Appendix AQ-1

Treatment Activity Emissions

Annual Greenhouse Gas Emissions Generated by Treatment Activity

Breakdown by Fuel Type and Treatment Activity

	prescribed burning	manual treatment	mechanical treatment	herbicide treatment	prescribed herbivory	units	source
Tree	50,851	10,170	10,170	20,340	10,170	acres	wksht: Treatment Acty Brkdwns
Shrub	27,051	5,410	5,410	10,820	5,410	acres	wksht: Treatment Acty Brkdwns
Grass	47,099	9,420	9,420	18,839	9,420	acres	wksht: Treatment Acty Brkdwns
				Total:	250,000	acres	summation crosscheck

GHG Emission Rates

	prescribed burning	manual treatment	mechanical treatment	herbicide treatment	prescribed herbivory	units	source
Tree	63.2	0.7	0.9	0.02	0.1	MTCO2e/acre	wksht: Emissions Summary
Shrub	16.2	0.4	0.3	0.01	0.5	MTCO2e/acre	wksht: Emissions Summary
Grass	7.9	0.0	0.1	0.003	0.5	MTCO2e/acre	wksht: Emissions Summary

Breakdown of Annual GHGs by Treatment Activity

prescribed burning	manual treatment	mechanical treatment	herbicide treatment	prescribed herbivory	units	source
4,020,672	9,245	11,603	546	8,989	MTCO2e/year	sumproduct calculations

Total Annual Greenhouse Gas Emissions

	value	units	source
Total GHGs from Treatment Activity under the CalVTP	4,051,054	MTCO2e/year	sum of sumproducts; See Note 1
mass conversion rate	1,000,000	MT/MMT	wksht: unit conversions
Total GHGs from Treatment Activity under the CalVTP	4.051	MMTCO2e/year	conversion calculation

Context

2020 Statewide Target	431	MMTCO2e/year	AB 32 of 2006
Percentage of 2020 Target	0.9%	%	calculation
2030 Statewide Target	259	MMTCO2e/year	SB 32 of 2016
Percentage of 2030 Target	1.6%	%	calculation

Notes

1 Because some portions of the treatable landscape may undergo different types of treatments during the same year, this total may be an underestimate. For instance, some areas may be subject to prescribed herbivory before being subject to a prescribed burn or a herbicide treatment.

2 The annual average level of GHG emissions from wildfires in California is based on the annual levels presented for 2007–2017 in Table 3.8-2, "Annual GHG Emission Estimates from Wildfire, 2007–2017," in Section 2, "Program Description."

Emissions Per Acre Treated

	Criteria Air Pollutants and Precursors				Greenhouse Gas Emissions	
Treatment/Fuel Type	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
Mechanical Treatment						
Tree	3.0	5.3	0.3	0.2	0.92	wksht: MechTreat Tree
Shrub	0.7	4.1	0.5	0.3	0.29	wksht: MechTreat Shrub
Grass	0.4	0.8	0.2	0.2	0.07	wksht: MechTreat Grass
Manual Treatment						
Tree	43.8	4.3	0.8	0.2	0.69	wksht: ManTreat Tree
Shrub	18.0	2.6	0.6	0.2	0.40	wksht: ManTreat Shrub
Grass	0.1	0.1	0.05	0.03	0.004	wksht: ManTreat Grass
Herbicide Treatment						
Tree	0.5	1.6	0.2	0.1	0.02	wksht: Herbcd Appl Tree
Shrub	0.3	0.8	0.1	0.1	0.01	wksht: Herbcd Appl Shrub
Grass	0.1	0.2	0.0	0.0	0.003	wksht: Herbcd Appl Grass
Prescribed Herbivory						
Tree	0.4	0.9	0.1	0.1	0.08	wksht: PrescHerb Tree
Shrub	0.8	1.8	0.2	0.2	0.55	wksht: PrescHerb Shrub&Grass
Grass	0.8	1.8	0.2	0.2	0.55	wksht: PrescHerb Shrub&Grass
Prescribed Burning						
Tree	2,186.6	166.0	1,421.3	1,421.3	63.15	wksht: PrescBurn Tree&Shrub&Grass
Shrub	352.8	44.4	142.1	142.1	16.15	wksht: PrescBurn Tree&Shrub&Grass
Grass	166.4	21.9	84.5	84.5	7.90	wksht: PrescBurn Tree&Shrub&Grass

Notes

1 Emissions estimates do not include emissions generated by trucks hauling equipment and livestock to and from treatment sites at the beginning and end of each treatment.

2 More than one type of treatment may be performed on the same land in the same year. For example, manual treatment or herbicide application may be conducted prior to a prescribed burn.

3 These emission estimates do not account for changes in carbon sequestration or reduced probability and intensity of wildfire over the long term.

4 These emission estimates do not account for any emissions associated with the removal of vegetative biomass from treatments sites and any processing activity that may occur thereafter, including potential use as feed stock for a biomass power facility, composting, or chipping and mulching applications.

5 The emissions estimates do not include fugitive PM10 and PM2.5 emissions associated with ground disturbance and other activity by off-road equipment. SPR AQ-4, AQ-5, and AQ-6 would limit vehicle speeds on unpaved roads, require that vehicles be cleaned prior to leaving treatment sites to reduce the inadvertent transport of dust from unpaved areas onto paved roads, and require the suspension of ground disturbing activities when they result in visible dust transport outside the boundary of treatment areas. Furthermore, SPR GEO-6 requires treatment crews to wet unpaved roads if excessive dust is created during road use, using water trucks or non-toxic chemical dust suppressants.

