

APPENDIX 2 AND 3

# Proposed changes to NZ ETS and SGG levy regulations 2021

Consultation document



Ministry for the  
**Environment**  
*Manatū Mō Te Taiao*

New Zealand Government

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# Appendix 2: Updates to NZ ETS and SGG levy data based on a move from AR4 to AR5 GWP

## Previous and proposed data based on Global Warming Potentials (GWP)

These tables show emissions factors from existing sector regulations, and as recalculated with reference to AR5 GWP.

### Assessment Report 5 Global Warming Potentials

**Table 1: Key gases**

Gas	Chemical formula	Previous GWP AR4	Proposed GWP AR5	Change (%)
Carbon dioxide	CO <sub>2</sub>	1	1	0
Methane	CH <sub>4</sub>	25	28	12
Fossil methane	CH <sub>4</sub>	25	30	20
Nitrous oxide	N <sub>2</sub> O	298	265	-11

### Synthetic greenhouse gases

**Table 2: Hydrofluorocarbons and perfluorocarbons**

Gas	Chemical formula	Previous GWP	Proposed GWP	Change (%)
Hydrofluorocarbons				
HFC-23	CHF <sub>3</sub>	14,800	12,400	-16
HFC-32	CH <sub>2</sub> F <sub>2</sub>	675	677	0
HFC-41	CH <sub>3</sub> F	92	116	26
HFC-125	CHF <sub>2</sub> CF <sub>3</sub>	3500	3170	-9
HFC-134	CHF <sub>2</sub> CHF <sub>2</sub>	1100	1120	2
HFC-134a	CH <sub>2</sub> FCF <sub>3</sub>	1430	1300	-9
HFC-143	CH <sub>2</sub> FCHF <sub>2</sub>	353	328	-7
HFC-143a	CH <sub>3</sub> CF <sub>3</sub>	4470	4800	7
HFC-152	CH <sub>2</sub> FCH <sub>2</sub> F	53	16	-70
HFC-152a	CH <sub>3</sub> CHF <sub>2</sub>	124	138	11
HFC-161	CH <sub>3</sub> CH <sub>2</sub> F	12	4	-67
HFC-227ea	CF <sub>3</sub> CHFCF <sub>3</sub>	3220	3350	4

Gas	Chemical formula	Previous GWP	Proposed GWP	Change (%)
HFC-236cb	CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	1340	1210	<b>-10</b>
HFC-236ea	CHF <sub>2</sub> CHFCF <sub>3</sub>	1370	1330	<b>-3</b>
HFC-236fa	CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub>	9810	8060	<b>-18</b>
HFC-245ca	CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub>	693	716	<b>3</b>
HFC-245fa	CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	1030	858	<b>-17</b>
HFC-365mfc	CH <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	794	804	<b>1</b>
HFC-43-10mee	CF <sub>3</sub> CHFCHFCF <sub>2</sub> CF <sub>3</sub>	1640	1650	<b>1</b>
<b>Perfluorocarbons</b>				
PFC-14 (perfluoromethane)	CF <sub>4</sub>	7390	6630	<b>-10</b>
PFC-116 (perfluoroethane)	C <sub>2</sub> F <sub>6</sub>	12,200	11,100	<b>-9</b>
PFC-218 (perfluoropropane)	C <sub>3</sub> F <sub>8</sub>	8830	8900	<b>1</b>
PFC-318 (perfluorocyclobutane)	c-C <sub>4</sub> F <sub>8</sub>	10,300	9,540	<b>-7</b>
PFC-3-1-10 (perfluorobutane)	C <sub>4</sub> F <sub>10</sub>	8860	9200	<b>4</b>
PFC-4-1-12 (perfluoropentane)	C <sub>5</sub> F <sub>12</sub>	9160	8550	<b>-7</b>
PFC-5-1-14 (perfluorohexane)	C <sub>6</sub> F <sub>14</sub>	9300	7910	<b>-15</b>
PFC-9-1-18	C <sub>10</sub> F <sub>18</sub>	7500	7190	<b>-4</b>
Sulphur hexafluoride	SF <sub>6</sub>	22,800	23,500	<b>3</b>
<b>Classes of HFCs and PFCs</b>				
R23	100% HFC-23	14,800	12,400	<b>-16</b>
R134A	100% HFC-134a	1430	1300	<b>-9</b>
R403B	5% R290, 56% R22, 39% R218	3440	3470	<b>1</b>
R404A	44% R125, 52% R143a, 4% R134a	3920	3940	<b>-1</b>
R407C	23% R32, 25% R125, 52% R134a	1770	1640	<b>-7</b>
R408A	7% R125, 46% R143a, 47% R22	2300	2430	<b>6</b>
R410A	50% R32, 50% R125	2090	1920	<b>-8</b>
R413A	9% R218, 88% R134a, 3% R600a	2050	1950	<b>-5</b>
R416A	59% R134a, 39.5% R124, 1.5% R600	840	770	<b>-8</b>

