

**REVISED NEW ZEALAND PROVISIONAL LIST OF ENVIRONMENTAL GOODS**

Submission by New Zealand

Paragraph 31 (iii)

Revision

The following communication, dated 11 October 2005, is being circulated at the request of the Delegation of New Zealand.

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1. New Zealand welcomes the intensification of the negotiations pursuant to paragraph 31(iii) of the Doha Ministerial Declaration on environmental goods. With a view to moving the discussion forward, this submission contains a further elaboration of New Zealand's provisional list of environmental goods, providing additional information on the environmental benefits of the products proposed.

2. New Zealand's provisional list of environmental goods was first submitted to the Committee on Trade and Environment in Special Session (CTESS) on 26 May 2005. In that submission (TN/TE/W/49), New Zealand outlined its 'defining by doing' approach to preparing its list of environmental goods. 'Reference points'<sup>1</sup> were used to provide a screening mechanism to ensure nominated products met a basic threshold. Goods were organised into categories, to provide an indication of their environmental credentials. The submission also noted the importance New Zealand attached to a 'living list'. This would ensure that any agreed WTO list of environmental goods would be able to reflect the dynamic nature of new technologies, given the continual evolution of the environmental industry.<sup>2</sup>

3. From the discussion of its list at the twelfth and thirteenth meetings of the CTESS (7-8 July and 15-16 September 2005), New Zealand has noted the desire of other Members to better understand the rationale for New Zealand's nomination of certain products as environmental goods. In order to supplement the reference points and categories already provided, New Zealand has further revised its list to include a new 'Environmental Benefits' column. This contains brief explanations of the environmental applications and advantages of each product on New Zealand's environmental goods list. It is hoped that the information provided in the new column will assist Members in the

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<sup>1</sup> In TN/TE/W/46 of 10 February 2005, New Zealand proposed the following three reference points: the OECD's definition of environmental industries; APEC's conceptualisation of environmental goods; and approaches to environmental goods agreed through high quality and comprehensive regional or bilateral Free Trade Agreements.

<sup>2</sup> The OECD has estimated that half of the environmental goods likely to be in use within the coming decade do not currently exist (OECD (1998) *The Global Environmental Goods and Services Industry*, OECD Publications, Paris).

more technical discussions of categories and particular products which are now needed to explore the trade and environment 'win-win' potential of the list approach to the environmental goods negotiation.

4. New Zealand also considers that there is a third 'win' for development to be achieved from the Paragraph 31(iii) negotiation. It is recalled that New Zealand's statement to the informal meeting of the CTESS on 10 June 2005 (TN/TE/W/49/Suppl.1) outlined many of the developmental benefits that could be achieved as a consequence of the liberalisation of trade in environmental goods.

5. The revised New Zealand provisional environmental goods list also includes a second new column correlating each product on the list to the entries in Annex II of the Informal Note by the WTO Secretariat's "Synthesis of Submissions on Environmental Goods" (JOB(05)/57/Rev.2), for ease of reference to that document.

6. New Zealand reserves the right to add to or delete items on the attached list or to amend these as appropriate during the negotiation process.

## NEW ZEALAND PROVISIONAL LIST OF ENVIRONMENTAL GOODS

### AIR POLLUTION CONTROL

#### Reference Points\*

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
10	x		252100	Limestone flux; limestone and other calcareous stone, of a kind used for the manufacture of lime cement		Chemical recovery systems. Reduces the formation of acid rain contaminants (sulphur dioxide and nitrogen oxides, SO <sub>2</sub> and NO <sub>x</sub> ) when added to industrial combustion processes.
11	x		252220	Slaked lime		Chemical recovery systems. Reacts with SO <sub>2</sub> formed in the combustion of sulphur-containing coal, to form a solid (calcium sulphite, CaSO <sub>3</sub> ) which cannot escape into the atmosphere.
25	x		281610	Hydroxide and peroxide of magnesium		Chemical recovery systems. Magnesium hydroxide (Mg(OH) <sub>2</sub> ) removes SO <sub>2</sub> from flue gas in a process known as scrubbing; Magnesium peroxide is used as oxygen release compound in bioremediation to encourage bacterial activity.
156	x		701990	Glass fibres (including glass wool) and articles thereof (for example, yarn, woven fabrics): other		Fibreglass products used in industrial air pollution control equipment (separators, precipitators, tanks, pipe systems, scrubbers).
208		x	840410	Auxiliary plant for use with boilers of heading No. 8402 or 8403 (for example, economizers, super-heaters, soot removers, gas recoverers); condensers for steam or other vapour power units: auxiliary plant for use with boilers of heading No. 84.02 or 84.03		Components of industrial air pollution control plant which minimise the release of pollutants into the atmosphere.