Treatment Activity Breakdowns

Annual Treatment Area

	value	units	source
Annual treatment target	250,000	acres/year	page 2-1 in Section 2, "Program Description"

Breakdown by Treatment Activity

	prescribed burning	manual treatment	mechanical treatment	herbicide treatment	prescribed herbivory	units	source
percent breakdown	50%	10%	10%	20%	10%	%	page 2-28 in Section 2, "Program Description"; See Note 3

Breakdown of Entire Treatable Landscape by Vegetation Type

	Tree Fuel Type	Shrub Fuel Type	Grass Fuel Type	Total	units	source
area breakdown	8,243,185	4,385,135	7,634,965	20,263,284	acres	See Note 1
by percentage	41%	22%	38%	100%	%	calculation

Annual Breakdown of Treatable Landscape by Vegetation Type

	Tree Fuel Type	Shrub Fuel Type	Grass Fuel Type	Total	units	source
area breakdown	101,701	54,102	94,197	250,000	acres/year	calculation, See Note 2

Breakdown by Fuel Type and Treatment Activity

	prescribed burning	manual treatment	mechanical treatment	herbicide treatment	prescribed herbivory	units	source
Tree	50,851	10,170	10,170	20,340	10,170	acres	calculations
Shrub	27,051	5,410	5,410	10,820	5,410	acres	calculations
Grass	47,099	9,420	9,420	18,839	9,420	acres	calculations
				Total:	250,000	acres	summation crosscheck
					crosscheck okay		

Length of Treatment Season

	prescribed burning	manual treatment	mechanical treatment	herbicide treatment	prescribed herbivory	units	source
Tree	120	180	180	180	180	days/year	assumptions; See Note 4
Shrub	120	365	365	365	365	days/year	assumptions; See Note 4
Grass	120	365	365	365	365	days/year	assumptions; See Note 4

Average Rate of Daily Treatment During Treatment Season

	prescribed burning	manual treatment	mechanical treatment	herbicide treatment	prescribed herbivory	units	source
Tree	424	57	57	113	57	acres/day	calculation
Shrub	225	15	15	30	15	acres/day	calculation
Grass	392	26	26	52	26	acres/day	calculation

Notes

1 The breakdown of the entire treatable landscape by fuel type is based on the GIS coverage data presented in Figure 2-2, "Fuel Types in the Treatable Landscape," in Section 2, "Program Description."

2 It is assumed that the proportion of tree, shrub, and grass fuel type treated each year would be proportional to the proportion of three, shrub, and grass fuel type in the entire treatable landscape.

3 It is assumed that the breakdown by treatment activity would be consistent across all fuel types. It is not possible to make a more reasonable assumption based on the low, medium, and high values presented in Table 2-4, "Relative Likelihood of Implementing Treatment Activities by Fuel Type for each Treatment Type," in Section 2, "Program Description."

4 Most prescribed burns would occur during the spring and fall season. With regard to the "season length" for other treatment activities, these assumptions are made to better understand how many acres could undergo treatments on any single day.

Mechanical Treatment
Tree Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	10	workers	Source 2
Area treated per day, average	5.0	acres	Source 2
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1, 2, and 3
Feller/Buncher	OFF - Logging - Fellers/Bunchers	175	See Notes 1, 2, and 3
Feller/Buncher	OFF - Logging - Fellers/Bunchers	300	See Notes 1, 2, and 3
Skidder	OFF - Logging - Skidders	175	See Notes 1, 2, and 3
Skidder	OFF - Logging - Skidders	300	See Notes 1, 2, and 3
Loader	ConstMin - Rubber Tired Loaders	300	See Notes 1, 2, and 3
Masticator	ConstMin - Excavators	175	See Notes 1, 2, and 3
Chipper	OFF - ConstMin - Crushing/Proc. Equipmen	100	See Notes 1, 2, and 3

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.
2 The equipment fleet assumptions are based on the equipment fleet identified for the mechanical treatment project reviewed in the Dollar Creek Forest Health and Biomass Project (Source 1).
3 It is assumed that all equipment is used for approximately 10 hours per day.
4 Additional equipment and vehicles may include a fire engine present on site in the event that treatment activity ignites a fire. Emissions generated by these equipment are not included and expected to be nominal.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.
2 California Tahoe Conservancy. 2018. *Initial Study/Mitigated Negative Declaration for the Dollar Creek Forest Health and Biomass Project* . Accessed April 30, 2019.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	ROG	NOx	PM10	PM2.5	CO2
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.0
Feller/Buncher	OFF - Logging - Fellers/Bunchers	0.49	3.07	0.13	0.12	0.6
Feller/Buncher	OFF - Logging - Fellers/Bunchers	0.62	3.16	0.10	0.09	0.9
Skidder	OFF - Logging - Skidders	0.53	3.20	0.13	0.12	0.6
Skidder	OFF - Logging - Skidders	0.69	3.43	0.11	0.10	1.0
Loader	ConstMin - Rubber Tired Loaders	0.46	5.40	0.18	0.17	0.4
Masticator	ConstMin - Excavators	0.29	2.82	0.14	0.13	0.3
Chipper	OFF - ConstMin - Crushing/Proc. Equipmen	1.43	4.96	0.10	0.08	0.7

Source: wksht Off-road Equip Emiss Rts

Off-road Equipment Emissions	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Daily Off-road Emissions by One Treatment Crew	15.2	26.3	0.9	0.8	4.5	summation

On-road Vehicle Emission Rates	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On-road Vehicle Emissions	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Daily Onroad Emissions by One Treatment Crew	1.38E-02	5.67E-02	4.73E-01	4.85E-02	1.03E-01	calculation

Total Daily Emissions by One Treatment Crew	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	15.2	26.3	1.4	0.9	4.6	summation

Total Emissions of One Treatment Crew Per Acre Treated

units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	3.0	5.3	0.3	0.2	0.9	calculation