Gas	Chemical formula	Previous GWP	Proposed GWP	Change (%)
R417A	46.6% R125, 50% R134a, 3.4% R600	2350	2130	-9
R422A	85.1% R125, 11.5% R134a, 3.4% R600a	3140	2850	-9
R448A	26% HFC-32, 26%HFC-125, 21% HFC-134a, 27% other gases	1387	1270	-8
R449A	24% HFC-32, 25%HFC-125, 26% HFC-134a, 25% other gases	1397	1280	-8
R507A	50% R125, 50% R143a	3980	3980	0

## Waste

**Table 3: Default and proposed emissions factors for waste (tCO<sub>2</sub>e/t)**

Emissions source	Previous emissions factor	Proposed emissions factor, composition change only	Proposed emissions factor, GWP change only	Proposed emissions factor with GWP and composition	Change (%) if GWP and composition updated
Waste	1.19	0.91	1.330	1.023	-14

**Table 4: Previous and proposed unique emissions factors for waste composition (tCO<sub>2</sub>e/t)**

Emissions source	Previous emissions factor	Proposed emissions factor	Change (%)
GW Garden waste	1.5	1.68	12
NSW Nappy and sanitary waste	1.8	2.016	12
OPW Putrescible waste other than garden waste	1.125	1.26	12
PW Paper waste	3	3.36	12
SSW Sewage sludge	0.375	0.42	12
TMW Timber waste	3.225	3.612	12
TXW Textile waste	1.8	2.016	12

## Stationary energy

Previous and proposed emissions factors

**Table 1: Importing coal**

Emissions source	Previous emissions factor tCO <sub>2</sub> -e/TJ	Proposed emissions factor tCO <sub>2</sub> -e/TJ	Change (%)
Lignite or peat	94.40	94.35	-0.05
Sub-bituminous	90.48	90.43	-0.06
Bituminous	87.68	87.63	-0.06

**Table 2: Mining or purchasing coal**

Emissions source	Previous emissions factor tCO <sub>2</sub> -e/TJ	Proposed emissions factor tCO <sub>2</sub> -e/TJ	Change (%)
Lignite – Waimumu and Roxburgh fields	91.57	91.53	-0.04
Lignite – all other fields, or peat	94.40	94.35	-0.05
Sub-bituminous	90.48	90.43	-0.06
Bituminous	87.68	87.63	-0.06

**Table 3: Fugitive coal seam gas, underground and surface mining**

Emissions source	Previous emissions factor tCO <sub>2</sub> -e/t coal	Proposed emissions factor tCO <sub>2</sub> -e/t coal	Change (%)
Coal: surface mining	0.022	0.026	18.18
Bituminous coal: underground mining	0.459	0.551	20.04
Sub-bituminous coal: underground mining	0.343	0.411	19.83

**Table 3A: Fugitive coal seam gas, flaring and combusting for energy**

Emissions source	Previous emissions factor tCO <sub>2</sub> e/t methane	Proposed emissions factor tCO <sub>2</sub> e/t methane	Change (%)
Flaring, combusting for energy, or otherwise oxidising coal seam gas	21.81	26.71	22.47

