well as information about product costs and consumer demand. Such information is difficult and expensive to access and many private voluntary programmes understandably involve NGO and domestic industry groups in their standard-setting process. This needs, however, to be carefully managed.

There is at least in theory a potential risk that the close involvement of local producers could lead to 'industry capture' of the label. A private voluntary eco-label for a range of paper products in the E.U., for instance, has been criticised for perceived 'industry capture' of the standard-setting procedure. With its emphasis on recycled content and the low weighting given to virgin paper content in the L.C.A. process, this eco-labelling scheme is believed to favour domestic producers. Brazil, in particular, has sharply criticised the label as an attempt to protect domestic, specifically Nordic, pulp- and-paper manufacturers from more efficient and cheaper developing country competitors.³⁵ On the same theme, a study of numerous private voluntary eco-labelling initiatives in the Dutch vegetable and fruit production sector concluded that these were industry driven, comprised a "defensive, protectionist strategy" and were "primarily a response to problems internal to the sector."³⁶

The Costs of Eco-Labels and their Price Premia

Box 4. Costs of Sustainable Management Practices for the Timber Industry³⁷

A study by the International Tropical Timber Organisation (ITTO) in Sarawak, Indonesia suggested that close to zero-impact logging would increase costs to producers by up to 100%.³⁸ Another estimate concluded that sustainable forest management in the Philippines would add between US\$36 and US\$38 per cubic metre of log.³⁹ Other studies suggest that the economic cost of sustainable forest management lies somewhere in the 10-20% range of the average international price for traded timber.

The *financial costs* of eco-labels may be divided into two parts; the cost of adjusting production processes to ensure that the product will receive the relevant eco-label and the expense of subscribing to and maintaining participation in an eco-labelling programme. In this context, the question of the level of the price premium associated with eco-labels is also considered.

Box 4 offers an indication of the costs involved in adjusting process and production methods.⁴⁰ Involvement in eco-labelling programmes involves other indirect costs. Foregone export earnings and opportunity

costs related to the resources devoted to eco-labelling programmes, for instance, also need to be taken into account. Taken together, one estimate for the impact on Indonesia of implementing and adhering to an eco-label programme for timber suggests costs to the country in excess of US\$300 million a year.⁴¹

Fees for eco-label certification are also reasonably significant. This may negatively affect developing country exporters who are frequently small and medium-sized enterprises where margins are razor thin. Colombia estimated, for instance, that compliance with the Flower Labelling Programme scheme in Germany would cost the producer at least US\$2,500 annually, on top of a US\$1 charge per label per box of cut flowers. Given the tight margins operating in the market for cut flowers these figures represented a very significant investment.⁴² Certification costs for timber eco-labels are similarly substantial, at between 5-10% of existing logging costs,⁴³ though some estimates are higher.⁴⁴

Following its negative experience with the 'Butterfly' scheme in Holland, Uzbekistan sought French 'organic' certification via a private voluntary programme for a range of its fruit and vegetable products (tomatoes, cucumbers and apricots). Uzbek producers found the process well beyond their means. They estimated that certification would cost in excess of US\$2,700 annually per producer. For a country where GDP per capita stands at US\$2,251 (compared with US\$22,897 in France)⁴⁵ and where fruit and vegetable production is run overwhelmingly by small-scale farmers operating without Government support (in contrast to their developed world competitors), such costs are well outside their range.⁴⁶

One of the main international environment-related certification processes is that managed by the International Standards Organisation (ISO).⁴⁷ This is a widely respected yardstick and sought after by many producers, particularly in developed countries. Developing countries have, however, been slower to apply for ISO certification. This is understandable. ISO approval involves a substantial commitment of time and resources. Depending on a producer's size and current level of environmental management, the estimated costs of preparing for and receiving annual ISO 14001 certification, for instance, may exceed €500.⁴⁸

This outline serves to make the point that the costs associated with some private voluntary certification systems are, from a developing country standpoint, relatively significant. If developed country consumers really do want to know more about the global environmental impact of their consumption decisions, then perhaps their governments should consider assisting developing countries more in this regard. This could take the form of both financial and technical support to developing countries seeking to meet certification requirements – a point to which this paper returns in the conclusion.

Price Premiums for Private Voluntary Eco-labels: One of the arguments in favour of eco-labels generally has been to suggest that there is a significant price premium to be extracted from suitably labelled products.⁴⁹ The evidence for this is rather more modest than proponents of eco-labels have suggested. Indeed, some economists even deny that consumers are willing to pay any additional amount for a product that has general environmental benefits when compared with its competitor.⁵⁰ What is clear, however, is that if there is a 'willingness to pay' it is relatively modest. 'Sustainable wood', for instance, attracts a 4-5% price premium among U.S. consumers.⁵¹ Other studies set the premium on eco-labelled goods in general at between 1 and 4%.⁵²

On the other hand, a study in the U.S. for labelled organic foods suggested that the 'environmental premium' for such goods can climb as high as 15%. This is also consistent with E.U.-wide surveys.⁵³ It is worth noting, however, that organic foods are perceived to have direct health benefits for the consumer, as well as having positive environmental impacts. These perceived health benefits may help explain the more substantial premiums the organic labelling industry attracts, when compared with other sectors.

