

Land Transport Rule Vehicle Efficiency and Emissions Data 2022

Cindy Kiro, Governor-General

Order in Council

At Wellington this 28th day of February 2022

Present:

Her Excellency the Governor-General in Council

This ordinary rule is made by Her Excellency the Governor-General under sections 152, 152A, 155 and 158 of the Land Transport Act 1998, acting—

- (a) on the advice and consent of the Executive Council
- (b) on the recommendation of the Minister of Transport, after having regard to the criteria specified in section 164(2) of that Act.

Contents

Section 1	Preliminary provisions	1
1.1	Title	1
1.2	Commencement	1
1.3	Interpretation	1
Section 2	Data requirements for vehicles	4
2.1	Application of this Rule	4
2.2	Certain data required for entry certification	5
2.3	Requirements for base data	7
2.4	Normalised data value for the carbon dioxide emissions of internal combustion vehicles	9
Section 3	Further matters relating to data	10
3.1	Approved system for supplying data	10

3.2	Evidence may be required	10
3.3	Prohibition against provision of false or inaccurate information	10
3.4	Availability of official data	10
3.5	Values for carbon dioxide emissions in database have official status	11
3.6	Agency may provide data for vehicles	11
Section 4	Consequential amendments	11
4.1	Land Transport Rule: Vehicle Standards Compliance 2002 amended	11
4.2	Land Transport Rule: Fuel Consumption Information 2008 revoked	11
Schedule 1 – Determining normalised data values for internal combustion vehicles		12
Schedule 2 – Estimating normalised data values for carbon dioxide emissions of internal combustion vehicles		21
Schedule 3 – Determining unladen mass of vehicles		22

Objective of the Rule

The objective of this Rule is to specify—

- (a) data about the carbon dioxide emissions, fuel consumption, and efficiency that must be supplied before a vehicle may be certified for entry into service in New Zealand; and
- (b) the requirements for identifying, producing and supplying the data; and
- (c) the carbon dioxide emissions of a vehicle for the purposes of Part 13 of the Act and the Land Transport (Clean Vehicle Discount Scheme) Charges Regulations 2022.

Section 1 Preliminary provisions

1.1 Title

This Rule is the Land Transport Rule: Vehicle Efficiency and Emissions Data 2022.

1.2 Commencement

This Rule comes into force on 1 April 2022.

1.3 Interpretation

1.3(1) In this Rule, unless the context otherwise requires,—

Act means the Land Transport Act 1998

approved testing body means an entity or organisation approved under the laws of a relevant jurisdiction to carry out independent tests of vehicles' compliance with legal requirements or standards (for example, in EU member states, the approval bodies appointed under Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018)

available means—

- (a) available to the public (including on the payment of a reasonable fee); or
- (b) can be reasonably expected to be obtained by the person supplying the data, considering—
 - (i) the type of person supplying the data (for example, a certifier, a regular importer of used vehicles, or a person associated with a manufacturer of new vehicles); and
 - (ii) industry practice for people or entities of that type.

BEV means a battery electric vehicle, being a motor vehicle with motive power wholly derived from an external source of electricity (and may also derive power from its own kinetic energy)

CAFE (Combined Average Fleet Economy) means test cycles established under Federal Regulation CFR 40 Part 600 fuel economy and greenhouse gas exhaust emissions of motor vehicle, and includes—

- (a) the City phase of CAFE, being the city fuel economy determined by operating a vehicle (or vehicles) over the driving schedule in the Federal emission test procedure (known as FTP75), or determined according to the vehicle-specific 5-cycle or derived 5-cycle procedures; and
- (b) the Highway phase of CAFE, being the highway fuel economy determined either by operating a vehicle (or vehicles) over the driving schedule in the Federal highway fuel economy test procedure (known as HWFET) or determined according to either the vehicle-specific 5-cycle equation or the derived 5-cycle equation for highway fuel economy

electric vehicle—

- (a) means a motor vehicle with motive power wholly or partially derived from an external source of electricity; and
- (b) includes a BEV and a PHEV

entry certification means certification for entry into service under Land Transport Rule: Vehicle Standards Compliance 2002

EU type approval means an approval issued by a member state of the European Union in compliance with an EU directive (for example, 2007/46/EC or 2018/858/EU) for a vehicle or type of vehicle

HFCEV means a motor vehicle that is a hydrogen fuel cell electric vehicle

internal combustion vehicle—

- (a) means a motor vehicle with motive power wholly or partially derived from an internal combustion engine; and
- (b) includes a PHEV; and
- (c) excludes a BEV and a HFCEV