Mechanical Treatment
Shrub Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	8	workers	assumption
Area treated per day, average	5.0	acres	assumption
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Rotary Mower	OFF - Agricultural - Agricultural Mowers	25	See Notes 1 and 2
Chipping Equipment	OFF - ConstMin - Crushing/Proc. Equipment	25	See Notes 1 and 2
Small Wheeled Tractor	ConstMin - Tractors/Loaders/Backhoes	175	See Notes 1 and 2
Wheeled Tractor	ConstMin - Tractors/Loaders/Backhoes	175	See Notes 1 and 2
Crawler Type Tractor	ConstMin - Crawler Tractors	300	See Notes 1 and 2
Excavator	ConstMin - Excavators	175	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.
2 It is assumed that all equipment is used for approximately 10 hours per day.
3 Additional equipment and vehicles may include a fire engine present on site in the event that treatment activity ignites a fire. Emissions generated by these equipment are not included and expected to be nominal.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	ROG	NOx	PM10	PM2.5	CO2
units:		*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Rotary Mower	OFF - Agricultural - Agricultural Mowers	0.77	0.62	0.43	0.32	0.03
Chipping Equipment	OFF - ConstMin - Crushing/Proc. Equipment	1.27	1.04	0.72	0.54	0.04
Small Wheeled Tractor	ConstMin - Tractors/Loaders/Backhoes	0.29	2.82	0.14	0.13	0.28
Wheeled Tractor	ConstMin - Tractors/Loaders/Backhoes	0.29	2.82	0.14	0.13	0.28
Crawler Type Tractor	ConstMin - Crawler Tractors	0.81	10.10	0.41	0.37	0.47
Excavator	ConstMin - Excavators	0.29	2.82	0.14	0.13	0.29
		Source: wksht Off-road Equip Emiss Rts				

Off-road Equipment Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew	3.7	20.2	2.0	1.6	1.4	summation

On road Vehicle Emission Rates

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	MT/day/wrkr	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

Onroad Vehicle Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	1.11E-02	4.54E-02	3.79E-01	3.88E-02	8.21E-02	calculation

Total Daily Emissions by One Treatment Crew

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	3.7	20.3	2.4	1.7	1.5	summation

Total Emissions of One Treatment Crew Per Acre Treated

units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	0.7	4.1	0.5	0.3	0.3	calculation

Mechanical Treatment
Grass Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	4	workers	assumption
Area treated per day, average	5.0	acres	assumption
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Rotary Mower	OFF - Agricultural - Agricultural Mowers	25	See Notes 1 and 2
Rotary Mower	OFF - Agricultural - Agricultural Mowers	25	See Notes 1 and 2
Wheeled Tractor	ConstMin - Tractors/Loaders/Backhoes	175	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.
2 It is assumed that all equipment is used for approximately 10 hours per day.
3 The tractor may be used with a chisel plow.
4 Mowers may have to make multiple passes over the same vegetation to complete a treatment.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	ROG	NOx	PM10	PM2.5	CO2
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Rotary Mower	OFF - Agricultural - Agricultural Mowers	0.77	0.62	0.43	0.32	0.03
Rotary Mower	OFF - Agricultural - Agricultural Mowers	0.77	0.62	0.43	0.32	0.03
Wheeled Tractor	ConstMin - Tractors/Loaders/Backhoes	0.29	2.82	0.14	0.13	0.28

Source: wksht Off-road Equip Emiss Rts

Off-road Equipment Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew	1.8	4.1	1.0	0.8	0.3	summation

On road Vehicle Emission Rates

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On road Vehicle Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	5.53E-03	2.27E-02	1.89E-01	1.94E-02	4.10E-02	calculation

Total Daily Emissions by One Treatment Crew

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	1.8	4.1	1.2	0.8	0.4	summation

Total Emissions of One Treatment Crew Per Acre Treated

units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	0.4	0.8	0.2	0.2	0.1	calculation

Manual Treatment
Tree Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	18	workers	Source 1
Area treated per day, average	1.5	acres	Source 1
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1, 2, and 3
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1, 2, and 3
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1, 2, and 3
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1, 2, and 3
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1, 2, and 3
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1, 2, and 3
Chipper	OFF - Logging - Shredders	175	See Notes 1, 2, and 3

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.

2 It is assumed that all equipment is used for approximately 10 hours per day.

3 Additional equipment and vehicles may include a fire engine present on site in the event that treatment activity ignites a fire. Emissions generated by these equipment are not included and expected to be nominal.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	ROG	NOx	PM10	PM2.5	CO2
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chipper	OFF - Logging - Shredders	1.43	4.96	0.10	0.08	0.66

Source: wksht Off-road Equip Emiss Rts

Off-road Equipment Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew	65.6	6.3	0.3	0.2	0.9	summation

On road Vehicle Emission Rates

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On road Vehicle Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	2.49E-02	1.02E-01	8.52E-01	8.73E-02	1.85E-01	calculation

Total Daily Emissions by One Treatment Crew

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	65.6	6.4	1.2	0.3	1.0	summation

Total Emissions of One Treatment Crew Per Acre Treated

units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	43.8	4.3	0.8	0.2	0.7	calculation

Manual Treatment
Shrub Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	18	workers	Source 1
Area treated per day, average	2.5	acres	Source 1
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1 and 2
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1 and 2
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1 and 2
Chain Saw	OFF - Logging - Chainsaws	25	See Notes 1 and 2
Rotary Mower	OFF - Agricultural - Agricultural Mowers	25	See Notes 1 and 2
Chipper	OFF - ConstMin - Crushing/Proc. Equipment	100	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.
2 It is assumed that all equipment is used for approximately 10 hours per day.
3 Mowers may have to make multiple passes over the same vegetation to complete a treatment.
4 Additional equipment and vehicles may include a fire engine present on site in the event that treatment activity ignites a fire. Emissions generated by these equipment are not included and expected to be nominal.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	ROG	NOx	PM10	PM2.5	CO2
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Chain Saw	OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
Rotary Mower	OFF - Agricultural - Agricultural Mowers	0.77	0.62	0.43	0.32	0.03
Chipper	OFF - ConstMin - Crushing/Proc. Equipment	1.43	4.96	0.10	0.08	0.66

Source: wksht Off-road Equip Emiss Rts

Off-road Equipment Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew	45.0	6.5	0.7	0.5	0.8	summation

On road Vehicle Emission Rates

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On road Vehicle Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	2.49E-02	1.02E-01	8.52E-01	8.73E-02	1.85E-01	calculation

Total Daily Emissions by One Treatment Crew

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	45.0	6.6	1.5	0.6	1.0	summation