There is also evidence that the initial enthusiasm for eco-labels has suffered a decline. A MORI survey in Great Britain, for instance, established that the premium for an 'environmentally friendly' product costing roughly £10 has declined by 40% since 1991, from £1.02 to £0.62 in 1998.⁵⁴ Even in Germany, long a bastion of green consumerism, the evidence is hardly compelling on price premiums. Studies there conclude that while 36% of German consumers are prepared to pay up to 5% more for an environmentally

friendly good, only 12% would pay 6-10% more. A statistically insignificant number were willing to pay more than 10%.⁵⁵

The gradual erosion of consumer confidence in and enthusiasm for eco-labels may be a consequence of increasing scepticism about many sources of environmental information. Some consumers may also be confused or misinformed about the range of claims made about the environmental performance of many products and this may also help explain the decline in consumer confidence and thus the narrowing of the margins in eco-labelling programmes.⁵⁶

Arguably the key point about the evidence of relatively small premiums accruing to eco-labelled goods is that, although they exist, they are not substantial. Having said that, given the tight competitive conditions in many sectors, such modest premiums may still be sufficient to give a small edge to sales of products which possess the eco-label. Consequently, despite the small size of the premium, it is of some value in the market place and therefore remains of potential interest to all producers, including developing country competitors.

The Environmental Impact of Eco-labels

For eco-labels to be environmentally effective, the label should be a guarantee of reducing environmental impacts. Surprisingly, relatively little research has been undertaken on this. And the limited evidence available is far from conclusive. An important caveat on any assessment of the impact of eco-labels on the

Box 5. The Environmental Impact of Timber Certification

Around 80 million hectares of forest world-wide have been certified by some 24 international certification schemes. These schemes cover less than 2.5% of global forests and supply only 1-2% of global industrial wood requirements.⁵⁷

The Forest Stewardship Council's⁵⁸ certification programme is overwhelmingly in 'northern' areas. FSC endorses only 12.2% of Latin America's total certified areas, for instance, compared with 63.4% of Europe's.⁵⁹ Yet Europe is not where the main problem lies. In most cases, sustainable management practices are already in place in the north. The main culprit of global deforestation is domestic consumption by developing countries of tropical wood as fuel and conversion of forests into farmland.⁶⁰ Schemes like the FSC are currently unable to address this in their certification process. The actual environmental impact in a global sense therefore of such certification programmes is relatively limited.⁶¹

environment is that it is extremely difficult to isolate and measure the environmental benefits of eco-labelled goods as distinct from benefits achieved through other environmental measures and even structural and technological changes to process and production methods.

The following offers an outline of some of the actual evidence in this regard, including on forestry and fisheries-related labelling programmes (Boxes 5 and 6). It raises a significant question as to whether the eco-labels were really the catalyst for change, or whether other factors may reasonably be considered to have played a significant role.

The Swedish Environmental Choice (SEC) programme was formed by the Swedish Society for Nature Conservation and three of the largest retail chains in Sweden. The SEC scheme has eco-labels for a range of products including detergents, cleaning agents and paper products. It has been argued that, as a direct consequence of the SEC eco-label for unbleached paper, the

discharges of chlorinated organic compounds were reduced from 175,000 metric tonnes to less than 10,000 tonnes in the early 1990s.⁶²

This may, however, be a questionable causal link to make. Pulp and paper manufacturers were already aware of the difficulties this level of discharge was causing, not least in terms of their public image. In the late eighties, several Swedish municipalities led a (non-eco-label) campaign to force the mills to address the problem. This pre-dated by some eighteen months the eco-labelling programme. Within two years, the manufacturers took advantage of new technologies for pulping paper, which reduced the need for chlorinated organic discharges and changed their processing methods to less environmentally harmful ones.⁶³

The Nordic Swan programme was established in 1989 by the Nordic Council of Ministers for Consumer Affairs. It was the first multi-country voluntary eco-label programme and sought to harmonise the proliferation of schemes operating across the region. In 1996, the Nordic Council of Ministers suggested that the environmental benefits of the programme were significant. This report noted that eco-labels for detergents had resulted in the complete elimination of optical whiteners, many surfactants and chelates. The report also observed that Nordic Swan-labelled oil-fired boilers had reduced CO₂ emissions by 78% and NO_x emissions by 58%.⁶⁷

On the face of it these appear to be impressive results. They are, however, somewhat misleading. The use of optical whiteners, surfactants and chelates was already being eliminated in many other countries (in France, and the UK, for example, which did not use eco-labels on these goods). In effect, the absence of these materials had become an industry standard and the product was changed in line with improved processes, rather than as a direct consequence of the eco-label per se. With regard to the Swan-labelled boilers, these accounted for less than 0.4% of all oil-fired boilers in the region. Their environmental impact was therefore minimal. Five years later, in response to significant improvements in emission-reduction technology, more than 80% of boilers in the region were achieving the same reduction levels, without the eco-label.⁶⁸

