June 16, 2006

Dispute Settlement Body
World Trade Organization
Centre William Rappard
Rue de Lausanne 154
CH-1211 Geneva 21, Switzerland

Honorable Members of the Panel:

With reference to the comprehensive authority of dispute settlement Panels established by the Dispute Settlement Body of the World Trade Organization (WTO) to accept and consider any information it considers pertinent and useful from a relevant source in the settlement of a dispute, and with reference to Article 13 and Article 12.1 of Appendix 3 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes*, as interpreted by the Appellate Body in *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R at Paras. 99-110 (adopted Nov. 6, 1998), and *United States – Imposition of Countervailing Duties on Certain Hot-Rolled Lead and Bismuth Carbon Steel Products Originating in the United Kingdom*, WT/DS138/AB/R at Paras. 36-42 (adopted June 7, 2000), Humane Society International, a non-party to the dispute, hereby requests permission of the Panel to submit information by way of an *amicus curiae* submission to the DSB in the matter of *Brazil – Measures Affecting Imports of Retreaded Tyres*, WT/DS332.

Humane Society International (HSI) operates as the international arm of The Humane Society of the United States (HSUS). Founded in 1954,The HSUS is the largest animal protection organization in the United States with a constituency of over 10 million. The HSUS works in the United States and abroad to reduce suffering and to create meaningful social change for animals by advocating for public policies to protect animals through programs and campaigns promoting the humane treatment of farm and companion animals, investigating animal cruelty, and the protection wildlife and their habitat. As the international arm of The HSUS, HSI works to promote the protection of all animals around the world by participating in programmatic activities in developing countries, advocating for the effective enforcement of international environmental treaties, and furthering humane and sustainable international trade policy. HSI maintains a significant global presence by operating offices in Asia, Australia, Canada, Central America and the European Union.

HSI actively participates in discussions of international trade policy at the WTO addressing such issues as equitable development, humane and sustainable agriculture, environmental conservation, and wildlife and habitat protection. In addition, as a member of the Trade and Environment Policy Advisory Committee in the United States, HSI advises the United States

Promoting the protection of all animals worldwide
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Trade Representative and the U.S. Environmental Protection Agency on international trade policy. Locally, HSI implements a number of trade capacity building and technical assistance programs in developing WTO Member countries to support sustainable economic development including humane agricultural practices and habitat protection policies.

With respect to the instant dispute before the Panel, HSI supports Brazil's position under Article XX(b) that its measures are *necessary to protect… animal life or health*. As will be more fully developed in the attached submission, HSI believes that waste tyres pose a significant hazard to animal life, biodiversity, and ultimately the environment in Brazil and, therefore, Brazil should have the right to regulate the import of limited use products such as retreaded and used tyres. HSI, therefore, respectfully requests that the Panel consider the enclosed *amicus curaie* submission in its deliberations and recommendations in *Brazil – Measures Affecting Imports of Retreaded Tyres*, WT/DS332.

Respectfully submitted,

Patricia A. Forkan
President, Humane Society International

BEFORE THE
WORLD TRADE ORGANIZATION
DISPUTE SETTLEMENT BODY

Brazil – Measures Affecting Imports of Retreaded Tyres

(WT/DS332)

Written Submission of Non-Party

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16 June 2006

CASES CITED IN THIS SUBMISSION

Short Title	Full Case Title and Citation
Dominican Republic – Import and Sale of Cigarettes	Appellate Body Report, *Dominican Republic – Measures Affecting the Importation and Internal Sale of Cigarettes*, WT/DS302/AB/R, adopted 19 May 2005
EC - Asbestos	Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R, adopted 5 April 2001
EC – Asbestos	Panel Report, *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/R and Add.1, adopted 5 April 2001, as modified by the Appellate Body Report, WT/DS135/AB/R
EC – Tariff Preferences	Panel Report, *European Communities – Conditions for the Granting of Tariff Preferences for Developing Countries*, WT/DS246/R, adopted 20 April 2004, as modified by the Appellate Body Report, WT/DS/246/AB/R
Japan – Alcoholic Beverages II	Appellate Body Report, *Japan – Taxes on Alcoholic Beverages*, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, adopted 1 November 1996
Korea – Various Measures on Beef	Appellate Body Report, *Korea – Measures Affecting Fresh, Chilled and Frozen Beef*, WT/DS161/AB/R, WT/DS169/AB/R, adopted 10 January 2001
Thailand – Cigarettes	GATT Panel Report, *Thailand – Restrictions on Importation of and Internal Taxes on Cigarettes*, DS10/R, adopted 7 November 1990
U.S. - Gasoline	Appellate Body Report, *United States – Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R, adopted 20 May 1996
U.S. – Gasoline	Panel Report, *United States – Standards for Reformulated and Conventional Gasoline*, WT/DS2/R, adopted 20 May 1996, as modified by the Appellate Body Report, WT/DS2/AB/R
U.S. – Section 337	GATT Panel Report, *United States – Section 337 of the Tariff Act of 1930*, L/6439, 36S/345, adopted 7 November 1989
U.S. – Gambling	Appellate Body Report, *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, WT/DS285/AB/R, adopted 20 April 2005
U.S. - Shrimp	Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, adopted 6 November 1998

1. Our Interest

1. Humane Society International's ("HSI") interest in submitting this *amicus curiae* brief is to provide the Panel in the instant dispute with detailed scientific information regarding the deleterious effects waste tyres can have on animal populations including wildlife and livestock in Brazil. These dangers include the release of toxic emissions into the air, soil and water as a result of both the open and controlled burning of tyres. These toxins pose very serious health risks to animal populations including cancer, immunological, neurological, and reproductive disorders, and can contribute to further depletion of their natural habitat. In addition, waste tyres placed in landfills or stockpiles provide excellent breeding grounds for disease-carrying pests that can infect animal populations with a number of debilitating and deadly diseases. Finally, the international distribution of used tyres poses significant risks to Brazil's biodiversity through the transport of invasive species.

