



EMISSION FACTORS USED FOR POS MARITIME GHG INVENTORY: 2022

Updated: 7/18/2023

Scope 1 & 2 Emission Factors

Scope	Year	Fuel	Emission Factor	Original Units	Converted Emission Factor	Converted Units	Citation	Notes
1	All	Natural Gas in Boilers	53.0600	kg CO2/MMBTU	0.00530600	tonnes CO2/therm	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)	Emission Factors for Greenhouse Gas Inventories (epa.gov)
1	All	Gasoline in Vehicles	8.7800	kg CO2/gallon	0.00878000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)	Emission Factors for Greenhouse Gas Inventories (epa.gov)
1	All	Fossil Diesel in Vehicles (1)	10.2100	kg CO2/gallon	0.01021000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)	Emission Factors for Greenhouse Gas Inventories (epa.gov)
1	All	Natural Gas in Vehicles	0.0545	kg CO2/scf	0.00690352	tonnes CO2/GGE	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)	
1	All	Propane	5.72	kg CO2/gallon	0.00572000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)	
1	2005-2011	Steam (2)	156	Lbs. CO2e/MMBTU	0.069084097	tonnes CO2e/klb	Calculations: http://collab.portseattle.org/sites/SEP_Air/climate/_layouts/xviewer.aspx?id=/sites/SEP_Air/climate/Shared%20Documents/GHG%20Accounting%202018/Electricity-Natural%20Gas-Steam/Steam/steam%20calcs.xlsx&Source=http%3A%2F%2Fcollab%2Eportseattle%2Eorg%2Fsites%2FSEPAir%2Fclimate%2FShared%2520Documents%2FForms%2FAllItems%2Easpx%3FRootFolder%3D%252Fsites%252FSEPAir%252Fclimate%252FShared%2520Documents%252FGHG%2520Accounting%25202018%252FElectricity%252DNatural%2520Gas%252DSteam%252FSteam&DefaultItemOpen=1	
2	2010	SCL Retail Electricity	45.57	lb CO2/MWh (2)	0.00002066	tonnes CO2/kWh	SCL correspondence & SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2011	SCL Retail Electricity	13.77	lb CO2/MWh (2)	0.00000625	tonnes CO2/kWh	SCL correspondence & SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2012	SCL Retail Electricity	25.62	lb CO2/MWh (2)	0.00001162	tonnes CO2/kWh	SCL correspondence & SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2013	SCL Retail Electricity	33.23	lb CO2/MWh (2)	0.00001507	tonnes CO2/kWh	SCL correspondence & SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2014	SCL Retail Electricity	20.08	lb CO2/MWh (2)	0.00000911	tonnes CO2/kWh	SCL correspondence & SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2015	SCL Retail Electricity	52.44	lb CO2/MWh (2)	0.00002379	tonnes CO2/kWh	SCL correspondence & SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2016	SCL Retail Electricity	31.22	lb CO2/MWh (2)	0.00001416	tonnes CO2/kWh	SCL correspondence & SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2017	SCL Retail Electricity	46.37	lb CO2/MWh (2)	0.00002103	tonnes CO2/kWh	SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/	
2	2018	SCL Retail Electricity	32.05	lb CO2/MWh (2)	0.00001454	tonnes CO2/kWh	SCL retail factors found at https://www.theclimateregistry.org/our-members/cris-public-reports/ . 2018 EF found at https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf?mc_cid=4b45d12237&mc_eid=5f138d1baa	

2	2019	SCL Retail Electricity (3)	41.57	lb CO2/MWh (2)	0.00001886	tonnes CO2/kWh	SCL retail factor for 2019, found at: https://www.theclimateregistry.org/our-members/cris-public-reports/	The 2019 SCL retail electricity emissions factor was applied to 2019 electricity use, as the most recent published emissions factor.
2	2020	SCL Retail Electricity (3)	19.64	lb CO2/MWh (2)	0.00000891	tonnes CO2/kWh	SCL retail factor for 2020, found at: https://theclimateregistry.org/wp-content/uploads/2023/06/2023-Default-Emission-Factors-Final-1.pdf (Table 3.8)	The 2020 emissions factor was used to recalculate 2020 and 2021 emissions herein, and to calculate 2022 emissions.