**AIR POLLUTION CONTROL cont.**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
209		x	840420	Condensers for steam or other vapour power units		Used to cool gas streams to temperatures which allow the removal of contaminants, e.g. volatile organic compounds (VOC) like benzene.
211		x	840510	Producer gas or water gas generators, with or without their purifier; acetylene gas generators and similar water process gas generator, with or without their purifiers	Include only those with purifiers.	Purifiers remove contaminants (such as cyanide or sulphur compounds) produced in the manufacture of gases.
235	x	x	841410	Vacuum pumps		Air handling equipment. Used in a number of environmental applications, e.g. flue gas desulphurisation (the process by which sulphur is removed from combustion exhaust gas)
237	x		841430	Compressors of a kind used in refrigerating equipment		Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust
238	x		841440	Air compressors mounted on a wheeled chassis for towing		Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust
239		x	841459	Fans (and blowers) other than table, floor, window, ceiling or roof fans with a self contained electric motor of an output not exceeding 125W		Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust
240	x	x	841480	Air or vacuum pumps, air or other gas compressors and fans; ventilating or recycling hoods incorporating a fan, whether or not fitted with filters; other		Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust
241	x		841490	Parts of vacuum pumps, compressors, fans, blowers, hoods		Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust
244	x	x	841780	Other industrial or laboratory furnaces and ovens, including incinerators, non-electric		Destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.
251	x	x	841960	Machinery for liquefying air or other gases		For separation and removal of pollutants through condensation

**AIR POLLUTION CONTROL cont.**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
252	x		841989	Machinery, plant and equipment whether or not electrically heated, for the treatment of materials by a process involving a change of temperature such as heating, vaporising, condensing or cooling (excl. machinery or plant used for domestic purposes and machinery and appliances specified elsewhere)		For separation and removal of pollutants through condensation
268	x		842490	Mechanical appliances (whether or not hand-operated) for projecting, dispersing or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and jet projecting machines: Parts		Sprayers are used in a number of air pollution control applications, including odour control.
322	x	x	851410	Industrial or Laboratory Furnaces and Ovens; electric, resistance heated		Destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.
323	x	x	851420	Industrial or Laboratory Furnaces and Ovens; electric, induction or dielectric		Destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.
324	x	x	851430	Industrial or Laboratory Furnaces and Ovens, electric, other		Destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.
325	x	x	851490	Parts of industrial or laboratory electric furnaces and ovens or other laboratory induction or dielectric heating equipment		Destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.

**MANAGEMENT OF SOLID OR HAZARDOUS WASTE**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
245	x	x	841790	Parts of industrial or laboratory furnaces and ovens, including incinerators, non-electric	Parts of waste incinerators	Incineration is necessary for certain types of waste (for example, medical waste). Incinerating solid waste kills disease-carrying organisms and reduces the volume and weight of the waste.
287	x		847439	Mixing or kneading machines: other		Used to prepare waste for treatment/recycling or during treatment/recycling
290	x		847982	Mixing, kneading, crushing, grinding, screening, sifting, homogenising, emulsifying or stirring machines	Including bio-waste chopping and mixing equipment	Used to prepare organic waste for composting. Composting converts organic waste into humus, which can be used as fertiliser. Composting can minimise the amount of waste going to landfill as well as recovering the valuable nutrient and energy content of the waste.
291	x	x	847989	Machines and mechanical appliances having individual functions, not elsewhere specified or included in this chapter, other	In-vessel composting systems, trash compactors	In-vessel composting systems can handle large amounts of waste and speed up decomposition. Trash compactors reduce the volume of solid waste, allowing more efficient transport and disposal.
292		x	847990	Parts of machines and mechanical appliances having individual functions, not elsewhere specified or included in this chapter, other	Parts of trash compactors	Trash compactors reduce the volume of solid waste, allowing more efficient transport and disposal.
315		x	850590	Electro magnets; other, including parts	Electromagnet	Used to remove metal content from waste for recycling.
386	x		901320	Lasers, other than laser diodes		Hazardous waste storage and treatment equipment.
441	x		960310	Brooms and brushes, consisting of twigs or other vegetable materials bound together, with or without handles		Waste collection equipment.
442	x		960350	Other brushes constituting parts of machines, appliances or vehicles		Waste collection equipment.