2. In its First Written Submission to the WTO Dispute Settlement Panel in *Brazil – Measures Affecting the Imports of Retreaded Tyres*, WT/DS332,[1] Brazil stated that pursuant to Article XX(b) of GATT 1994 it is justified in placing import restrictions on retreaded and used tyres. In order to obtain a provisional justification under Article XX(b), Brazil must show that its measures fall within the category of measures covered by Article XX(b) designed to protect human, animal or plant life or health, and that the measures are necessary to achieve such protection.

3. To receive a full justification under Article XX, however, Brazil must also show that the measures do not violate the chapeau of the Article. This requires a demonstration that the measures have not been applied in a manner constituting a means of arbitrary or unjustifiable discrimination between Members, or that they are a disguised restriction on international trade. As comments regarding the legality and consistency of Brazil's import restrictions of retreaded and used tyres with the chapeau of Article XX are outside the purview and mission of HSI, the issue of whether the import restrictions at issue constitute arbitrary or unjustifiable discrimination, or are a disguised restriction on international trade will not be discussed. However, based on the evidence and legal justification provided in this submission, HSI is of the position that Brazil should receive a provisional justification for an Article XX(b) exception as its import restrictions are indeed "necessary to protect human, animal or plant life or health."

2. Claims of the Parties

4. At the Dispute Settlement Meeting of November 28, 2005, the European Communities ("EC") requested the establishment of a Panel to review various measures imposed by Brazil restricting the import of retreaded and used tyres.[2] The EC claimed that Brazil's measures restricting the import of retreaded and used tyres violated several fundamental rules of GATT 1994 including the prohibition on the use of quantitative restrictions on

[1] *Brazil – Measures Affecting Imports of Retreaded Tyres*, WT/DS332, First Written Submission of Brazil (8 June 2006) at 3, *available at* http://www.mre.gov.br/portugues/ministerio/sitios_secretaria/cgc/pneus.asp [*hereinafter* Brazil FWS].
[2] WT/DSB/M/200, para. 35.

imports, and that the measures could not be justified on the grounds that they contributed to Brazil's protection of the environment and public health.[3] The EC also challenged Brazil's conclusion that the importation of retreaded and used tyres has the effect of accelerating the accumulation of waste tyres in Brazilian landfills.[4]

5. Brazil responded noting that tyres are not ordinary products. Tyres, which are designed to be robust and durable, contain highly combustible and pollutant materials and generate large quantities of undesirable waste at the end of their useful life, making disposal difficult.[5] Furthermore, Brazil noted that the considerable negative impact waste tyres can have on the environment is exacerbated by the fact that there are currently no "environmentally sound and technically and economically viable" alternative methods available to dispose of large quantities of waste tyres other than placing them in stockpiles.[6]

6. According to Brazil, the waste tyre disposal policies of the EC, through the export of retreaded and used tyres, appear to depend on Brazil to assist in the disposal of large volumes of waste tyres produced in the EC in a "cheap and efficient manner."[7] With millions of waste tyres scattered around the country and no environmentally-appropriate disposal method available, Brazil began to restrict the import of retreaded and used tyres.[8]

3. Statement of the Facts

3.1 Import Restrictions on Used and Retreaded Tyres in Brazil

7. As an advancing developing country, Brazil has seen a general increase in per-capita income over the last few decades, translating into greater demand for more expensive consumer products including cars. More cars result in greater numbers of waste tyres, forcing the Brazilian government to make policy decisions regarding the disposal of those tyres. Brazil has stated that its priority with respect to management of waste tyres is to adopt measures that avoid the generation of extra amounts of rubber waste.[9] In particular, Brazil argues:

> No known disposal method exists that could handle the volume of waste tyres present in Brazil and be free from significant health and environmental risks. Until an as-yet undeveloped innovative and viable disposal solution eliminates these dangers, non-generation will remain the only management tool capable of minimizing them. Short of eliminating cars – which is obviously not a reasonably available alternative – no other measure can

[3] *Ibid.*; WT/DS332/4.
[4] WT/DSB/M/203, para. 61.
[5] WT/DSB/M/200, para. 37.
[6] *Ibid*. at para. 38.
[7] WT/DSB/M/203, para. 68.
[8] WT/DSB/M/200, para. 42.
[9] WT/CTE/W/241, para. 4.

prevent creation of waste tyres more effectively than an import ban on the shorter-lifespan retreaded tyres.[10]

8. In order to address the problems associated with the generation of large volumes of waste tyres, Brazil has adopted various measures seeking to prohibit the land-filling of tyres, as well as to define and monitor possible environmentally-appropriate tyre disposal methods. In addition, Brazil has also restricted imports of retreaded and used tyres to prevent the creation of unnecessary volumes of waste tyres and reduce the health-related dangers associated with their accumulation and disposal.[11] Brazil does not, however, limit the import of new tyres, whether exported individually or attached to motor vehicles, and encourages the retreading of new tyres it consumes.[12]

9. Tyre retreading is an accepted method used to postpone the eventual disposal of tyres. Retreaded tyres are used tyres which have had their worn treads replaced so that they can be utilized a second time. Retreaded tyres used for passenger vehicles, however, can only be retreaded once, making them shorter-lifespan products than new tyres.[13] Since they are shorter-lifespan products, the import and use of retreaded tyres necessarily results in the more rapid creation of additional waste tyres in Brazil, as well as the need for their disposal.