The oldest and most famous eco-label programme in the world is the German Blue Angel scheme. Created in 1977, it certifies a wide range of consumer products and has provided the model for similar schemes internationally.⁶⁹ It has been argued that the application of the Blue Angel eco-label for certain oil and gas heating appliances led emissions of carbon monoxide, nitrogen oxide and sulphur dioxide to fall by more than one-third over a three to five year period. Similarly, the Blue Angel label for low-solvent paints is estimated to have reduced the amount of solvents released into the environment by some 40,000 tonnes.⁷⁰

One needs to treat these claims of a casual link between the eco-label and the environmental improvements with some caution. Over the period that the German eco-label was applied to oil and gas heaters there were significant technological changes occurring resulting in improvements in the ability of all heaters (not just eco-labelled ones) to reduce emissions. The Blue Angel label was applied to heaters which met a certain emission standard (these standards changed yearly in response to the technological improvements). New

Box 6. Sustainable Fisheries and the Marine Stewardship Council

The MSC's impact on sustainable fisheries has been limited. The total output from MSC-certified fisheries is 536,251 tonnes. Using the FAO figure of 78 million tonnes for the world's marine capture fisheries production,⁶⁴ around 0.74% of the world's marine capture fisheries has been certified to the MSC Standard.⁶⁵ It's also worth noting that the overwhelming majority of the certificates have been issued to developed country programmes (eg Australia (lobster), New Zealand (hoki), and US (salmon), which were already seeking to implement sustainable fisheries management techniques. These limited results are certainly a consequence of limited funding for research and a lack of scientific data, combined with the fact that MSC is a relative newcomer to the field. There is a suspicion however, that rather than 'greening' trade, the MSC approach may simply cause problems to move elsewhere. As the FAO has noted, when a fishery achieves certification, there is a risk that excess fishing capacity may be redirected to uncertified fisheries, increasing the pressure on the global resource.⁶⁶

chemical-production methods for solvents made it possible for paint manufacturers to progressively lower solvent content in paint. This process was discovered in the US (where there was no eco-label in place for such paint) and adopted internationally. It is possible to argue therefore that the Blue Angel label highlighted for consumers a technological trend which had a positive environmental impact, rather than acted as the catalyst for it.

Perhaps the principle judgement one can make about eco-labels and their environmental effectiveness is that this is very difficult to determine. In many cases, it is simply not possible to draw a causal link. A wide range of other variables, including structural changes in processes and production methods may be responsible. The main point therefore is that eco-labels *may* be useful in reducing environmental impacts when used *in combination* with other policy instruments, and under certain background conditions.⁷¹

Conclusion

At its heart, eco-labelling is a debate about the extent to which information can be used to help or hinder the functioning of a competitive market for goods. Any fair-minded interpretation of the WTO-related aspects would conclude that the intention was never to restrict the ability of consumers to demand fuller and more detailed information about a product, including its environmental impact. The difficulty with many private voluntary eco-labelling programmes, however, is that the standard principles governing the ‘rules of the game’, i.e. transparency and non-discrimination, do not appear to apply.

This does not necessarily lead to the conclusion that such eco-labels are beyond redemption. Under the right conditions and with a careful eye to some basic WTO principles, they could be a powerful mechanism for both trade and environmental reasons. The kinds of problems highlighted in this paper can be relatively easily rectified in a way which accords both with the consumer’s right to more information and the rights of traders not to be discriminated against.

What is needed is a two-pronged approach. *First*, a long hard look needs to be taken at the ‘one-size-fits-all’ approach taken by many private voluntary eco-labelling programmes. It should be acknowledged that these simply cannot capture the differing environmental circumstances prevailing in other countries. One way to address this may be to encourage the ‘franchisement’ of some of the better known private eco-labels to developing country exporters. The Blue Angel programme (for instance) could operate out of a developing country and certify goods to the Blue Angel standard in a way, which took into account the differing environmental pressures prevailing in developing countries. This would give consumers access to a well-known and respected ‘brand,’ while at the same time acknowledging that differing circumstances do not necessarily mean lower environmental standards. Such an approach would ensure improved information for consumers combined with the prospect of a modest price premium for developing countries. For this to work more technical and financial assistance from developed countries to support the franchising process would be required.

Second, all parties should be prepared to concede that a measure of governmental participation in private voluntary eco-labelling programmes might be appropriate. There *is* a case for a public sector role and this need not be intrusive or heavy-handed. Government involvement could be limited, for instance, to ensuring the veracity of labels (i.e. that the consumer is not being misled); and seeking to prevent discriminatory trading practices.

If agreement can be reached that a modest linkage between governments and a private eco-labelling scheme could be a positive development then this could be registered at the WTO. Such an acknowledgement could complement the TBT, perhaps in the form of a very brief and modest ‘Decision’ or an ‘Understanding’ in support of the Agreement. By formalising the possibility of a link between

government and private voluntary programmes at the WTO this would: (a) underscore a commitment to ensure transparent and non-discriminatory practices by all parties; and (b) open the door to a challenge against protectionist eco-labels at the WTO.