**Table 4: Importing or purchasing natural gas**

Emissions source	Previous emissions factor tCO <sub>2</sub> e/t	Proposed emissions factor tCO <sub>2</sub> e/t	Change (%)
Propane	2.988	2.987	-0.03
Butane	3.024	3.023	-0.03
LPG (P60:B40)	3.003	3.002	-0.03
LNG	53.64	53.65	0.02

**Table 5: Combustion of natural gas (mined or purchased)**

Emissions source	Previous emissions factor tCO <sub>2</sub> -e/TJ	Proposed emissions factor tCO <sub>2</sub> -e/TJ	Change (%)
Aggregate CH <sub>4</sub> and N <sub>2</sub> O	0.058	0.0062	6.90
Aggregate CH <sub>4</sub> and N <sub>2</sub> O	0.011	0.011	0.00

**Table 6: Geothermal fluid**

Emissions source	Previous emissions factor tCO <sub>2</sub> e/t steam	Proposed emissions factor tCO <sub>2</sub> e/t steam	Change (%)
Kawerau II	0.0194	0.0202	4.12
Kawerau Industrial	0.0194	0.0202	4.12
Kawerau KA24	0.0194	0.0202	4.12
Mokai I and II	0.0052	0.0053	1.92
Nga Awa Purua	0.0176	0.0181	2.84
Ngawha I and II	0.0930	0.0930	0
Ohaaki	0.0591	0.0612	3.55
Poihipi Road	0.0049	0.0050	2.04
Rotokawa I	0.0220	0.0228	3.64
Wairakei station site	0.0050	0.0051	2.00
Any other plant or process using geothermal steam to produce electricity or industrial heat	0.0300	0.0300	0



**Table 6A: Geothermal fluids**

Emissions source	Previous emissions factor tCO <sub>2</sub> e/t <sup>2</sup> -phase fluid	Proposed emissions factor tCO <sub>2</sub> e/t <sup>2</sup> -phase fluid	Change (%)
Mokai Greenhouse	0.0000	0.0000	0.00
Tauhara Tenon	0.0008	0.0009	12.50
Any other plant or process using geothermal fluid to produce electricity or industrial heat, through a process other than production of geothermal steam	0.0008	0.0009	12.50

**Table 7: Combusting used oil, waste oil, used tyres and waste**

Emissions source	Previous emissions factor tCO <sub>2</sub> -e/TJ	Proposed emissions factor tCO <sub>2</sub> -e/TJ	Change (%)
Used or waste oil	70.71	70.80	0.13
Used tyres	61.13	58.92	-3.62
Municipal waste – biomass	1.78	1.86	4.49
Municipal waste – non-biomass	88.02	88.11	0.10

**Table 8: Refining petroleum (Marsden Point refinery)**

Emissions source	Previous emissions factor tCO <sub>2</sub> -e/t	Proposed emissions factor tCO <sub>2</sub> -e/t	Change (%)
Refinery fuel gas	2.848	Not currently in use	NA
Refinery fuel oil	3.115	Not currently in use	NA
Refinery asphalt	3.179	Not currently in use	NA
Refinery flare gas	2.921	Not currently in use	NA
Other intermediate crude oil products	3.179	Not currently in use	NA

**Table 9: Use of specified liquid hydrocarbons**

Emissions source	Previous emissions factor tCO <sub>2</sub> -e/TJ	Proposed emissions factor tCO <sub>2</sub> -e/TJ	Change (%)
Aggregate CH <sub>4</sub> and N <sub>2</sub> O	0.011	0.011	0.00

**Table 10: Mining or purchasing natural gas – current data provided, updates not calculated as there is a corresponding proposed update to reflect more recent gas composition data, covered in section 2.2 of this consultation. Any change attributable to GWP update is immaterial.**