Notes:

- (1) The emission factor for Renewable Diesel as a vehicle fuel is 0 because combustion of the fuel is considered to produce biogenic CO2 emissions. Emissions from renewable diesel are not included in the total emissions estimate, because they are considered to be part of the natural carbon cycle and so are excluded under UNFCCC guidelines.
- (2) Enwave Seattle provides an emission factor for CO2e, not CO2.
- (3) SCL emissions factors converted from lb CO2/Mwh to tonnes CO2 as follows: (lb CO2/MWh)*(0.0004536 MT/lb)*1 MWH/1000KWh) or value*0.000454/1000

Scope 3 Emission Factors

Scope	Year	Fuel	Emission Factor	Original Units	Converted Emission Factor	Converted Units	Citation
3	2015	Jet-A in Regional Flights	70.0000	seat-mile/gallon	0.000139286	tonnes CO2/seat-mile	https://en.wikipedia.org/wiki/Fuel_economy_in_aircraft
3	2015	Jet-A in Medium Haul Flights	75.0000	seat-mile/gallon	0.00013	tonnes CO2/seat-mile	http://www.wsj.com/articles/SB1000142405274870490110457542326167748380
3	2015	Jet-A in Long Haul Flights	70.0000	seat-mile/gallon	0.000139286	tonnes CO2/seat-mile	https://en.wikipedia.org/wiki/Fuel_economy_in_aircraft
3	All	Gasoline in Vehicles	8.7800	kg CO2/gallon	0.00878000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)
3	All	Diesel in Vehicles	10.2100	kg CO2/gallon	0.01021000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)
3	All	Propane	5.72	kg CO2/gallon	0.00572000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)
3	All	Natural Gas in Boilers	53.0600	kg CO2/MMBTU	0.00530600	tonnes CO2/therm	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)

Biogenic Emission Factors

Scope	Year	Fuel	Emission Factor	Original Units	Converted Emission Factor	Converted Units	Citation
1	All	Renewable Diesel (2)	10.2100	kg CO2/gallon	0.01021000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)
1	All	B100 Diesel in Vehicles (1)	9.4500	kg CO2/gallon	0.00945000	tonnes CO2/gallon	2023-Default-Emission-Factors-Final.pdf (theclimateregistry.org)

Notes:

- (1) B100 is not currently used by POS Maritime. When biofuel blends are used, a composite emission factor calculation will be performed in the applicable worksheet. For example, B20 used in fleet vehicles is accounted for as 80% Diesel in Tab 3-Mobile Fleet Fossil Fuel Use and 20% B100 in Tab 4 - Biogenic Fuel Use.