This approach has distinct advantages over the current impasse. Greater governmental engagement may improve the likelihood of private voluntary eco-label schemes playing by the 'rules of the game.' At the same time, 'franchising' well-known eco-labels to developing countries in such a way as to eschew the 'one-size-fits-all' paradigm, offers developing country traders the potential for a very modest price premium, or at least no worsening of current levels of market access. And, perhaps most significantly, the linkage created between private voluntary schemes and Governments raises the prospects for a legal challenge against discriminatory programmes in the only forum where the international 'rules of the game' can be made to count.

ENDNOTES

¹ The OECD is the leader in this area. It first offered a definition of “environmental labelling” in 1991 when it described the term as the ‘voluntary granting of labels by a private or public body in order to inform consumers and thereby promote consumer products which are determined to be environmentally more friendly than other functionally and competitively similar products’ (see OECD (1991) *Environmental Labelling in OECD Countries*, OECD, Paris). The GATT Secretariat, reflecting perhaps its interest in how labelling schemes may affect trade flows offered a wider definition describing environmental labelling as ‘systems for the usually voluntary granting of labels by a private or public body in order to inform consumers’ (GATT (1992) *Packaging and Labelling Requirements*, TRE/W/3, 29 September). UNCTAD drew on the OECD definition when it defined environmental labels as ‘the use of labels in order to inform consumers that a labelled product is environmentally more friendly relative to other products in the same category’ (see V Jha R Vossenar and S Zarilli (1993) *Ecolabelling and International Trade*, UNCTAD Discussion Paper, No 70, UNCTAD, Geneva, October). In 1993, the GATT Secretariat revised its definition and differentiated between ‘environmental labelling’ and eco-labelling’ by using the former to cover all labels while the latter only covered labels which used life cycle analysis (GATT (1993) *Packaging and Labelling Requirements*, TRE/W/12, 14 June). For a good overview of the definitional issues involved see A E Appleton (ed) (1997) *Environmental Labelling Defined and Policy Implications Described*, in *Environmental Labelling Programmes: International Trade Law Implications*, Kluwer Law International, London.

² In essence, there are three main types of environmental labels. The first are so-called *single-issue voluntary labels*. This is the largest grouping and describes labels that offer information about one aspect of the product. Examples include logos citing that the product is “recyclable” or “CFC free”. *Single issue mandatory labels* (also known as negative labels) on the other hand encompass such ‘negative’ label descriptors as “eco-toxic” or “flammable.” Single-issue labels generally provide a ‘yes-or-no’ judgement (i.e. is the product recyclable? or flammable? etc) and are thus distinct from the third category of labels, which strictly speaking encompass what we understand to be ‘eco-labels’ (see the discussion in the main body of the paper). This breakdown draws on the outline offered in J Salzman’s chapter entitled ‘The Trade Implications of Trends in Eco-labelling’ contained in OECD (1994) *Life Cycle Management and Trade*, OECD, Paris.

³ This definition draws on and adapts Appleton’s (ibid) suggestions.

⁴ The TBT Agreement can be accessed at: http://www.wto.org/en/english/docs_e/legal_e/17-tbt.pdf

⁵ The Agreement divides governmental technical requirements into two categories: regulations which are mandatory (known as ‘technical regulations’) and those that are voluntary (known as ‘standards’). Annex 1 of the TBT Agreement specifically defines a standard, noting that this is a “document approved by a recognised body that provides for common and repeated use, rules, guidelines or characteristics, for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.” (Idem).

⁶ The TBT details a set of basic principles to which standards should adhere. These may be summarised as follows: standards should be prepared, adopted and applied in a non-discriminatory fashion (i.e. the TBT incorporates the most favoured nation (Article I of GATT 1994) and national treatment provisions (Article III of GATT 1994)); they should not constitute unnecessary barriers to international trade (Article 2.2 of the TBT Agreement); If international standards exist, standardising bodies must use them, unless they are deemed to be either ineffective or inappropriate (Articles 4 and 9 of the TBT Agreement); WTO members are encouraged to enter into mutual recognition agreements with respect to the conformity assessment procedures they apply to their standards (Article 5 of the TBT Agreement); and Transparency through the establishment of a procedure for the notification of standards when they are still at a draft stage, and through the creation of enquiry points to respond to questions posed in respect of them (Article 10 of the TBT Agreement).

⁷ Annex 3 refers.

⁸ While the TBT does not specifically apply to private programmes, such schemes may still attract WTO attention through the anti-dumping provisions of the Agreement on Subsidies and Countervailing Measures. It’s also worth

noting that there is an obligation in the TBT (Article 3.5) noting that Members are responsible for ensuring the observation of all provisions contained in Article 2 (Preparation, Adoption and Application of Technical Regulations by Central Government Bodies) and that they should “formulate and implement positive measures and mechanisms in support of the observance of the provisions of Article 2 by other than central government bodies.” Given that Article 3 is entitled “Preparation, Adoption and Application of Technical Regulations by Local Government Bodies *and Non-Governmental Bodies*” there does appear to be room to expect Members states to do more about voluntary schemes to ensure they meet WTO requirements.

