OTORITAS JASA KEUANGAN

CLIMATE RISK MANAGEMENT & SCENARIO ANALYSIS PERBANKAN 2024

BUKU 3

METODE PERHITUNGAN EMISI KARBON

DEPARTEMEN PENGATURAN DAN PENGEMBANGAN PERBANKAN
OTORITAS JASA KEUANGAN

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DAFTAR ISI

GAMBARAN UMUM

METODE PERHITUNGAN EMISI KARBON

Buku 3 Panduan *Climate Risk Management and Scenario Analysis* (CRMS) ini menggunakan acuan metodologi perhitungan emisi karbon yang dikembangkan oleh *United Nations Framework Convention on Climate Change* (UNFCCC). Mengukur jejak Gas Rumah Kaca (GRK) merupakan langkah penting untuk memahami besar emisi yang dihasilkan, mengidentifikasi sumber utama emisi tersebut, dan untuk membantu menyusun rencana aksi yang akan dilakukan. Perusahaan dapat memutuskan ruang lingkup mana yang akan disertakan dalam perhitungan jejak GRK. Selanjutnya, perusahaan dapat meminta perhitungan yang telah dilakukan untuk diverifikasi oleh pihak ketiga.

Kalkulator jejak GRK yang dikembangkan oleh UNFCCC ini dapat membantu perusahaan dalam mengestimasi emisi berdasarkan sumber emisi yang relevan. Grafik di bawah ini menunjukkan berbagai tingkat validasi yang dapat dicapai oleh suatu perusahaan ketika mengestimasi besaran jejak GRK-nya.

Sebagaimana telah dijelaskan pada Buku 2, untuk Tier 1 terdapat perhitungan yang dilakukan sendiri oleh perusahaan yang menjadi debitur Bank. Dalam hal pengungkapan nilai emisi debitur tersebut belum diverifikasi oleh pihak ketiga maka masuk ke dalam kategori *Bronze*. Sedangkan jika pengungkapannya telah diverifikasi oleh pihak ketiga yang kompeten dapat masuk kategori *Silver* atau Gold, bergantung apakah sudah memasukkan *Scope* 3 (*Gold*) atau belum (*Silver*)

	Bronze	*Silver*	*Gold*
Measure	*Self-declared GHG inventory*	*Third-party verified GHG inventory, with incomplete scope 3*	*Third-party verified GHG inventory, including full scope 3*
Reduce	*Target established, with incomplete or no reduction plan*	*Net zero by 2050 or earlier & reduction plan with intermediate targets*	*As Silver, with at least 5% reduction year-on-year*
Contribute	*Partial contribution*	*Full contribution with partial scope 3*	*Full scope 3, full contribution*

Please note that a participant can achieve different levels in each step

01.

HALAMAN MUKA

LAPORAN EMISI

Kalkulator GRK ini bertujuan untuk membantu perusahaan untuk menghitung emisi yang dikeluarkan oleh perusahaan. Kalkulator ini berasal dari UNFCCC dan sudah dilakukan pembaharuan data.

Adapun hal yang harus diperhatikan oleh Bank:

1. Bank harus menghitung emisi yang meliputi:
   a. *Scope* 1
   b. *Scope* 2
   c. *Scope* 3
2. Contoh dari pelaporan emisi yang sudah dilakukan oleh beberapa perusahaan berdasarkan laporan keberlanjutan yang diunggah ke publik sebagai berikut:
   a. PT ABC (Sektor Pertanian, Perkebunan, dan Perikanan)
      i. *Scope* 1: 885.087 tonCO_2e
      ii. *Scope* 2: 23.583 tonCO_2e
      iii. *Scope* 3: 686.906 tonCO_2e
3. Dalam hal perusahaan yang menjadi debitur Bank belum melakukan perhitungan maupun mempublikasikan emisinya, maka dapat melakukan perhitungan berdasarkan standar *GHG Protocol* atau menggunakan kalkulator karbon yang diterbitkan oleh UNFCCC sebagaimana yang terdapat di dokumen ini.

   **GHG Protocol*

Bank/Perusahaan diharapkan melakukan perhitungan emisi *Scope* 1, *Scope* 2, dan *Scope* 3 sesuai dengan urutan sebagai berikut:

1. Nama Perusahaan
2. *Fuels*
3. *Bioenergy*
4. *Refrigerants*
5. *Owned vehicles*
6. *Electricity based on location*
7. *Electricity, heat, cooling, T&D*
8. *WTT-fuels*
9. *Waste disposal*
10. *Water*
11. *Material Use*
12. *Flight and Accommodation*
13. *Business travel - land and sea*
14. *Freighting goods*
15. *Employees commuting*
16. *Food*
17. *Home Office*

02.

CONTOH PUBLIKASI

CONTOH PUBLIKASI EMISI

Tabel di bawah memuat data total emisi dan emisi masing-masing cakupannya, total aset, dan EBITDA atau *Gross Income* dari masing-masing perusahaan. Data di bawah diambil dari Laporan Tahunan dan Laporan Keberlanjutan dari masing-masing perusahaan untuk tahun 2022 yang diunggah di masing-masing website perusahaan. Bank dapat menggunakan emisi perusahaan tersebut untuk melakukan estimasi emisi dari debiturnya dengan mempertimbangkan skala usaha dan pendapatannya.

Sektor	Perusahaan	Cakupan Emisi (tCO_2)			Total Emisi (tCO_2)	Total Aset (Rp Juta)	EBITDA atau *Gross Income* (Rp Juta)
		1	2	3			
Pertanian, Kehutanan, dan Perikanan	PT ABC	144.693,16	2.407,65		147.100,81	4.140.857	609.280
	PT BCD	885.087,00	23.583,00	686.906,00	1.595.576,00	15.357.229	3.018.363
	PT CDE	356.422,00			356.422,00	12.223.568	1.100.000
	PT DEF				13.122,42	3.019.974	1.491.359
	PT EFG	1.346,00	2.225,00		3.571,00	3.589.642	27.297
	PT FGH	224.970,00			224.970,00	5.224.552	1.246.522
	PT GHI				1.459.885,00	14.526.124	3.715.864
	PT HIJ	975.519,00	21.779,00		997.298,00	29.249	3.822
Pertambangan dan Penggalian	PT IJK	1.280.241,85	263,83		1.280.505,68	165.999.672	77.441.880
	PT JKL	3.038.791,79	26.582,00		3.065.373,79	69.097.971	19.069.956
	PT KLM	710.834,00	118.080,00	1.000,00	829.914,00	45.359.207	15.145.421
	PT LMN	1.547.009,79	64.386,46		1.611.396,25	33.647.270	3.621.340
	PT MNO	219.688,00	551.212,00		770.900,00	59.684.134	4.270.850

02.

CONTOH PUBLIKASI

Sektor	Perusahaan	Cakupan Emisi (tCO_2)			Total Emisi (tCO_2)	Total Aset (Rp Juta)	EBITDA atau *Gross Income* (Rp Juta)
		1	2	3			
Pengadaan Listrik, Gas, Uap/Air Panas dan Udara Dingin	PT NOP	1.029.538,00	3.441,00		1.032.979,00	55.276.447	19.980.723
	PT OPQ	115.531,92	7.267,17		122.799,09	8.836.089	1.146.434
	PT PQR	58.615,55	9.686,28	82,28	68.384,11	110.772.064	18.734.424
	PT QRS	224.265,30	20.407.000,00		20.631.265,30	18.387.905	4.550.965
	PT RST	163.483.000.000,00	9.657.000.000,00	97.198.000.000,00	270.338.000.000,00	1.492.487.745	84.700.000
	PT STU	18.145,53	14.395,54	51.912,28	84.453,35	27.188.000	3.539.000
	PT TUV	27.380.000,00	2.006.510,00	169.630.000,00	199.016.510,00	1.351.938.156	209.277.828
Konstruksi	PT UVW	756.850.614,72	8.228.915,44	50.612,00	765.130.142,16	91.139.000	8.680.000
	PT VWX	1.596,86	2.189,87	1.158,43	4.945,16	2.111.024	-311.947
	PT WXY	2.044.668,38	2.935.347,39	94.861,50	5.074.877,27	4.804.257	355.018
	PT XYZ	869,87	14.820,36		15.690,23	11.153.502	468
	PT AAA	906,00	3.561,00		4.467,00	36.521.300	4.617.100
Pengangkutan dan Pergudangan	PT BBB	149.199,03			149.199,03	6.893.160	909.000
	PT CCC	85.664,10	8.316,24		93.980,34	17.757.993	7.092.888
	PT DDD	1.282.343,03	6.247,88	40,99	1.288.631,89	95.994.229	7.130.503
	PT EEE	165,39	103,93	5,06	274,38	1.243.695	127.801
	PT FFF	18.785,85	1.075,27	0,00	19.861,12	7.268.437	1.081.950

03.

SATUAN DAN KONVERSI

UNIT AND CONVERSION TABLE

These tables below are some of the units and conversions that might be used in this calculation.

Krey V., et al (2014) - Intergovernmental Panel on Climate Change (IPCC)

Tabel 1. *Système International (SI) Units*

Physical Quantity	Unit	Symbol
Length	meter	m
Mass	kilogram	kg
Time	second	s
Thermodynamic temperature	kelvin	K
Amount of substance	mole	mol

Tabel 2. *Special names and symbols for certain SI-derived units*

Physical Quantity	Unit	Symbol	Definition
Force	Newton	N	kg m s^2
Pressure	Pascal	Pa	kg m^-1 s^-2 (=N m^-2)
Energy	Joule	J	kg m^2 s^-2
Power	Watt	W	kg m^2 s^-3 (=J s^-1)
Frequency	Hertz	Hz	s^-1 (cycles per second)
Ionizing Radiation Dose	sievert	Sv	J kg^-1

Tabel 3. *Non-SI standard units*

Monetary units	Unit	Symbol
Currency (Market Exchange Rate, MER)	constant US Dollar 2010	USD_{2010}
Currency (Purchasing Power Parity, PPP)	constant international Dollar 2005	$Int\$_{2005}$
Emission-and Climate-related units	**Unit**	**Symbol**
Emissions	Metric tonnes	t
CO_2 Emissions	Metric tonnes CO_2	tCO_2
CO_2-equivalent Emissions	Metric tonnes CO_2-equivalent*	tCO_2eq
Abatement Costs and Emissisons Prices/Taxes	constant USD Dollar 2010 per metric tonne	USD_{2010}/t
CO_2 concentration or Mixing Ratio (mol mol -1)	Parts per million (10^6)	ppm
CH_4 concentration or Mixing Ratio (mol mol -1)	Parts per billion (10^9)	ppb
N_2O concentration or Mixing Ratio (mol mol -1)	Parts per billion (10^9)	ppb
Radiative forcing	Watts per square meter	W/m^2

03.