**CLEAN-UP OR REMEDIATION OF SOIL AND WATER**

<b>Entry^</b>	<b>O</b>	<b>A</b>	<b>HS6</b>	<b>Description</b>	<b>Ex-out</b>	<b>Environmental Benefit</b>
7	x		251200	siliceous fossil meals (for example, kieselguhr, tripolite and diatomite) and similar siliceous earths, whether or not calcines, of an apparent specific gravity of 1 or less	siliceous granules that facilitate growth of bio-organisms	A type of growth medium for bio-organisms used for bioremediation (the use of plants, fungi, bacteria or other micro-organisms to break down or remove pollutants).
43	x		300290	other cultures of micro-organisms (excluding yeasts) and similar products	micro-organism cultures for bio-remediation, water treatment	Bioremediation is the use of plants, fungi, bacteria or other micro-organisms to break down or remove pollutants (hydrocarbons, pesticides etc).
48	x		340219	Organic surface active agents, whether or not put up for retail sale: other	oil spill dispersant chemicals	Chemicals (mixtures of surfactants and solvents) that convert oil on sea/water surface into small droplets that disperse in the water column to low concentration, reducing the impact on wildlife and speeding up natural decomposition processes.
57	x		382490	Products, preparations and residual products of the chemical or allied industries, not elsewhere specified or included: other	oil spill dispersant chemicals	Chemicals (mixtures of surfactants and solvents) that convert oil on sea/water surface into small droplets that disperse in the water column to low concentration, reducing the impact on wildlife and speeding up natural decomposition processes.
327	x		851629	Other electric space heating and soil heating apparatus		Use heat to disinfect or remove organic compounds (e.g. pesticides, hydrocarbons) from soil, and to dry contaminated soil prior to treatment processes.
346	x		854389	Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this chapter; other	Ultraviolet water disinfection/treatment systems	UV light is extremely effective in killing and eliminating bacteria, yeasts, viruses, moulds and other harmful organisms. UV systems can be used in conjunction with sediment and carbon filters to create pure drinking water.
382		x	890710	Inflatable rafts	Inflatable oil spill recovery barges	Floating barriers to oil can prevent an oil slick from reaching sensitive locations or spreading out further.

CLEAN-UP OR REMEDIATION OF SOIL AND WATER cont.						
383		x	890790	Other floating structures	Pollution protection booms, oil absorbent booms	Floating barriers to oil can prevent an oil slick from reaching sensitive locations or spreading out further. Oil absorbents soak up and remove the oil.

**ENVIRONMENTAL MONITORING, ANALYSIS AND ASSESSMENT EQUIPMENT**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
139		x	690310	Other refractory ceramic goods (for example, retorts, crucibles, muffles, nozzles, plugs, supports, cupels, tubes, pipes, sheaths and rods), other than those of siliceous fossil meal or of similar siliceous earths; containing by weight more than 50% of graphite or other carbon or of a mixture of these products	Laboratory refractory equipment	Equipment used in the measurement, recording, analysis and assessment of environmental samples (e.g. for contaminants) or environmental impact.
140		x	690320	Other refractory ceramic goods (for example, retorts, crucibles, muffles, nozzles, plugs, supports, cupels, tubes, pipes, sheaths and rods), other than those of siliceous fossil meal or of similar siliceous earths; containing by weight more than 50% of alumina (Al <sub>2</sub> O <sub>3</sub> ) or of a mixture or compound of alumina and silica (SiO <sub>2</sub> )	Laboratory refractory equipment	Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
141		x	690390	Other refractory ceramic goods (for example, retorts, crucibles, muffles, nozzles, plugs, supports, cupels, tubes, pipes, sheaths and rods), other than those of siliceous fossil meal or of similar siliceous earths; other	Laboratory refractory equipment	Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
144		x	690919	Ceramic wares for laboratory, chemical or other technical uses; other	Laboratory equipment	Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
151		x	701710	Laboratory, hygienic or pharmaceutical glassware, whether or not graduated or calibrated; of fused quartz or other fused silica		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
152		x	701720	Laboratory, hygienic or pharmaceutical glassware, whether or not graduated or calibrated; of other glass having a linear coefficient of expansion not exceeding 5 X 10 <sup>-6</sup> per Kelvin within a temperature range of 0 C - 300 C		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.



**ENVIRONMENTAL MONITORING, ANALYSIS AND ASSESSMENT EQUIPMENT cont.**

153		x	701790	Laboratory, hygienic or pharmaceutical glassware, whether or not graduated or calibrated; other		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
255	x	x	842119	Centrifuges, including centrifugal dryers, other than cream separators and clothes-dryers		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
260	x	x	842191	Parts of Centrifuges, Including Centrifugal Dryers	Centrifuges, Accessories & Parts; except clothes dryers and clothes dryer furniture	Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
392		x	902229	Apparatus based on the use of X-rays or of alpha, beta or gamma radiations for other than medical, surgical, dental or veterinary uses		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
393		x	902290	Apparatus based on the use of X-rays or of alpha, beta or gamma radiations for other than medical, surgical, dental or veterinary uses	Parts and accessories for goods of subheading 9022.29	Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
395	x	x	902511	Thermometers and pyrometers, not combined with other instruments: liquid-filled, for direct reading		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
396	x	x	902519	Thermometers and pyrometers, not combined with other instruments: other than liquid-filled, for direct reading		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
397	x	x	902580	Hydrometers and similar floating instruments, thermometers pyrometers, barometers, hygrometers, and psychrometers, recording or not, and any combination of these instruments; other instruments		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.