⁹ See in particular, the outline and analysis provided by W S Chang (1997) *GATTing a Green Trade Barrier*, *Journal of World Trade*, 31, pp. 137-159. See also Appleton (ibid), S. Charnowitz, *GATT and the Environment: Examining the Issues*, *International Environmental Affairs*, 1992 4 (3), pp. 203-33, and more recently, Charnowitz, S., “A Critical Guide to the WTO’s Report on Trade and the Environment”, *Arizona Journal of International and Comparative Law*, 14, 1997.

¹⁰ The emphasis here is on the word ‘potentially’. The reality is no one has taken such a case to the WTO. See in particular, G Sampson (2000) *Trade, Environment and the WTO: The Post-Seattle Agenda*, John Hopkins University Press, Overseas Development Council, Washington DC. For an outline of the wide range of concerns raised with regard to labelling (mandatory and voluntary), including voluntary programmes which involve Governments in some way, see in particular WTO (2002) *Specific Trade Concerns Related To Labelling Brought to the Attention of the Committee Since 1995*, Note by the Secretariat, 4 October G/TBT/W/184.

¹¹ GATT Article III refers. The WTO-consistency of eco-labelling schemes may be considered under the aegis of the concept of ‘like products’ incorporated in GATT Article I, the most favoured nation clause, and GATT Article III, the national treatment clause. Articles I and III together constitute the WTO’s principle of non-discrimination. GATT (1994) which should be read along side GATT 1947 can be accessed at http://www.wto.org/english/docs_e/legal_e/06-gatt.pdf A useful outline of the ‘like products’ issue is provided in D H Regan (2002) *Regulatory Purpose and “Like Products” in Article II: 4 of the GATT (With Additional Remarks on Article III:2)*, *Journal of World Trade* volume 36 (3), pp. 443-478

¹² See the useful description of PPMs and non-product related PPMs in UNEP/IISD (2000) *Environment and Trade: A Handbook*, UNEP/IISD, Geneva and Chang (ibid). The key determinant is how the PPM affects the final product. And the distinction between product and non-product related process and production methods can be illustrated with an example. Take two pears, the first is produced organically and the second grown with the use of pesticides. Two very different PPMs, but this affects the handling and use of the fruit. Border authorities will, for instance, want to subject the first to rigorous testing against the presence of invasive species and the second for acceptable (ie compatible with health and phytosanitary standards) residue levels. The rather different PPMs involved affect the final product, and thus the production process would be treated as product related. Non-product PPMs are identifiable by the negligible impact they have on the final product. Take two types of photocopy paper, the first made from recycled paper and the second from virgin wood fibre. Two very different PPMs, but the final product (paper) does not have different qualities, ie the recycled wood paper performs in precisely the same way as the virgin fibre paper. Consequently the recycling process is considered a non-product-related PPM. While WTO rules do not prevent countries from discriminating on the basis of product-related PPMs, there are rules governing the process of discrimination. The Agreement on the Application of Sanitary and Phytosanitary Measures has an explicit preference for the use of agreed international standards, including the Codex Alimentarius Commission, the International Office of Epizootics and others (eg Article 3 on Harmonisation). Non-product-related PPMs, however, are regarded rather differently. It is argued that these may not be discriminated against, regardless of their differing environmental effects. The latter is a point which has underpinned numerous developing country interventions at the WTO Committee on Trade and the Environment and at the TBT Committee. Many of the developing country CTE papers on eco-labelling are available at the WTO home page (http://www.wto.org/english/tratop_e/envir_e/envir_e.htm) (conduct a search for documents (“working documents” through the ‘Search Document’ function on the CTE site link). For a robust analysis of the point see in particular J Chakarian (1994) PPMs and the GATT, in *Trade and Environment: Process and Production Methods*, OECD, Paris, pp. 113-120.

¹³ See, for instance, A Cosbey (2001) *The WTO and PPMs: Time to Drop a Taboo*, *Bridges*, Year 5 Number 1-3 (January-April), pp. 11-12; R Howse (2000) *The Product/Process Distinction – An Illusory Basis for Disciplining*

“Unilateralism” in Trade Policy, *European Journal of International Law*, 11 No 2 and S Charnowitz (2002) *The Law of Environmental “PPMs” in the WTO: Debunking the Myth of Illegality*, *Yale Journal of International Law*, volume 27, pp. 59-110.

¹⁴ Personal Communication ,Abdulkhafiz Kayumov, Director, UzbekOboshFruktoviProm, Tashkent, Uzbekistan, 10 October 2002.