Japanese 10-15 mode means the *Japan Safety Regulations for Road Vehicles* test method for determination of motor vehicle energy efficiency specified by the Minister of Land, Infrastructure and Transport in *paragraph 1.1 of Announcement*

No. 350 of 17 March 2006 as amended by *Announcement No. 865 of 2 July 2007*

Japanese JC08 mode means the *Japan Safety Regulations for Road Vehicles* test method for determination of motor vehicle energy efficiency specified by the Minister of Land, Infrastructure and Transport in *paragraph 1.2 of Announcement No. 350 of 17 March 2006 as amended by Announcement No. 865 of 2 July 2007*

linked to the vehicle, in relation to values, means that the vehicle the values relate to is identified by—

- (a) a unique identifier for the vehicle (for example, a VIN or chassis number); or
- (b) a reference to a set of vehicles that have the same features that affect carbon dioxide emissions, fuel consumption, and energy efficiency, of which the vehicle is a member.

most preferred record has the meaning given by clause 2.3(2)

most preferred test cycle has the meaning given by clause 2.3(3)

most preferred test process has the meaning given by clause 2.3(4)

NEDC means—

- (a) the test cycle defined by Annex 4a Paragraph 6.1 of UN Regulation No. 83, Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements (E/ECE/324/Rev.1/Add.82/Rev.5–E/ECE/TRANS/505/Rev.1/Add.82/Rev.5) incorporating the 07 series of amendments; or
- (b) the test cycle defined by ADR 79/04, Vehicle Standard (Australian Design Rule 79/04 — Emission Control for Light Vehicles) 2011

null value means an indication that a value is not known

PHEV means a plug-in hybrid electric vehicle, being a motor vehicle that is both an internal combustion vehicle and an electric vehicle

relevant jurisdiction means a jurisdiction in which substantially identical vehicles have been approved under law for sale and use on a road

required values has the meaning given by clause 2.2(3)

test cycle means—

- (a) WLTP, NEDC, Japanese JC08 mode, Japanese 10-15 mode or CAFE; or
- (b) software modelling of the likely results of performing a test cycle in paragraph (a) (for example, modelling using the CO2MPAS tool developed by the European Commission's Joint Research Centre or the SIMULIA tools developed by Dassault Systèmes).

UN Regulation No. 154 means the uniform provisions concerning the approval of light duty passenger and commercial vehicles with regards to criteria emissions, emissions of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range (WLTP), ECE/TRANS/WP.29/2020/78 (as amended by ECE/TRANS/WP.29/2020/93), incorporating 01 series of amendments

VIN means a vehicle identification number as defined in Land Transport Rule: Vehicle Standards Compliance 2002

WLTP means the Worldwide Harmonised Light Vehicles Test Procedure cycle as specified in UN Regulation No. 154, and includes both 3P-WLTP and 4P-WLTP as those terms are defined in Schedule 1 of this Rule

- 1.3(2) A term that is used in this Rule and defined in the Act but not defined in this Rule has the meaning given in the Act (for example, Agency and Director).

Section 2 Data requirements for vehicles

2.1 Application of this Rule

- 2.1(1) This Rule applies to a vehicle that—
- (a) requires entry certification; and
 - (b) has a gross vehicle mass of not more than 3,500 kg; and

- (c) is of class MA, MB, MC, MD1, MD2 or NA (as described in Table A of Part 2 of Land Transport Rule: Vehicle Standards Compliance 2002); and
- (d) is not listed in subclause (2).

2.1(2) This Rule does not apply to the following vehicles:

- (a) special interest vehicles as defined in Part 2 of the Land Transport Rule: Frontal Impact 2001:
- (b) any vehicle manufactured 40 years or more before the date on which it was certified for entry into service in New Zealand:
- (c) motor sport vehicles (as defined in Land Transport Rule: Frontal Impact 2001):
- (d) a vehicle specified in paragraph (a) of the definition of low volume vehicle in Land Transport Rule: Vehicle Standards Compliance 2002 that is certified in accordance with the Low Volume Vehicle Code (as defined in that Rule):
- (e) any vehicle first certified for entry into service in New Zealand before the date this Rule comes into force.

2.2 **Certain data required for entry certification**

2.2(1) A vehicle to which this Rule applies may not receive entry certification unless the Agency has been supplied, through a system approved by the Director under Section 3, with—

- (a) the unladen mass of the vehicle (measured in kg) that—
 - (i) is determined as provided for in Schedule 3; and
 - (ii) is linked to the vehicle; and
- (b) the required values for the vehicle as base data that meets the requirements in clause 2.3; and
- (c) for an internal combustion vehicle, the normalised data value for the carbon dioxide emissions of the vehicle (*see* clause 2.4).