Total Emissions of One Treatment Crew Per Acre Treated

	lb/acre	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
units:						
	18.0	2.6	0.6	0.2	0.4	calculation

Manual Treatment
Grass Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	1	workers	assumption
Area treated per day, average	10.0	acres	assumption
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Rotary Mower	OFF - Agricultural - Agricultural Mowers	25	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.
2 It is assumed that all equipment is used for approximately 10 hours per day.
3 Mowers may have to make multiple passes over the same vegetation to complete a treatment.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	ROG	NOx	PM10	PM2.5	CO2
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Rotary Mower	OFF - Agricultural - Agricultural Mowers	0.77	0.62	0.43	0.32	0.03

Source: wksht Off-road Equip Emiss Rts

Off-road Equipment Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew	0.8	0.6	0.4	0.3	0.0	summation
Emissions per Acre Treated	0.1	0.1	0.0	0.0	0.0	calculation

On road Vehicle Emission Rates

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On road Vehicle Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	calculation

Total Daily Emissions by One Treatment Crew

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	0.8	0.6	0.5	0.3	0.04	summation

Total Emissions of One Treatment Crew Per Acre Treated

	lb/acre	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
units:						
	0.1	0.1	0.05	0.03	0.004	calculation

Herbicide Application
Tree Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	2	workers	assumption
Area treated per day, average	2.5	acres	assumption
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs	50	See Notes 1 and 2
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs	50	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.

2 It is assumed that all equipment is used for approximately 10 hours per day.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.

2 Application of herbicides would also result in off-gas emissions of ROG. The level of emissions would be a function of the type of herbicide used, the application rate (gallons/acre), and the number of applications.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION		ROG	NOx	PM10	PM2.5	CO2
		units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs		0.62	1.93	0.15	0.14	0.01
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs		0.62	1.93	0.15	0.14	0.01
			Source: wksht Off-road Equip Emiss Rts				

Off-road Equipment Emissions		ROG	NOx	PM10	PM2.5	CO2	source
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew		1.2	3.9	0.3	0.3	0.03	summation

On road Vehicle Emission Rates		ROG	NOx	PM10	PM2.5	CO2	source
	units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
	Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
	Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
	Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On road Vehicle Emissions	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	2.76E-03	1.13E-02	9.47E-02	9.70E-03	2.05E-02	calculation

Total Daily Emissions by One Treatment Crew	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	1.3	3.9	0.4	0.3	0.05	summation

Total Emissions of One Treatment Crew Per Acre Treated						
units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	0.5	1.6	0.2	0.1	0.02	calculation

Herbicide Application
Shrub Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	2	workers	assumption
Area treated per day, average	5.0	acres	assumption
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs	50	See Notes 1 and 2
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs	50	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.
2 It is assumed that all equipment is used for approximately 10 hours per day.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.
2 Application of herbicides would also result in off-gas emissions of ROG. The level of emissions would be a function of the type of herbicide used, the application rate (gallons/acre), and the number of applications.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION		ROG	NOx	PM10	PM2.5	CO2
		units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs		0.62	1.93	0.15	0.14	0.01
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs		0.62	1.93	0.15	0.14	0.01
			Source: wksht Off-road Equip Emiss Rts				

Off-road Equipment Emissions	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew	1.2	3.9	0.3	0.3	0.03	summation

On road Vehicle Emission Rates	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On road Vehicle Emissions	ROG	NOx	PM10	PM2.5	CO2	source
units:	lb/day	lb/day	lb/day	lb/day	MT/day	
	2.76E-03	1.13E-02	9.47E-02	9.70E-03	2.05E-02	calculation

Total Daily Emissions by One Treatment Crew	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	1.3	3.9	0.4	0.3	0.05	summation

Total Emissions of One Treatment Crew Per Acre Treated

	lb/acre	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
units:						
	0.3	0.8	0.1	0.1	0.01	calculation

Herbicide Application
Grass Fuel Type

Crew Parameters

	value	units	source
Workers per crew, average	2	workers	assumption
Area treated per day, average	10.0	acres	assumption
Daily equipment use	10.0	hr/day	assumption

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs	50	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.
2 It is assumed that all equipment is used for approximately 10 hours per day.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.
2 Application of herbicides would also result in off-gas emissions of ROG. The level of emissions would be a function of the type of herbicide used, the application rate (gallons/acre), and the number of applications.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION		ROG	NOx	PM10	PM2.5	CO2
		units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
Vehicle with spray rig	Agricultural - Sprayers/Spray rigs		0.62	1.93	0.15	0.14	0.01
			Source: wksht Off-road Equip Emiss Rts				

Off-road Equipment Emissions

		ROG	NOx	PM10	PM2.5	CO2	source
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Cre		0.6	1.9	0.2	0.1	0.0	summation
Emissions per Acre Treated		0.1	0.2	0.0	0.0	0.0	calculation

On road Vehicle Emission Rates

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*lb/day/wrkr*	*MT/day/wrkr*	
Exhaust Emissions	1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02	wksht: Worker Trip Exh Emiss Rts
Road Dust Emissions	—	—	4.72E-02	4.72E-03	—	wksht: Road Dust Worker Trip Emiss
Combined Emissions	1.38E-03	5.67E-03	4.73E-02	4.85E-03	1.03E-02	summation

On road Vehicle Emissions

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	2.76E-03	1.13E-02	9.47E-02	9.70E-03	2.05E-02	calculation

Total Daily Emissions by One Treatment Crew

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	0.6	1.9	0.2	0.1	0.03	summation

Total Emissions of One Treatment Crew Per Acre Treated

	lb/acre	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	0.1	0.2	0.02	0.01	0.003	calculation