10. For years, scientists have agreed that severe risks to the environment and human and animal health result from the growing numbers of waste tyres around the world. For this reason many WTO Member countries – including the EC[14] – have taken to adopting laws and regulations to address the problem of waste tyre disposal.[15] In terms of international trade, countries that import retreaded or used (intended to be retreaded) tyres eventually become responsible for their disposal as waste tyres when they reach the end of their useful life. The United States has recognized this fact, noting that the downside of exporting scrap tyres from developed countries to developing ones is that the importing country may end up with a disproportionate amount of waste tyres which need to be disposed of in addition to their own internally-generated waste tyres.[16]

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[10] Brazil FWS, para. 94.
[11] WT/CTE/W/241, para. 5; Brazil FWS, para. 6.
[12] Brazil FWS, para. 79.
[13] Uniform Provisions Concerning the Approval for the Production of Retreaded Pneumatic Tyres for Motor Vehicles and their Trailers, United Nations ECE Regulation No. 108, Section 6.2 (3 November 1998).
[14] *See, e.g.*, Directive 2000/76/EC of European Parliament and of the Council of 4 December 2000 on Incineration of Waste (noting waste prevention is the first priority of any rational waste policy to reduce the hazardous properties of waste, and introducing strict controls on emission levels of toxic substances resulting from the disposal of waste tyres by burning them in kilns and incinerators), Council Directive 1999/31/EC on the Landfill of Waste (demonstrating awareness by the EC of problems associated with waste tyres and prohibiting the storing of tyres in landfills by 2006), Directive 2000/53/EC of European Parliament and of the Council of 18 September 2000 on End Life of Vehicles (requiring tyres to be removed from vehicles which are to be destroyed and placed in a landfill).
[15] WT/DSB/M/203, para. 62.
[16] U.S. Environmental Protection Agency, Management of Scrap Tires, Basic Information, *available at* http://www.epa.gov/garbage/tires/basic.htm; *see also* WT/DSB/M/200, Statement of Brazil, para. 41 ("It was also reasonable to conclude that the benefits deriving from [the trade in retreaded tyres] remained largely with the exporting countries, which got rid of the casings used to produce the retread and were paid for that. To the

3.2 Dangers of Waste Tyres

11. There are three main methods used to dispose of large volumes of waste tyres when they reach the end of their useful life. These include placing tyres in landfills (either whole or shredded), stockpiling waste tyres, or using waste tyres for material reclamation or energy generation. All three methods, however, present real and dangerous hazards to the life and health of humans, animal populations, and the environment. In addition, a number of these methods are neither considered economically-viable nor environmentally-appropriate in many wealthy countries, let alone a developing country such as Brazil. Thus, the only policy option available to reduce the health risks associated with waste tyres in Brazil is to decrease the amount of waste tyres generated in the country by restricting imports of shorter-lifespan retreaded and used tyres, and encouraging the retreading of new tyres.

12. In Brazil, as in many parts of the world, a large percentage of waste tyres are discarded into both legal and illegal stockpiles each year.[17] Stockpiling tyres, however, is frequently associated with hazardous tyre fires. These fires, which can be caused accidentally or through arson, generate large amounts of heat and smoke releasing dangerous toxins into the atmosphere. In addition, the runoff associated with efforts to put out these fires can leech into the ground polluting the soil and carrying toxic chemicals into the groundwater, waterways and wetlands.[18] A smaller percentage of waste tyres are disposed of through various methods of material or energy recovery. The viability of material and energy recovery endeavors, however, are often cost prohibitive and frequently require the controlled burning of waste tyres, again releasing toxic chemicals into the environment.

13. Finally, stockpiled tyres and those placed in landfills can become filled with rainwater, offering attractive breeding grounds for pests such as mosquitoes that can act as vectors for the transmission of life-threatening diseases for both humans and animals.[19] This is even more relevant in a tropical climate like that of Brazil where mosquitoes can thrive year-round. Furthermore, the transport of used tyres across the ocean has been associated with the introduction of invasive species and diseases that can threaten wildlife and their habitat.

3.3 Dangers Associated with Open and Controlled Burning of Waste Tyres

14. As noted above, waste tyres stored in stockpiles and landfills represent a serious fire hazard. Open tyre fires are very difficult to extinguish and can burn for months, as evidenced by studies of several long-lasting tyre fires in Canada, the United Kingdom and the United States.[20] These fires emit fumes and smoke into the atmosphere containing

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importing country remained the burden to dispose of rubber wastes generated by a product that entered its territory just to perform the final stage of its life cycle.").

[17] Even in the United States, where waste tyre reclamation and energy production can be an economically-viable method to dispose of a small number of waste tyres, fully one-quarter of all waste tyres are still placed in stockpiles each year. U.S. Environmental Protection Agency, Management of Scrap Tires, *available at* https://www.epa.gov/ garbage/tires/basic.htm#disposal.

