



University of Auckland Greenhouse Gas Emissions Summary 2019-2024

Activity	2019 Baseline			2023			2024				
	Quantity	Unit	Carbon Emissions Location-based (tCO2e)	Quantity	Unit	Carbon Emissions Location-based (tCO2e)	Quantity	Unit	Carbon Emissions Location-based (tCO2e)	Progress against baseline Quantity(%)	Progress against baseline Emissions (%)
Work related travel (air)											
Air travel domestic total (staff and students)	8,281,640.00	pkm	2,007.80	8,010,426.00	pkm	1,619.95	7,442,327.00	pkm	1,512.90	-10.1	-24.6
Air travel short haul total < 3700km (staff and students)	19,752,947.00	pkm	3,207.09	16,767,392.00	pkm	2,556.19	16,077,887.00	pkm	2,451.88	-18.6	-23.5
Air travel long haul total > 3700km (staff and students)	112,981,420.00	pkm	24,015.33	79,403,003.00	pkm	13,467.01	86,927,417.00	pkm	14,735.80	-23.1	-38.6
Air travel (NZ & international) reimbursements				234,578.11	\$	182.03	190,221.87	\$	149.85		
Work related travel (air) SUBTOTAL	141,016,007.00	pkm	29,230.22	n/a	pkm	17,825.18	n/a	pkm	18,850.43		-35.5
Work related travel (other)											
Accommodation (NZ & international)	19,447.00	v.ngt	591.48	36,931.00	v.ngt	726.89	28,572.00	v.ngt	512.86	46.9	-13.3
Accommodation (NZ & international) reimbursements		\$		1,779,463.95	\$	262.41	1,712,638.48	\$	256.39		
Rental car average (diesel)	49,544.00	km	9.96	44,504.00	km	8.07	72,151.00	km	13.13	45.6	31.9
Rental car average (hybrid)	799.00	km	0.13	34,237.00	km	4.95	77,334.00	km	11.23	9578.8	8592.9
Rental car average (petrol)	315,964.00	km	65.35	286,442.00	km	53.19	170,174.00	km	31.29	-46.1	-52.1
Rental car EV - average		km		3,358.00	km	0.05	6,357.00	km	0.14		
Petrol reimbursements		\$		95,108.89	\$	105.78	89,988.63	\$	80.66		
Taxi (regular)	1,160,109.40	\$	86.67	1,349,609.32	\$	61.31	1,347,451.84	\$	60.40	16.1	-30.3
Work related travel (other) SUBTOTAL	n/a		753.58	n/a		1,222.66	n/a		986.11		28.2
International student air travel											
Air travel short haul < 3700km (international students inbound)	300,525.00	pkm	48.79	254,467.00	pkm	39.05	338,744.00	pkm	51.98	12.7	6.5
Air travel long haul > 3700km (international students inbound)	168,764,308.00	pkm	35,872.54	155,102,752.00	pkm	29,931.73	174,102,766.00	pkm	33,599.20	3.2	-6.3
International student air travel SUBTOTAL	169,064,833.00	pkm	35,921.33	155,357,219.00	pkm	29,970.78	174,441,510.00	pkm	33,651.18	3.2	-6.3
Energy including fuel											
Electricity generated onsite							82,709.59	kWh	-		
Electricity Toitū carbonzero certified factor*	808,493.00	kWh	7.96	41,772,157.98	kWh	3,046.35	49,948,763.49	kWh	4,518.64	6078.0	56642.0
Electricity (Purchased)*	70,179,484.00	kWh	7,717.09	31,950,028.45	kWh	2,321.22	25,567,479.46	kWh	3,051.84	-63.6	-60.5
NZ energy certificates (NZEC) purchased*		kWh		31,950,028.45	kWh		25,567,410.00	kWh			
Natural gas distributed commercial	26,427,303.00	kWh	5,146.61	25,532,358.00	kWh	4,976.09	21,362,585.63	kWh	4,168.86	-19.2	-19.0
Steam generation Pre-calculated (tCO2e)	341.00	t	341.00	27.50	t	27.50	-	t	-	-100.0	-100.0
Diesel stationary combustion (fire pumps)	1,480.40	L	4.01	1,690.00	L	4.53	1,530.00	L	4.10	3.4	2.2
Diesel mobile combustion (fuel cards)	27,430.81	L	73.90	47,832.11	L	128.07	51,980.03	L	139.34	89.5	88.6
Diesel (inter-campus staff shuttle)	10,915.00	L	29.40	-		-	-		-	-100.0	-100.0
Petrol (fuel cards)	20,074.21	L	49.22	38,899.40	L	92.29	36,094.33	L	86.07	79.8	74.9
Diesel stationary combustion (generators)	11,340.00	L	30.73	7,641.20	L	20.47	10,089.10	L	27.04	-11.0	-12.0