Energy Use from Scope 1 & 2 Sources at Port of Seattle Maritime 2005 - 2022

		2005	2015	2016	2017	2018	2019	2020	2021	2022	% Ch Prior Yr	% Ch Baseline					
Scope 1	Stationary Source	Natural Gas	Fishermen's Terminal	22,635	15,209	17,373	20,899	19,348	19,093	18,944	19,607	21,220	8%	-6%	therms		
			Marine Maintenance	32,957	20,122	24,323	26,792	28,536	30,503	116,012	30,318	28,055	26,416	-6%	-20%	therms	
			Pier 66 & Marina	-	49,701	48,927	57,522	98,491	116,012	95,458	90,851	98,208	90,851	8%	#DIV/0!	therms	
			Salmon Bay Marina (2)	-	-	-	-	484	1,897	1,515	1,564	2,003	2,003	28%	#DIV/0!	therms	
			Shilshole Bay Marina	45,568	5,988	6,809	10,221	9,402	9,416	10,218	13,772	12,692	12,692	-8%	-72%	therms	
			Terminal 91 (3)	95	179	618	4,607	5,050	4,235	-	-	-	-	-	-100%	therms	
			Terminal 102	9,422	13,402	15,204	16,037	13,059	20,051	20,101	31,771	32,352	32,352	2%	243%	therms	
			Terminal 117	1,082	-	-	-	-	-	-	-	-	-	-	-100%	therms	
			Duwamish River Hub (9)	-	-	-	-	-	-	-	-	-	1,150	-	-	#DIV/0!	therms
			TOTAL NATURAL GAS	111,760	104,601	113,253	136,078	174,370	201,207	176,555	185,620	192,890	192,890	4%	73%	therms	
	Propane	T30 Remediation	-	-	-	-	-	17,643	31,488	27,500	24,430	24,430	-11%	#DIV/0!	gallons		
	Steam	Pier 66	5,037	-	-	-	-	-	-	-	-	-	-	#DIV/0!	klb		
	Mobile Source	Mobile Fleet Fossil Fuel Use	Gasoline Delivered	51,004	51,908	55,867	61,038	68,951	63,898	53,129	53,172	56,816	7%	11%	gallons		
			Business Miles Personal Vehicles	1,840	2,227	1,952	1,687	1,143	1,409	226	204	712	249%	-61%	gallons		
			TOTAL GASOLINE	52,844	54,135	57,819	62,725	70,094	65,307	53,355	53,376	57,528	8%	9%	gallons		
TOTAL DIESEL			39,433	32,638	27,971	30,109	35,165	30,243	6,227	3,400	3,145	3,145	-7%	-92%	gallons		
TOTAL CNG			-	488	446	705	566	60	-	-	-	-	#DIV/0!	#DIV/0!	GE		
TOTAL PROPANE		-	1,390	942	1,348	1,317	996	1,010	847	798	798	-6%	#DIV/0!	gallons			
Biogenic Fuel (1)	TOTAL BIODIESEL (B100)	-	3,960	3,785	3,891	5,165	4,740	-	-	-	-	-	gallons				
TOTAL RENEWABLE DIESEL (R99)	-	-	-	-	-	571	22,907	28,841	18,522	18,522	-56%	-	gallons				
Scope 2	Electricity	Fishermen's Terminal (4)	4,180,093	5,129,427	5,477,054	5,457,682	5,787,908	5,561,173	6,064,896	7,406,345	5,446,394	-26%	30%	kWh			
		Marine Maintenance	605,268	444,841	484,697	484,203	468,484	451,313	451,754	448,362	471,341	471,341	5%	-22%	kWh		
		Marine Maintenance - Parks	123,729	147,957	146,132	126,642	109,104	102,800	109,838	99,081	53,894	53,894	-46%	-56%	kWh		
		Maritime Industrial Center (5)	590,842	288,220	415,673	434,771	395,516	393,535	462,220	548,523	549,541	549,541	0%	-7%	kWh		
		Pier 2 Uplands & CEM	-	4,331	4,926.00	3,620	3,801	2,415	2,602	3,868	4,404	4,404	14%	#DIV/0!	kWh		
		Pier 28	30,944	-	-	-	-	-	-	-	-	-	-	-100%	kWh		
		Pier 48	427,111	-	-	-	-	-	-	-	-	-	-	-100%	kWh		
		Pier 66 & Marina	2,053,113	2,209,312	2,482,208	3,041,614	2,666,100	2,654,889	1,922,209	1,985,037	2,250,845	2,250,845	13%	10%	kWh		
		Pier 69	2,648,243	2,075,603	2,129,904	2,172,272	2,168,388	2,197,238	1,877,723	2,015,053	2,121,852	2,121,852	5%	-20%	kWh		
		Salmon Bay Marina (2)	-	-	-	-	187,120	433,440	411,080	434,052	233,060	233,060	-46%	#DIV/0!	kWh		
		Shilshole Bay Marina	843,126	3,083,057	3,326,580	2,637,053	3,507,559	3,483,707	5,354,110	6,192,733	2,849,750	2,849,750	-54%	238%	kWh		
		Terminal 5 Southeast	104,920	101,520	95,480	93,520	97,280	92,160	61,720	77,108	360	360	-100%	-100%	kWh		
		Terminal 18 (6)	11,958	1,313	1,317	970	735	610	9,079	418	-	-	-100%	-100%	kWh		
		Terminal 34 (6)	-	36,089	34,241	30,243	29,374	33,495	41,293	42,868	-	-	-100%	#DIV/0!	kWh		
		Terminal 86	-	-	-	-	-	-	-	-	(0)	-	-	#DIV/0!	kWh		
		Terminal 91 (7)	6,351,024	2,598,937	2,266,410	3,013,347	2,542,720	2,293,240	1,312,224	1,929,537	2,687,941	2,687,941	39%	-58%	kWh		
		Terminal 91 Cruise Shore Power	-	-	-	-	-	-	-	-	-	-	-	#DIV/0!	#DIV/0!	kWh	
		Terminal 102 & Marina, T104	1,305,769	1,149,071	1,192,704	1,200,469	1,003,382	917,588	844,662	1,030,647	753,560	753,560	-27%	-42%	kWh		
		Terminal 106	999,580	391,440	464,080	424,400	354,160	367,833	355,972	432,511	405,923	405,923	-6%	-59%	kWh		
		Terminal 108	2,880	-	-	-	-	-	-	-	-	3	3	#DIV/0!	-100%	kWh	
		Terminal 117	43,313	-	-	-	-	-	-	-	-	-	-	#DIV/0!	-100%	kWh	
		World Trade Center West (8)	1,380,640	1,320,720	1,320,720	1,277,360	1,271,360	1,296,560	1,113,280	1,066,000	1,125,920	1,125,920	6%	-18%	kWh		
		Duwamish River Hub (9)	-	-	-	-	-	-	-	-	3,092	16,897	16,897	446%	#DIV/0!	kWh	
		TOTAL ELECTRICITY	21,702,553	18,981,838	19,842,125	20,398,166	20,592,991	20,281,995	20,394,661	23,715,235	18,971,684	18,971,684	-20%	-13%	kWh		