[18] David M. DeMarini, *et al*., *Mutagenicity and Chemical Analysis of Emissions from the Open Burning of Scrap Rubber Tires*, Environ. Sci. Technol., Vol. 28, No. 1, 1994, 136-141, 136 [*hereinafter* DeMarini, *et al.*].

[19] *Ibid*. at 136.

[20] *See ibid.* (discussing the 9-month Rheinhart tyre fire that affected Winchester, Virginia in the United States); *see also* Air Emissions from Scrap Tire Combustion, EPA-600/R-97-115 (Oct. 1997) at 16-19 [*hereinafter* EPA 1997]

many hazardous pollutants including particulate matter, carbon monoxide, sulfur oxides, nitrogen oxides, and volatile organic compounds (VOCs); toxic air pollutants including dioxins, furans, hydrogen chloride, benzene, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PAHs); and heavy metals such as arsenic, cadmium, nickel, zinc, mercury, chromium and vanadium.[21]

15. Both human and animal exposure to toxic air pollution at a sufficient concentration and for an adequate period of time increases the chance of developing cancer and other serious health risks, including immunological, neurological, reproductive, developmental, and respiratory complications. Indeed, many of these toxins are mutagenic (causing biological mutations that can lead to birth defects, miscarriages or cancer)[22] or carcinogenic (cancer causing) in nature.[23] Open tyre fire emissions have been estimated to be 16 times more mutagenic than wood burning fireplaces, and 13,000 times more than coal-fired power plants.[24]

16. For example, particulate matter pollution - which occurs when especially fine particles are emitted into the air - contains microscopic particles so small that they can get deep into the lungs and heart causing serious health problems. Particulate matter can be carried over long distances by wind from its source at a tyre fire and then settle on the ground or in a body of water. The harmful effects of particulate matter pollution on animal populations and their habitat include: making lakes and streams acidic by decreasing the pH balance of bodies of water; changing nutrient balances in coastal waters and large river basins; depleting soil of its nutrients; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.[25] In particular, acid rain can cause a cascade of effects on wildlife by harming or killing individual species of fish, eliminating entire fish species from a body of water, and decreasing biodiversity.[26]

17. Nitrogen oxides, sulfur oxides and carbon monoxide released into the atmosphere by tyre fires also pose substantial health risks to animal populations. In particular, increased nitrogen-loading in bodies of water, especially coastal estuaries, will upset the chemical balance of nutrients used by aquatic plants and animals. Furthermore, while in the atmosphere, nitrogen oxides will react with common organic chemicals, and even ozone, forming a wide variety of toxic substances, the effects of which may cause biological

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(describing case studies of various tyre fires in the United States), *and* Chemical Hazard and Poisons Report, Health Protection Agency Chemical Hazards and Protection Division, Issue 1 (Dec. 2003) at 8, Table 1[*hereinafter* Chemical Hazard and Poisons Report] (reviewing several long-lasting open tyre fires in Canada, the United Kingdom, and the United States).

[21] Chemical Hazard and Poisons Report at 9, Box 1; *see also* EPA 1997 at viii.

[22] *See* EPA 1997 at 9 ("Mutagens are of concern because 'the induction of genetic damage may cause an increased incidence of genetic disease in future generations and contribute to somatic cell diseases, including cancer, in the present generation.'").

[23] DeMarini, *et al*., at 136.

[24] EPA 1997 at ix.

[25] U.S. Environmental Protection Agency, Particulate Matter, *available at* http://www.epa.gov/air/particlepollution/health.html.

[26] U.S. Environmental Protection Agency, Clean Air Markets - Environmental Issues, *available at* http://www.epa.gov/airmarkets/acidrain/effects/surfacewater.html.

mutations in wildlife and livestock.[27] Sulfur oxides emitted by tyre fires are also a contributor to acid rain, and can cause various nervous system and respiratory problems in animals.[28] Furthermore, inhalation of carbon monoxide released through open tyre fires can negatively affect both the cardiovascular and central nervous systems of animals. Carbon monoxide is also a major contributor to smog.[29]

18. Another serious environmental problem associated with tyre fires is the leeching of toxins into the soil and groundwater through either the water used to put out the fire or the liquefied tyre rubber resulting from intense heat. This process generates high levels of pollution in both the ground and attached waterways. Once taken up by plants and ingested by animals, toxins can accumulate in body tissues putting all levels of the food chain at risk.[30] In a process known as bioaccumulation, animals that do not come into direct contact with the toxic fumes or runoff resulting from tyre fires can ingest the toxins by consuming other animals which have been exposed. As predators typically accumulate higher concentrations of pollutants than their contaminated prey, humans and other animals at the top of the food chain who consume contaminated fish or meat are exposed to much higher concentrations of pollutants than are found in contaminated water, air, or soil.

19. One of the most dangerous problems associated with bioaccumulation and tyre fires comes from the release of dioxins and furans (part of the dioxin family) into the atmosphere through the open burning of tyres.[31] Studies have shown that dioxins are very toxic and can have a range of adverse health effects on a wide number of animals.[32] As dioxins tend to bioaccumulate, they can move up the food chain with humans and animals becoming exposed through the consumption of animal products including meat, fish, chicken, eggs, and dairy products.[33] In addition, dioxins metabolize at a very slow rate resulting in an increase of accumulated toxins stored in fat over time. Found in breast milk, dioxins can also be passed from mammals to their offspring. With respect to their negative effects on health, dioxins are known to be a developmental toxicant in animals that can cause skeletal

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[27] U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, *NO_x: How Nitrogen Oxides Affect the way We Live and Breathe*, EPA-456/F-98-005 (Sept. 1998).