Prescribed Herbivory
Tree Fuel Type

Livestock Emissions

	value	units	source
type of livestock used for grazing in tree dominated landscape	goats	n/a	assumption
proxy livestock	sheep	n/a	assumption
weight of goat, avg.	60	lb/head	assumption
number of trucks used to transport herd	1	truck/herd	assumption
livestock trailer dimensions (Featherlite model 8261)			
length	53	ft	Source 1
width	8.5	ft	Source 1
area of trailer	450.5	sq. ft.	calculation
number of 60-lb goats per running foot of truck floor	3.6	head/run ft.	Source 2
number of goats per truck trailer	190.8	head/truck	calculation
(rounded down)	190	head/truck	rounding down
grazing rate of goats			
goats	7	goats	Source 3
days	21	days	Source 3
acre	1.0	acre	Source 3
grazing rate	147	goats/acre-day	calculation
area grazed by one truckload of goats	1.29	acres/day	calculation
methane emission rate of goats (enteric fermentation)	5	kg/head/year	Source 4
time conversion rate	365	days/year	Earth
mass conversion rate	1,000	kg/MT	wksht: Unit Conversions
methane emission rate of goats	1.37E-05	MT/day/goat	conversion calculation
methane emissions of one truckload of goats, daily	2.60E-03	MT/day	calculation
methane emissions of one truckload of goats, per area	0.002	MT/acre	calculation
global warming potential of methane	25	unitless	wksht: Unit Conversions
CO2-e emissions of one truckload of goats, per area	0.05	MT/acre	calculation

Sources

1 Featherlite Trailers. 2019. Model 8261 Livestock Trailer. Available: https://www.fthr.com/products/livestock-trailers/semi/8261-livestock-trailer. Accessed May 2, 2019.

2 National Institute for Animal Agriculture. 2001. Livestock Trucking Guide. Available: https://www.stopliveexports.org/images/documents/Resources/Reports/Livestock_Trucking_Guide.pdf. Accessed May 2, 2019.

3 Nader, G., Henkin, Z., Smith, E., Ingram, R., and Narvaez, N. 2007. *Planned Herbivory in the Management of Wildfire Fuels*. Society for Range Management. Available: https://journals.uair.arizona.edu/index.php/rangelands/article/view/12320. Accessed May 2, 2019.

4 Intergovernmental Panel on Climate Change. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories.* Prepared by the National Greenhouse Gas Inventories Programme, Eggleston HAS., Biennia L., Miwa K., Negara T. and Tanabe K. (eds). Vol.4, Chap. 10: Livestock and Manure Management. Published: IGES, Japan. Available: http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_10_Ch10_Livestock.pdf.

Notes

1 Livestock do not emit criteria air pollutants or precursors (e.g., ROG, NOx, PM10, or PM2.5).

Off-road Equipment Emissions

ROG	NOx	PM10	PM2.5	CO2
lb/day	*lb/day*	*lb/day*	*lb/day*	*MT/day*
0.5	1.1	0.1	0.1	0.06

source: wksht: PrescHerb Equip

Total Daily Emissions by One Treatment Herd

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	0.5	1.1	0.1	0.1	0.11	summation

Total Emissions of One Treatment Herd Per Acre Treated

units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	0.4	0.9	0.1	0.1	0.08	calculation

Prescribed Herbivory
Grass and Shrub Fuel Type

Livestock Emissions

	value	units	source
type of livestock used for grazing grass and shrub fuels	cattle	n/a	assumption
weight of cattle, avg.	600	lb/head	assumption
number of trucks used to transport herd	1	truck/herd	assumption
livestock trailer dimensions (Featherlite model 8261)			
length	53	ft	Source 1
width	8.5	ft	Source 1
area of trailer	450.5	sq. ft.	calculation
number of 600-lb cattle per running foot of truck floor	0.9	head/run ft.	Source 2
number of cattle per truck trailer	47.7	head/truck	calculation
(rounded down)	47	head/truck	rounding down
grazing rate of cattle			
low	71	cattle grazing days/acre	Source 3
high	83	cattle grazing days/acre	Source 3
average	77.0	cattle grazing days/acre	calculation
area grazed by one truckload of cattle	0.610	acres/day	calculation
methane emission rate of cattle	53	kg/head/year	Source 4
time conversion rate	365	days/year	Earth
mass conversion rate	1,000	kg/MT	wksht: Unit Conversions
methane emission rate of cattle (enteric fermentation)	1.45E-04	MT/day	conversion calculation
methane emissions of one truckload of cattle, daily	6.82E-03	MT/day	calculation
methane emissions of one truckload of cattle, per area	0.011	MT/acre	calculation
global warming potential of methane	25	unitless	wksht: Unit Conversions
CO2-e emissions of one truckload of cattle, per area	0.28	MT/acre	calculation

Sources

1 Featherlite Trailers. 2019. Model 8261 Livestock Trailer. Available: https://www.fthr.com/products/livestock-trailers/semi/8261-livestock-trailer. Accessed May 2, 2019.

2 National Institute for Animal Agriculture. 2001. Livestock Trucking Guide. Available: https://www.stopliveexports.org/images/documents/Resources/Reports/Livestock_Trucking_Guide.pdf. Accessed May 2, 2019.

3 Nader, G., Henkin, Z., Smith, E., Ingram, R., and Narvaez, N. 2007. *Planned Herbivory in the Management of Wildfire Fuels* . Society for Range Management. Available: https://journals.uair.arizona.edu/index.php/rangelands/article/view/12320. Accessed May 2, 2019.

4 Intergovernmental Panel on Climate Change. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories.* Prepared by the National Greenhouse Gas Inventories Programme, Eggleston HAS., Biennia L., Miwa K., Negara T. and Tanabe K. (eds). Vol.4, Chap. 10: Livestock and Manure Management. Published: IGES, Japan. Available: http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_10_Ch10_Livestock.pdf.