(1) Emissions associated with burning fuel from biogenic sources are not accounted for in the POS Maritime Inventory. The Inventory tracks the gallons of biogenic fuels used in operations.
 (2) Salmon Bay Marina was purchased by POS in 2018.
 (3) Natural gas use in the Terminal 91 cruise building was reassigned as Scope 3 from 2011-2022, based on improved metering formation.
 (4) Fishermen's Terminal 2005 Scope 2 kWh adjusted to 61% of total due to data anomalies.
 (5) Maritime Industrial Center 2005 Scope 2 kWh adjusted to 49% of total due to data anomalies.
 (6) Starting in 2022, Terminal 18 and Pier 34 are omitted from the inventory because they are NWSA facilities. This change was not made to past inventories due to small impact (<5%) baseline emissions.
 (7) Terminal 91 Scope 2 kWh adjusted to 44% of total for 2005, 13% of total for 2015 and 2018, and 12% of total for 2021 due to data anomalies. (Proportions based on representative years.)
 (8) World Trade Center West: 2010 actuals used as proxy for 2005, 2007 and 2011; 2016 actual used as proxy for 2015.
 (9) Duwamish River Hub is a new property the Port rents, starting in 2021. No natural gas data was available for 2022.



CO2 Emissions from Scope 1 & Scope 2 Sources at Port of Seattle Maritime 2005 - 2022