**ENVIRONMENTAL MONITORING, ANALYSIS AND ASSESSMENT EQUIPMENT cont.**

400	x	x	902610	Instruments and apparatus for measuring or checking the flow or level of liquid		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
401	x	x	902620	Instruments and apparatus for measuring or checking pressure		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
402	x	x	902680	Other instruments and apparatus for measuring or checking the flow, level, pressure or other variables of liquids or gases		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
403	x	x	902690	Parts and accessories for articles of subheading 9026		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
405	x	x	902710	Gas or smoke analysis apparatus		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
406	x	x	902720	Chromatographs and electrophoresis instruments		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
407	x	x	902730	Spectrometers, spectrophotometers and spectrographs using optical radiations (ultraviolet, visible, infrared)		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
408	x	x	902740	Exposure meters		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
409	x	x	902750	Other instruments and apparatus using optical radiations (UV, visible, IR)		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.

**ENVIRONMENTAL MONITORING, ANALYSIS AND ASSESSMENT EQUIPMENT cont.**

410	x	x	902780	Other instruments and apparatus for physical or chemical analysis		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
411	x	x	902790	Microtomes; parts and accessories		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
414		x	902830	Electricity Meters		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
415		x	902890	Parts and accessories for articles of subheading 9028		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
418	x	x	903010	Instruments and apparatus for measuring or detecting ionising radiations		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
419		x	903020	Cathode ray Oscilloscopes and Cathode ray Oscillographs		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
420		x	903031	Multimeters		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
421		x	903039	Other instruments and apparatus, for measuring or checking voltage, current, resistance or power, without a recording device		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
422		x	903083	Other instruments and apparatus for measuring or checking electrical quantities, with a recording device		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.

**ENVIRONMENTAL MONITORING, ANALYSIS AND ASSESSMENT EQUIPMENT cont.**

423		x	903089	Other Instruments and Apparatus for Measuring or Checking Electrical Quantities		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
424		x	903090	Parts and accessories (for nominated articles of subheading 9030)		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
425		x	903110	Machines for Balancing Mechanical Parts		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
426		x	903120	Test Benches		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
427		x	903130	Profile Projectors		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
428	x		903149	Other measuring and checking instruments, appliances and machines, not specified or included elsewhere in this chapter		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
429	x	x	903180	Other measuring or checking instruments, appliances and machines, not elsewhere specified in this chapter		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
430		x	903190	Parts and accessories (for nominated articles of subheading 9031)		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
432	x	x	903210	Thermostats		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.

**ENVIRONMENTAL MONITORING, ANALYSIS AND ASSESSMENT EQUIPMENT cont.**

433	x	x	903220	Manostats		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
434	x	x	903281	Hydraulic and pneumatic instruments and apparatus		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
435	x	x	903289	Automatic regulating or controlling instruments and apparatus, other		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
436		x	903290	Parts and accessories		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.
437		x	903300	Parts and Accessories (Not Specified or Included Elsewhere in this Chapter) for Machines, Appliances, Instruments or Apparatus of Ch. 90		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.

**POTABLE WATER TREATMENT**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
20	x		280110	Chlorine		Widely used in the disinfection of water and as an oxidizing agent in water treatment (e.g. for organic matter, iron, hydrogen sulphide).
59	x		391400	Ion-exchangers based on polymers of Nos 39.01 to 39.13 in primary forms		Ion exchange is widely used in household and industrial water purification to produce soft water and to remove poisonous (e.g. copper) and heavy metal (e.g. lead) ions from solution.
233		x	841381	Pumps for liquids, whether or not fitted with a measuring device; other pumps		Water handling equipment. Pumps are integral components of water treatment plants.

## RECYCLING SYSTEMS

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
249		x	841940	Distilling or rectifying plant	solvent recycling plant	Allows the recovery and reuse of solvents, e.g. solvents used in the printing, painting or dry cleaning industries.
284		x	847410	Sorting, screening, separating or washing machines	Waste foundry sand reclamation equipment	Used to treat sand waste from foundry cast making, allowing the reuse of the sand.
286		x	847432	Machines for mixing mineral substances with bitumen	Asphalt recycling equipment	Recycling asphalt on roads and pavements minimises demand for oil and gravel to make new asphalt, as well as minimising waste destined for landfill.
290	x	x	847982	Mixing, kneading, crushing, grinding, screening, sifting, homogenizing emulsifying or stirring machines	Other than kneading machinery	Used to prepare waste for recycling, for example, crushing concrete.

## RENEWABLE ENERGY PLANT

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
39	x		290511	Methanol		Methanol is a low pollution fuel, producing emissions low in reactive hydrocarbons and toxic compounds. It can also be produced sustainably from biomass. It is also a component in biodiesel manufacture.
218		x	841011	Hydraulic turbines and water wheels of a power not exceeding 1,000 kW		Used in hydroelectric power generation, which produces no greenhouse gas emissions.
219		x	841012	Hydraulic turbines and water wheels of a power exceeding 1,000 kW but not exceeding 10,000 kW		Used in hydroelectric power generation, which produces no greenhouse gas emissions.
220		x	841013	Hydraulic turbines and water wheels of a power exceeding 10,000 kW		Used in hydroelectric power generation, which produces no greenhouse gas emissions.