¹⁵ On the Dutch Butterfly label see in particular H Verbruggen, S Jongma and F van der Woerd (ibid)

¹⁶ This is more than an academic point. Private domestic producers working with NGOs, for instance, have established numerous eco-labels in many countries where the certification process includes assessments of process and production methods which, while relevant to local conditions are, for the most part, wholly irrelevant to developing countries (see in particular Institute of Agriculture and Trade Policy (1998) *Marketing Sustainable Agriculture: Case Studies and Analysis from Europe*, IATP, Minnesota). Examples cited range from the US to the EU and Japan.

¹⁷ Paragraph 32 of the Doha WTO Declaration states that Ministers “instruct the Committee on Trade and Environment, in pursuing work on all items on its agenda within its current terms of reference, to give particular attention to: ... (iii) labeling requirements for environmental purposes.” The full text of the Doha WTO Ministerial Declaration is available at: http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.pdf.

¹⁸ Paragraph 14 (a) of the Implementation Plan makes a specific reference to life cycle analysis noting that “...to accelerate the shift towards sustainable consumption ... would require actions at all levels to: (a) Identify specific activities, tools, policies, measures and monitoring and assessment mechanisms, including, where appropriate, life-cycle analysis and national indicators for measuring progress, bearing in mind that standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries;...” More significantly perhaps paragraph 14 (e) encourages the development and adoption “where appropriate, on a voluntary basis, effective, transparent, verifiable, non-misleading and non-discriminatory consumer information tools to provide information relating to sustainable consumption and production, including human health and safety aspects. These tools should not be used as disguised trade barriers;” The full text of the Implementation Plan is at: http://www.johannesburgsummit.org/html/documents/summit_docs/2309_planfinal.htm

¹⁹ On these points see the useful overview of the issue by A Markandya (1997) *Eco-labeling: An Introduction and a Review*. In Zarilli S, Jha V and R Vossenaar (1997) *Eco-labeling and International Trade*, Geneva and K P Ewing and R G Tarasofsky (1997) *The Trade and Environment Agenda: Survey of Major Issues and Proposals*, From Marrakesh to Singapore, IUCN/ICEL, Environmental Policy and Law Paper, No 33. m

²⁰ Author’s research based on a comparison of selected WTO tariff schedules (country offers) detailing commitments from 1994 onwards on four digit and six digit leather goods, textiles and cut flowers (at the six digit level) and the start dates of a range of new or modified eco-labels. For the negative impact on the Colombian cut flower industry, for instance, see in particular, the Colombian Government’s submission to the WTO (Government of Colombia (1998) *Environmental Labels and Market Access: Case Study on the Colombian Flower-Growing Industry*, WT/CTE/W/76 and G/TBT/W/60, 9 March).

²¹ OECD (2002) *Adapting Turtle-Excluder Devices to Local Conditions*, in *Development Dimensions of Trade and Environment: Case Studies*, OECD, Paris (COM/TD/ENV(2002)87) and L Skou (1996) *Rules to Protect Sea Turtles Could Block Shrimp Imports*, *Journal of Commerce*, 30 April

²² In 1997, Malaysia, India, Pakistan and Thailand challenged the US measure at the WTO. The upshot was that the WTO did recognise the United States’ right to protect sea turtles, so long as it did this by negotiating turtle-protection agreements, as it had done with countries in the Americas, rather than by imposing its rules unilaterally. (United States – Import Prohibition of certain shrimp and shrimp products, AB–1998–4, WT/DS48/AB/AR (Appellate Body *Shrimp-Turtle*).

²³ A detailed outline of stakeholder responses, as well as of the main issues, is contained in R Salz (1998) *Sea Turtle Mortality, Shrimp Fisheries, and International Trade: A Case Study of a Global Natural Resource Conflict*, University of Massachusetts and available at <http://www.umass.edu/hd/turtle.PDF>

²⁴ For more details about the campaign, its impact and lobbying techniques see <http://www.seaturtles.org/index.html> and, in particular the various links from this site, including <http://www.seaturtles.org/progBackground.cfm?campaignBackgroundID=33>

²⁵ In the US context there are a proliferation of schemes established by local producer groups designed for local conditions and circumstances, including for instance California Clean (<http://www.californiaclean.com/who.html>); Salmon-Safe (<http://www.pacrivers.org>) based in Oregon, but covering a segment of the Northwest Pacific of the US (see also the useful outline of the programme contained in IATP (2000) *Incentives for Wildlife Enhancement on Midwestern Farms, MPLs, Ohio* (also available electronically at: [http://www.iatp.org/labels/library/admin/uploadedfiles/Incentives for Wildlife Enhancement on Midw 2.pdf](http://www.iatp.org/labels/library/admin/uploadedfiles/Incentives%20for%20Wildlife%20Enhancement%20on%20Midw%202.pdf)). On the Predator Friendly Wool Programme, see IATP (idem) and also www.lambandwool.com) There are numerous other State-based industry and NGO-led programmes in the US which offer 'niche' eco-labels to local producers. See for instance, Stemlit Growers Inc (contactable at reed@ncw.net); the Californian Certified Organic Farmers (<http://www.ccof.org/>); the Massachusetts-based label programme called Partners with Nature (http://www.massgrown.org/how_to/partners.htm); the rancher driven Kansas-based Tallgrass Beef label (www.tallgrassbeef.com), and the Environmental Quality Initiative (www.eqinitiative.com).