Notes

1 Livestock do not emit criteria air pollutants or precursors (e.g., ROG, NOx, PM10, or PM2.5).

Off-road Equipment Emissions

ROG	NOx	PM10	PM2.5	CO2
lb/day	*lb/day*	*lb/day*	*lb/day*	*MT/day*
0.5	1.1	0.1	0.1	0.06

source: wksht: PrescHerb Equip

Total Daily Emissions by One Treatment Herd

	ROG	NOx	PM10	PM2.5	CO2	source
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
	0.5	1.1	0.1	0.1	0.34	summation

Total Emissions of One Treatment Herd Per Acre Treated

units:	*lb/acre*	*lb/acre*	*lb/acre*	*lb/acre*	*MT/acre*	
	0.8	1.8	0.2	0.2	0.55	calculation

Prescribed Herbivory
Tree & shrub & Grass Fuel Types
Off-road Equipment Only

Equipment List

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION	Engine Size (hp)	source/notes
All Terrain Vehicle	ConstMin - Off-Highway Trucks	25	See Notes 1 and 2

Notes

1 The Comparable Equipment Type in OFFROAD2017 -ORION identifies how the equipment type is listed in CARB's web-based OFFROAD2017-ORION model.

2 It is assumed that all equipment is used for approximately 10 hours per day.

Sources

1 California Air Resources Board. 2017. OFFROAD2017-ORION. Available at https://www.arb.ca.gov/orion/. Accessed April 30, 2019.

Off-road Equipment Emission Rates

Equipment Type	Comparable Equipment Type in OFFROAD2017 -ORION		ROG	NOx	PM10	PM2.5	CO2
		units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
All Terrain Vehicle	ConstMin - Off-Highway Trucks		0.46	1.13	0.12	0.11	0.06
			Source: wksht Off-road Equip Emiss Rts				

Off-road Equipment Emissions		ROG	NOx	PM10	PM2.5	CO2	source
	units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*	
Total Daily Emissions by One Treatment Crew		0.5	1.1	0.1	0.1	0.06	summation

Prescribed Burn
Tree & Shrub & Grass Fuel Types

Method

Total emissions from a fire are estimated by multiplying an emission factor by the biomass consumed and an accurate assessment of the total acreage burned. For instance, assume that 10 tons/acre of fuel is consumed during a 200-acre landscape prescribed fire in a ponderosa stand in the western U.S. After the fire, ground surveys and aerial reconnaissance indicate a mosaic fire pattern and only 100 acres of the 200 acres within the fire perimeter actually burned (i.e., "black acres"). Because the emission factor for PM2.5 for pine fuels is approximately 46 lb/ton, then total emission production would calculated using the following equation:

Fuel consumed (tons/acre) x PM2.5 emission factor (lb/ton) x area burned (acres) = total emissions PM2.5 (lb)
10 tons/acre x 46.4 lb/ton x 100 acres = 46,400 lb or 23.2 tons of PM2.5 emissions

Table A. Calculated Prescribed Burn Emissions (Per Acre)

Prescribed Burn Vegetation Type	Total Fuel Loading (tons/acre)**	Size (acres)	Fuel Consumption Factor**	Pollutant Emissions (lb/acre burned)*										CO2e (MT/acre)
				CO2	CO	CH4	NMOC***	PM2.5****	NOx	NH3	N2O	SO2	CO2e	
Tree Fuel Type	76.4	1	0.53	129,412.43	8,503.32	392.77	2,186.57	1,421.27	166.02	125.53	12.15	85.03	139,231.74	63.15
Shrub Fuel Type	12.6	1	0.8	33,747.84	1,491.84	74.59	352.80	142.13	44.35	30.24	5.04	14.11	35,612.64	16.15
Grass Fuel Type	5.4	1	0.92	16,940.88	606.10	19.38	166.43	84.46	21.86	14.90	N/A	6.96	17,425.26	7.90

Notes: Tree Fuel Type is based on emission factors for prescribed burns in Northwest conifer forest, and fuel loading and consumption factors from Pacific Northwest Douglas fir/hemlock, with the conservative assumption that the burn occurs after large fuels cure. Shrub Fuel Type is based on emission factors for prescribed burns in Western shrub land, and fuel loading and consumption factors from California chaparral, with the conservative assumption of lower frequency burns. Grass Fuel Type is based on emission factors for prescribed burns in grassland, and fuel loading and consumption factors from Midwest grassland, with the conservative assumption that no ungulates have grazed the area.

** These values are calculated based on Emissions Factors in Table B.*
*** These values are taken from Table C.*
**** It is assumed that the estimate for NMOC is approximately equivalent to ROG.*
***** It is assumed that the estimate for PM2.5 is approximately equivalent to PM10.*

Table B. Fire Average Emissions Factors (Flaming and Smoldering Average)

Prescribed Burn Vegetation Type	Pollutant Emission Factors (lb of emissions/ton of fuel consumed)								
	CO2	CO	CH4	VOC	PM2.5	NOx	NH3	N2O	SO2
Northwest conifer forest (CA, MT, OR, BC)	3,196	210	9.7	54	35.1	4.1	3.1	0.3	2.1
Western shrub land	3,348	148	7.4	35	14.1	4.4	3	0.5	1.4
Grassland	3,410	122	3.9	33.5	17	4.4	3	N/A	1.4

Source: Urbanski, S. Wildland fire emissions, carbon, and climate: Emission factors. *Forest Ecology and Management* . 317: 51–60 (as presented in NWCG 2018)

Table C. Fuel Loading and Fuel Consumption Factors

Prescribed Burn Vegetation Type	Total Fuel Loading (tons/acre)	Size (acres)	Calculated Total Available Fuel (tons)*	Total Fuel Consumption (tons)	Calculated Fuel Consumption Factor**
Pacific Northwest Douglas fir/hemlock (burn before large fuels cure)	76.4	100	7640	2042	27%
Pacific Northwest Douglas fir/hemlock (burn after large fuels cure)	76.4	100	7640	4080	53%
California chaparral (burn more frequently)	7.9	100	790	556	70%
California chaparral (burn less frequently)	12.6	100	1260	1005	80%
Midwest grassland (ungulates)	2.5	100	250	228	91%
Midwest grassland (no ungulates)	5.4	100	540	497	92%

Source: Values generated with Consume 4.0 (as presented in NWCG 2018)
Prichard, S.J., Ottmar, R.D., Anderson, G.K. 2007. *Consume user's guide.*
http://www.fs.fed.us/pnw/fera/research/smoke/consume/consume30_users_guide.pdf.
*Calculated total available fuel by multiplying total fuel loading by size of test plot
**Calculated fuel consumption factor by dividing total fuel consumption by calculated total available fuel.

	value	units	source
global warming potential of methane	25	unitless	wksht: Unit Conversions
mass conversion factor	2,204.62	lb/MT	wksht: Unit Conversions

Notes

1 These emission level estimates do not include emissions generated by worker commute trips, transport of equipment, or the use of drip torches or Heli torches. The level of emissions from these sources would be nominal to the level of emissions generated by the burning of vegetative fuels.