**RENEWABLE ENERGY PLANT cont.**

221		x	841090	Hydraulic turbines and water wheels; parts, including regulators		Used in hydroelectric power generation, which produces no greenhouse gas emissions.
247	x	x	841919	Other instantaneous or storage water heaters, non-electric	Solar Water Heaters	Uses solar thermal energy to heat water, producing no pollution. Use of solar water heating displaces the burning of other, pollution-creating fuels.
310		x	850231	Other electric generating sets and rotary converters; wind-powered		Electricity generation from a renewable resource (wind).
344	x	x	854140	Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light emitting diodes	Solar cells	Solar photovoltaic cells generate electricity in an environmentally benign manner (with no emissions, noise or heat generated). They are particularly suited to electricity generation in locations remote from an electricity grid.

**HEAT AND ENERGY MANAGEMENT**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
150	x		700800	Multiple walled insulating units of glass		Insulation such as double glazing reduces energy use for heating or cooling.
342	x		853931	Discharge lamps, other than ultra-violet lamps: fluorescent lamps, hot cathode		Fluorescent lamps are more energy efficient than incandescent light bulbs of an equivalent brightness, as less energy input is lost as heat. They also have a longer lamp life.
412	x	x	902810	Gas meters		Meters are necessary to measure and regulate use and hence enable more efficient use of the resource.
413	x	x	902820	Liquid meters		Meters are necessary to measure and regulate use and hence enable more efficient use of the resource.

**SOIL CONSERVATION**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
90		x	460120	Mats, matting, and screens of vegetable materials	Erosion control matting (biodegradable), ecologically safe ground covers (biodegradable)	Erosion control matting can reduce erosion and assist the establishment of vegetation. When made of organic materials such as jute, wood, coir (coconut husk), straw, the matting is biodegradable. Ground covers can be used for environmentally friendly weed control.

**WASTE WATER MANAGEMENT**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
22	x		281410	Anhydrous ammonia		Chemical recovery systems. Ammonia is used in several areas of water and wastewater treatment including pH control; in solution form to regenerate weak anion exchange resins; in conjunction with chlorine to produce potable water; and as an oxygen scavenger in boiler water treatment.
23	x		281511	Sodium hydroxide (caustic soda) solid.		Chemical recovery systems. Sodium Hydroxide (NaOH) is used to precipitate out dissolved metals, facilitating their removal from waste water.
24	x		281512	Sodium hydroxide (caustic soda) in aqueous solution		Chemical recovery systems. Sodium Hydroxide (NaOH) is used to precipitate out dissolved metals, facilitating their removal from waste water.
26	x		281830	Aluminium hydroxide		Chemical recovery systems. Used as a coagulant, to form a gelatinous precipitate in water which can gather finely divided particulate contaminants into larger ones which can be removed by settling and/or filtration.



**WASTE WATER MANAGEMENT cont.**

27	x		282010	Manganese dioxide		Chemical recovery systems. Used in oxidising filters as catalytic media to precipitate out impurities
28	x		282090	Manganese oxides (other)		Chemical recovery systems. Used in oxidising filters as catalytic media to precipitate out impurities
29	x		283210	Sodium sulphites		Chemical recovery systems. Sodium Hydrosulphite: A strong reducing agent used as the main ingredient of several resin cleaners used to clean iron fouled in ion exchange resin beds. Sodium Bisulphite and metabisulphite: Treatment of waste water e.g. removal of excess chlorine in the neutralization of cyanide, neutralization of chromic acid.
30	x		283220	Other sulphites		Chemical recovery systems.
31	x		283510	Phosphinates (hypophosphites) and phosphonates (phosphites)		Chemical recovery systems. Corrosion inhibitor.
32	x		283522	Phosphates of monosodium or disodium		Chemical recovery systems. Water softener, scale and corrosion control
33	x		283523	Phosphates of trisodium		Chemical recovery systems. Water softener, scale and corrosion control
34	x		283524	Phosphates of potassium		Chemical recovery systems. Water softener, scale and corrosion control
35	x		283525	Calcium hydrogen orthophosphate (dicalcium phosphate)		Chemical recovery systems. Water softener, scale and corrosion control
36	x		283526	Other phosphates of calcium		Chemical recovery systems. Water softener, scale and corrosion control
37	x		283529	Other phosphates (excl. polyphosphates)		Chemical recovery systems. Water softener, scale and corrosion control