SATUAN DAN KONVERSI

Energy-related units	*Unit*	*Symbol*
Energy	Joule	J
Energy and Heat generation	Watt Hours	Wh
Power (Peak Capacity)	Watt (Watt thermal, Watt electric)	W (W_{th}, W_e)
Capacity Factor	Percent	%
Technical and Economic Lifetime	Years	yr
Specific Energy Investment Costs	US Dollar 2010 per kW (peak capacity)	USD_{2010}/kW
Energy Costs (e.g. LCOE) and Prices	constant US Dollar 2010 per GJ or US Cents 2010 per kWh	USD_{2010}/GJ and $USct_{2010}$/kWh
Passenger -Distance	passenger-kilometer	p-km
Payload-Distance	tonne-kilometer	t-km
Land-related units	***Unit***	***Symbol***
Area	Hectare	ha

Tabel 4. *Prefixes for basic physical units*

Multiple	*Prefix*	*Symbol*	*Fraction*	*Prefix*	*Symbol*
1E+21	zeta	Z	1,00E-01	deci	d
1E+18	exa	E	1,00E-02	centi	c
1E+15	peta	P	1,00E-03	mili	m
1E+12	tera	T	1,00E-06	micro	µ
1E+09	giga	G	1,00E-09	nano	n
1E+06	mega	M	1,00E-12	pico	p
1E+03	kilo	k	1,00E-15	femto	f
1E+02	hecto	h	1,00E-18	atto	a
1E+01	deca	da	1,00E-21	zepto	z

03.

SATUAN DAN KONVERSI

Tabel 5. *Conversion table for common mass units (IPCC. 2001).*

To:		Kg	t	lt	st	lb
From:	multiply by:					
kilogram	kg	1	1,00E-03	9,84E-04	1,10E-03	2,20E+00
tonne	t	1,00E+03	1	9,84E-01	1,10E+00	2,20E+03
long ton	lt	1,02E+03	1,02E+00	1	1,12E+00	2,24E+03
short ton	st	9,07E+02	9,07E-01	8,93E-01	1	2,00E+03
Pound	lb	4,54E-01	4,54E-04	4,46E-04	5,00E-04	1

Tabel 6. *Conversion table for common volumetric units (IPCC. 2001).*

To:		gal US	gal UK	bbl	ft^3	l	m^3
From:	multiply by:						
US Gallon	gal US	1	8,33E-01	2,38E-02	1,34E-01	3,79E+00	3,80E-03
UK/Imperial Gallon	gal UK	1,20E+00	1	2,86E-02	1,61E-01	4,55E+00	4,50E-03
Barrel	bbl	4,20E+01	3,50E+01	1	5,62E+00	1,59E+02	1,59E-01
Cubic Foot	ft^3	7,48E+00	6,23E+00	1,78E-01	1	2,83E+01	2,83E-02
Liter	l	2,64E-01	2,20E-01	6,30E-03	3,53E-02	1	1,00E-03
Cubic meter	m^3	2,64E+02	2,20E+02	6,29E+00	3,53E+01	1,00E+03	1

Tabel 7. *Conversion table for common energy units (NAS, 2007; IEA, 2012a).*

To:		TJ	Gcal	Mtoe	Mtce	Mbtu	GWh
From:	multiply by:						
Tera Joule	TJ	1	2,39E+02	2,39E-05	3,41E-05	9,48E+02	2,78E-01
Giga Calorie	Gcal	4,19E-03	1	1,00E-07	1,43E-07	3,97E+00	1,16E-03
Mega Tonne Oil Equivalent	Mtoe	4,19E+04	1,00E+07	1	1,43E+00	3,97E+07	1,16E+04
Mega Tonne Coal Equivalent	Mtce	2,93E+04	7,00E+06	7,00E-01	1	2,78E+07	8,14E+03
Million British Thermal Units	Mbtu	1,06E-03	2,52E-01	2,52E-08	3,60E-08	1	2,93E-04
Giga Watt Hours	GWh	3,60E+00	8,60E+02	8,60E-05	1,23E-04	3,41E+03	1

04.

DEFINISI

DEFINITIONS

These are several definitions that are being used in this document.

Defra (2023). - Department for Environment, Food, and Rural Affairs (Defra) of The United Kingdom

Level 1 Item	Level 2 Item	Level 3 Item	Definition
Fuels/WTT-fuels	Gaseous fuels	CNG	Compressed natural gas - a compressed version of the same natural gas used in homes. Stored in cylinders for use as an alternative transport fuel.
Fuels/WTT-fuels	Gaseous fuels	LNG	Liquefied natural gas- in a liquid state, this is the easiest way to transport gas in tankers (truck or ship). It can be used as an alternative transport fuel.
Fuels/WTT-fuels	Gaseous fuels	LPG	Liquid petroleum gas - used to power cooking stoves or heaters off-grid and fuel some vehicles (such as fork-lift trucks and vans).
Fuels/WTT-fuels	Gaseous fuels	Natural gas	Standard natural gas received through the gas mains grid network in the UK. Note - contains limited biogas content.
Fuels/WTT-fuels	Gaseous fuels	Natural gas (100% mineral blend)	Natural gas (100% mineral blend) factor is natural gas not obtained through the grid and therefore does not contain any biogas content. It can be used for calculating bespoke fuel mixtures.
Fuels/WTT-fuels	Gaseous fuels	Other petroleum gas	Consists mainly of ethane, plus other hydrocarbons, (excludes butane and propane).
Fuels/WTT-fuels	Liquid fuels	Aviation spirit	Fuel for piston-engined aircraft - a high octane petrol (aka AVGAS).
Fuels/WTT-fuels	Liquid fuels	Aviation turbine fuel	Fuel for turbo-prop aircraft and jets (aka jet fuel). Similar to kerosene used as a heating fuel, but refined to a higher quality.
Fuels/WTT-fuels	Liquid fuels	Burning oil	Main purpose is for heating/lighting on a domestic scale (also known as kerosene).
Fuels/WTT-fuels	Liquid fuels	Diesel (average biofuel blend)	Standard diesel bought from any local filling station (across the board forecourt fuel typically contains biofuel content).
Fuels/WTT-fuels	Liquid fuels	Fuel oil	Heavy oil used as fuel in furnaces and boilers of power stations, in industry, for industrial heating and in ships.
Fuels/WTT-fuels	Liquid fuels	Gas oil	Medium oil used in diesel engines and heating systems (also known as red diesel).

04.

DEFINISI

Level 1 Item	Level 2 Item	Level 3 Item	Definition
Fuels/WTT-fuels	Liquid fuels	Lubricants	Waste petroleum-based lubricating oils recovered for use as fuels
Fuels/WTT-fuels	Liquid fuels	Naphtha	A product of crude oil refining - often used as a solvent.
Fuels/WTT-fuels	Liquid fuels	Petrol (average biofuel blend)	Standard petrol bought from any local filling station (across the board forecourt fuel typically contains biofuel content).
Fuels/WTT-fuels	Liquid fuels	Petrol (100% mineral petrol)	Petrol that has not been blended with biofuel (non forecourt petrol).
Fuels/WTT-fuels	Liquid fuels	Processed fuel oils - residual oil	Waste oils meeting the 'residual' oil definition contained in the 'Processed Fuel Oil Quality Protocol'.
Fuels/WTT-fuels	Liquid fuels	Processed fuel oils - distillate oil	Waste oils meeting the 'distillate' oil definition contained in the 'Processed Fuel Oil Quality Protocol'.
Fuels/WTT-fuels	Liquid fuels	Refinery miscellaneous	Includes aromatic extracts, defoament solvents and other minor miscellaneous products
Fuels/WTT-fuels	Liquid fuels	Waste oils	Recycled oils outside of the 'Processed Fuel Oil Quality Protocol' definitions.
Fuels/WTT-fuels	Liquid fuels	Marine gas oil	Distillate fuels are commonly called "Marine gas oil". Distillate fuel is composed of petroleum fractions of crude oil that are separated in a refinery by a boiling or "distillation" process.
Fuels/WTT-fuels	Liquid fuels	Marine fuel oil	Residual fuels are called "Marine fuel oil". Residual fuel or "residuum" is the fraction that did not boil, sometimes referred to as "tar" or "petroleum pitch".
Fuels/WTT-fuels	Solid fuels	Coal (industrial)	Coal used in sources other than power stations and domestic use.
Fuels/WTT-fuels	Solid fuels	Coal (electricity generation)	Coal used in power stations to generate electricity.
Fuels/WTT-fuels	Solid fuels	Coal (domestic)	Coal used domestically.
Fuels/WTT-fuels	Solid fuels	Coking coal	Coke may be used as a heating fuel and as a reducing agent in a blast furnace.
Fuels/WTT-fuels	Solid fuels	Petroleum coke	Normally used in cement manufacture and power plants.
Fuels/WTT-fuels	Solid fuels	Coal (electricity generation - home produced coal only)	Coal used in power stations to generate electricity (only for coal produced in the UK).

04.

DEFINISI

Level 1 Item	Level 2 Item	Level 3 Item	Definition
Bioenergy	*Biofuel*	*Bioethanol*	*Renewable fuel derived from common crops (such as sugar cane and sugar beet).*
Bioenergy	*Biofuel*	*Biodiesel ME*	*Renewable fuel almost exclusively derived from common natural oils (for example, vegetable oils).*
Bioenergy	*Biofuel*	*Biomethane (compressed)*	*The methane constituent of biogas. Biogas comes from anaerobic digestion of organic matter.*
Bioenergy	*Biofuel*	*Biodiesel ME (from used cooking oil)*	*Renewable fuel almost exclusively derived from common natural oils (such as vegetable oils).*
Bioenergy	*Biofuel*	*Biodiesel ME (from tallow)*	*Renewable fuel almost exclusively derived from common natural oils (such as vegetable oils).*
Bioenergy	*Biofuel*	*Development diesel*	*Derived from sustainable wastes and residues other than used cooking oil and tallow.*
Bioenergy	*Biofuel*	*Development petrol*	*Derived from sustainable wastes and residues other than used cooking oil and tallow.*
Bioenergy	*Biofuel*	*Avtur (renewable)*	*Sustainable aviation fuel derived wholly from biomass.*
Bioenergy	*Biomass*	*Wood pellets*	*Compressed low quality wood (such as sawdust and shavings) made into pellet form.*
Bioenergy	*Biogas*	*Biogas*	*A naturally occurring gas from the anaerobic digestion of organic materials (such as sewage and food waste), or produced intentionally as a fuel from the anaerobic digestion of biogenic substances (such as energy crops and agricultural residues).*
Bioenergy	*Biogas*	*Landfill gas*	*Gas collected from a landfill site. This may be used for electricity generation, collected and purified for use as a transport fuel, or be flared off*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Mini*	*This is the smallest category of car sometimes referred to as a city car. Examples include: Citroën C1, Fiat/ Alfa Romeo 500 and Panda, Peugeot 107, Volkswagen up!, Renault TWINGO, Toyota AYGO, smart fortwo and Hyundai i 10.*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Supermini*	*This is a car that is larger than a city car, but smaller than a small family car. Examples include: Ford Fiesta, Renault CLIO, Volkswagen Polo, Citroën C2 and C3, Opel Corsa, Peugeot 208, and Toyota Yaris.*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Lower medium*	*This is a small, compact family car. Examples include: Volkswagen Golf, Ford Focus, Opel Astra, Audi A3, BMW 1 Series, Renault Mégane and Toyota Auris.*

04.