[28] U.S. Environmental Protection Agency, Six Common Air Pollutants, *Health and Environmental Impacts of SO_2*, *available at* http://www.epa.gov/air/urbanair/so2/hlth1.html.

[29] U.S. Environmental Protection Agency, Six Common Air Pollutants, *Health and Environmental Impacts of CO*, *available at* http://www.epa.gov/air/urbanair/co/hlth1.html

[30] Kathryn Harrison, *Too Close to Home: Dioxin Contamination of Breast Milk and the Political Agenda*, Policy Sciences 34: 35-62, 39 (2001) [*hereinafter* Harrison]; s*ee also* J. A. Wilson, *et al*., *Dynamics of Rodent Assemblages Inhabiting Abandoned Petroleum Landfarms in Oklahoma*, Ecological Applications, Vol. 14, No. 4 at 1024 (Aug. 2004) (demonstrating that toxic chemical waste which seeps into the soil has been accumulated by rodents producing immunological and physiological complications).

[31] EPA 1997 at viii.

[32] Australian Government, Department of the Environment and Heritage, Polychlorinated dioxins and furans fact sheet, *available at* http://www.npi.gov.au/database/substance-info/profiles/73.html.

[33] Harrison at 39; *see also* WHO European Centre for Environment and Health International Programme on Chemical Safety, *Assessment of the Health Risks of Dioxins: Re-evaluation of the Tolerable Daily Intake (TDI)*, WHO Convention May 25-29, 1998, Geneva, Switzerland, at 3 (noting over 90 percent of human background exposure to dioxins occurs through diet, specifically consuming food of animal origin). Contamination of the food supply is primarily caused by deposits from emissions including tyre fires on farmland and in bodies of water which then bioaccumulates up the food chain to humans. *Ibid*.

deformities, kidney defects, and weakened immune responses in offspring exposed to dioxins during pregnancy. Based on studies of laboratory animals exposed to very small doses, however, the primary health risk associated with the accumulation of dioxins is dominated by cancer.[34]

20. In addition to the dangers associated with the open burning of tyres, the disposal of waste tyres through various methods of material reclamation or energy recovery presents environmental hazards that can adversely affect the life and health of animal populations. With respect to energy recovery, waste tyres can be used as a substitute for fossil fuels in cement kilns and power plants in a controlled burn setting. Depending on technology available and furnace design, however, the use of scrap tyres along with coal in cement kilns can still cause pollution including the release of dioxins and furans into the atmosphere.[35] Indeed, the U.S. Environmental Protection Agency found that controlled burns using waste tyres in poorly-designed combustors caused serious concern that air emissions would be more like those from the open burning of tyres rather than a well-designed and managed combustor.[36]

21. Material may also be recovered from waste tyres through various processes including crumbing,[37] pyrolysis,[38] and devulcanization.[39] Overall, processes aimed at material recovery involve large infusions of capital, can be extremely energy and labor intensive, and generate large amounts of noise and dust.[40] One of the more popular uses for crumb involves the incorporation of granulate-rubber into asphalt. This utilization, however, has been reported to be a contributing factor in roads catching fire under hot temperatures, as well as releasing dangerous fumes when the road surface is removed.[41] In compiling a national approach for waste tyres in 2001, Australia found that "[a]t present, there is insufficient demand for products made from waste tyres using existing or emerging technologies to divert the greater part of waste tyres from landfill and inappropriate

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[34] Harrison at 39-40.

[35] A National Approach to Waste Tyres, Commonwealth Department of the Environment Australia (June 2001) at page 73 of Part I [*hereinafter* A National Approach to Waste Tyres]. *See also ibid.* at page 29 of Part I ("Studies on the use of tyres in cement kilns have generally concluded that the impacts are either positive or neutral compared to the combustion of other fuels. However, this needs to be considered on a case by case basis as it is dependent on good operating practice as well as the particular characteristics of the tyres used and the kiln."). *See* EPA 1997 at ii (finding emissions from controlled burning of tyres were not expected to display large differences from the burning of conventional fossil fuels, "*as long as combustion occurs in a well-designed, well-operated, and well-maintained combustion device*.") (emphasis added).

[36] EPA 1997 at viii and 35.

[37] Crumbing is the production of a fine powder, granules or other sized particles of rubber by carefully separating the rubber from the other components of waste tyres. Crumb can be used as a raw material in the production of other products. *See* A National Approach to Waste Tyres at page 65 of Part I.

[38] Pyrolysis can be classified as "material recovery of [tyre] components such as oil, carbon black and metals." *See* A National Approach to Waste Tyres at page 28 of Part I.

[39] Devulcanization is a material reclamation practice whereby the waste rubber from tyres is devulcanized by chemical or thermal processes to produce a raw rubber polymer that can be substituted for new rubber. *See* A National Approach to Waste Tyres at page 36 of Part I.

[40] *Ibid.* at page 65 of Part I *and* pages 72-73 of Part I.

[41] UK Environment Agency, *Tyres in the Environment* at Section 4.4 (undated).

disposal," pointing specifically to the issues of high capital expenditures and inadequate supply.[42]

3.4 Waste Tyres and Disease-Carrying Pests, Including Invasive Species

22. In addition to the health risks associated with both open and controlled burning of tyres, waste tyre stockpiles and tyres placed in landfills have long been recognized as providing an excellent breeding habitat for mosquitoes that carry many diseases which can negatively affect both human and animal populations.[43] Although cutting or shredding of tyres may help to reduce the available habitat for pests, many landfills neither possess nor can afford the proper equipment.[44] In addition, neither cutting nor shredding can eliminate problems associated with waste accumulation or toxic emissions through leaching or tyre fires.