WASTE WATER MANAGEMENT cont.						
42	x		293100	Other organo-inorganic compounds	nitrification and urease inhibitors	Nitrification and urease inhibitors prevent nitrogen leaching from soil, fertiliser and/or urine from livestock. Nitrification inhibitors restrict microbial conversion of ammonium to nitrate and hence to the gases nitrogen and nitrous oxide (nitrous oxide is a greenhouse gas). Urease inhibitors inhibit the enzyme urease, thus restricting the conversion of urea in urine to ammonium.
52	x		380210	Activated carbon		Chemical recovery systems. Activated carbon is commonly used to remove organic chemicals from drinking water.
57	x		382490	Other chemical products and preparations of the chemical or allied industries, not elsewhere specified	nitrification inhibitors	Nitrification inhibitors prevent nitrogen leaching from soil, fertiliser and/or urine from livestock, by restricting microbial conversion of ammonium to nitrate and hence to the gases nitrogen and nitrous oxide (nitrous oxide is a greenhouse gas).
78	x	x	392690	Other articles of plastics and articles of other materials of headings 3901 to 3914; other	Bio-film medium that consists of woven fabric sheets that facilitate the growth of bio-organisms; rotating biological contactor consisting of stacks of large (HDPE) plates that facilitate the growth of bio-organisms.	Biological recovery systems. Commonly used in bioremediation of wastewater, to facilitate the growth of the micro-organisms that break down the contaminants.
123	x		580190	Woven pile & chenille fabrics of other textile materials		Used as filters in sewage treatment.
175	x		731010	Tanks, casks, drums, cans, boxes and similar containers, of iron or steel, for any material (other than compressed or liquefied gas), of a capacity of $\geq 50$ l but $\leq 300$ l, whether or not lined or heat insulated, but not fitted with mechanical or thermal equipment		For handling and storage of wastewater/sewage during treatment

WASTE WATER MANAGEMENT cont.						
228	x		841319	Pumps fitted or designed with a measuring device: other	for water treatment	For handling and transport of wastewater or slurries during treatment
229	x		841320	Hand pumps, other than those of subheading No. 8413.11 or 8413.19		For handling and transport of wastewater or slurries during treatment
230	x		841350	Other reciprocating positive displacement pumps		For handling and transport of wastewater or slurries during treatment
231	x	x	841360	Pumps for liquids, whether or not fitted with a measuring device; other rotary positive displacement pumps	Submersible mixer pump to circulate water in wastewater treatment process; sewage pumps, screw type	For handling and transport of wastewater or slurries during treatment
232	x	x	841370	Pumps for liquids, whether or not fitted with a measuring device; other centrifugal pumps	Centrifugal pumps lined to prevent corrosion; centrifugal sewage pumps	For handling and transport of wastewater or slurries during treatment
257	x	x	842129	Filtering or purifying machinery and apparatus for liquids; other		Used to remove contaminants from wastewater, by chemical recovery, oil/water separation, screening or straining.
265	x		842381	Other weighing machinery having a maximum weighing capacity not exceeding 30 kg		Necessary to calculate the amount of reagents needed to treat waste.
266	x		842382	Other weighing machinery having a maximum weighing capacity exceeding 30kg but not exceeding 5,000 kg		Necessary to calculate the amount of reagents needed to treat waste.
267	x		842389	Other weighing machinery		Necessary to calculate the amount of reagents needed to treat waste.
270		x	842833	Other continuous action elevators and conveyors, for goods or materials; other, belt type	Belt-type above ground conveyor used to transfer solids or slurries between plants	For transport of waste around the treatment plant.
290		x	847982	Mixing, kneading, crushing, grinding, screening, sifting, homogenizing emulsifying or stirring machines	Agitator for wastewater treatment	For mixing of wastewater during treatment
294	x		848110	Pressure-reducing valves		For handling and transport of wastewater or slurries during treatment
296	x		848130	Check (non-return) valves		For handling and transport of wastewater or slurries during treatment

<b>WASTE WATER MANAGEMENT cont.</b>						
297	x		848140	Safety or relief valves		For handling and transport of wastewater or slurries during treatment
298	x		848180	Other appliances for pipes, boiler shells, tanks, vats or the like		For handling and transport of wastewater or slurries during treatment
346		x	854389	Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this chapter; other	Ozone production system	Ozone (O <sub>3</sub> ) can be used as an alternative to chlorine for water disinfection.