DEFINISI

Level 1 Item	Level 2 Item	Level 3 Item	Definition
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Upper medium*	*This is classed as a large family car. Examples include: BMW 3 Series, ŠKODA Octavia, Volkswagen Passat, Audi A4, Mercedes Benz C Class and Peugeot 508.*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Executive*	*These are large cars. Examples include: BMW 5 Series, Audi A5 and A6, Mercedes Benz E Class and Skoda Superb.*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Luxury*	*This is a luxury car which is niche in the European market. Examples include: Jaguar XF, Mercedes-Benz S-Class, .BMW 7 series, Audi A8, Porsche Panamera and Lexus LS.*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Sports*	*Sport cars are a small, usually two seater with two doors and designed for speed, high acceleration, and manoeuvrability. Examples include: Mercedes-Benz SLK, Audi TT, Porsche 911 and Boxster, and Peugeot RCZ.*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*Dual purpose 4X4*	*These are sport utility vehicles (SUVs) which have off-road capabilities and four-wheel drive. Examples include: Suzuki Jimny, Land Rover Discovery and Defender, Toyota Land Cruiser, and Nissan Pathfinder.*
Owned Vehicles/ Business travel- land and sea	*Cars (by market segment)*	*MPV*	*These are multipurpose cars. Examples include: Ford C-Max, Renault Scenic, Volkswagen Touran, Opel Zafira, Ford B-Max, and Citroën C3 Picasso and C4 Picasso.*
Owned Vehicles/ Business travel- land and sea	*Cars (by size)*	*Small car*	*Petrol/LPG/CNG - up to a 1.4-litre engine* *Diesel - up to a 1.7-litre engine* *Others - vehicles models of a similar size (i.e. market segment A or B)*
Owned Vehicles/ Business travel- land and sea	*Cars (by size)*	*Medium car*	*Petrol/LPG/CNG - from 1.4-litre to 2.0-litre engine* *Diesel - from 1.7-litre to 2.0-litre engine* *Others - vehicles models of a similar size (i.e. generally market segment C)*
Owned Vehicles/ Business travel- land and sea	*Cars (by size)*	*Large car*	*Petrol/LPG/CNG - 2.0-litre engine +* *Diesel - 2.0-litre engine +* *Others - vehicles models of a similar size (i.e. generally market segment D and above)*
Owned Vehicles/ Business travel- land and sea	*Cars (by size)*	*Average car*	*Unknown engine size.*

04.

DEFINISI

Level 1 Item	Level 2 Item	Level 3 Item	Definition
Owned Vehicles/ Business travel- land and sea	Motorbike	Small	Mopeds/scooters up to 125cc.
Owned Vehicles/ Business travel- land and sea	Motorbike	Medium	125cc to 500cc
Owned Vehicles/ Business travel- land and sea	Motorbike	Large	500cc +
Owned Vehicles/ Business travel- land and sea	Motorbike	Average	Unknown engine size
Owned Vehicles/ Freighting goods	Vans		Large goods vehicles (vans up to 3.5 tonnes).
Owned Vehicles/ Freighting goods	HGV (all diesel)		Large goods vehicles with maximum weight exceeding 3.5 tonnes. These factors do not include refrigerated vehicles
Owned Vehicles/ Freighting goods	HGVs refrigerated (all diesel)		Refrigerated road vehicles with maximum weight exceeding 3.5 tonnes.
Electricity,heat, cooling,T&D	Electricity	T&D	Emissions impact of the efficiency losses experienced in getting electricity from the power plant to the end user.
Material use	Construction	Aggregates	Also known as rubble.
Material use	Electrical items	Electrical items - large	Stationary machines for routine housekeeping tasks e.g. cookers / fridges
Material use	Electrical items	Batteries - Li ion	Small power equipment
Material use	Electrical items	Batteries - NiMh	Excludes car batteries
Material use/ Waste Disposal	Plastic	Plastics: HDPE (incl. forming)	An opaque plastic commonly used for milk bottles
Material use/ Waste Disposal	Plastic	Plastics: LDPE and LLDPE (incl. forming)	Packaging material (foils, plastic bags etc.)
Material use/ Waste Disposal	Plastic	Plastics: PET (incl. forming)	For example clear drink bottles/ sandwich wrappers
Material use/ Waste Disposal	Plastic	Plastics: PP (incl. forming)	Mainly used in injection moulding i.e. for cutlery, containers, and automotive parts

04.

DEFINISI

Level 1 Item	Level 2 Item	Level 3 Item	Definition
Material use/ Waste Disposal	*Plastic*	*Plastics: PS (incl. forming)*	*Commonly used for foam based insulation and cheap disposable items i.e. protective packaging and disposable cutlery*
Material use/ Waste Disposal	*Plastic*	*Plastics: PVC (incl. forming)*	*Widespread use in building, transport, packaging, electrical/electronic and healthcare applications*
Material use/ Waste Disposal	*Paper*	*Paper and board: board*	*Average: 78% corrugate and 22% cartonboard*
Material use/ Waste Disposal	*Paper*	*Paper and board: mixed*	*Assumes 25% paper, 75% board*
Waste disposal	*Refuse*	*Household residual waste*	*Domestic waste*
Waste disposal	*Refuse*	*Commercial and industrial waste*	*Waste generated by businesses or industrial operations*
Waste disposal	*Electrical items*	*WEEE - large*	*Stationary machines for routine housekeeping tasks e.g. cookers / fridges*
Waste disposal	*Electrical items*	*WEEE - small*	*Small power equipment*
Waste disposal	*Electrical items*	*Batteries*	*Excludes car batteries*

05.

PENYANGKALAN

DISCLAIMER

Title: Greenhouse Gas (GHG) Emissions Calculator

Document version: 02.6

Publication date: September 2022

Update date: November 2023 by OJK

The UNFCCC secretariat has prepared this greenhouse gas (GHG) emissions calculator to provide the general public with a free and up-to-date methodology for estimating GHG emissions.

This Spreadsheet aims only to support organizations to estimate their GHG emissions in order to raise awareness and to promote climate action.

However, the UNFCCC secretariat makes no representations as to the accuracy, completeness, suitability or validity of any information on this Spreadsheet and will not be liable for any errors, omissions, or delays in this information or any losses, injuries, or damages arising from its display or use. All information is provided on an "as-is" basis.

All data and information provided on this Spreadsheet are for reference purposes only. The emission factors used on this Spreadsheet are publicly available on third parties' websites and the links are provided in the tab 'Info and sources'. The contents in, and linked to, this spreadsheet do not reflect the policy or position of the UNFCCC nor the UNFCCC secretariat's and do not imply UNFCCC secretariat's endorsement. Under no circumstances shall the UNFCCC be liable for any loss, damage, liability or expense incurred or suffered that is claimed to have resulted from the use of this Spreadsheet, its data or its methodology, or from the conduct of any user. Use of this Spreadsheet and reliance upon the content in or linked to it is solely at the user's own risk.

Furthermore, this Spreadsheet does not replace a formal, tailored GHG inventory development process nor third-party verified GHG inventories and should be not used for certification purposes.

The emission factors used in this spreadsheet are sourced from references that may not be applicable to all geographic locations. The user is encouraged to use more suitable emission factors when they are available.

Each user agrees to decide if, when and how to use this Spreadsheet, and does so at his or her sole risk.

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UPDATE

Update date: January 2024 by OJK

This spreadsheet is updated by OJK in January 2024 with the latest data cited in the UNFCCC's spreadsheet which are UK's GHG Reporting: Conversion Factors 2023, Cornell's Hotel Sustainability Benchmarking Index 2023, and Kementerian ESDM's Faktor Emisi GRK Sistem Ketenagalistrikan 2019. This spreadsheet's sole intention is only to help Banks or Banks' debtor count their emissions. It is expected that Banks can coordinate directly with Kementerian Lingkungan Hidup dan Kehutanan (Ministry of Environment and Forestry) regarding the proper methodology in accordance with the Kementerian Lingkungan Hidup dan Kehutanan and/or other ministries and institutions. Bank can also use third-party certification if needed.

06.

INFO DAN SUMBER

INSTRUCTIONS

1. Fill in the information about your organisation before starting, as some emission factors are country-based

2. Navigate through each of the tabs and fill in only the applicable data for your organisation, in the white fields

3. See the results on the 'Report' tab

In case of questions on this Spreadsheet, please contact the Climate Neutral Now team via email: climateneutralnow@unfccc.int

GENERAL INFORMATION, SOURCES AND ASSUMPTIONS

Scope	Tab	Activity	Source	Assumptions
Scope 1	Fuels	Fuels	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 1	Bioenergy	Bioenergy	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 1	Refrigerants	Refrigerants	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 1 & 2	Owned vehicles	Cars and motorbikes	UK Government GHG Conversion Factors for Company Reporting	Battery Electric cars: Defra Electricity EF for EVs/ GEF UK * Indonesia's Faktor Emisi GRK Sistem Ketenagalistrikan Tahun 2019 Hybrids Plug-in Hybrid Electric cars: Defra Electricity EF for EVs/ GEF UK * Indonesia's Faktor Emisi GRK Sistem Ketenagalistrikan Tahun 2019 (portion of emissions correspondent to fuel is considered in scope 1 and electricity is consired in scope 2) Other vehicles: Full set of factors for kg CO_2e from Defra 2023
Scope 1	Owned vehicles	Vans and HGVs	UK Government GHG Conversion Factors for Company Reporting	Battery Electric cars: Defra Electricity EF for EVs/ GEF UK * Indonesia's Faktor Emisi GRK Sistem Ketenagalistrikan Tahun 2019 Other vehicles: Full set of factors for kg CO_2e from Defra 2023

06.