23. Tyres provide an ideal and efficient man-made dispersal mechanism for mosquitoes to move both across and within borders, putting populations of humans and animals at risk to contract the deadly diseases they carry. Today, with increased use of containers, fast shipping vessels, and better technology and communications, the time it takes to load and deliver cargo, including used tyres harboring mosquitoes or their larva, has been substantially reduced.[45]

24. Mosquitoes are known vectors of a number of diseases that can put at risk the health of both humans and animals. These include malaria, filarosis, canine heartworm, as well as viral pathogens including Dengue and Yellow fever, and the West Nile virus. Foreign mosquito species entering a new country not only put stress on the local ecology, but can also result in a public health crisis.[46] As the flight range of adult flies is normally very short, colonization of a new area can often result from the transportation of used tyres within a country, which are often kept outdoors and can retain rainfall for long periods of time.[47]

25. Brazil has previously suffered from infestations of *Aedes albopictus* (known as the "Asian Tiger Mosquito"), which started spreading across the globe in the 1970s due to, among other things, the trade in used tyres.[48] This mosquito out-competes native species and is an aggressive biter that attacks livestock, amphibians, reptiles and birds, as well as humans. The Tiger Mosquito has been known to transmit Yellow and Dengue fever, as well as

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[42] A National Approach to Waste Tyres at pages 75-76 of Part I. *See also* U.S. Environmental Protection Agency, Management of Scrap Tires, *available at* https://www.epa.gov/garbage/tires/science.htm#pyrolysis (noting that "[d]espite many efforts to commercialize [pyrolysis], it is not economically viable in the US at present.").
[43] Paul Reiter and Daniel Sprenger, *The Used Tire Trade: A Mechanism for the Worldwide Dispersal of Container Breeding Mosquitoes*, Journal of the American Mosquito Control Association, Vol. 3, No. 3 494-501, 494 (Sept. 1987) [*hereinafter* Reiter and Sprenger]; *see also* Roger Eritja, *et al*., *Worldwide Invasion of Vector Mosquitoes: Present European Distribution and Challenges for Spain*, Biological Invasions, 7(1): 87-97 (2005) [*hereinafter* Eritja, *et al*.].
[44] DeMarini, *et al*., at 136.
[45] Reiter and Sprenger at 497.
[46] Eritja, *et al*.
[47] *Ibid.*; *see also* L. Philip Lounibos, *Invasions by Insect Vectors of Human Disease*, Annu. Rev. Entomol., 47: 233-66, 239, 247 (2002) [*hereinafter* Lounibos].
[48] Eritja, *et al*.; Lounibos at 246, 250.

Japanese Encephalitis and West Nile virus,[49] and is also an ideal carrier for the heartworm parasite, all of which can have deleterious effects on the health of animal populations.

26. Finally, used tyres can be vehicles for the transport of invasive species from the EC to Brazil. The effects of invasive insects and plants on wildlife and their habitat cannot be understated. Plant seeds may easily get caught in used tyre treads or the interior of tyres, providing a dark, stable environment that may ensure seed viability. The introduction of invasive plants and insects can attack agricultural commodities as well as wildlife habitat.[50] For example, the introduction of exotic insect species into the United States has been known to cause many problems for livestock and poultry producers related to the threat of foreign diseases. Indeed, 17 of the 35 foreign animal diseases listed in the United States Animal Health Association's publication on foreign animal diseases are transmitted by insects.[51]

27. One of the most famous examples of the dangers for animal populations associated with invasive species is the importation of the brown tree snake (*Boiga irregularis*) to the island of Guam soon after World War II. In this worst-case scenario of the effects of an introduced predator, the brown tree snake has established a strong population on the island resulting in the extinction of numerous species of birds, reptiles, and small mammals.[52] The snakes have also had a deleterious affect on livestock by preying on poultry and other small domesticated animals.[53]

28. As far as the implications for Brazil with respect to disease-carrying pests and invasive species, they are sobering. Brazil has one of the world's most diverse animal populations, including many unique, endangered, and even some as yet undiscovered animal species. Although tropical rainforests are known to be very efficient ecosystems that are resistant to invasion, the compromise of these forests due to selective logging, habitat degradation, and poaching may provide the perfect window of opportunity for a potential invader.

4. Legal Basis for Brazil's Article XX(b) Claim

29. As mentioned above, Brazil argued in its First Written Submission to the Panel that its import restrictions on retreated and used tyres are justified under Article XX(b). In *U.S. – Gasoline* the Appellate Body noted, with respect to the review of measures under Article XX, that "[i]n order that the justifying protection of Article XX may be extended to it, the measure at issue must . . . come under one or another of the particular exceptions -- paragraphs (a) to (j) -- listed under Article XX; . . ."[54] It is important here to again note that in terms of providing a legal justification for Brazil's measures, this submission will focus solely on the fact that the import restrictions are "necessary to protect human, animal

[49] Eritja, *et al*.
[50] Ralph A. Bram and John E. George, *Introduction of Nonindigenous Arthropod Pests of Animals*, J. Med. Entomol., 37(1): 1-8, 1 (2000).
[51] *Ibid.* at 7.
[52] Daniel S. Vice and Richard M. Engeman, *Brown Tree Snake Discoveries During Detector Dog Inspections following Supertyphoon Paka*, Micronesia 33(1/2): 105-110, 105 (2000).
[53] *Ibid.* at 105.
[54] Appellate Body Report, *U.S. – Gasoline*, page 22.

or plant life or health."[55] In other words, this submission will argue only for the provisional justification under Article XX(b) of the import restrictions imposed by Brazil, in particular that such restrictions are (1) measures taken under a policy designed to protect health or life; and (2) necessary to achieve such protection.