**NATURAL RISK MANAGEMENT**

<b>Entry^</b>	<b>O</b>	<b>A</b>	<b>HS6</b>	<b>Description</b>	<b>Ex-out</b>	<b>Environmental Benefit</b>
54	x		381300	Preparations and charges for fire-extinguishers; charged fire-extinguishing grenades		Fire control.
389		x	901540	Photogrammetrical surveying instruments and appliances		Photogrammetry is an aerial remote sensing technique which forms the baseline of many Geographic Information Systems (GIS) and Land Information Systems (LIS), which are important for monitoring and managing natural risks such as floods, earthquakes.
390		x	901580	Other surveying, hydrographic, oceanographic, hydrological, meteorological or geophysical instruments and appliances, excluding compasses		Necessary to monitor, measure and assist planning for natural risks such as earthquakes, cyclones, tsunamis etc.
391		x	901590	Parts and accessories of surveying, hydrological, meteorological, or geophysical instruments and appliances, excluding compasses	Photogrammetric instruments; parts and accessories for articles of subheading 9015.40	Photogrammetry is an aerial remote sensing technique which forms the baseline of many Geographic Information Systems (GIS) and Land Information Systems (LIS).
398		x	902590	Parts and Accessories for Hydrometers and similar floating instruments, thermometers pyrometers, barometers, hygrometers, and psychrometers, recording or not, and any combination of these instruments		Necessary to monitor, measure and assist planning for natural risks such as earthquakes, cyclones, tsunamis etc.

**ENVIRONMENTALLY PREFERABLE PRODUCTS, BASED ON END-USE OR DISPOSAL CHARACTERISTICS**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
45	x		310100	Animal or vegetable fertilisers, whether or not mixed together or chemically treated; fertilisers produced by the mixing or chemical treatment of animal or vegetable products		Organic fertilisers are an alternative to synthetic, chemical-based fertilisers and are used in organic farming.
47	x		340119	Soap; organic surface-active products and preparations for use as soap: Other: natural soaps made from vegetable oil		Biodegradable and made from a renewable resource.
58	x		391390	Natural polymers: Other: Chemical derivatives of natural rubber		Biodegradable and made from a renewable resource.
117	x		560710	Twine, cordage, ropes and cables of jute or other textile bast fibres		More biodegradable than synthetic fibre alternatives and made from a renewable resource.
118	x		560721	Twine, cordage, ropes and cables of sisal or other textile fibres of the genus Agave		More biodegradable than synthetic fibre alternatives and made from a renewable resource.
126	x		630510	Sacks and bags, of a kind used for the packing of goods of jute or of other textile bast fibres		More biodegradable than synthetic fibre alternatives and made from a renewable resource.

**CLEANER OR MORE RESOURCE-EFFICIENT TECHNOLOGIES AND PRODUCTS**

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
7	x		251200	siliceous fossil meals (for example, kieselguhr, tripolite and diatomite) and similar siliceous earths, whether or not calcines, of an apparent specific gravity of 1 or less	diatomite (natural insecticide)	A siliceous sedimentary rock formed from fossilised diatoms that can be used as an alternative to chemical pesticides. The sharp edges of the diatom skeletons pierce insects' protective coatings, causing them to desiccate.
38	x		284700	Hydrogen peroxide		Used for many purposes e.g. cleaning, microbial pesticides, paper bleaching. H <sub>2</sub> O <sub>2</sub> is a cleaner alternative to other chemicals as it breaks down to water and oxygen in the environment.

**CLEANER OR MORE RESOURCE-EFFICIENT TECHNOLOGIES AND PRODUCTS cont.**

53	x		380810	Insecticides	biological pest control agents	Biological control is the use of living organisms, such as predators, parasitoids, and pathogens, to control pest insects, weeds, or diseases. It is an alternative to the use of chemical pesticides.
57	x		382490	Products, preparations and residual products of the chemical or allied industries, not elsewhere specified or included: other	Biodiesel	Biodiesel is renewable fuel derived from vegetable oils or animal fats, suitable as a diesel fuel substitute or diesel fuel additive or extender. The fuel can be used in standard compression-ignition (i.e. diesel) engines with small or no modifications. It is biodegradable, non-toxic, and essentially free of sulphur, aromatic hydrocarbons (such as carcinogenic benzene), and produces far less particulate matter during combustion.
75	x		392290	Baths, shower-baths, sinks, wash-basins, bidets, seats and covers, flushing cisterns and similar sanitary ware, of plastics: other	for waterless urinal, composting toilet	Waterless urinals and composting toilets minimise water use. Composting toilets also provide self contained sewage treatment on site, with no need for sewers and treatment plants. The also do not pollute ground or surface water or soil (unlike septic tanks or pit latrines) and produce safe, useful compost.
76	x		392330	Carboys, bottles, flasks and similar articles	refillable plastic cartridge used in waterless urinals	Waterless urinals do not need to be flushed with water, minimising water use.
146	x		691010	ceramic sinks, wash basins, wash basin pedestals, baths, bidets, water closet pans, flushing cisterns, urinals and similar sanitary fixtures: other	for waterless urinal, composting toilet	Waterless urinals and composting toilets minimise water use. Composting toilets also provide self contained sewage treatment on site, with no need for sewers and treatment plants. The also do not pollute ground or surface water or soil (unlike septic tanks or pit latrines) and produce safe, useful compost.