INFO DAN SUMBER

Scope	Tab	Activity	Source	Assumptions
Scope 2	*Electricity and Heat*	*Electricity (not applicable for Indonesia)*	*IFI 2021 Harmonized Grid Emission factor (GEF) data set*	*For Palestine: Average EF of Iraq, Jordan, Lebanon, Syrian Arab Republic, Turkey. For Holy See: Italy EF; Western Sahara: Average EF of Algeria, Mali, Mauritania, Morocco, Senegal. For Åland Islands* *Antarctica, Bonaire, Sint Eustatius and Saba, Bouvet Island, British Indian Ocean Territory, China, Macao Special Administrative Region, Christmas Island, Cocos (Keeling) Islands, French Southern Territories, Guernsey, Heard Island and McDonald Islands, Jersey, Norfolk Island, Pitcairn, Saint Barthélemy, Sark, South Georgia and the South Sandwich Islands, Svalbard and Jan Mayen Islands, Tokelau, United States Minor Outlying Islands, Wallis and Futuna Islands: Average of American Samoa, Antigua and Barbuda, Aruba, Bahamas, Barbados, Bermuda, British Virgin Islands, Cayman Islands, Cook Islands, Falkland Islands (Malvinas), Faroe Islands, Fiji, French Polynesia, Guadeloupe, Guam, Malta, Marshall Islands, Martinique, Mauritius, Northern Mariana Islands, Réunion, Saint Helena, Saint Kitts and Nevis, Saint Martin (French Part), Saint Pierre and Miquelon, Saint Vincent and the Grenadines, Seychelles, Sint Maarten (Dutch part), Solomon Islands, Turks and Caicos Islands, Tuvalu, United States Virgin Islands, Vanuatu,.*
Scope 2	*Electricity*	*Electricity*	*Faktor Emisi GRK Sistem Ketenagalistrikan Tahun 2019*	*Full set of factors for kg CO_2e from Kementerian ESDM with granulity up to provincial level*
Scope 2	*Electricity and Heat*	*Heat and steam*	*UK Government GHG Conversion Factors for Company Reporting*	*Full set of factors for kg CO_2e from Defra 2023*
Scope 2	*Electricity and Heat*	*District cooling*	*GSAS SEER TOOL v2.0*	*Distric cooling maximum average x Indonesia's Faktor Emisi GRK Sistem Ketenagalistrikan Tahun 2019.*

06.

INFO DAN SUMBER

Scope	Tab	Activity	Source	Assumptions
Scope 3	WTT fuels	Well to tank fuels	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 3	T&D (Data for UK)	Transmission and distribution losses	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 3	Water	Water suply and treatment	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 3	Material use	Primary material production	UK Government GHG Conversion Factors for Company Reporting	Primary material production
Scope 3	Waste	Landfill disposal	UK Government GHG Conversion Factors for Company Reporting	Factors for landfill Defra 2023
Scope 3	Flight and Hotel	Flights	Use of ICAO aviation carbon emissions calculator is recommended	In case you need to calculate many flights, the UNFCCC secretariat may support through the use of proxies. RFI value of 1 is applied.
Scope 3	Flight and Hotel	Hotels	2023 Cornell Hotel Sustainability Benchmarking Index	Hotel Carbon Footprint Per Occupied Room | All hotels upper quartile emission factor value
Scope 3	Business travel land and sea	Sea	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 3	Business travel land and sea	Land	UK Government GHG Conversion Factors for Company Reporting	Full set of factors for kg CO_2e from Defra 2023
Scope 3	Freighting goods	Vans, HGVs, cargo ship, freight flights, rail and sea tanker	UK Government GHG Conversion Factors for Company Reporting	Freight flights with RFI value of 1. For HGVs, average laden values were used.

06.

INFO DAN SUMBER

Scope	Tab	Activity	Source	Assumptions
Scope 3	Employees commuting	Cars, taxis, bus, rail	UK Government GHG Conversion Factors for Company Reporting UNFCCC Harmonized Grid Emission factor data set	Full set of factors for kg CO_2e from Defra 2023
Scope 3	Food	Food	Carbon footprint methodology for the Olympic Games	Emission factors from the International Olympic Committee and value for average vegan meal based on average diet values for Germany from FAO.
Scope 3	Home office	Home office	UK Government GHG Conversion Factors for Company Reporting	Home office energy consumption. 'With heating': workstation, lighting and heating. 'With cooling': workstation, lighting and cooling. 'No heating, no cooling': workstation and lighting. The consumption is multiplied times the Indonesia's Faktor Emisi GRK Sistem Ketenagalistrikan Tahun 2019.

DEFINITIONS

Scope 1 (direct emissions) emissions are those from activities owned or controlled by your organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces and vehicles; and emissions from chemical production in owned or controlled process equipment. Defra 2020

Scope 2 (energy indirect) emissions are those released into the atmosphere that are associated with your consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of your organisation's energy use, but occur at sources you do not own or control. Defra 2020

Scope 3 (other indirect) emissions are a consequence of your actions that occur at sources you do not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by your organisation, waste disposal, materials or fuels your organisation purchases. Deciding if emissions from a vehicle, office or factory that you use are Scope 1 or Scope 3 may depend on how you define your operational boundaries. Scope 3 emissions can be from activities that are upstream or downstream of your organisation. Defra 2020

07.

TOTAL EMISI

– GHG EMISSIONS REPORT

Category		Emission source category		t CO_2e
GHG Protocol Standards: Corporate Scope – 1 and 2	Scope 1	Direct emissions arising from owned or controlled stationary sources that use fossil fuels and/or emit fugitive emissions	Fuels	
			Bioenergy	
			Refrigerants	
		Direct emissions from owned or controlled mobile sources	Passenger vehicles	
			Delivery vehicles	
		Total Scope 1		
	Scope 2	Location-based emissions from the generation of purchased electricity, heat, steam or cooling	Electricity	
			Heat and steam	
			Electricity for Evs	
			District cooling	
		Total Scope 2		
Value Chain – Scope 3	Scope 3	Fuel- and energy-related activities	All other fuel- and energy related activities	
			Transmission and distribution losses	
		Waste generated in operations	Waste water	
			Waste	
		Purchased goods	Water supplied	
			Material use	

07.

TOTAL EMISI

Category		Emission source category		t CO_2e
Value Chain - Scope 3	*Scope 3*	*Business travel*	*All transportation by air*	
			Emissions arising from hotel accommodation associated with business travel	
			All transportation by sea	
			All transportation by land, public transport, rented/ leased vehicle and taxi	
		Upstream transportation and distribution	*Freighting goods*	
		Employees commuting		
		Food		
		Home office		
		Total Scope 3		
Total Emissions				

08.

INFORMASI PERUSAHAAN

PERUSAHAAN ANDA

Masukkan data perusahaan/organisasi di kotak putih

Nama perusahaan/organisasi	
Negara lokasi perusahaan/organisasi	Indonesia
Kota (Kantor Pusat)	
Periode laporan (Tahun)	
Jumlah pegawai	

09.

BAHAN BAKAR

FUELS

Combustion of fuels in owned or controlled stationary equipment such as boilers, furnaces, burners, turbines, heaters, incinerators, engines, flares, etc.

Do NOT include here the combustion of fuels in transportation devices such as automobiles, trucks, buses, trains, airplanes, boats, ships, barges, vessels, etc.

Please enter the amount for each applicable fuels

Type	*Fuel*	*Unit*	*Amount*	$kgCO_2e$
Gaseous fuels	CNG	litres		
Gaseous fuels	LNG	litres		
Gaseous fuels	LPG	litres		
Gaseous fuels	*Natural gas*	cubic metres		
Gaseous fuels	*Natural gas (100% mineral blend)*	cubic metres		
Gaseous fuels	*Other petroleum gas*	litres		
Liquid fuels	*Aviation spirit*	litres		
Liquid fuels	*Aviation turbine fuel*	litres		
Liquid fuels	*Burning oil*	litres		
Liquid fuels	*Diesel (average biofuel blend)*	litres		
Liquid fuels	*Diesel (100% mineral diesel)*	litres		
Liquid fuels	*Fuel oil*	litres		
Liquid fuels	*Gas oil*	litres		

09.

BAHAN BAKAR

Type	*Fuel*	*Unit*	*Amount*	$kgCO_2e$
Liquid fuels	*Lubricants*	litres		
Liquid fuels	*Naphtha*	litres		
Liquid fuels	*Petrol (average biofuel blend)*	litres		
Liquid fuels	*Petrol (100% mineral petrol)*	litres		
Liquid fuels	*Processed fuel oils - residual oil*	litres		
Liquid fuels	*Processed fuel oils - distillate oil*	litres		
Liquid fuels	*Waste oils*	litres		
Liquid fuels	*Marine gas oil*	litres		
Liquid fuels	*Marine fuel oil*	litres		
Solid fuels	*Coal (industrial)*	tonnes		
Solid fuels	*Coal (electricity generation)*	tonnes		
Solid fuels	*Coal (domestic)*	tonnes		
Solid fuels	*Coking coal*	tonnes		
Solid fuels	*Petroleum coke*	tonnes		
Solid fuels	*Coal (electricity generation - home produced coal only)*	tonnes		

10.

BIOENERGI

BIOENERGY

Combustion of fuels produced from recently living sources (such as trees) at a site or in an asset under the direct control of the reporting organisation. All factors are on a net calorific value basis.

Please enter the amount for each applicable bioenergy source

Type	*Fuel*	*Unit*	*Amount*	$kgCO_2e$
Biofuel	*Bioethanol*	litres		
Biofuel	*Biodiesel ME*	litres		
Biofuel	*Biodiesel ME (from used cooking oil)*	litres		
Biofuel	*Biodiesel ME (from tallow)*	litres		
Biomass	*Wood logs*	tonnes		
Biomass	*Wood chips*	tonnes		
Biomass	*Wood pellets*	tonnes		
Biomass	*Grass/straw*	tonnes		
Biogas	*Biogas*	tonnes		
Biogas	*Landfill gas*	tonnes		

11.

REFRIGERAN DAN GAS LAINNYA

REFRIGERANT AND OTHERS

From leakage from air-conditioning and refrigeration units or the release to the atmosphere of other gases that have a global warming potential.