2.2(2) However, if base data for a vehicle that meets the requirements in clause 2.3 is not available to provide some or all of the information required by subclause (1)(b), then the vehicle may still receive entry certification with null values supplied where information is not available (other than for the normalised data value for the carbon dioxide emissions of an internal combustion vehicle).

- 2.2(3) The **required values** are—
- (a) for an internal combustion vehicle—
 - (i) the carbon dioxide emissions of the vehicle, in grams of carbon dioxide per unit of distance travelled; and
 - (ii) the fuel consumption of the vehicle, as units of fuel consumed per unit of distance travelled; and
 - (b) for an electric vehicle—
 - (i) the electric-only range of the vehicle, in units of distance travelled per charge of the vehicle; and
 - (ii) the efficiency of the vehicle, as units of electrical energy used per unit of distance travelled.
- 2.2(4) To provide further clarity, all of the values described in subclause (3) are required values for a PHEV.
- 2.2(5) The Director may determine whether, in respect of a particular vehicle, the Agency has been supplied with the information required by subclauses (1) and (2) for the vehicle (including, for example, determining whether null values may be supplied under subclause (2), or determining whether the vehicle is a member of a set of vehicles such that the data supplied is linked to the vehicle).
- Further data may be supplied*
- 2.2(6) For an internal combustion vehicle, a person may supply the Agency, through a system approved by the Director under Section 3, with a normalised data value for the fuel consumption of the vehicle determined in accordance with Schedule 1.
- 2.2(7) For a HFCEV, a person may supply the Agency, through a system approved by the Director under Section 3, with any of the following values for the HFCEV (if the system is capable of receiving and recording the information supplied):
- (a) the range of the vehicle from its on-board fuel source:
 - (b) the efficiency of the vehicle, as units of electrical energy used per unit of distance travelled:
 - (c) the efficiency of the vehicle, as units of hydrogen used per unit of distance travelled.

2.3 Requirements for base data

- 2.3(1) The requirements for base data are that the base data provides the required values for a vehicle that are—
- (a) linked to the vehicle; and
 - (b) from the most preferred record that is available (*see* subclause (2)); and
 - (c) determined using results from the most preferred test cycle (*see* subclause (3)) performed using the most preferred test process (*see* subclause (4)).

[Defined in this Rule: linked to the vehicle]

- 2.3(2) The **most preferred record** is—

- (a) any type of record approved by the Director by notice in the *Gazette* that provides data for the vehicle, in accordance with the terms of the *Gazette* notice (which may, for example, provide that other documents in this subclause are, if available, the most preferred record in relation to the vehicle); or
- (b) only if the record in paragraph (a) is not available, the documents required by clause 6.3(4)(a) (which relates to statements of compliance for vehicles) and clause 6.3(5) (which relates to documents to support the validity of the statements of compliance) of the Land Transport Rule: Vehicle Standards Compliance 2002 for the vehicle; or
- (c) only if the records in paragraphs (a) and (b) are not available, the documents recording the approval under law for the vehicle to be sold and used on a road (for example, an EU type approval or a UK V5c vehicle logbook); or
- (d) only if the records in paragraphs (a), (b) and (c) are not available, a facility provided by the Agency (if any) that provides data for the vehicle; or
- (e) only if the records in paragraphs (a), (b), (c) and (d) are not available, a record that has been supplied to, and made publicly available by, the national government of the relevant jurisdiction (other than as approval under law for the vehicle to be sold and used on a road); or
- (f) only if the records in paragraphs (a), (b), (c), (d) and (e) are not available, an Internet site provided by the vehicle manufacturer that provides data for the vehicle.