30. Noting that the party invoking an exception under Article XX(b) bears the burden of proof to demonstrate that an inconsistent measure is within the scope of measures covered by Article XX(b), the Panel in *U.S. – Gasoline* observed that the party must establish two elements:

> (1) that the *policy* in respect of the measures for which the provision was invoked fell within the range of policies designed to protect human, animal or plant life or health; [and]
>
> (2) that the inconsistent measures for which the exception was being invoked were *necessary* to fulfill the policy objective;[56]

4.1 The Import Restrictions Constitute a Measure under Article XX(b)

31. In order to prevail on an Article XX(b) claim, the party invoking the exception must first demonstrate that the measure is one designed to achieve the desired health policy objective.[57] In *Japan – Alcoholic Beverages II*, the Appellate Body found that while "the aim of a measure may not be easily ascertained, nevertheless, its protective application can most often be discerned from the design, the architecture and the revealing structure" of the measure.[58]

32. To satisfy this element, the party claiming an Article XX(b) exception must provide evidence demonstrating that a relationship exists between the general structure and design of the measure and the policy goal it purports to serve. In *EC – Asbestos*, the Appellate Body upheld the Panel's conclusion that the product at issue (in that case chrysotile-cement or asbestos) posed a risk to human health sufficient to enable the EC's import restrictions to fall within the scope of Article XX(b).[59]

33. In particular, the Appellate Body referred to the Panel's statement that it considered "the evidence before it *tends to show* that handling chrysotile-cement products constitutes a risk to health rather than the opposite."[60] The Appellate Body went on to summarize the Panel's finding that the EC import restriction fell within the "category of measures embraced by Article XX(b)" pointing to the statement that:

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[55] Article XX(b) of GATT 1994.
[56] Panel Report, *U.S. – Gasoline*, para. 6.20 (emphasis in original).
[57] *EC – Tariff Preferences*, para. 7.199.
[58] *Japan – Alcoholic Beverages II*, pg. 29; *see also U.S. – Shrimp*, para. 137 (looking to examine the relationship between the general structure and design of the measure at issue and the policy goal it purported to serve).
[59] Appellate Body Report, *EC – Asbestos*, para. 157; *see also* Panel Report, *U.S. – Gasoline*, para. 6.21 (finding the policy of the United States to reduce air pollution resulting from the consumption of gasoline fell within the scope of Article XX(b) as a measure that concerned the protection of human, animal or plant life or health).
[60] *See* Appellate Body Report, *EC – Asbestos*, para. 157 (quoting from Panel Report, *EC – Asbestos*, para. 8.193) (emphasis in original).

> …the EC has made a prima facie case for the existence of a health risk in connection with the use of chrysotile, in particular as regards to lung cancer and mesothelioma in the occupational sectors downstream of production and processing and for the public in general in relation to chrysotile-cement products. This prima facie case has not been rebutted by Canada. . . . The Panel therefore considers that the EC have shown that the policy of prohibiting chrysotile asbestos . . . *falls within the range of policies designed to protect human life or health* . . .[61]

34. The Appellate Body in *EC – Asbestos*, therefore, found that a measure will be covered by Article XX(b) where the party claiming an exception provides sufficient evidence to demonstrate a *prima facie* case of the existence of a health risk in connection to the use of the product. Such evidence must *tend to show* the product constitutes a health risk rather than the opposite.

35. With respect to the products at issue, Brazil can present a *prima facie* case to the Panel of the existence of a health risk to both human and animal populations associated with the accumulation and disposal of extra waste tyres. Indeed, the evidence provided in this submission goes above and beyond the requirement that it *tend to show* a health risk in connection with the use of these products.

36. Health problems associated with toxic emissions from the open and controlled burning of waste tyres, as well as the creation of breeding habitats for disease-carrying pests are exacerbated through the accumulation of increased volumes of waste tyres resulting from the import of shorter-lifespan retreaded and used tyres. The design, architecture, and structure of Brazil's import restrictions are intended to stem the accumulation of unnecessary volumes of waste tyres, which cannot as yet be disposed of in an economically-viable and environmentally-appropriate manner. Thus, these measures contribute directly to the protection of the life and health of animal populations in Brazil, and the Panel should find that they are indeed measures falling within the category of measures embraced by Article XX(b).

4.2 The Import Restrictions are "Necessary"

37. With respect to the second element, the Panel will look to whether the measure is "necessary" within the meaning of Article XX(b). This step includes an evaluation of possible alternative measures and whether the responding party has established a *prima facie* case that there is no alternative measure which is "reasonably available."[62] In particular, the Appellate Body in *Korea – Various Measures on Beef*, *EC – Asbestos*, and *U.S. – Gambling* indicated that in reviewing whether an alternative measure is reasonably

[61] *See ibid.* (quoting from Panel Report, *EC – Asbestos*, para. 8.194) (emphasis in original).