Emissions source	Previous emissions factor tCO <sub>2</sub> e/TJ	Proposed emissions factor tCO <sub>2</sub> e/TJ	Change (%)
Cheal	53.59	Not calculated	0
Kapuni	53.40	Not calculated	0
Kapuni LTS	85.34	Not calculated	0
Kowhai	54.33	Not calculated	0
Kupe	53.44	Not calculated	0
Maari	53.48	Not calculated	0
McKee	54.44	Not calculated	0
Mangahewa	54.34	Not calculated	0
Maui	52.47	Not calculated	0
Ngatoro–Kaimiro	63.08	Not calculated	0
Pohokura	54.72	Not calculated	0
Radnor	61.46	Not calculated	0
Rimu/Kauri	52.03	Not calculated	0
Sidewinder	53.10	Not calculated	0
Turangi	54.25	Not calculated	0
Waihapa	52.47	Not calculated	0
National average	54.02	Not calculated	0

## Liquid fossil fuels

**Table 11: Liquid fossil fuels**

Emissions source	Previous emissions factor tCO <sub>2</sub> e/kl	Proposed emissions factor tCO <sub>2</sub> e/kl	Change (%)
Regular petrol	2.310	2.314	0.17
Premium petrol	2.367	2.370	0.13
Automotive and marine diesel	2.685	2.665	-0.74
Aviation spirit	2.201	2.199	-0.09
Jet fuel	2.525	2.522	-0.12
Light fuel oil	2.929	2.928	-0.03
Heavy fuel oil	3.015	3.014	-0.03
Any other fuel	3.299	3.299	0.00

# Appendix 3: Details of proposed updates to the goods levy Schedule 2 of the SGG levy regulations

**Part A: Levy estimates are based on price of carbon of \$25.60 as applied to the 2021 calendar year.**

**Table 1: Option 1: items added to the goods levy schedule 2 of the SGG levy**

Item number	Type of item	Unit of measurement	Specified SGG	GWP	Estimated levy rate for 2022 (excl GST) (\$)
4 Air-conditioning units (large commercial and industrial reversible heat pumps)					
A1	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), three-phase, and containing R407C	per kg of specified SGG contained in item	R407C	1770	45.31
A2	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), three-phase, and containing R513A	per kg of specified SGG contained in item	R513A	629	16.10

6 Air-conditioning units (large commercial and industrial heat pumps not covered under headings 1 to 5)					
A3	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 5), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), three-phase, and containing R407C	per kg of specified SGG contained in item	R407C	1770	45.31
A4	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 5), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), three-phase, and containing R513A	per kg of specified SGG contained in item	R513A	629	16.10
12 Refrigerating units (such as commercial display cooling and freezing equipment)					
A5	Display cooling units incorporating refrigerating equipment containing R448A or R449A	per item	R448A or R449A	1396	21.44
A6	Display cooling units incorporating refrigerating equipment containing R452A	per item	R452A	2139	32.86
A7	Furniture incorporating refrigerating equipment (such as chests, cabinets, display counters, showcases) other than display cooling units, and containing R 448A or R449A	per item	R448A or R449A	1396	21.44
A8	Furniture incorporating refrigerating equipment (such as chests, cabinets, display counters, showcases) other than display cooling units, and containing R452A	per item	R452A	2139	32.86
A9	Display freezing units incorporating refrigerating equipment containing R448A or R449A	per item	R448A or R449A	1396	21.44
A10	Display freezing units incorporating refrigerating equipment containing R452A	per item	R452A	2139	32.86

A11	Furniture incorporating freezing equipment (such as chests, cabinets, display counters, showcases) other than display freezing units, and containing R 448A or R449A	per item	R448A or R449A	1396	21.44
A12	Furniture incorporating freezing equipment (such as chests, cabinets, display counters, showcases) other than display freezing units, and containing R452A	per item	R452A	2139	32.86
14 Refrigerating units (water coolers, ice or ice-cream makers, refrigerated transport units, and other commercial cooling and freezing equipment not expressly covered in classes covered under headings 1 to 13)					
A13	Refrigeration equipment containing R452A (other than air-conditioning machines described in classes covered under headings 8 to 13) and suitable for use solely or principally with motor vehicles for the transport of goods, trailers and semi-trailers for the transport of goods, railway or tramway coaches, goods vans and wagons, and marine vessels for the transport of goods	per kg of specified SGG contained in item	R452A	2139	54.76
18 Refrigerated vehicles, trailers, tankers, and vessels					
A14- A37	Air-conditioning machines containing R452A that are in refrigerated trucks other than in the driving cabs	per kg of specified SGG contained in item	R452A	2139	54.76
There will be 24 additional tariff items added to the Working Tariff Document and the goods levy Schedule 2 for the class New and Used refrigerated lorries (trucks). These will have the same description as existing items for this class, but will refer to items that contain R452A.					
A38-A43	Air-conditioning machines containing R452A that are in refrigerated vans other than in the driving cabs	per kg of specified SGG contained in item	R452A	2139	54.76