²⁶ Interestingly, this concern about third party certification (dejure and/or de facto) appears regularly in the annual European Commission report on barriers its members face in the US market, including at the state and municipal level (European Commission (2002) *Report on United States Barriers to Trade and Investment*, European Commission, Brussels, see in particular pp.23-27).

²⁷ See in particular, Government of Colombia (ibid) and also OECD (2002) *Eco-labels for Cut Flowers*, in *Development Dimensions of Trade and Environment*, OECD, Paris, 3 October (COM/ENV/TD(2002)87)

²⁸ For the case of Costa Rica see OECD (2002). By 2000, Malaysia and a number of other developing countries affected by the 'turtle friendly' labelling programme accepted this de facto standard in the US market at least and established their own certification programme by using specially designed TEDs which did not have the same problems as those posed by the US-designed TEDs.

²⁹ On the Turkish experience see C Aruoba (1997) *Eco-labelling in the EU and the Export of Turkish Textiles and Garments* in S Zarrilli, V Jha and R Vossenaar (1997) *Eco-labelling and International Trade*, Macmillan, Basingstoke, pp. 99-113

³⁰ This issue is explored in more detail with reference to Thailand in S Wigzell (1997) *Thailand and Eco-labelling*, in S Zarrilli, V Jha and R Vossenaar (1997) *Eco-labelling and International Trade*, Macmillan, Basingstoke, pp. 114-133

³¹ The MSC was established following a joint initiative by the WorldWide Fund for Nature and Unilever to create a voluntary third party certification programme based on standards for sustainable fishing. These standards are drawn in part from internationally agreed sets of norms, such as the FAO Code of Conduct for Responsible Fisheries. More information about the history and work of the Marine Stewardship Council is available at: <http://www.msc.org/>

³² Unilever, for instance, has indicated that by 2005 it will only sell fish from sustainable sources, including those bearing the MSC seal of approval (cited in S Mathew (2000) *Sustainable Development and Social Well-being: Which approach for Fish Trade?* Bridges, Year 4, Number 3, pp. 11-12 and 14. Also available at: <http://www.ictsd.org/English/BRIDGES4-3.pdf>).

³³ Food and Agriculture Organisation (2000) *The State of the World Fisheries and Aquaculture*, Rome, (see also: www.fao.org/DOCREP/003/X8002E/X8002E00.htm)

³⁴ Idem. Note also that MSC (as with some other NGO-driven eco-labelling schemes (Global Aquaculture etc) have sought to take into account the concerns of developing countries, including on the science and data related questions raised by the MSC approach. The problem remains, however, that MSC is hampered by a lack of funding to adequately adapt its current assessment procedures to take into account some of the difficulties inherent in certifying developing country fisheries (on this point see in particular OECD 2002).

³⁵ OECD (1997) *Eco-labelling Actual Effects of Selected Programmes*, OECD, Paris (OCDE/GD(97)105

³⁶ H Verbruggen, S Jongma and F van der Woerd (1997) *Eco-labelling and the Developing Countries: The Dutch Horticultural Sector*, in S Zarrilli, V Jha and R Vossenaar (1997) *Eco-labelling and International Trade*, Macmillan, Basingstoke, pp. 147-8 of pp. 143-158

³⁷ Research on the cost of sustainable management processes related to eco-label certification is relatively limited. The timber industry has been the subject of the most research and this suggests that these are significant for developing countries. Unfortunately, the lack of genuinely reliable figures is caused by the absence of commonly agreed operational definitions of sustainable forest management. On this problem, see in particular B Haji Gazali and M Simula (1994) *Certification Scheme for all Timber and Timber Products*, ITTO, Cartagena, May

³⁸ Cited in R Crossley, C S A Primo Braga and Panayotis N Varangis (1997) *Is there a Commercial Case for Tropical Timber Certification?* S Zarrilli, V Jha and R Vossenaar (1997) *Eco-labelling and International Trade*, Macmillan, Basingstoke, p. 244 from pp. 228-250.

³⁹ R Paris and I Ruzicka (1991) *Barking up the Wrong Tree: The Role of Rent Appropriation in Sustainable Forest Management*, Environmental Office, Occasional Paper, Number 1, Asian Development Bank, Manila

⁴⁰ R Crossley, C S A Primo Braga and Panayotis N Varangis (ibid). Appendix 1 of this study also set out the calculations for the 'green premium' in the tropical timber trade.

⁴¹ This figures is based on the data for foregone foreign exchange revenue from plywood exports (which would not be covered by an eco-label). See also M Ahmad (1994) *The Importance of Eco-labelling and Timber Certification for Indonesia's Export Markets*, Department of Agriculture Economics.

⁴² Government of Colombia (ibid).

⁴³ Cited in Crossley et al (ibid).