- 2.3(3) The **most preferred test cycle** is—
- (a) WLTP; or
 - (b) only if the required values for the vehicle are not available from a WLTP test cycle performed using any of the test processes described in subclause (4), NEDC; or
 - (c) only if the required values for the vehicle are not available from a WLTP or NEDC test cycle performed using any of the test processes described in subclause (4), Japanese JC08 mode; or
 - (d) only if the required values for the vehicle are not available from a WLTP, NEDC or Japanese JC08 mode test cycle performed using any of the test processes described in subclause (4), Japanese 10-15 mode; or
 - (e) only if the required values for the vehicle are not available from a WLTP, NEDC, Japanese JC08 mode or Japanese 10-15 mode test cycle performed using any of the test processes described in subclause (4), CAFE; or
 - (f) only if the required values for the vehicle are not available from a WLTP, NEDC, Japanese JC08 mode, Japanese 10-15 mode or CAFE test cycle performed using any of the test processes described in subclause (4), software modelling of the likely results of performing a WLTP, NEDC, Japanese JC08 mode, Japanese 10-15 mode or CAFE test cycle (for example, modelling using the CO2MPAS tool developed by the European Commission's Joint Research Centre or the SIMULIA tools developed by Dassault Systèmes).
- 2.3(4) The **most preferred test process** is—
- (a) a test cycle performed as part of a process for approval under law for vehicles to be sold and used on a road in a relevant jurisdiction; or
 - (b) only if results from a test process in paragraph (a) are not available, a test cycle performed as otherwise required by law in a relevant jurisdiction; or
 - (c) only if results from test processes in paragraphs (a) and (b) are not available, a test cycle performed by an approved testing body; or

- (d) only if results from test processes in paragraphs (a), (b) and (c) are not available, a test cycle performed by the vehicle manufacturer.

[Defined in this Rule: approved testing body, relevant jurisdiction]

2.4 **Normalised data value for the carbon dioxide emissions of internal combustion vehicles**

The normalised data value for the carbon dioxide emissions of an internal combustion vehicle is—

- (a) the value produced by applying the formulas set out in Schedule 1 to the base data for the vehicle that meets the requirements in clause 2.3; or
- (b) if the data described in paragraph (a) is not available, then the value determined by the Agency—
 - (i) using the estimations provided by Schedule 2; or
 - (ii) if the Agency considers it appropriate, determining a carbon dioxide emissions value for the vehicle based on carbon dioxide emissions values for closely related or similar vehicles.

Example 1:

There is no base data for carbon dioxide emissions for Vehicle A that meets the requirements in clause 2.3.

Vehicle A is covered by a single EU type approval.

Under clause 2.4(b)(ii), the Agency could use values for other vehicles covered by the EU type approval to determine the carbon dioxide emissions value for Vehicle A.

Example 2:

There is no base data for carbon dioxide emissions for Vehicle B that meets the requirements in clause 2.3.

Vehicle B is a member of a carbon dioxide vehicle family as defined in UNECE Reg. 101 Uniform provisions concerning the approval of passenger cars powered by an internal combustion engine only, or powered by a hybrid electric power train with regard to the measurement of the emission of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range, and of categories M1 and N1 vehicles powered by an electric power train only with regard to the measurement of electric energy consumption and electric

range, (E/ECE/TRANS/505/Rev.2/Add.100/Rev.3), incorporating 03 series of amendments, Section 7.

Under clause 2.4(b)(ii), the Agency could use values for other vehicles in the carbon dioxide vehicle family to determine the carbon dioxide emissions value for Vehicle B.

Section 3 Further matters relating to data

3.1 Approved system for supplying data

The Director must approve a system to be used for supplying the Agency with data under this Rule and must notify the approved system on an Internet site maintained by or on behalf of the Agency.

3.2 Evidence may be required

Any person supplying data under this Rule must comply, within a reasonable time, with any request from the Director to provide evidence that the data is correct (for example, an official record of a vehicle emission test result, an EU type approval, or a UK V5c vehicle logbook).

3.3 Prohibition against provision of false or inaccurate information

A person may not, for the purpose of this Rule, provide information that they know is false or do not believe to be accurate.

Compare: Land Transport Rule: Fuel Consumption Information 2008, cl 2.3

3.4 Availability of official data

3.4(1) The Agency must maintain a database of the official data, being the data supplied to the Agency under clauses 2.2(1), 2.2(6) or 2.2(7) as amended or replaced under subclause (2).

3.4(2) The Agency may amend, replace or remove data held in the database to—

- (a) make the data compliant with this Rule at the time of making the change (regardless of whether or not the data complied with this Rule at the time it was supplied to the Agency); or
- (b) correct an error.

3.5 Values for carbon dioxide emissions in database have official status

- 3.5(1) The normalised data value for the carbon dioxide emissions of a vehicle shown in the database must be treated as the carbon dioxide emissions for the vehicle for the purposes of the clean vehicle discount scheme (*see* also regulation 6 of the Land Transport (Clean Vehicle Discount Scheme) Charges Regulations 2022).
- 3.5(2) For a BEV or a HFCEV, if the database does not show a normalised data value for the carbon dioxide emissions of the vehicle, then the value for the vehicle may be treated as zero.
- 3.5(3) For the avoidance of any doubt, the data shown in the database at the point in time it is used is considered the carbon dioxide emissions of the vehicle at the time.