There will be 6 additional tariff items added to the Working Tariff Document and goods levy Schedule 2 for the class New and Used refrigerated vans. These will have the same description as existing items for this class, but will refer to items that contain R452A.

A44-A45	Refrigerated semi-trailers (the load-bearing portion of articulated motor vehicles) for the transport of goods, and containing R452A	per kg of specified SGG contained in item	R452A	2139	54.76
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There will be 2 additional tariff items added to the working tariff document and goods levy Schedule 2 for the class refrigerated semi-trailers. These will have the same description as existing items for this class, but will refer to items that contain R452A.

A46-A47	Refrigerated trailers for the transport of goods, and containing R452A	per kg of specified SGG contained in item	R452A	2139	54.76
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There will be 2 additional tariff items added to the Working Tariff Document and goods levy Schedule 2 for the class refrigerated trailers of transport goods. These will have the same description as existing items for this class, but will refer to items that contain R452A.

## Part A – Option 2 and 3

**Table 2: Gas blends and goods proposed for addition to the goods levy Schedule 2 of the SGG levy, as proposed in Option 2 (add to levy as fully rated item) and Option 3 (add to levy as ‘zero-rated’ item).**

Item number	Type of item	Unit of measurement	Specified SGG	GWP	Estimated levy rate 2022 (excl GST) (\$) Option 2 only
1 Air-conditioning units (household and small commercial window- or wall-mounted heat pumps)					
B1	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, three-phase, and containing R407C	per kg of specified SGG contained in item	R407C	1770	45.31
B2	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, three-phase, and containing R513A	per kg of specified SGG contained in item	R513A	629	16.10
2 Air-conditioning units for installing vehicles (not including those already installed in vehicles)					
B3	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, of a kind used for persons and in motor vehicles, and containing R513A	per kg of specified SGG contained in item	R513A	629	16.10
12 Refrigerating units (such as commercial display cooling and freezing equipment)					
B4	Display cooling units incorporating refrigerating equipment containing R407F	per item	R407F	1825	28.02
B5	Furniture incorporating refrigerating equipment (such as chests, cabinets, display counters, showcases) other than display cooling units, and containing R407F	per item	R407F	1825	28.02

B6	Display freezing units incorporating freezing equipment and containing R407F	per item	R407F	1825	28.02
B7	Furniture incorporating freezing equipment (such as chests, cabinets, display counters, showcases) other than display freezing units, and containing R407F	per item	R407F	1825	28.02
14 Refrigerating units (water coolers, ice or ice-cream makers, refrigerated transport units, and other commercial cooling and freezing equipment not expressly covered in classes covered under headings 1 to 13)					
B8	Ice-cream-making and other edible ice-making machines containing R407F	per kg of specified SGG contained in item	R407F	1825	46.71
B9	Ice-cream-making and other edible ice-making machines containing R448A or R449A	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
B10	Refrigeration equipment containing R407F (other than air-conditioning machines described in classes covered under headings 8 to 13) and suitable for use solely or principally with motor vehicles for the transport of goods, trailers and semi-trailers for the transport of goods, railway or tramway coaches, goods vans and wagons, and marine vessels for the transport of goods	per kg of specified SGG contained in item	R407F	1825	46.71
B11	Refrigeration equipment containing R448A or R449A (other than air-conditioning machines described in classes covered under headings 8 to 13) and suitable for use solely or principally with motor vehicles for the transport of goods, trailers and semi-trailers for the transport of goods, railway or tramway coaches, goods vans and wagons, and marine vessels for the transport of goods	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
B12	Refrigerating or freezing equipment (other than refrigerating or freezing equipment described in other classes under this heading) that contains R407F (other than air-conditioning machines described in classes covered under headings 1 to 13)	per item	R407F	1825	28.02