[62] *Korea – Various Measures on Beef*, para. 165 (quoting *U.S. – Section 337*, para. 5.26). Similar to the reasoning applied to Article XX(d), the GATT Panel in *Thailand – Cigarettes* in reviewing Article XX(b) found that import restrictions placed on cigarettes by Thailand could be considered necessary "only if there were no alternative measure consistent with [GATT] or less consistent with it, which Thailand could *reasonably be expected to employ to achieve its health policy objectives*." *Thailand – Cigarettes*, para. 75 (emphasis added).

available, a weighing and balancing of "factors such as the trade impact of the measure, the importance of the interests protected by the measure, or the contribution of the measure to the realization of the end pursued, should be taken into account in the analysis."[63]

38. When reviewing whether *any* alternative measure is reasonably available, the Appellate Body in *EC - Asbestos* indicated that within the weighing and balancing process Panels should consider the extent to which an alternative measure contributes to a Member's health policy objectives.[64] Indeed, it is the right of all Members to determine the level of health protection they deem appropriate in any given instance.[65] In addition, the Appellate Body in *EC – Asbestos* concluded that:

> . . . the more vital or important [the] common interests or values pursued, the easier it would be to accept as 'necessary' measures designed to achieve those ends. In this case, the objective pursued by the measure is the preservation of human life and health through the elimination, or reduction of the well-known, and life-threatening, health risks posed by asbestos fibres. The value pursued is both vital and important in the highest degree.[66]

39. France, therefore, could not be reasonably expected to employ *any* alternative measure if such a measure would require continuing the very risk that its asbestos import restrictions sought to "halt." The adoption of any such alternative measure would necessarily prevent France from achieving its desired level of health protection, and, therefore, could not be considered "reasonably available."[67]

40. Recently, the Appellate Body in *U.S. – Gambling* further elaborated on when a measure cannot be considered "reasonably available." In that dispute the Appellate Body found that measures were not "reasonably available" where they were merely theoretical in nature, either because a Member was not capable of undertaking it, or because it imposed an "undue burden" on the Member due to prohibitive costs or substantial technical difficulties.[68] In addition, the Appellate Body also reinforced the notion that a "reasonably available" measure must be one that preserves a Member's right to achieve its desired level of protection.[69]

41. The health policy objective pursued by Brazil through restrictions on the import of retreaded and used tyres is intended to protect its environment, animal populations, and citizens from the health-related dangers commonly associated with the disposal of large volumes of waste tyres. Brazil has made a decision, as is its right under the WTO, to determine the level of health protection it deems appropriate under the given circumstances.

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[63] *Dominican Republic – Import and Sale of Cigarettes*, para. 70.
[64] Appellate Body Report, *EC – Asbestos,* para. 172.
[65] *Ibid*. at para. 168.
[66] *Ibid*. at para. 172.
[67] *Ibid.* at paras. 174-175.
[68] *U.S. – Gambling*, para. 308.
[69] *Ibid*.

42. As noted above, alternative methods used to dispose of large volumes of waste tyres beyond stockpiling can be unduly burdensome for Brazil due to their economic impracticability and environmental complications including the possibility of toxic emissions. Brazil, therefore, can make a *prima facie* case that there are no viable alternative measures available to reduce the large and growing volume of waste tyres within its borders, and their associated health risks, other than restricting the import of shorter-lifespan retreaded and used tyres and encouraging the retreading of new tyres. As was the case with France in *EC – Asbestos*, the adoption of any such alternative measure that would allow the import of retreaded or used tyres into Brazil would necessarily prevent it from achieving its desired level of health protection, and, therefore, cannot be considered by the Panel to be "reasonably available."

43. The values sought to be protected by Brazil are nothing less than to limit exposure of its human and animal populations to carcinogenic and mutagenic emissions, and the debilitating and deadly diseases carried by pests so often associated with waste tyres. Brazil's measures restricting the import of retreaded and used tyres are, therefore, "necessary to protect human, animal or plant life and health."

5. Conclusion

44. At the DSB meeting on January 20, 2006, the representative from Cuba provided a summary of the problems faced by Brazil and other developing countries with respect to the import of retreaded and used tyres:

> Both [used and retreaded tyres] contained highly combustible and pollutant materials, they generate large quantities of waste at the end of their life cycle, and were extremely difficult to recycle. . .Used and retreaded tyres generated waste faster than new tyres, and their importation, therefore, clearly aggravated the environmental problems of the importing countries. In reality, exports of used and retreaded tyres represented a transfer to other countries – mainly developing countries – of the social, economic and environmental burden involved in eliminating the waste generated by those products.[70]

45. In order to achieve its policy of avoiding the generation of extra volumes of waste tyres and their associated health risks, Brazil has undertaken a policy to restrict the import of shorter-lifespan retreaded and used tyres. The evidence provided in this submission demonstrates the existence of serious risks to the life and health of both human and animal populations associated with the accumulation and disposal of large volumes of waste tyres. Brazil's import restrictions, therefore, fall under the category of measures embraced by Article XX(b). In addition, alternative measures of disposal are currently neither environmentally sound nor technically and economically viable. Thus, they cannot be considered "reasonably available" to achieve the level of heath protection desired by Brazil.

[70] WT/DSB/M/203, para. 69.

46. Brazil has the right under the WTO to determine the level of health protection it deems appropriate in any given instance. Based on the evidence provided in this submission, it is the position of HSI that the Panel in the instant dispute should grant a provisional justification for Brazil's Article XX(b) claim that its measures are indeed "necessary to protect human, animal or plant life or health."

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