3.6 Agency may provide data for vehicles

The Agency may provide a facility that provides data for vehicles for the purposes of this Rule and to become the most preferred record for the vehicle under clause 2.3(2)(d).

Section 4 Consequential amendments

4.1 Land Transport Rule: Vehicle Standards Compliance 2002 amended

In Land Transport Rule: Vehicle Standards Compliance 2002, after clause 6.4(1), insert:

6.4(1A) A vehicle to which the *Land Transport Rule: Vehicle Efficiency and Emissions Data 2022* applies, may not be certified for entry into service unless the required data for that vehicle has been supplied in accordance with clause 2.2(1) and (2) of that Rule.

4.2 Land Transport Rule: Fuel Consumption Information 2008 revoked

The Land Transport Rule: Fuel Consumption Information 2008 is revoked.

Schedule 1 – Determining normalised data values for internal combustion vehicles

Ref: clauses 2.2(6) and 2.4

5.1 Definitions for Schedule 1

In this Schedule—

3P-WLTP means WLTP with the extra high phase excluded, also called Level 1B in UN Regulation No.154

3P-WLTP combined means data means data from low, medium and high that have been converted into a combined value as required by UN Regulation No.154

3P-WLTP individual phase data means data from low, medium and high that have not been converted into a combined value

3P-WLTPCO₂ means CO₂ emissions determined by 3P-WLTP

3P-WLTPFC means fuel consumption determined by 3P-WLTP

4P-WLTP means WLTP with the extra high phase included, also called Level 1A in UN Regulation No.154

4P-WLTP combined means data means data from low, medium, high and extra high that have been converted into a combined value as required by UN Regulation No.154

4P-WLTP individual phase data means data from low, medium, high, and extra high that have not been converted into a combined value

4P-WLTPCO₂ means CO₂ emissions determined by 4P-WLTP

4P-WLTPFC means fuel consumption determined by 4P-WLTP

low in relation to phases of WLTP means any of the following phases of that test cycle:

- (a) the Low₁ phase described in Figure A1/1 and Table A1/1 in annex B1 of UN Regulation No.154:
- (b) the Low₂ phase described in Figure A1/3 and Table A1/3 in annex B1 of UN Regulation No.154:

- (c) the Low₃ phase described in Figure A1/7 and Table A1/7 in annex B1 of UN Regulation No.154

medium in relation to phases of WLTP means any of the following phases of that test cycle:

- (a) the Medium₁ phase described in Figure A1/2 and Table A1/2 (in annex B1) of UN Regulation No.154:
- (b) the Medium₂ phase described in Figure A1/4 and Table A1/4 (in annex B1) of UN Regulation No.154:
- (c) the Medium₃₋₁ phase described in Figure A1/8 and Table A1/8 (in annex B1) of UN Regulation No.154:
- (d) the Medium₃₋₂ phase described in Figure A1/9 and Table A1/9 (in annex B1) of UN Regulation No.154

high in relation to phases of WLTP means any of the following phases of that test cycle:

- (a) the High₂ phase described in Figure A1/5 and Table A1/5 in annex B1 of UN Regulation No.154:
- (a) the High₃₋₁ phase described in Figure A1/10 and Table A1/10 in annex B1 of UN Regulation No.154:
- (b) the High₃₋₂ phase is described in Figure A1/11 and Table A1/11 in in annex B1 of UN Regulation No.154

extra high in relation to phases of WLTP means any of the following phases of that test cycle:

- (a) the Extra High₂ phase described in Figure A1/6 and Table A1/6 in annex B1 of UN Regulation No.154:
- (b) the Extra High₃ phase described in Figure A1/12 and Table A1/12 in annex B1 of UN Regulation No.154

cs appended to another term or used as a subscript appended to another term means the other term measured in the charge sustaining operating condition defined in paragraph 3.3.6 of UN Regulation No.154 (for example, 4P-WLTPCO₂cs means CO₂ emissions determined by 4P-WLTP measured in the charge sustaining condition)

csc appended to another term or used as a subscript has the same meaning as cs but as a combined value (for example, 4P-

WLTPCO₂csc means CO₂ emissions determined by 4P-WLTP measured in the charge sustaining condition as a combined value)

urban in relation to phases of NEDC means the test cycle defined by Annex 4a Paragraph 6.1.1 of UN Regulation No. 83, Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements

(E/ECE/324/Rev.1/Add.82/Rev.5–E/ECE/TRANS/505/Rev.1/Add.82/Rev.5) incorporating the 07 series of amendments

extra urban in relation to phases of NEDC means the test cycle defined by Annex 4a Paragraph 6.1.2 of UN Regulation No. 83, Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements

(E/ECE/324/Rev.1/Add.82/Rev.5–E/ECE/TRANS/505/Rev.1/Add.82/Rev.5) incorporating the 07 series of amendments

5.2

Process for calculating normalised data values

In the case of internal combustion vehicles other than PHEVs to which clause 5.4 applies, the process for calculating the normalised data value for carbon dioxide emissions or for fuel consumption is—

- (a) first determining the preferred from cycle data under clause 5.3; and
- (b) then—
 - (i) if the preferred from cycle data are CO₂ emissions data, using Normalisation Formula 1 (and, if the preferred from cycle data are from individual phase data, using Table 1 to calculate a value to use as the value for from cycle combined in Normalisation Formula 1); or
 - (ii) if the preferred from cycle data are fuel consumption data, using Normalisation Formula 2 (and, if the preferred from cycle data are from individual phase data, using Table 1 to calculate a value to use as the value for from cycle combined in Normalisation Formula 2).

5.3 Preferred from cycle data

In the case of internal combustion vehicles other than PHEVs to which clause 5.4 applies, the preferred from cycle data are the first available data in this list of precedence (where (a) takes precedence over (b), etc):

- (a) 3P-WLTPCO₂ combined data:
- (b) 3P-WLTPCO₂ individual phase data:
- (c) 3P-WLTPFC combined phase data:
- (d) 3P-WLTPFC individual phase data:
- (e) 4P-WLTPCO₂ individual phase data:
- (f) 4P-WLTPFC individual phase data:
- (g) 4P-WLTPCO₂ combined data:
- (h) 4P-WLTPFC combined phase data:
- (i) data from a test cycle other than those in paragraphs (a) to (h) that is the most preferred test cycle.

5.4 PHEVs for which 4P-WLTPcs data are available

- 5.4(1) This clause applies to PHEVs for which 4P-WLTPcs data are available.
- 5.4(2) For PHEVs to which this clause applies, the process for calculating the normalised data value for carbon dioxide emissions is using Normalisation Formula 3 (and, if the preferred from cycle data are from individual phase data, using Table 1 to calculate values as applicable to use in Normalisation Formula 3).

Table 1	
Calculating from cycle combined values for use in normalisation formulas	
Test cycle individual phase data available	Formula for calculating from cycle combined value
For all internal combustion vehicles other than PHEVs to which clause 5.4 applies	
WLTP (low, medium and high)	$3P\text{-WLTP} = (0.20614 * \text{Low}) + (0.3168 * \text{Medium}) + (0.47706 * \text{High})$
NEDC urban and extra urban	$NEDC = ((4.052 * \text{Urban}) + (6.955 * \text{Extra Urban})) / 11.007$
CAFE city and highway	$CAFE = (0.55 * \text{City}) + (0.45 * \text{Highway})$
For PHEVs to which clause 5.4 applies	
3P-WLTP _{CS} or 4P-WLTP _{CS}	$3P\text{-WLTP}_{CSC} = (0.20614 * CO_{2LowCS}) + (0.3168 * CO_{2MediumCS}) + (0.47706 * CO_{2HighCS})$ $3P\text{-WLTP}_{CSC} = (0.20614 * FC_{LowCS} * CF) + (0.3168 * FC_{MediumCS} * CF) + (0.47706 * FC_{HighCS} * CF)$ Where CF is the conversion factor in the second column of Table NF 2.2 for the fuel type in the first column
4P-WLTP _{CS}	$4P\text{-WLTP}_{CSC} = (0.133 * CO_{2LowCS}) + (0.20441 * CO_{2MediumCS}) + (0.30782 * CO_{2HighCS}) + (0.35477 * CO_{2Extra\ HighCS})$ if those data are available and if not $4P\text{-WLTP}_{CSC} = (0.133 * FC_{LowCS} * CF) + (0.20441 * FC_{MediumCS} * CF) + (0.30782 * FC_{HighCS} * CF) + (0.35477 * FC_{Extra\ HighCS} * CF)$ Where CF is the conversion factor in the second column of Table NF 2.2 for the fuel type in the first column $3P\text{-WLTP}_{CSC} = a \times (\text{from cycle combined } 4P\text{-WLTP}_{CO_{2CS}}) + b$ if those data are available and if not Where a and b have the same definitions as in Normalisation Formula 1 $3P\text{-WLTP}_{CSC} = a \times (\text{from cycle combined } 4P\text{-WLTP}_{FC_{CS}}) * CF + b_1$ Where a , b₁ and CF have the same definitions as in Normalisation Formula 2