B13	Refrigerating or freezing equipment (other than refrigerating or freezing equipment described in other classes under this heading) that contains R448A or R449A (other than air-conditioning machines described in classes covered under headings 1 to 13)	per item	R448A or R449A	1396	21.44
B14	Refrigerating or freezing equipment (other than refrigerating or freezing equipment described in other classes under this heading) that contains R452A (other than air-conditioning machines described in classes covered under headings 1 to 13)	per item	R452A	2139	32.86
15 Parts for refrigerating or freezing units (charged with refrigerant for all types of household and commercial equipment) and some heat pumps					
B15	Parts containing R407F for refrigerating or freezing units	per kg of specified SGG contained in item	R407F	1825	46.71
B16	Parts containing R448A or R449A for refrigerating or freezing units	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
B17	Parts containing R452A for refrigerating or freezing units	per kg of specified SGG contained in item	R452A	2139	54.76
B18	Parts containing R407F for refrigerating or freezing units that are evaporators and condensers	per kg of specified SGG contained in item	R407F	1825	46.71
B19	Parts containing R448A or R449A for refrigerating or freezing units that are evaporators and condensers	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
B20	Parts containing R452A for refrigerating or freezing units that are evaporators and condensers	per kg of specified SGG contained in item	R452A	2139	54.76

B21	Parts containing R407F for refrigerating or freezing equipment (other than parts described in other classes covered under this heading) or heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7)	per kg of specified SGG contained in item	R407F	1825	46.71
B22	Parts containing R448A or R449A for refrigerating or freezing equipment (other than parts described in other classes covered under this heading) or heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7)	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
B23	Parts containing R452A for refrigerating or freezing equipment (other than parts described in other classes covered under this heading) or heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7)	per kg of specified SGG contained in item	R452A	2139	54.76
16 Refrigerated beverage-vending machines					
B24	Refrigerated beverage-vending machines containing R407F	per item	R407F	1825	9.34
B25	Refrigerated beverage-vending machines containing R448A or R449A	per item	R448A or R449A	1396	7.15
B26	Automatic goods-vending machines (other than refrigerated beverage-vending machines) containing R407F	per item	R407F	1825	9.34
B27	Automatic goods-vending machines (other than refrigerated beverage-vending machines) containing R448A or R449A	per item	R448A or R449A	1396	7.15

## 18 Refrigerated vehicles, trailers, tankers and vessels

B28-B51	Air-conditioning machines containing R407F that are in refrigerated trucks other than in the driving cabs	per kg of specified SGG contained in item	R407F	1825	46.71
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Twenty-four tariff items will be added to the Working Tariff Document and the goods levy Schedule 2 for the class New and Used refrigerated lorries (trucks). These will have the same description as existing items for this class, but will refer to items that contain R407F.

B52-B75	Air-conditioning machines containing R448A or R449A that are in refrigerated trucks other than in the driving cabs	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
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Twenty-four tariff items will be added to the Working Tariff Document and the goods levy Schedule 2 for the class New and Used refrigerated lorries (trucks). These will have the same description as existing items for this class, but will refer to items that contain R448A or R449A.

B76-B81	Air-conditioning machines containing R407F that are in refrigerated vans other than in the driving cabs	per kg of specified SGG contained in item	R407F	1825	46.71
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Six tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class New and Used refrigerated vans. These will have the same description as existing items for this class, but will refer to items that contain R407F.

B82-B87	Air-conditioning machines containing R448A or R449A that are in refrigerated vans other than in the driving cabs	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
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Six tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class New and Used refrigerated vans. These will have the same description as existing items for this class, but will refer to items that contain R448A or R449A.

B88-B89	Refrigerated semi-trailers (the load-bearing portion of articulated motor vehicles) for the transport of goods, and containing R407F	per kg of specified SGG contained in item	R407F	1825	46.71
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Two tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class refrigerated semi-trailers. These will have the same description as existing items for this class, but will refer to items that contain R407F.