Please enter the amount for each applicable refrigerant

Emission	Unit	*Amount* (kg)	$kgCO_2e$
Carbon dioxide	kg		
Methane	kg		
Nitrous oxide	kg		
HFC-23	kg		
HFC-32	kg		
HFC-41	kg		
HFC-125	kg		
HFC-134	kg		
HFC-134a	kg		
HFC-143	kg		
HFC-143a	kg		
HFC-152a	kg		
HFC-227ea	kg		
HFC-236fa	kg		
HFC-245fa	kg		
HFC-43-10mee	kg		
Perfluoromethane (PFC-14)	kg		
Perfluoroethane (PFC-116)	kg		
Perfluoropropane (PFC-218)	kg		
Perfluorocyclobutane (PFC-318)	kg		
Perfluorobutane (PFC-3-1-10)	kg		
Perfluoropentane (PFC-4-1-12)	kg		
Perfluorohexane (PFC-5-1-14)	kg		
Sulphur hexafluoride (SF6)	kg		
HFC-152	kg		
HFC-161	kg		

11.

REFRIGERAN DAN GAS LAINNYA

Emission	Unit	*Amount* (kg)	$kgCO_2e$
HFC-236cb	kg		
HFC-236ea	kg		
HFC-245ca	kg		
HFC-365mfc	kg		
Nitrogen trifluoride	kg		
PFC-9-1-18	kg		
Perfluorocyclopropane	kg		
R404A	kg		
R407A	kg		
R407C	kg		
R407F	kg		
R408A	kg		
R410A	kg		
R507A	kg		
R508B	kg		
R403A	kg		
R406A	kg		
R409A	kg		
R502	kg		
CFC-11/R11 = trichlorofluoromethane	kg		
CFC-12/R12 = dichlorodifluoromethane	kg		
CFC-13	kg		
CFC-113	kg		
CFC-114	kg		
CFC-115	kg		
Halon-1211	kg		
Halon-1301	kg		
Halon-2402	kg		
Carbon tetrachloride	kg		
Methyl bromide	kg		
Methyl chloroform	kg		

11.

REFRIGERAN DAN GAS LAINNYA

Emission	Unit	*Amount* (kg)	$kgCO_2e$
HCFC-22/R22 = chlorodifluoromethane	kg		
HCFC-123	kg		
HCFC-124	kg		
HCFC-141b	kg		
HCFC-142b	kg		
HCFC-225ca	kg		
HCFC-225cb	kg		
HCFC-21	kg		
Trifluoromethyl sulphur pentafluoride	kg		
HFE-125	kg		
HFE-134	kg		
HFE-143a	kg		
HCFE-235da2	kg		
HFE-245cb2	kg		
HFE-245fa2	kg		
HFE-254cb2	kg		
HFE-347mcc3	kg		
HFE-347pcf2	kg		
HFE-356pcc3	kg		
HFE-449sl (HFE-7100)	kg		
HFE-569sf2 (HFE-7200)	kg		
HFE-43-10pccc124 (H-Galden1040x)	kg		
HFE-236ca12 (HG-10)	kg		
HFE-338pcc13 (HG-01)	kg		
PFPMIE	kg		
Dimethylether	kg		
Methylene chloride	kg		
Methyl chloride	kg		
R290 = propane	kg		
R600A = isobutane	kg		

12.

KENDARAAN YANG DIMILIKI PERUSAHAAN

OWN OR CONTROLLED VEHICLES

Travel in cars and on motorcycles owned or controlled by the reporting organisation. ***This does not include vehicles owned by employees that are used for business purposes.***

Please make sure that you filled in ***your country on the tab "Your Organisation"****, as some emission factors are country-based.*

Care should be taken to avoid double counting with an organisation's general electricity consumption for the Plug-in Hybrid Electric and Battery Electric

Please enter the total distance for each type of vehicle

Level 1	*Level 2*	*Level 3*	*Fuel*	Unit	*Distance* (km)	*Fuel* $kgCO_2e$	EV $kgCO_2e$
Passenger vehicles	*Cars (by size)*	*Small car*	*Plug-in Hybrid Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Small car*	*Battery Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Medium car*	*Plug-in Hybrid Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Medium car*	*Battery Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*Plug-in Hybrid Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*Battery Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*Plug-in Hybrid Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*Battery Electric Vehicle*	km			
Passenger vehicles	*Cars (by size)*	*Small car*	*Diesel*	km			
Passenger vehicles	*Cars (by size)*	*Small car*	*Petrol*	km			
Passenger vehicles	*Cars (by size)*	*Small car*	*Hybrid*	km			
Passenger vehicles	*Cars (by size)*	*Small car*	*Unknown*	km			
Passenger vehicles	*Cars (by size)*	*Medium car*	*Diesel*	km			

12.

KENDARAAN YANG DIMILIKI PERUSAHAAN

Level 1	*Level 2*	*Level 3*	*Fuel*	Unit	*Distance* (km)	*Fuel* $kgCO_2e$	EV $kgCO_2e$
Passenger vehicles	*Cars (by size)*	*Medium car*	*Petrol*	km			
Passenger vehicles	*Cars (by size)*	*Medium car*	*Hybrid*	km			
Passenger vehicles	*Cars (by size)*	*Medium car*	*CNG*	km			
Passenger vehicles	*Cars (by size)*	*Medium car*	*LPG*	km			
Passenger vehicles	*Cars (by size)*	*Medium car*	*Unknown*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*Diesel*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*Petrol*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*Hybrid*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*CNG*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*LPG*	km			
Passenger vehicles	*Cars (by size)*	*Large car*	*Unknown*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*Diesel*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*Petrol*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*Hybrid*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*CNG*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*LPG*	km			
Passenger vehicles	*Cars (by size)*	*Average car*	*Unknown*	km			
Passenger vehicles	*Motorbike*	*Small*		km			

12.

KENDARAAN YANG DIMILIKI PERUSAHAAN

Level 1	*Level 2*	*Level 3*	*Fuel*	Unit	*Distance* (km)	*Fuel* $kgCO_2e$	EV $kgCO_2e$
Passenger vehicles	*Motorbike*	*Medium*		km			
Passenger vehicles	*Motorbike*	*Large*		km			
Passenger vehicles	*Motorbike*	*Average*		km			
Delivery vehicles	*Vans*	*Class I (up to 1.305 tonnes)*	*Battery Electric Vehicle*	km			
Delivery vehicles	*Vans*	*Class II (1.305 to 1.74 tonnes)*	*Battery Electric Vehicle*	km			
Delivery vehicles	*Vans*	*Class III (1.74 to 3.5 tonnes)*	*Battery Electric Vehicle*	km			
Delivery vehicles	*Vans*	*Average (up to 3.5 tonnes)*	*Battery Electric Vehicle*	km			
Delivery vehicles	*Vans*	*Class I (up to 1.305 tonnes)*	*Diesel*	km			
Delivery vehicles	*Vans*	*Class I (up to 1.305 tonnes)*	*Petrol*	km			
Delivery vehicles	*Vans*	*Class I (up to 1.305 tonnes)*	*CNG*	km			
Delivery vehicles	*Vans*	*Class I (up to 1.305 tonnes)*	*LPG*	km			
Delivery vehicles	*Vans*	*Class I (up to 1.305 tonnes)*	*Unknown*	km			
Delivery vehicles	*Vans*	*Class II (1.305 to 1.74 tonnes)*	*Diesel*	km			

12.

KENDARAAN YANG DIMILIKI PERUSAHAAN

Level 1	*Level 2*	*Level 3*	*Fuel*	Unit	*Distance* (km)	*Fuel* $kgCO_2e$	EV $kgCO_2e$
Delivery vehicles	*Vans*	*Class II (1.305 to 1.74 tonnes)*	*Petrol*	km			
Delivery vehicles	*Vans*	*Class II (1.305 to 1.74 tonnes)*	*CNG*	km			
Delivery vehicles	*Vans*	*Class II (1.305 to 1.74 tonnes)*	*LPG*	km			
Delivery vehicles	*Vans*	*Class II (1.305 to 1.74 tonnes)*	*Unknown*	km			
Delivery vehicles	*Vans*	*Class III (1.74 to 3.5 tonnes)*	*Diesel*	km			
Delivery vehicles	*Vans*	*Class III (1.74 to 3.5 tonnes)*	*Petrol*	km			
Delivery vehicles	*Vans*	*Class III (1.74 to 3.5 tonnes)*	*CNG*	km			
Delivery vehicles	*Vans*	*Class III (1.74 to 3.5 tonnes)*	*LPG*	km			
Delivery vehicles	*Vans*	*Class III (1.74 to 3.5 tonnes)*	*Unknown*	km			
Delivery vehicles	*Vans*	*Average (up to 3.5 tonnes)*	*Diesel*	km			

12.

KENDARAAN YANG DIMILIKI PERUSAHAAN

Level 1	*Level 2*	*Level 3*	*Fuel*	Unit	*Distance* (km)	*Fuel* $kgCO_2e$	EV $kgCO_2e$
Delivery vehicles	*Vans*	*Average (up to 3.5 tonnes)*	*Petrol*	km			
Delivery vehicles	*Vans*	*Average (up to 3.5 tonnes)*	*CNG*	km			
Delivery vehicles	*Vans*	*Average (up to 3.5 tonnes)*	*LPG*	km			
Delivery vehicles	*Vans*	*Average (up to 3.5 tonnes)*	*Unknown*	km			
Delivery vehicles	*HGV (all diesel)*	*Rigid (>3.5 - 7.5 tonnes)*	*Average laden*	km			
Delivery vehicles	*HGV (all diesel)*	*Rigid (>7.5 tonnes-17 tonnes)*	*Average laden*	km			
Delivery vehicles	*HGV (all diesel)*	*Rigid (>17 tonnes)*	*Average laden*	km			
Delivery vehicles	*HGV (all diesel)*	*All rigids*	*Average laden*	km			
Delivery vehicles	*HGV (all diesel)*	*Articulated (>3.5 - 33t)*	*Average laden*	km			
Delivery vehicles	*HGV (all diesel)*	*Articulated (>33t)*	*Average laden*	km			
Delivery vehicles	*HGV (all diesel)*	*All artics*	*Average laden*	km			
Delivery vehicles	*HGV (all diesel)*	*All HGVs*	*Average laden*	km			
Delivery vehicles	*HGVs refrigerated (all diesel)*	*Rigid (>3.5 - 7.5 tonnes)*	*Average laden*	km			

12.

KENDARAAN YANG DIMILIKI PERUSAHAAN

Level 1	*Level 2*	*Level 3*	*Fuel*	Unit	*Distance* (km)	*Fuel* $kgCO_2e$	EV $kgCO_2e$
Delivery vehicles	*HGVs refrigerated (all diesel)*	*Rigid (>7.5 tonnes-17 tonnes)*	*Average laden*	km			
Delivery vehicles	*HGVs refrigerated (all diesel)*	*Rigid (>17 tonnes)*	*Average laden*	km			
Delivery vehicles	*HGVs refrigerated (all diesel)*	*All rigids*	*Average laden*	km			
Delivery vehicles	*HGVs refrigerated (all diesel)*	*Articulated (>3.5 - 33t)*	*Average laden*	km			
Delivery vehicles	*HGVs refrigerated (all diesel)*	*Articulated (>33t)*	*Average laden*	km			
Delivery vehicles	*HGVs refrigerated (all diesel)*	*All artics*	*Average laden*	km			
Delivery vehicles	*HGVs refrigerated (all diesel)*	*All HGVs*	*Average laden*	km			

13.