LPG stationary > mobile combustion from 2024	938.40	kg	2.84	441.00	kg	1.31	270.00	kg	0.82	-71.2	-71.2
Bus travel (city) Tamaki - City loop student bus	350,020.00	pkm	29.98	-		-	-		-	-100.0	-100.0
Energy including fuel SUBTOTAL	n/a		13,432.75	n/a		10,617.83	n/a		11,996.72		-10.7
Transmission of energy (T&D losses)											
Electricity Toitū carbonzero certified factor (T & D losses)*		kWh		41,772,157.98	kWh	222.73	49,948,763.49	kWh	384.12		
Electricity distributed T&D losses	70,987,977.00	kWh	842.39	31,950,028.45	kWh	170.36	25,567,479.46	kWh	196.62	-64.0	-76.7
Natural gas distributed T&D losses	26,427,303.00	kWh	603.34	25,532,358.00	kWh	184.67	21,362,585.63	kWh	132.71	-19.2	-78.0
Transmission of energy (T&D losses) SUBTOTAL	97,415,280.00	kWh	1,445.73	99,254,544.43	kWh	577.76	96,878,828.58	kWh	713.45	-0.6	-50.7
Waste											
Composting	108,126.00	kg	18.55	139,289.90	kg	24.46	177,443.00	kg	31.16	64.1	68.0
Waste disposal mixed recycling transport (cans, glass, paper, plastic)	393,512.00	kg	583.85	414,082	kg	8.81	400,542	kg	2.57	1.8	-99.6
Recycling process (cans, glass, paper, plastic)		kg		414,082	kg	369.95	390,985	kg	316.96		
Waste landfilled total	1,604,824.00	kg	388.75	1,562,740.46	kg	206.79	1,583,642.42	kg	183.44	-1.3	-52.8
Waste SUBTOTAL	2,106,462.00	kg	991.15	2,116,112.48	kg	610.01	2,161,827.42	kg	534.12	2.6	-46.1
Other measures											
Paper use - default	170,520.00	kg	162.45	52,989.00	kg	48.25	69,011.35	kg	92.43	-59.5	-43.1
Wastewater for treatment plants (average)	407,761.00	m3	186.13	328,829.93	m3	156.67	396,831.62	m3	204.60	-2.7	9.9
Water supply	436,912.00	m3	13.67	375,033.70	m3	13.09	462,116.90	m3	22.44	5.8	64.1
Refrigerant totals	22,813.29	kg	185.96	25,494.42	kg	255.82	12,084.20	kg	346.96	-47.0	86.6
Enteric fermentation dairy - cattle	12.00	head	24.72	-	head	-	-	head	-	-100.0	-100.0
Enteric fermentation - sheep	400.00	head	120.00	837.00	head	292.91	555.00	head	193.52	38.8	61.3
Other Measures SUBTOTAL	n/a		692.93	n/a		766.73	n/a		859.95		24.1
Extended baseline**											
Freight (extended baseline)				115,169.47	tkm	131.18	48,882.43	tkm	56.90		
Working from home (extended baseline)				600,970.00	epd	207.23	352,970.00	epd	169.30		
Staff commute (all transport combined)							22,030,753.50	km	3,445.86		
Agricultural soil - sheep							555.00	head	16.10		
Manure management - sheep							555.00	head	2.09		
Extended baseline SUBTOTAL	n/a		-	n/a		338.40	n/a		3,690.25		
TOTAL			82,467.70			61,929.34			71,262.21		-13.6

Unit Key: pkm (person kilometres), v.ngt (visitor nights), km (kilometres), \$ (New Zealand dollars), kWh (kiloWatt hours), t (tonnes), tkm (tonnes kilometre), L (litres), m3 (cubic metres), epd (employee per day), head (animal count)

Note: Ministry of Environment 'Measuring Emissions Guidance' published in August 2022 recalculated emissions for grid electricity and T&D Losses retrospectively for 2019 - 2021 inventories. The historical emissions have been recalculated within this report, but have not required new verification as changes fall under the materiality threshold. Therefore, minor discrepancies in historical emissions compared to previous reports may be observed.

*All electricity emissions are dual reported using location-based method and market-based method. Dual reporting illustrates the role of supplier choice, onsite renewable energy generation and contractual instruments in managing indirect emissions from energy alongside any ongoing energy efficiency and reduction efforts.

**Extended Baseline refers to measures added to the inventory after the 2019 baseline.