B90-B91	Refrigerated semi-trailers (the load-bearing portion of articulated motor vehicles) for the transport of goods, and containing R448A or R449A	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
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Two tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class refrigerated semi-trailers. These will have the same description as existing items for this class, but will refer to items that contain R448A or R449A.

B92-B93	Refrigerated trailers for the transport of goods, and containing R407F	per kg of item	R407F	1825	46.71
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Two additional tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class refrigerated trailers for the transport goods. These will have the same description as existing items for this class, but will refer to items that contain R407F.

B94-B95	Refrigerated trailers for the transport of goods, and containing R448A or R449A	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
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Two tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class refrigerated trailers for the transport goods. These will have the same description as existing items for this class, but will refer to items that contain R448A or R449A.

B96	Refrigerated tankers (ship) and containing R407F	per kg of specified SGG contained in item	R407F	1825	46.71
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BB97	Refrigerated tankers (ship) and containing R448A or R449A	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
B98-B99	Refrigerated ships (other than tankers) and containing R407F	per kg of specified SGG contained in item	R407F	1825	46.71

Two tariff items added to the Working Tariff Document and goods levy Schedule 2 for the class refrigerated ships (other than tankers). These will have the same description as existing items for this class, but will refer to items that contain R407F.

B100-B101	Refrigerated ships (other than tankers) and containing R448A or R449A	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
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Two additional tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class refrigerated ships (other than tankers). These will have the same description as existing items for this class, but will refer to items that contain R448A or R449A.

B102-B105	Trawlers and other fishing vessels and containing R407F	per kg of specified SGG contained in item	R407F	1825	46.71
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Four tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class trawlers and other fishing vessels. These will have the same description as existing items for this class, but will refer to items that contain R407F.

B106-B109	Trawlers and other fishing vessels and containing R448A or R449A	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
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Four tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class trawlers and other fishing vessels. These will have the same description as existing items for this class, but will refer to items that contain R448A or R449A.

B110-B112	Factory ships and other ships used for processing or preserving fishery products and containing R407F	per kg of specified SGG contained in item	R407F	1825	46.71
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Three tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class factory ships and other ships used for processing or preserving fishery products. These will have the same description as existing items for this class, but will refer to items that contain R407F.

B113-B115	Factory ships and other ships used for processing or preserving fishery products and containing R448A or R449A	per kg of specified SGG contained in item	R448A or R449A	1396	35.74
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Three tariff items will be added to the Working Tariff Document and goods levy Schedule 2 for the class factory ships and other ships used for processing or preserving fishery products. These will have the same description as existing items for this class, but will refer to items that contain R448A or R449A.

#### 19 Polyurethanes

B116	Polyurethanes containing 49% HFC-245fa and 51% HFC-365mfc	per kg of item	HFC-245fa/ HFC-365mfc	910	23.30
B117	Polyurethanes containing 13% HFC-227ea and 87% HFC-365mfc	per kg of item	HFC-227ea/ HFC-365mfc	1110	28.42

## Part B

**Table 3: Option 1 technical amendments to goods levy Schedule 2 of the SGG levy**

Item number	Class of leviable goods	Tariff item	Unit of measurement	Specified SGG	GWP	SGG content (kg)	Issue
12 Refrigerating units (such as commercial display cooling and freezing equipment)							
C1	Display cooling units incorporating refrigerating equipment and containing HFC-134a	8418.50.00 13C	per item	HFC134a	1430	0.400	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$14.64 to \$36.61 according to current levy schedule rates.
C2	Furniture incorporating refrigerating equipment (such as chests, cabinets, display counters, showcases) other than display cooling units, and containing HFC-134a	8418.50.00 19B	per item	HFC134a	1430	0.400	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$14.64 to \$36.61 according to current levy schedule rates.
C3	Display cooling units incorporating refrigerating equipment containing R404A	8418.50.00 21D	per item	R404A	3922	0.600	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$60.24 to \$100.40 according to current levy schedule rates.
C4	Furniture incorporating refrigerating equipment (such as chests, cabinets, display counters,	8418.50.00 29K	per item	R404A	3922	0.600	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size.