LISTRIK BERDASARKAN LOKASI

ELECTRICITY BASED ON LOCATION

Electricity used by an organisation at sites owned/ controlled by them based on the location of each respective sites. For renewable energy contracts, the emissions are equal to zero. If there is any site in the same province that have different energy source (renewable and non-renewable), please fill the list as a seperate entry.

GEF Factors in this table is taken from Faktor Emisi GRK Sistem Ketenagalistrikan Tahun (Gatrik Kementerian ESDM) 2019's Combined Margin (CM) Ex-Post. Combined Margin are consisted of Build Margin (BM) and Operating Margin (OM). Several grids of several provinces' CM data are using only the OM data since few of them don't have the BM data. For further information regarding the data, please check from the sources as we cited in the "Info dan Sumber" sheet.

Activity	*Province*	Unit	*Usage of* PLTB *and/or* PLTS	*Renewable energy contract (Yes/No)*	*Amount* (kWh)	GEF $kgCO_2e$
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				
Electricity		kWh				

14.

LISTRIK, PEMANAS, PENDINGIN

ELECTRICITY, HEATING, TRANSMISSION AND DISTRIBUTION LOSSES, DISTRICT COOLING

Market-based emissions from the generation of purchased electricity, heat, steam or cooling.

T&D: *Emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to your organisation).*

Electricity Grid

Electricity used by an organisation at sites owned/controlled by them. For renewable energy contracts, the emissions are equal to zero.

Activity	*Country*	Unit	*Amount* (kWh)	GEF $kgCO_2e$	T&D $kgCO_2e$	*Renewable energy contract (Yes/No)*
Electricity	Indonesia	kWh				

Heat and steam

*Emissions within organisations that purchase heat/steam energy for heating purposes or for use in specific industrial processes.**

Activity	*Type*	Unit	*Amount* (kWh)	$kgCO_2e$	T&D $kgCO_2e$
Heat and steam	*District heat and steam*	kWh			

** For heating from other sources, please use the tab 'Fuels'*

District cooling

Air conditioning from chilled water within a centralized energy plant and underground pipes distribution.

Activity	*Country*	Unit	*Amount*	$kgCO_2e$
District cooling	*Indonesia*	*Ton of refrigeration*		

15.

WTT – BAHAN BAKAR

WELL TO TANK (WTT) – FUELS

Emissions associated with extraction, refining,and transportation of the raw fuel sources to an organisation's site (or asset) prior to their combustion

Please enter the emounts for the applicable WTT fuels

Type	*Fuel*	Unit	*Amount*	$kgCO_2e$
WTT- *gaseous fuels*	*Butane*	litres		
WTT- *gaseous fuels*	CNG	litres		
WTT- *gaseous fuels*	LNG	litres		
WTT- *gaseous fuels*	LPG	litres		
WTT- *gaseous fuels*	*Natural Gas*	cubic metres		
WTT- *gaseous fuels*	*Other Petroleum Gas*	litres		
WTT- *gaseous fuels*	*Propane*	litres		
WTT- *liquid fuels*	*Aviation Spirit*	litres		
WTT- *liquid fuels*	*Aviation Turbine Fuel*	litres		
WTT- *liquid fuels*	*Burning Oil*	litres		
WTT- *liquid fuels*	*Diesel (average biofuel blend)*	litres		
WTT- *liquid fuels*	*Diesel (100% mineral diesel)*	litres		
WTT- *liquid fuels*	*Fuel Oil*	litres		
WTT- *liquid fuels*	*Gas Oil*	litres		
WTT- *liquid fuels*	*Lubricants*	litres		

15.

WTT – BAHAN BAKAR

Type	*Fuel*	Unit	*Amount*	$kgCO_2e$
WTT- *liquid fuels*	*Naphtha*	litres		
WTT- *liquid fuels*	*Petrol (average biofuel blend)*	litres		
WTT- *liquid fuels*	*Petrol (100% mineral petrol)*	litres		
WTT- *liquid fuels*	*Processed fuel oils - residual oil*	litres		
WTT- *liquid fuels*	*Processed fuel oils - distillate oil*	litres		
WTT- *liquid fuels*	*Refinery Miscellaneous*	litres		
WTT- *liquid fuels*	*Waste oils*	litres		
WTT- *liquid fuels*	*Marine gas oil*	litres		
WTT- *liquid fuels*	*Marine fuel oil*	litres		
WTT- *gaseous fuels*	*Natural gas (100% mineral blend)*	cubic metres		

16.

PEMBUANGAN LIMBAH

WASTE DISPOSAL

All waste disposed in the reporting year.

Please enter the amounts for the applicable waste type

Activity	*Waste type*	Unit	*Amount*	$kgCO_2e$
Construction	*Aggregates*	tonnes		
Construction	*Average construction*	tonnes		
Construction	*Asbestos*	tonnes		
Construction	*Asphalt*	tonnes		
Construction	*Bricks*	tonnes		
Construction	*Concrete*	tonnes		
Construction	*Insulation*	tonnes		
Construction	*Metals*	tonnes		
Construction	*Soils*	tonnes		
Construction	*Mineral oil*	tonnes		
Construction	*Plasterboard*	tonnes		
Construction	*Tyres*	tonnes		
Construction	*Wood*	tonnes		
Other	*Books*	tonnes		
Other	*Glass*	tonnes		
Other	*Clothing*	tonnes		
Refuse	*Household residual waste*	tonnes		
Refuse	*Organic: food and drink waste*	tonnes		
Refuse	*Organic: garden waste*	tonnes		
Refuse	*Organic: mixed food and garden waste*	tonnes		
Refuse	*Commercial and industrial waste*	tonnes		

16.

PEMBUANGAN LIMBAH

Activity	*Waste type*	Unit	*Amount*	$kgCO_2e$
Electrical items	*WEEE - fridges and freezers*	tonnes		
Electrical items	*WEEE - large*	tonnes		
Electrical items	*WEEE - mixed*	tonnes		
Electrical items	*WEEE - small*	tonnes		
Electrical items	*Batteries*	tonnes		
Metal	*Metal: aluminium cans and foil (excl. forming)*	tonnes		
Metal	*Metal: mixed cans*	tonnes		
Metal	*Metal: scrap metal*	tonnes		
Metal	*Metal: steel cans*	tonnes		
Plastic	*Plastics: average plastics*	tonnes		
Plastic	*Plastics: average plastic film*	tonnes		
Plastic	*Plastics: average plastic rigid*	tonnes		
Plastic	*Plastics: HDPE (incl. forming)*	tonnes		
Plastic	*Plastics: LDPE and LLDPE (incl. forming)*	tonnes		
Plastic	*Plastics: PET (incl. forming)*	tonnes		
Plastic	*Plastics: PP (incl. forming)*	tonnes		
Plastic	*Plastics: PS (incl. forming)*	tonnes		
Plastic	*Plastics: PVC (incl. forming)*	tonnes		
Paper	*Paper and board: board*	tonnes		
Paper	*Paper and board: mixed*	tonnes		
Paper	*Paper and board: paper*	tonnes		

17.

PASOKAN AIR

WATER SUPPLY

Water delivered through the mains supply network.

Type	Unit	*Amount*	kg CO_2e
Water Supply	cubic metres		

WATER TREATMENT

Water returned into the sewage system through mains drains

Please enter the amount

Type	Unit	*Amount*	kg CO_2e
Water Treatment	cubic metres		

18.

PENGGUNAAN MATERIAL

MATERIAL USE

All materials consumed in the reporting period.

The emissions cover the extraction, primary processing, manufacturing and transporting materials to the point of sale.

Please enter the amounts in tonnes for each of the material applicable to your organisation

Activity	*Waste type*	Unit	*Amount* (tonnes)	$kgCO_2e$
Construction	*Aggregates*	tonnes		
Construction	*Average construction*	tonnes		
Construction	*Asbestos*	tonnes		
Construction	*Asphalt*	tonnes		
Construction	*Bricks*	tonnes		
Construction	*Concrete*	tonnes		
Construction	*Insulation*	tonnes		
Construction	*Metals*	tonnes		
Construction	*Mineral oil*	tonnes		
Construction	*Plasterboard*	tonnes		
Construction	*Tyres*	tonnes		
Construction	*Wood*	tonnes		
Other	*Glass*	tonnes		
Other	*Clothing*	tonnes		
Other	*Food and drink*	tonnes		
Organic	*Compost derived from garden waste*	tonnes		
Organic	*Compost derived from food and garden waste*	tonnes		
Electrical Items	*Electrical items - fridges and freezers*	tonnes		
Electrical Items	*Electrical items - large*	tonnes		
Electrical Items	*Electrical items - IT*	tonnes		
Electrical Items	*Electrical items - small*	tonnes		

18.

PENGGUNAAN MATERIAL

Activity	*Waste type*	Unit	*Amount* (tonnes)	$kgCO_2e$
Electrical Items	*Batteries - Alkaline*	tonnes		
Electrical Items	*Batteries - Li ion*	tonnes		
Electrical Items	*Batteries - NiMh*	tonnes		
Metal	*Metal: aluminium cans and foil (excl. forming)*	tonnes		
Metal	*Metal: mixed cans*	tonnes		
Metal	*Metal: scrap metal*	tonnes		
Metal	*Metal: steel cans*	tonnes		
Plastic	*Plastics: average plastics*	tonnes		
Plastic	*Plastics: average plastic film*	tonnes		
Plastic	*Plastics: average plastic rigid*	tonnes		
Plastic	*Plastics: HDPE (incl. forming)*	tonnes		
Plastic	*Plastics: LDPE and LLDPE (incl. forming)*	tonnes		
Plastic	*Plastics: PET (incl. forming)*	tonnes		
Plastic	*Plastics: PP (incl. forming)*	tonnes		
Plastic	*Plastics: PS (incl. forming)*	tonnes		
Plastic	*Plastics: PVC (incl. forming)*	tonnes		
Paper	*Paper and Board: board*	tonnes		
Paper	*Paper and Board: mixed*	tonnes		
Paper	*Paper and Board: paper*	tonnes		

19.