**CLEANER OR MORE RESOURCE-EFFICIENT TECHNOLOGIES AND PRODUCTS cont.**

272		x	843680	Other agricultural, horticultural, forestry, poultry-keeping or bee-keeping machinery	Hot water weed killing system	Non-toxic alternative to chemical herbicides. A machine delivers high temperature water solution that kills weeds thermally.
311	x		850239	Other electric generating sets and rotary converters	Micro combined heat and power systems	Combined heat and power systems produce usable power (usually electricity) and heat at the same time. Micro combined heat and power systems are very efficient for domestic use, particularly in places where reticulated natural gas and hot water central heating are the norm. 'Distributed generation' also minimises transmission losses through national grids, reducing the need to increase centralised generating capacity and transmission networks.
316	x		850680	Other primary cells and primary batteries	Fuel Cells	Fuel cells use hydrogen or hydrogen-containing fuels such as methane to produce an electric current, through a electrochemical process rather than combustion. Fuel cells are clean, quiet, and highly efficient sources of electricity.
360	x		870290	Motor vehicles for the transport of ten or more persons, including the driver: other	Electric and hybrid vehicles	Electric vehicles do not produce greenhouse gas emissions (CO <sub>2</sub> etc). Hybrid vehicles are powered by both a battery and an internal combustion engine, and emit significantly less pollutants and greenhouse gases than conventional motor vehicles.
361	x		870322	Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02) including station wagons and racing cars: of a cylinder capacity exceeding 1,000 cc but not exceeding 1,500 cc	Hybrid vehicles	Hybrid vehicles are powered by both a battery and an internal combustion engine, and emit significantly less pollutants and greenhouse gases than conventional motor vehicles.
362	x		870390	Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02) including station wagons and racing cars: other	Electric vehicles	Electric vehicles do not produce greenhouse gas emissions (CO <sub>2</sub> etc).

## WASTE AND SCRAP UTILISATION

Entry^	O	A	HS6	Description	Ex-out	Environmental Benefit
12	x		261800	Granulated slag (slag sand) from the manufacture of iron or steel		Waste material that can be further utilised or recycled.
46	x		320300	Colouring matter of vegetable or animal origin (including dyeing extracts but excluding animal black), whether or not chemically defined; preparations as specified in note 3 to this chapter based on colouring matter of vegetable or animal origin		Waste material that can be further utilised or recycled.
60	x		391510	Polyethylene waste and scrap		Waste material that can be further utilised or recycled.
61	x		391520	Polystyrene waste and scrap		Waste material that can be further utilised or recycled.
62	x		391530	Polyvinyl chloride waste and scrap		Waste material that can be further utilised or recycled.
63	x		391590	Other plastics waste and scrap		Waste material that can be further utilised or recycled.
79	x		400300	Reclaimed rubber in primary forms or in plates, sheets or strip		Waste material that can be further utilised or recycled.
80	x		400400	Waste, parings and scrap of rubber (other than hard rubber) and powders and granules obtained therefrom		Waste material that can be further utilised or recycled.
86	x		440130	Sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms		Waste material that can be further utilised or recycled.
93	x		470710	Recovered (waste and scrap) paper or paperboard		Waste material that can be further utilised or recycled.
100	x		500500	Yarn spun from silk waste, not put up for retail sale		Waste material that can be further utilised or recycled.
101	x		500600	Silk yarn and yarn spun from silk waste, put up for retail sale; silk-worm gut		Waste material that can be further utilised or recycled.
133	x		680800	Panels, boards, tiles, blocks and similar articles of vegetable fibre, of straw or of shavings, chips, particles, sawdust or other waste, of wood, agglomerated with cement, plaster or other mineral binders		Waste material that can be further utilised or recycled.
149	x		700100	Cullet and other waste and scrap of glass; glass in the mass		Waste material that can be further utilised or recycled.



WASTE AND SCRAP UTILISATION cont.						
159	x		720421	Stainless steel waste and scrap		Waste material that can be further utilised or recycled.
160	x		720429	Waste and scrap, of alloy steel, other than stainless		Waste material that can be further utilised or recycled.
161	x		720430	Waste and scrap, of tinned iron or steel		Waste material that can be further utilised or recycled.
162	x		720441	Ferrous waste & scrap, iron or steel, from the mechanical working of metal, not elsewhere specified		Waste material that can be further utilised or recycled.
163	x		720450	Remelting scrap ingots, of iron or steel		Waste material that can be further utilised or recycled.
189	x		740400	Copper waste and scrap		Waste material that can be further utilised or recycled.
190	x		750300	Nickel waste and scrap		Waste material that can be further utilised or recycled.
191	x		760200	Aluminium waste and scrap		Waste material that can be further utilised or recycled.
195	x		790200	Zinc waste and scrap		Waste material that can be further utilised or recycled.

\*Reference points:

- O OECD definition of environmental industries
- A APEC's conceptualisation of environmental goods

^Entry:

Numbered entry in the Informal Note by the WTO Secretariat 'Synthesis of Submissions on Environmental Goods' (JOB(05)/57/Rev.2)