	showcases) other than display cooling units, and containing R404A						Estimated levy rate (excl GST) would change from \$60.24 to \$100.40 according to current levy schedule rates.
C5	Display freezing units incorporating freezing equipment and containing HFC-134a	8418.50.00 51F	per item	HFC134a	1430	0.400	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$14.64 to \$36.61 according to current levy schedule rates.
C6	Furniture incorporating freezing equipment (such as chests, cabinets, display counters, showcases) other than display freezing units, and containing HFC-134a	8418.50.00 59A	per item	HFC134a	1430	0.400	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$14.64 to \$36.61 according to current levy schedule rates.
C7	Display freezing units incorporating freezing equipment and containing R404A	8418.50.00 61C	per item	R404A	3922	0.600	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$60.24 to \$100.40 according to current levy schedule rates.
C8	Furniture incorporating freezing equipment (such as chests, cabinets, display counters, showcases) other than display freezing units, and containing R404A	8418.50.00 69J	per item	R404A	3922	0.600	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$60.24 to \$100.40 according to current levy schedule rates.



14 Refrigerating units (water coolers, ice or ice-cream makers, refrigerated transport units, and other commercial cooling and freezing equipment not expressly covered in classes covered under headings 1 to 13)							
C9	Refrigerating or freezing equipment (other than refrigerating or freezing equipment described in other classes under this heading) that contains HFC-134a (other than air-conditioning machines described in classes covered under headings 1 to 13)	8418.69.00 53G	per item	HFC134a	1430	0.400	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$14.64 to \$36.61 according to current levy schedule rates.
C10	Refrigerating or freezing equipment (other than refrigerating or freezing equipment described in other classes under this heading) that contains R404A (other than air-conditioning machines described in classes covered under headings 1 to 13)	8418.69.00 55C	per item	R404A	3922	0.600	Using 'actual amount' for SGG content would be more appropriate because wide range of equipment size. Estimated levy rate (excl GST) would change from \$60.24 to \$100.40 according to current levy schedule rates.
20 Fire extinguishers							
C11	Fire extinguishers containing HFC-227ea	8424.10.00 10J	per kg of specified SGG contained in item	HFC-227ea	3220	actual amount	Incorrect 2900 GWP from IPCC 1996 needs to be updated to 3220 from IPCC 2007.

**Table 4: Minor corrections to goods levy schedule 2 of the SGG levy. For information only.**

Item number	Class of leviable goods	Tariff item	Unit of measurement	Specified SGG	GWP	SGG content (kg)	Issue
1 Air-conditioning units (household and small commercial window- or wall-mounted heat pumps)							
D1	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, three-phase, and containing R32	8415.10.10 40G	per kg of specified SGG contained in item	R32	675	actual amount	Description should be "other than single- or three-phase"
4 Air-conditioning units (large commercial and industrial reversible heat pumps)							
D2	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), three-phase, and containing R32 and other than single or three-phase	8415.81.00 42H	per kg of specified SGG contained in item	R32	675	actual amount	Need to remove "three-phase"
6 Air-conditioning units (large commercial and industrial heat pumps not covered under headings 1 to 5)							
D3	Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 5), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), three-phase, and containing R32, and other than single or three-phase	8415.82.10 52E	per kg of specified SGG contained in item	R32	675	actual amount	Need to remove "three-phase"

13 Heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7)							
D4	Heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7) containing R410A2, and other than single- or three-phase	8418.61.00 36L	per kg of specified SGG contained in item	R410A	2090	actual amount	Resolve typo: remove 2 from R410A2
14 Refrigerating units (water coolers, ice or ice-cream makers, refrigerated transport units, and other commercial cooling and freezing equipment not expressly covered in classes covered under headings 1 to 13)							
D5	Water coolers containing R407f	8418.69.00 47B	per kg of specified SGG contained in item	R407F	1825	actual amount	Resolve typo: replace f with F in goods description