PENERBANGAN DAN AKOMODASI

FLIGHTS

Individuals flying for work purposes

Please use the ICAO Calculator and add the information below. The pre-filled table only for several cities and Economy Class. For others, please refer to ICAO Calculator and fill the information started from the 122nd row. Example of filling in the ICAO table is shown at the right side of the Hotel table.

Origin (city or IATA code)	*Destination (city or IATA code)*	*Number of passengers*	*Class*	*Single way / return*	$kgCO_2e$

19.

PENERBANGAN DAN AKOMODASI

HOTEL

Emissions associated with overnight hotel stays for work purposes

Please choose the country and number of nights per occupied room

Country	*Number of occupied rooms*	*Number of nights per room*	$kgCO_2e$

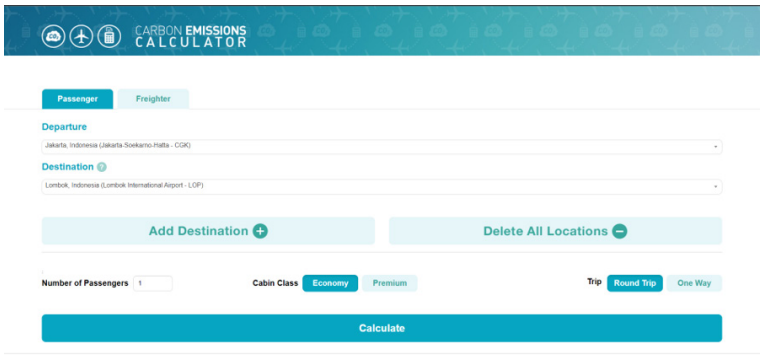
19.

PENERBANGAN DAN AKOMODASI

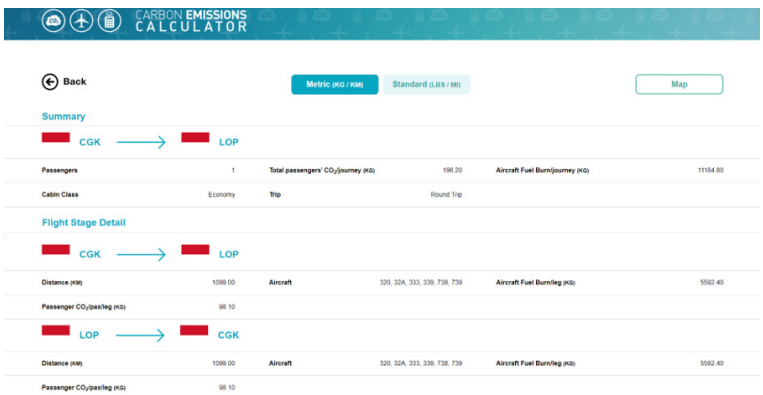
EXAMPLE OF FILLING IN THE ICAO TABLE

1. *Acces the website on https://applications.icao.int/icec. The interface is shown as the image below. Then, choose the passenger calculation in this matter.*

2. *After selecting the passenger calculator, the interface will be shown as the image below. Proceed to type the departure and destination city with details of passenger(s), cabin class, and trip below the departure and destination bar. After that, you can select the "calculate button".*



3. *Lastly, the result page is as shown below. Company/bank is able to take the emissions value from the result of the ICAO calculator.*



20.

PERJALANAN BISNIS – DARAT DAN LAUT

BUSINESS TRAVEL: LAND AND SEA

Travel for business purposes in assets not owned or directly operated by a business. This includes mileage for business purposes in, for example, cars owned by employees, public transport and hire cars.

Business travel: land and sea. Enter the total distance. For passenger.km units, use ***(# of passengers * km)***

Vehicle	*Type*	*Fuel*	Unit	*Total distance*	$kgCO_2e$
Cars (by size)	*Small car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Medium car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Large car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Average car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Small car*	*CNG*	km		
Cars (by size)	*Medium car*	*CNG*	km		
Cars (by size)	*Large car*	*CNG*	km		
Cars (by size)	*Average car*	*CNG*	km		
Cars (by size)	*Small car*	*Diesel*	km		
Cars (by size)	*Medium car*	*Diesel*	km		
Cars (by size)	*Large car*	*Diesel*	km		
Cars (by size)	*Average car*	*Diesel*	km		
Cars (by size)	*Small car*	*Hybrid*	km		
Cars (by size)	*Medium car*	*Hybrid*	km		
Cars (by size)	*Large car*	*Hybrid*	km		
Cars (by size)	*Average car*	*Hybrid*	km		
Cars (by size)	*Small car*	*LPG*	km		
Cars (by size)	*Medium car*	*LPG*	km		
Cars (by size)	*Large car*	*LPG*	km		
Cars (by size)	*Average car*	*LPG*	km		
Cars (by size)	*Small car*	*Petrol*	km		
Cars (by size)	*Medium car*	*Petrol*	km		

20.

PERJALANAN BISNIS – DARAT DAN LAUT

Vehicle	*Type*	*Fuel*	Unit	*Total distance*	kgCO_2e
Cars (by size)	*Large car*	*Petrol*	km		
Cars (by size)	*Average car*	*Petrol*	km		
Cars (by size)	*Small car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Medium car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Large car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Average car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Small car*	*Unknown*	km		
Cars (by size)	*Medium car*	*Unknown*	km		
Cars (by size)	*Large car*	*Unknown*	km		
Cars (by size)	*Average car*	*Unknown*	km		
Ferry	*Foot passenger*		passenger. km		
Ferry	*Car passenger*		passenger. km		
Ferry	*Average (all passenger)*		passenger. km		
Motorbike	*Small*		km		
Motorbike	*Medium*		km		
Motorbike	*Large*		km		
Motorbike	*Average*		km		
Taxis	*Regular taxi*		km		
Taxis	*Regular taxi*		passenger. km		
Taxis	*Black cab*		km		
Taxis	*Black cab*		passenger. km		

20.

PERJALANAN BISNIS – DARAT DAN LAUT

Vehicle	*Type*	*Fuel*	Unit	*Total distance*	kgCO_2e
Bus	*Local bus (not London)*		passenger. km		
Bus	*Local London bus*		passenger. km		
Bus	*Average local bus*		passenger. km		
Bus	*Coach*		passenger. km		
Rail	*National rail*		passenger. km		
Rail	*International rail*		passenger. km		
Rail	*Light rail and tram*		passenger. km		
Rail	*London Underground*		passenger. km		

21.

PENGANGKUTAN BARANG

FREIGHTING GOODS

Shipment of goods over land, by sea or by air through a third-party company.

Vehicle	*Type*	*Fuel*	Unit	*Weight* (tonnes)	*Distance* (km)	$kgCO_2e$
Vans	*Class I (up to 1.305 tonnes)*	*Diesel*	tonne. km			
Vans	*Class I (up to 1.305 tonnes)*	*Petrol*	tonne. km			
Vans	*Class I (up to 1.305 tonnes)*	*CNG*	tonne. km			
Vans	*Class I (up to 1.305 tonnes)*	*LPG*	tonne. km			
Vans	*Class I (up to 1.305 tonnes)*	*Unknown*	tonne. km			
Vans	*Class I (up to 1.305 tonnes)*	*Plug-in Hybrid Electric Vehicle*	tonne. km			
Vans	*Class I (up to 1.305 tonnes)*	*Battery Electric Vehicle*	tonne. km			
Vans	*Class II (1.305 to 1.74 tonnes)*	*Diesel*	tonne. km			
Vans	*Class II (1.305 to 1.74 tonnes)*	*Petrol*	tonne. km			
Vans	*Class II (1.305 to 1.74 tonnes)*	*CNG*	tonne. km			
Vans	*Class II (1.305 to 1.74 tonnes)*	*LPG*	tonne. km			
Vans	*Class II (1.305 to 1.74 tonnes)*	*Unknown*	tonne. km			
Vans	*Class II (1.305 to 1.74 tonnes)*	*Plug-in Hybrid Electric Vehicle*	tonne. km			
Vans	*Class II (1.305 to 1.74 tonnes)*	*Battery Electric Vehicle*	tonne. km			

21.

PENGANGKUTAN BARANG

Vehicle	*Type*	*Fuel*	Unit	*Weight* (tonnes)	*Distance* (km)	$kgCO_2e$
Vans	*Class III (1.74 to 3.5 tonnes)*	*Diesel*	tonne. km			
Vans	*Class III (1.74 to 3.5 tonnes)*	*Petrol*	tonne. km			
Vans	*Class III (1.74 to 3.5 tonnes)*	*CNG*	tonne. km			
Vans	*Class III (1.74 to 3.5 tonnes)*	*LPG*	tonne. km			
Vans	*Class III (1.74 to 3.5 tonnes)*	*Unknown*	tonne. km			
Vans	*Class III (1.74 to 3.5 tonnes)*	*Plug-in Hybrid Electric Vehicle*	tonne. km			
Vans	*Class III (1.74 to 3.5 tonnes)*	*Battery Electric Vehicle*	tonne. km			
Vans	*Average (up to 3.5 tonnes)*	*Diesel*	tonne. km			
Vans	*Average (up to 3.5 tonnes)*	*Petrol*	tonne. km			
Vans	*Average (up to 3.5 tonnes)*	*CNG*	tonne. km			
Vans	*Average (up to 3.5 tonnes)*	*LPG*	tonne. km			
Vans	*Average (up to 3.5 tonnes)*	*Unknown*	tonne. km			
Vans	*Average (up to 3.5 tonnes)*	*Plug-in Hybrid Electric Vehicle*	tonne. km			
Vans	*Average (up to 3.5 tonnes)*	*Battery Electric Vehicle*	tonne. km			
HGV (all diesel)	*Rigid (>3.5 - 7.5 tonnes)*	*Average laden*	tonne. km			

21.

PENGANGKUTAN BARANG

Vehicle	*Type*	*Fuel*	Unit	*Weight* (tonnes)	*Distance* (km)	kgCO_2e
HGV (all diesel)	*Rigid (>7.5 tonnes-17 tonnes)*	*Average laden*	tonne. km			
HGV (all diesel)	*Rigid (>17 tonnes)*	*Average laden*	tonne. km			
HGV (all diesel)	*All rigids*	*Average laden*	tonne. km			
HGV (all diesel)	*Articulated (>3.5 - 33t)*	*Average laden*	tonne. km			
HGV (all diesel)	*Articulated (>33t)*	*Average laden*	tonne. km			
HGV (all diesel)	*All artics*	*Average laden*	tonne. km			
HGV (all diesel)	*All HGVs*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*Rigid (>3.5 - 7.5 tonnes)*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*Rigid (>7.5 tonnes-17 tonnes)*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*Rigid (>17 tonnes)*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*All rigids*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*Articulated (>3.5 - 33t)*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*Articulated (>33t)*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*All artics*	*Average laden*	tonne. km			
HGV refrigerated (all diesel)	*All HGVs*	*Average laden*	tonne. km			

21.