⁴⁴ A Septiani and J Elliot (1994) *Viability of Eco-labelling Indonesian Wood Products as a Means of Enabling Sustainable Forest Management*, NRMP, Jakarta

⁴⁵ GDP per capita data taken from the Human Development Index available at <http://www.undp.org/hdr2001/back.pdf>

⁴⁶ Uzbekistan sought certification from Agriculture Biologique. See earlier footnote regarding Uzbekistan for sources.

⁴⁷ More information about ISO's environment-related certification process is available at <http://www.iso.ch/iso/en/iso9000-14000/iso14000/iso14000index.html>

⁴⁸ Personal Communication with Mr Pascale Mienville, ISO certifying agency, AFNOR Certification (France), 5 November 2002.

⁴⁹ See for instance, D Miller (2001) *Presentation to the OECD Workshop on Information and Consumer Decision-making*, 16-17 January 2001

⁵⁰ For a useful summary of the economic case against such price premiums see in particular the seminal analysis by A Jaffe, S Peterson, P Portney and R Stavins (1993) *Environmental Regulations and the Competitiveness of US Industry*, Report prepared for the US Department of Commerce, The Economic Resources Group, Cambridge, Mass.

⁵¹ D Winterhalkter and D L Cassens (1993) *United States Hardwood Forests: Consumer Perception and Willingness to Pay*, Department of Forestry, August.

⁵² See for instance the study by Gerstman and Meyer (1991) who discovered a 1-4% price premium from 75% of all consumers, or the study by D Winterhalter (1994) *Consumer Perception and Willingness to Pay: Results of Two National Surveys*, Purdue University, May which notes that 57% of consumers say they are prepared to pay a 1-5% premium.

⁵³ E van Ravensway and J Hoehn (1991) *Consumer Willingness to Pay for Reducing Pesticides in Food: Results of A Nation-wide Survey*, Discussion paper, Department of Agricultural Economics, Michigan State University.

⁵⁴ Market and Opinion Research International Limited (1998) *Business and the Environment: Attitudes and Behaviour of the General Public: Public Trends 1989-1998*, September

⁵⁵ UNCTAD (1999) *Profiting from Green Consumerism in Germany: Opportunities for Developing Countries in Three Sectors: Leather and Footwear, Textiles and Clothing and Furniture*, Analytical Studies on Trade, Environment and Development, UNCTAD, Geneva.

⁵⁶ European Commission (1999) *Environnement? Ce que les Europeens en Pense*, Sondage Eurobarometre, EC and Environics International (2000) *The Environmental Monitor*, Environics, Canada

⁵⁷ Cited in UNCTAD/IRSG (2002) *Proceedings of the Fifth Joint Workshop on Rubber and the Environment*, Glasgow, 4-5 February

⁵⁸ For more information about FSC see <http://www.fscoax.org/>

⁵⁹ See in particular the global map of FSC certifications at http://www.wcmc.org.uk/forest/fil/fis/fsc_large.htm

⁶⁰ H E Sheppard (1999) *Timber Certification: An Alternative Solution to the Destruction of the Chilean Forests*, volume *Journal of Environmental Law and Litigation*, volume 14, pp. 301-349

⁶¹ See also T Hock (2001) *The Role of Eco-labels in International Trade: Can Timber Certification be Implemented as a Means of Slowing Deforestation?* *Colorado Journal of International Environmental Law and Policy*, volume 12, part 2, pp. 347-365

⁶² E Eiderstrom (1993) *The Merits of Eco-labelling*,

⁶³ See OECD (1997) and C C Erskine and L Collins (1996) *Eco-labelling in the EU: A Comparative Study of the Pulp and Paper Industry in the UK and Sweden*, *European Environment*, volume 6, pp. 40-7

⁶⁴ Food and Agriculture Organisation (1998) *The State of the World Fisheries and Aquaculture 1998*, FAO, Rome

⁶⁵ Personal communication Ms Oluyemisi Oloruntuyi , Marine Stewardship Council, 15 October 2002

⁶⁶ Food and Agriculture Organisation (2000) *The State of the World Fisheries and Aquaculture*, Rome, (see also: www.fao.org/DOCREP/003/X8002E/X8002E00.htm)

⁶⁷ Nordic Council of Ministers (1996) *Nordic Eco-labelling – Scheme and Evaluation*, 1996, Oslo

⁶⁸ Nordic Council of Ministers (ibid), OECD (1997) K Jameson (1999) *Eco-labels and Nothing But the Truth on Environmental Reporting*, Virginia Environmental Law, volume 7, pp. 457-689

⁶⁹ For an overview of the programme, see in particular H Neitzel (1995) *The Development of the Blue Angel Scheme in Germany*, Berlin, March

⁷⁰ UNCTAD (1995) *Trade, Environment and Development Aspects of Establishing and Operating Eco-labelling Programmes*, UNCTAD, Geneva, TD/B/WG.6/5

⁷¹ On this point see in particular OECD (2002) *Towards Sustainable Household Consumption? Trends and Policies in OECD Countries*, OECD, Paris.