Normalisation Formula 1			
From CO₂ emissions data - all internal combustion vehicles other than PHEVs to which clause 5.4 applies			
$CO_{2n} = a \times \text{from cycle combined} + b$			
Where—			
CO _{2n} is 3P-WLTP normalised CO ₂ emissions			
from cycle combined is the CO ₂ emissions determined in the combined test cycle specified in the first column of Table NF1 (including when calculated as provided for in Table 1)			
a is the value in the third column in the Table NF1 for the test cycle and fuel type in the first two columns in the same row			
b is the value in the fourth column in the Table NF1 for the test cycle and fuel type in the first two columns in the same row			
Provided—			
in any case where from cycle combined is 0, CO_{2n} must be taken to be 0, and			
in cases where CO_{2n} is less than 1, and the from cycle combined value is any positive value, CO_{2n} must be taken to be 1			

Table NF1			
from cycle combined	Fuel	a	b
3P-WLTP	Petrol	1	0
4P-WLTP	Petrol	1.1569	-31.0519
NEDC	Petrol	1.1194	-1.1618
Japanese JC08 mode	Petrol	0.9695	24.6742
CAFE	Petrol	1.2094	-16.4856
Japanese 10-15 mode combined	Petrol	0.9353	39.774
3P-WLTP combined	Diesel	1	0
4P-WLTP combined	Diesel	1.0497	-14.4674
NEDC combined	Diesel	1.0871	12.73
Japanese JC08 mode combined	Diesel	0.9695	27.4167
CAFE	Diesel	1.1589	-16.5771
Japanese 10-15 mode	Diesel	0.9353	44.1947
3P-WLTP	LPG	1	0
4P-WLTP	LPG	1.1569	-21.0118
NEDC	LPG	1.1194	-0.7862
Japanese JC08 mode	LPG	0.9695	16.6962

CAFE	LPG	1.2094	-11.1553
Japanese 10-15 mode	LPG	0.9353	26.9138
3P-WLTP	CNG	1	0
4P-WLTP	CNG	1.1569	-23.1699
NEDC	CNG	1.1194	-0.8669
Japanese JC08 mode	CNG	0.9695	18.411
CAFE	CNG	1.2094	-12.301
Japanese 10-15 mode	CNG	0.9353	29.678

Normalisation Formula 2

From fuel consumption data - all internal combustion vehicles other than PHEVs to which clause 5.4 applies

$$CO_{2n} = a \times (FC \times CF) + b_1$$

$$FC_n = a \times FC + b_2$$

Where—

CO_{2n} is 3P-WLTP normalised CO₂ emissions

FC_n is 3P-WLTP normalised fuel consumption

FC is the fuel consumption for the test cycle specified in the first column of Table NF2.1 for the test cycle and fuel type in the first two columns in the same row (including when calculated as provided for in Table 1)

a is the value in the third column in Table NF2.1 for the test cycle and fuel type in the first two columns in the same row

b₁ is the value in the fourth column in Table NF2.1 for the test cycle and fuel type in the first two columns in the same row

b₂ is the value in the fifth column in Table NF2.1 for the test cycle and fuel type in the first two columns in the same row

CF is the conversion factor in the second column of Table NF2.2 for the fuel type in the first column

Provided—

in any case where **from cycle combined** is 0, **CO_{2n}** must be taken to be 0 and **FC_n** must be taken to be 0, and

in cases where **CO_{2n}** is less than 1, and the **from cycle combined** value is any positive value, **CO_{2n}** must be taken to be 1, and

in cases where **FC_n** is less than 0.1, and the **from cycle combined** value is any positive value, **FC_n** must be taken to be 0.1 for Petrol, Diesel, LPG and CNG vehicles.