PENGANGKUTAN BARANG

Vehicle	*Type*	*Fuel*	Unit	*Weight* (tonnes)	*Distance* (km)	$kgCO_2e$
Freight flights	*Domestic, to/from UK*	*With RF*	tonne.km			
Freight flights	*Domestic, to/from UK*	*Without RF*	tonne.km			
Freight flights	*Short-haul, to/from UK*	*With RF*	tonne.km			
Freight flights	*Short-haul, to/from UK*	*Without RF*	tonne.km			
Freight flights	*Long-haul, to/from UK*	*With RF*	tonne.km			
Freight flights	*Long-haul, to/from UK*	*Without RF*	tonne.km			
Freight flights	*International, to/from non-UK*	*With RF*	tonne.km			
Freight flights	*International, to/from non-UK*	*Without RF*	tonne.km			
Rail	*Freight train*		tonne.km			
Sea tanker	*Crude tanker*	*200,000+ dwt*	tonne.km			
Sea tanker	*Crude tanker*	*120,000–199,999 dwt*	tonne.km			
Sea tanker	*Crude tanker*	*80,000–119,999 dwt*	tonne.km			
Sea tanker	*Crude tanker*	*60,000–79,999 dwt*	tonne.km			
Sea tanker	*Crude tanker*	*10,000–59,999 dwt*	tonne.km			
Sea tanker	*Crude tanker*	*0–9999 dwt*	tonne.km			
Sea tanker	*Crude tanker*	*Average*	tonne.km			

21.

PENGANGKUTAN BARANG

Vehicle	*Type*	*Fuel*	Unit	*Weight* (tonnes)	*Distance* (km)	kgCO_2e
Sea tanker	*Products tanker*	*60,000+ dwt*	tonne. km			
Sea tanker	*Products tanker*	*20,000–59,999 dwt*	tonne. km			
Sea tanker	*Products tanker*	*10,000–19,999 dwt*	tonne. km			
Sea tanker	*Products tanker*	*5000–9999 dwt*	tonne. km			
Sea tanker	*Products tanker*	*0–4999 dwt*	tonne. km			
Sea tanker	*Products tanker*	*Average*	tonne. km			
Sea tanker	*Chemical tanker*	*20,000+ dwt*	tonne. km			
Sea tanker	*Chemical tanker*	*10,000–19,999 dwt*	tonne. km			
Sea tanker	*Chemical tanker*	*5000–9999 dwt*	tonne. km			
Sea tanker	*Chemical tanker*	*0–4999 dwt*	tonne. km			
Sea tanker	*Chemical tanker*	*Average*	tonne. km			
Sea tanker	*LNG tanker*	*200,000+ m3*	tonne. km			
Sea tanker	*LNG tanker*	*0–199,999 m3*	tonne. km			
Sea tanker	*LNG tanker*	*Average*	tonne. km			
Sea tanker	*LPG Tanker*	*50,000+ m3*	tonne. km			
Sea tanker	*LPG Tanker*	*0–49,999 m3*	tonne. km			
Sea tanker	*LPG Tanker*	*Average*	tonne. km			

21.

PENGANGKUTAN BARANG

Vehicle	*Type*	*Fuel*	Unit	*Weight* (tonnes)	*Distance* (km)	$kgCO_2e$
Cargo ship	*Bulk carrier*	*200,000+ dwt*	tonne. km			-
Cargo ship	*Bulk carrier*	*100,000–199,999 dwt*	tonne. km			-
Cargo ship	*Bulk carrier*	*60,000–99,999 dwt*	tonne. km			-
Cargo ship	*Bulk carrier*	*35,000–59,999 dwt*	tonne. km			-
Cargo ship	*Bulk carrier*	*10,000–34,999 dwt*	tonne. km			-
Cargo ship	*Bulk carrier*	*0–9999 dwt*	tonne. km			-
Cargo ship	*Bulk carrier*	*Average*	tonne. km			-
Cargo ship	*General cargo*	*10,000+ dwt*	tonne. km			-
Cargo ship	*General cargo*	*5000–9999 dwt*	tonne. km			-
Cargo ship	*General cargo*	*0–4999 dwt*	tonne. km			-
Cargo ship	*General cargo*	*10,000+ dwt 100+ TEU*	tonne. km			-
Cargo ship	*General cargo*	*5000–9999 dwt 100+ TEU*	tonne. km			-
Cargo ship	*General cargo*	*0–4999 dwt 100+ TEU*	tonne. km			-
Cargo ship	*General cargo*	*Average*	tonne. km			-
Cargo ship	*Container ship*	*8000+ TEU*	tonne. km			-

21.

PENGANGKUTAN BARANG

Vehicle	*Type*	*Fuel*	Unit	*Weight* (tonnes)	*Distance* (km)	$kgCO_2e$
Cargo ship	*Container ship*	*5000–7999 TEU*	tonne. km			-
Cargo ship	*Container ship*	*3000–4999 TEU*	tonne. km			-
Cargo ship	*Container ship*	*2000–2999 TEU*	tonne. km			-
Cargo ship	*Container ship*	*1000–1999 TEU*	tonne. km			-
Cargo ship	*Container ship*	*0–999 TEU*	tonne. km			-
Cargo ship	*Container ship*	*Average*	tonne. km			-
Cargo ship	*Vehicle transport*	*4000+ CEU*	tonne. km			-
Cargo ship	*Vehicle transport*	*0–3999 CEU*	tonne. km			-
Cargo ship	*Vehicle transport*	*Average*	tonne. km			-
Cargo ship	*RoRo-Ferry*	*2000+ LM*	tonne. km			-
Cargo ship	*RoRo-Ferry*	*0–1999 LM*	tonne. km			-
Cargo ship	*RoRo-Ferry*	*Average*	tonne. km			-
Cargo ship	*Large RoPax ferry*	*Average*	tonne. km			-
Cargo ship	*Refrigerated cargo*	*All dwt*	tonne. km			-

22.

AKTIVITAS PULANG-PERGI PEGAWAI

EMPLOYEES COMMUTING

Transportation of employees between their homes and their worksites.

Please enter the total distance ***(for passenger.km units, use # of passengers * km)***

Vehicle	*Type*	*Fuel*	Unit	*Total distance*	kg CO_2e
Cars (by size)	*Small car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Medium car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Large car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Average car*	*Battery Electric Vehicle*	km		
Cars (by size)	*Small car*	*CNG*	km		
Cars (by size)	*Medium car*	*CNG*	km		
Cars (by size)	*Large car*	*CNG*	km		
Cars (by size)	*Average car*	*CNG*	km		
Cars (by size)	*Small car*	*Diesel*	km		
Cars (by size)	*Medium car*	*Diesel*	km		
Cars (by size)	*Large car*	*Diesel*	km		
Cars (by size)	*Average car*	*Diesel*	km		
Cars (by size)	*Small car*	*Hybrid*	km		
Cars (by size)	*Medium car*	*Hybrid*	km		
Cars (by size)	*Large car*	*Hybrid*	km		
Cars (by size)	*Average car*	*Hybrid*	km		

22.

AKTIVITAS PULANG-PERGI PEGAWAI

Vehicle	*Type*	*Fuel*	Unit	*Total distance*	kg CO_2e
Cars (by size)	*Small car*	*LPG*	km		
Cars (by size)	*Medium car*	*LPG*	km		
Cars (by size)	*Large car*	*LPG*	km		
Cars (by size)	*Average car*	*LPG*	km		
Cars (by size)	*Small car*	*Petrol*	km		
Cars (by size)	*Medium car*	*Petrol*	km		
Cars (by size)	*Large car*	*Petrol*	km		
Cars (by size)	*Average car*	*Petrol*	km		
Cars (by size)	*Small car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Medium car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Large car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Average car*	*Plug-in Hybrid Electric Vehicle*	km		
Cars (by size)	*Small car*	*Unknown*	km		
Cars (by size)	*Medium car*	*Unknown*	km		
Cars (by size)	*Large car*	*Unknown*	km		
Cars (by size)	*Average car*	*Unknown*	km		
Ferry	*Foot passenger*		passenger. km		
Ferry	*Car passenger*		passenger. km		

22.

AKTIVITAS PULANG-PERGI PEGAWAI

Vehicle	*Type*	*Fuel*	Unit	*Total distance*	kg CO_2e
Ferry	*Average (all passenger)*		passenger. km		
Motorbike	*Small*		km		
Motorbike	*Medium*		km		
Motorbike	*Large*		km		
Motorbike	*Average*		km		
Taxis	*Regular taxi*		km		
Taxis	*Regular taxi*		passenger. km		
Taxis	*Black cab*		km		
Taxis	*Black cab*		passenger. km		
Bus	*Local bus (not London)*		passenger. km		
Bus	*Local London bus*		passenger. km		
Bus	*Average local bus*		passenger. km		
Bus	*Coach*		passenger. km		
Rail	*National rail*		passenger. km		
Rail	*International rail*		passenger. km		
Rail	*Light rail and tram*		passenger. km		
Rail	*London Underground*		passenger. km		

23.

KONSUMSI MAKANAN

FOOD CONSUMPTION

Food provided by the organization to be consumed by the employees (e.g. canteens)

Please mind the units for each type of food

Vehicle	Unit	*Amount*	kg CO_2e
1 standard breakfast	*breakfast*		
1 gourmet breakfast	*breakfast*		
1 cold or hot snack	*hot snack*		
1 average meal	*meal*		
Non-alcoholic beverage	*litre*		
Alcoholic beverage	*litre*		
1 hot snack (burger + frites)	*hot snack*		
1 sandwich	*sandwich*		
Meal, vegan	*meal*		
Meal, vegetarian	*meal*		
Meal, with beef	*meal*		
Meal, with chicken	*meal*		

24.

BEKERJA DARI RUMAH

HOME OFFICE

The emission factors consider the energy consumption of the workstation, lighting, and cooling or heating
Find further comments on the cell's title

Assumptions:
*48 (working weeks) * 5 days per week = 240 working days per year*
*240 (days/year) * 8 hours = 1,920 working hours per year*
1,920 Working Hours / 12 = 160 working hours per month

Type of home office	*Province*	Unit	*Number of employees*	*Working regime (For full-time: 100%)*	*% working from home (e.g. 50% from home)*	*Number of months*	kg CO_2e
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					
		kWh					

OTORITAS JASA KEUANGAN

Otoritas Jasa Keuangan

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