All units in tonnes

			2005	2015	2016	2017	2018	2019	2020	2021	2022	% Ch Prior Yr	% Ch Baseline		
Scope 1	Stationary Source	Stationary Source Natural Gas	Fishermen's Terminal	120	81	92	111	103	101	101	104	113	8%	-6%	
			Marine Maintenance	175	107	129	142	151	162	161	149	140	-6%	-20%	
			Pier 66 & Marina	-	264	259	305	522	616	506	482	521	8%	#DIV/0!	
			Salmon Bay Marina (6)	-	-	-	-	3	10	8	8	11	28%	#DIV/0!	
			Shilshole Bay Marina	242	32	36	54	50	50	54	73	67	-8%	-72%	
			Terminal 91 (3)	1	1	3	24	27	22	-	-	-	#DIV/0!	-100%	
			Terminal 102	50	71	81	85	69	106	107	169	172	2%	244%	
			Terminal 117	6	-	-	-	-	-	-	-	-	#DIV/0!	-100%	
			Duwamish River Hub (9)	-	-	-	-	-	-	-	-	6	#DIV/0!	#DIV/0!	
		subtotal	593	555	600	722	925	1,068	937	985	1,030	5%	74%		
		Propane	Terminal 30 Remediation	-	-	-	-	-	101	180	157	140	-11%	#DIV/0!	
		Steam (1)	Pier 66	348	-	-	-	-	-	-	-	-	#DIV/0!	-100%	
		Mobile Fleet Fossil Fuel Use	Gasoline used in fleet	464	476	508	551	615	573	468	469	505	8%	9%	
			Diesel used in fleet	403	333	286	307	359	309	64	35	32	-8%	-92%	
			CNG used in fleet	-	3	3	5	4	0	-	-	-	#DIV/0!	#DIV/0!	
			Propane used in fleet	-	8	5	8	8	6	6	5	5	-6%	#DIV/0!	
		subtotal	867	820	802	871	986	888	538	508	542	7%	-37%		
		Biogenic Fuel Use <i>*emissions not counted toward total</i>	Biodiesel (B100 equivalent)	-	37	36	37	49	45	-	-	-	#DIV/0!	#DIV/0!	
			Renewable Diesel (R99)	-	-	-	-	-	6	234	291	189	-35%	#DIV/0!	
	Scope 2	Electricity (2)	Fishermen's Terminal (4)	86	122	78	115	84	105	54	66	49	-26%	-44%	
Marine Maintenance			13	11	7	10	7	9	4	4	4	5%	-66%		
Marine Maintenance - Parks			3	4	2	3	2	2	1	1	0	-46%	-81%		
Maritime Industrial Center (5)			12	7	6	9	6	7	4	5	5	0%	-60%		
Pier 2 Uplands & CEM			-	0	0	0	0	0	0	0	0	14%	#DIV/0!		
Pier 28			1	-	-	-	-	-	-	-	-	-	#DIV/0!	-100%	
Pier 48			9	-	-	-	-	-	-	-	-	-	#DIV/0!	-100%	
Pier 66 & Marina			42	53	35	64	39	50	17	18	20	13%	-53%		
Pier 69			55	49	30	46	32	41	17	18	19	5%	-65%		
Salmon Bay Marina (6)			-	-	-	-	3	8	4	4	2	-46%	#DIV/0!		
Shilshole Bay Marina			17	73	47	55	51	66	48	55	25	-54%	46%		
Terminal 5 Southeast			2	2	1	2	1	2	1	1	0	-100%	-100%		
Terminal 18 (7)			0	0	0	0	0	0	0	0	-	-100%	-100%		
Terminal 34 (7)			-	1	0	1	0	1	0	0	-	-100%	#DIV/0!		
Terminal 86			-	-	-	-	-	-	-	-	-	(0)	#DIV/0!	#DIV/0!	
Terminal 91 (8)			131	62	32	63	37	43	12	17	24	39%	-82%		
Terminal 91 Cruise Shore Power			-	-	-	-	-	-	-	-	-	-	#DIV/0!	#DIV/0!	
Terminal 102 & Marina, T104			27	27	17	25	15	17	8	9	7	-27%	-75%		
Terminal 106			21	9	7	9	5	7	3	4	4	-6%	-82%		
Terminal 108			0	-	-	-	-	-	-	-	0	#DIV/0!	-100%		
Terminal 117			1	-	-	-	-	-	-	-	-	#DIV/0!	-100%		
World Trade Center West (9)			29	31	19	27	18	24	10	9	10	6%	-65%		
Duwamish River Hub (10)			-	-	-	-	-	-	-	0	0	0	446%	#DIV/0!	
subtotal			448	452	281	429	299	382	182	211	169	-20%	-62%		
TOTAL			2,256	1,827	1,683	2,021	2,210	2,439	1,836	1,861	1,880	1%	-17%		