CARB GHG Inventory for Wildfire Emissions

The purpose of this worksheet is to understand the per-acre GHG emission rate of wildfires in California

Calendar Year	MMTCO2e	Aces Burned (million)
2007	22.8	1.04
2008	45.7	1.35
2009	9.6	0.43
2010	1.4	0.09
2011	3.5	0.2
2012	15.9	0.75
2013	19.2	0.56
2014	21.2	0.53
2015	22.9	0.79
2016	14.4	0.55
2017	36.7	1.34
Total (2007–2017)	**213.3**	**7.63**

Notes

1 Emissions estimates only account for the emissions of carbon dioxide and do not include emissions of nitrous oxide or methane. Emissions estimates also do not include those GHG emissions associated with fire fighting activity (e.g., combustion of fossil fuels by equipment, trucks, and aircraft).

2 There are large uncertainties associated with mapped vegetation types, fuel loading, fuel moisture, burned area, modeled fuel consumption in flaming and smoldering phases, and emission factors. The emission estimates may have an uncertainty of between a factor of 2 to 3.

Source: California Air Resources Board. 2019. California Wildfire Burn Acreage and Preliminary Emissions Estimates, 2000–2017. Available: https://www.arb.ca.gov/cc/inventory/pubs/ca_wildfire_preliminary_co2_emissions_estimates.pdf. Accessed March 22, 2019.

Average GHG Emissions Per Acre

value	units	source
27.96	MTCO2e/acre	calculation

Off-road Equipment Exhaust Emission Rates

Output from OFFROAD2017

OFFROAD2017 (v1.0.1) Emissions Inventory

Region Type: Statewide | Model Year: Aggregate

Region: California | Scenario: All Adopted Rules - Exhaust

Calendar Year: 2020 | Vehicle Classification: OFFROAD2017 Equipment Types

VehClass	HP Bin	Fuel Type	ROG (tons/day)	NOx (tons/day)	PM10 (tons/day)	PM2.5 (tons/day)	CO2 (tons/day)	Annual Activity (hr/year)
OFF - Logging - Chainsaws	25	Gasoline	1.183974572	0.02552499	0.004040885	0.003053113	7.712523258	807982.25
OFF - Logging - Fellers/Bunchers	175	Diesel	0.05307901	0.330474559	0.013646889	0.012555138	145.540412	785768.35
OFF - Logging - Fellers/Bunchers	300	Diesel	0.040395319	0.207844263	0.006442462	0.005927065	127.9385994	479398.3
OFF - Logging - Skidders	175	Diesel	0.038472065	0.231356875	0.009543865	0.008780356	101.3390411	528432.4
OFF - Logging - Skidders	300	Diesel	0.018403251	0.091388252	0.002838928	0.002611813	56.03461827	194413.6
ConstMin - Rubber Tired Loaders	300	Diesel	0.215713077	2.508087642	0.083264026	0.076602904	410.4821603	3388731.793
ConstMin - Excavators	175	Diesel	0.073428465	0.72197501	0.03509013	0.03228292	166.4622268	1871529.053
OFF - ConstMin - Crushing/Proc. Equipment	25	Gasoline	0.002738475	0.002244552	0.001550291	0.001171331	0.20548052	15727.85
OFF - ConstMin - Crushing/Proc. Equipment	100	Gasoline	0.001292353	0.004485861	9.23473E-05	6.97735E-05	1.324499833	6599.2
OFF - Agricultural - Agricultural Mowers	25	Gasoline	0.0406493	0.03304239	0.02270675	0.017156211	3.009625667	386743.05
ConstMin - Tractors/Loaders/Backhoes	175	Diesel	0.06678754	0.656892718	0.033096747	0.030449007	142.2627484	1698591.506
ConstMin - Crawler Tractors	300	Diesel	0.061739809	0.766138971	0.030743122	0.028283673	78.22487497	553582.907
ConstMin - Excavators	175	Diesel	0.073428465	0.72197501	0.03509013	0.03228292	166.4622268	1871529.053
Agricultural - Sprayers/Spray rigs	50	Diesel	0.020769762	0.064307446	0.00505936	0.004654611	0.964854499	242929.7419
ConstMin - Off-Highway Trucks	25	Diesel	0.000397361	0.000977343	0.000101019	0.000092937	0.106877717	6318.77412

Source: wksht raw OFFROAD2017 output

Note: These equipment may be used in one or more types of treatments under the CalVTP.

	value	units	source
time conversion rate	365	days/year	Earth
mass conversion rate	2,000	lb/ton	wksht: Unit Conversions
mass conversion rate	1.1023	ton/MT	wksht: Unit Conversions
daily equipment use	10	hr/day	assumption

Exhaust Emission Rates, hourly

	ROG	NOx	PM10	PM2.5	CO2
units:	*lb/hr*	*lb/hr*	*lb/hr*	*lb/hr*	*MT/hr*
OFF - Logging - Chainsaws	1.07	0.02	0.004	0.003	0.003
OFF - Logging - Fellers/Bunchers	0.05	0.31	0.013	0.012	0.061
OFF - Logging - Fellers/Bunchers	0.06	0.32	0.010	0.009	0.088
OFF - Logging - Skidders	0.05	0.32	0.013	0.012	0.064
OFF - Logging - Skidders	0.07	0.34	0.011	0.010	0.095
ConstMin - Rubber Tired Loaders	0.05	0.54	0.018	0.017	0.040
ConstMin - Excavators	0.03	0.28	0.014	0.013	0.029
OFF - ConstMin - Crushing/Proc. Equipment	0.13	0.10	0.072	0.054	0.004
OFF - ConstMin - Crushing/Proc. Equipment	0.14	0.50	0.010	0.008	0.066
OFF - Agricultural - Agricultural Mowers	0.08	0.06	0.043	0.032	0.003
ConstMin - Tractors/Loaders/Backhoes	0.03	0.28	0.014	0.013	0.028
ConstMin - Crawler Tractors	0.08	1.01	0.041	0.037	0.047
ConstMin - Excavators	0.03	0.28	0.014	0.013	0.029
Agricultural - Sprayers/Spray rigs	0.06	0.19	0.015	0.014	0.001
ConstMin - Off-Highway Trucks	0.05	0.11	0.012	0.011	0.006

Source: Calculations using values in the above table.