Table NF2.1

From cycle combined	Fuel	a	b₁ gCO₂/km	b₂ L/100km
3P-WLTP	Petrol	1	0	0

4P-WLTP	Petrol	1.1569	-31.0519	-1.2922
NEDC	Petrol	1.1194	-1.1618	-0.0483
Japanese JC08 mode	Petrol	0.9695	24.6742	1.0268
CAFE	Petrol	1.2094	-16.4856	-0.6861
Japanese 10-15 mode	Petrol	0.9353	39.774	1.6552
3P-WLTP	Diesel	1	0	0
4P-WLTP	Diesel	1.0497	-14.4674	-0.5418
NEDC	Diesel	1.0871	12.73	0.4768
Japanese JC08 mode	Diesel	0.9695	27.4167	1.0268
CAFE	Diesel	1.1589	-16.5771	-0.6209
Japanese 10-15 mode	Diesel	0.9353	44.1947	1.6552
3P-WLTP	LPG	1	0	0
4P-WLTP	LPG	1.1569	-21.0118	-1.2922
NEDC	LPG	1.1194	-0.7862	-0.0483
Japanese JC08 mode	LPG	0.9695	16.6962	1.0268
CAFE	LPG	1.2094	-11.1553	-0.6861
Japanese 10-15 mode	LPG	0.9353	26.9138	1.6552
3P-WLTP	CNG	1	0	0
4P-WLTP	CNG	1.1569	-23.1699	-1.2922
NEDC	CNG	1.1194	-0.8669	-0.0483
Japanese JC08 mode	CNG	0.9695	18.411	1.0268
CAFE	CNG	1.2094	-12.301	-0.6861
Japanese 10-15 mode	CNG	0.9353	29.678	1.6552

Table NF2.2	
Fuel type	Conversion Factor
Petrol in l/100km	24.005
Diesel in l/100km	26.673
LPG in l/100km	16.260
CNG in m ³ /100km	17.930

Normalisation Formula 3
PHEVs to which clause 5.4 applies

$$\text{CO}_{2n} = 4\text{P-WLTPCO}_2 \times (3\text{P-WLTP}_{\text{csc}}/4\text{P-WLTP}_{\text{csc}})$$

Where—

CO_{2n} is the 3P-WLTP normalised CO₂ emissions data

Schedule 2 – Estimating normalised data values for carbon dioxide emissions of internal combustion vehicles

Ref: clause 2.4(b)(i)

The estimations of the normalised data value for the carbon dioxide emissions of an internal combustion vehicle are those provided for in Table 2:

Table 2		
Vehicle class (as described in Table A of Part 2 of Land Transport Rule: Vehicle Standards Compliance 2002)	Vehicle fuel type and engine capacity of the vehicle	Value of, or formula for determining, the normalised data value for the carbon dioxide emissions of the vehicle (where CC means engine capacity in cc)
Vehicles of class MA, MB or MC	Petrol, <1000cc	187 grams of CO ₂ / km
	Petrol, 1000cc to 5000cc	$(0.054 \times CC) + 133$
	Petrol, >5000cc	403 grams of CO ₂ / km
	Diesel, <1000cc	150 grams of CO ₂ / km
	Diesel, 1000cc to 3000cc	$(0.08 \times CC) + 70$
	Diesel, >3000cc	310 grams of CO ₂ / km
	PHEV	$(0.035 \times CC) + 20$
Vehicles of class NA, MD1 or MD2	Petrol, <500cc	169 grams of CO ₂ / km
	Petrol, 500cc to 3000cc	$(0.078 \times CC) + 130$
	Petrol, >3000cc	364 grams of CO ₂ / km
	Diesel, <1000cc	192 grams of CO ₂ / km
	Diesel, 1000cc to 3500cc	$(0.062 \times CC) + 130$
	Diesel, >3500cc	347 grams of CO ₂ / km
	PHEV	$(0.035 \times CC) + 20$

Schedule 3 – Determining unladen mass of vehicles

Ref: clause 2.2(1)(a)(i)

- (a) The unladen mass of a vehicle must be determined from the lowest value for mass used in the testing of the vehicle under the most preferred test cycle.
- (b) However, if data described in (a) is not available, the unladen mass of a vehicle must be determined by applying the formula in the last column of Table 3 to data from the most preferred record (only if the information described in Table 3 is available).

Table 3		
For vehicles sourced from	Mass information for the vehicle from source country from the most preferred record	Formula for determining unladen mass for the purposes of this Rule
UK or EU	Claimed Mass in Running Order (MIRO)	MIRO - 75kg
Australia	Claimed tare	tare + 30kg
USA	Claimed tare, converted to kg if needed	tare - 68kg
Japan	Claimed tare	tare - 25kg

- (c) However, if clauses (a) and (b) cannot be applied, the unladen mass of a vehicle must be determined as the vehicle mass, measured by an appropriately calibrated weighing device, together with—
- (i) the fuel system filled to at least 90% capacity; and
 - (ii) any optional equipment fitted; and
 - (iii) any spare wheel or tools provided with the vehicle; and
 - (iv) any fluids required for the operation of the vehicle.

Michael Webster,
Clerk of the Executive Council.