- (1) Emissions for this category are expressed in tonnes CO2e; this is assumed proxy for CO2 value.
- (2) As updated annual emission factors become available from Seattle City Light, they are applied to prior years' inventories. In 2022, emissions were recalculated for 2019 (using the 2019 emission factor), and 2020 and 2021 (using the 2020 emission factor).
- (3) Natural gas use in the Terminal 91 cruise building was reassigned as Scope 3 from 2011-2022, based on improved metering formation.
- (4) Fishermen's Terminal 2005 Scope 2 kWh adjusted to 61% of total due to data anomalies.
- (5) Maritime Industrial Center 2005 Scope 2 kWh adjusted to 49% of total due to data anomalies.
- (6) Salmon Bay Marina was purchased by POS in 2018.
- (7) Starting in 2022, Terminal 18 and Pier 34 are omitted from the inventory because they are NWSA facilities. This change was not made to past inventories due to small impact (<5%) baseline emissions.
- (8) Terminal 91 Scope 2 kWh adjusted to 44% of total for 2005, 13% of total for 2015 and 2018, and 12% of total for 2021 due to data anomalies. (Proportions based on representative years.)
- (9) World Trade Center West: 2010 actuals used as proxy for 2005, 2007 and 2011; 2016 actual used as proxy for 2015.
- (10) Duwamish River Hub is a new property the Port rents, starting in 2021. No natural gas data was available for 2022.



CO2 Emissions from Port Administration Sources at Port of Seattle Maritime 2005 - 2022

		Scope 1-2 baseline year		Scope 3 baseline year									% Ch Prior Yr	% Ch 2005
		2005	2007	2015	2016	2017	2018	2019	2020	2021	2022			
Stationary Natural Gas	Scope 1	593	#REF!	555	600	722	925	1,068	937	985	1,030	5%	74%	
	Scope 3	-	-	51	89	122	136	193	73	46	174	279%	#DIV/0!	
	subtotal	593	#REF!	606	689	843	1,061	1,261	1,009	1,031	1,204	17%	103%	
Electricity (1)	Scope 2	448	#REF!	452	281	429	299	382	182	211	169	-20%	-62%	
	Scope 3	676	797	767	439	796	520	710	234	297	350	18%	-48%	
	subtotal	1,124	#REF!	1,219	720	1,225	820	1,092	416	508	519	2%	-54%	
Propane for Remediation	Scope 1	-	#REF!	-	-	-	-	101	180	157	140	-11%	#DIV/0!	
Steam	Scope 1	348	#REF!	-	-	-	-	-	-	-	-	#DIV/0!	-100%	
Vehicle Fleet	Scope 1	867	#REF!	820	802	871	986	888	538	508	542	7%	-37%	
Employee Commuting	Scope 3	1,007	1,021	1,345	1,392	1,305	1,335	1,254	560	324	807	149%	-20%	
Solid Waste	Scope 3	139	139	139	185	188	190	198	93	101	117	16%	-15%	
Staff Business Travel	Scope 3	100	100	100	86	86	125	125	15	8	95	1014%	-5%	
TOTAL		4,176	#REF!	4,229	3,875	4,518	4,517	4,920	2,812	2,637	3,423	30%	-18%	

(1) Because emission factors for electricity change year-to-year, it is helpful to look at annual kWh usage, as well as CO2 emissions, to assess progress in this sector. See table below.

Electricity Use from Port Administration Sources at Port of Seattle Maritime 2005 - 2022

		2005	2007	2015	2016	2017	2018	2019	2020	2021	2022	% Ch Prior Yr	% Ch 2005
Electricity Usage (kWh)	Scope 2	21,702,553	#REF!	18,981,838	19,842,125	20,398,166	20,592,991	20,281,995	20,394,661	23,715,235	18,971,684	-20%	-13%
	Scope 3	32,694,837	38,577,806	32,265,265	31,023,584	37,859,045	35,797,079	37,655,521	26,303,644	33,288,829	39,249,578	18%	20%
	TOTAL	54,397,390	#REF!	51,247,103	50,865,709	58,257,211	56,390,069	57,937,516	46,698,305	57,004,064	58,221,262	2%	7%