Exhaust Emission Rates, daily

	ROG	NOx	PM10	PM2.5	CO2
units:	*lb/day*	*lb/day*	*lb/day*	*lb/day*	*MT/day*
OFF - Logging - Chainsaws	10.70	0.23	0.04	0.03	0.03
OFF - Logging - Fellers/Bunchers	0.49	3.07	0.13	0.12	0.6
OFF - Logging - Fellers/Bunchers	0.62	3.16	0.10	0.09	0.9
OFF - Logging - Skidders	0.53	3.20	0.13	0.12	0.6
OFF - Logging - Skidders	0.69	3.43	0.11	0.10	1.0
ConstMin - Rubber Tired Loaders	0.46	5.40	0.18	0.17	0.4
ConstMin - Excavators	0.29	2.82	0.14	0.13	0.3
OFF - ConstMin - Crushing/Proc. Equipment	1.27	1.04	0.72	0.54	0.04
OFF - ConstMin - Crushing/Proc. Equipment	1.43	4.96	0.10	0.08	0.7
OFF - Agricultural - Agricultural Mowers	0.77	0.62	0.43	0.32	0.03
ConstMin - Tractors/Loaders/Backhoes	0.29	2.82	0.14	0.13	0.3
ConstMin - Crawler Tractors	0.81	10.10	0.41	0.37	0.5
ConstMin - Excavators	0.29	2.82	0.14	0.13	0.3
Agricultural - Sprayers/Spray rigs	0.62	1.93	0.15	0.14	0.01
ConstMin - Off-Highway Trucks	0.46	1.13	0.12	0.11	0.06

Source: Calculations using the above table.

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	Agricultural - Agricultural Tractors	Aggregated	50	Diesel	1.174893524	1.421621164	1.691846674	3.661714451	3.297612359	45.01836351	0.315889953	0.290618757	0.315889953	0.000383762	0.000369898	10430249.63	9311653.087	25996.44037	379403510.8
Statewide	2020	Agricultural - Agricultural Tractors	Aggregated	75	Diesel	1.079248722	1.305890953	1.554118159	4.211739898	7.997859024	80.1763049	0.62658175	0.57645521	0.62658175	0.000713864	0.000658777	18575950.11	10514434.3	28229.09296	663170144.2
Statewide	2020	Agricultural - Agricultural Tractors	Aggregated	100	Diesel	1.552987137	1.879114436	2.236301478	9.749911448	13.09971466	214.0655554	1.049749589	0.965769622	1.049749589	0.001945828	0.001758893	49596586.94	20709267.73	34749.80848	1775062239
Statewide	2020	Agricultural - Agricultural Tractors	Aggregated	175	Diesel	1.214506651	1.469553047	1.748889577	7.09577752	11.50062471	150.5682992	0.659165283	0.606432061	0.659165283	0.001364981	0.001237161	34884985.25	11107977.14	17144.87696	1351017012
Statewide	2020	Agricultural - Agricultural Tractors	Aggregated	300	Diesel	1.000148894	1.210180161	1.440214407	3.665666301	10.92254709	161.5721221	0.465994799	0.428715215	0.465994799	0.00147383	0.001327575	37434447.53	6783003.223	8568.806453	1469895813
Statewide	2020	Agricultural - Agricultural Tractors	Aggregated	600	Diesel	0.443596919	0.536752272	0.638779564	1.881081794	4.445913926	113.278701	0.196122145	0.180432373	0.196122145	0.001041035	0.000930767	26245403.82	2864401.43	2568.188081	1051843155
Statewide	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	50	Diesel	0.001280879	0.001549864	0.001844466	0.007552208	0.008084587	0.129773362	0.000477471	0.000439273	0.000477471	1.16944E-06	1.0663E-06	30067.03177	29477.48265	45.99841127	1031711.893
Statewide	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	100	Diesel	0.006560775	0.007938538	0.009447516	0.057290535	0.061315729	1.322500137	0.005042412	0.004639019	0.005042412	1.21124E-05	1.08665E-05	306408.4406	125841.9494	202.113679	10512139.25
Statewide	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	175	Diesel	0.013974716	0.016909406	0.020123591	0.134192004	0.142509049	3.223286484	0.008548642	0.00786475	0.008548642	2.95815E-05	2.64845E-05	746799.3068	223195.2816	357.2412699	28767296.71
Statewide	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	300	Diesel	0.003159606	0.003823123	0.004549833	0.013323921	0.038042555	0.884978234	0.001489216	0.001370079	0.001489216	8.14216E-06	7.27152E-06	205039.5257	40430.10859	64.99637194	7821670.77
Statewide	2020	Agricultural - Balers (Self Propelled)	Aggregated	50	Diesel	0.012135549	0.014684014	0.017475191	0.052390648	0.059443602	0.937897158	0.004014391	0.003693239	0.004014391	8.36542E-06	7.70634E-06	217300.2465	161225.8946	495.018737	7405267.781
Statewide	2020	Agricultural - Balers (Self Propelled)	Aggregated	75	Diesel	0.005420175	0.006558412	0.007805052	0.03575526	0.051386362	0.831645955	0.003380635	0.003110185	0.003380635	7.57795E-06	6.83331E-06	192683.0351	102365.0354	312.6240517	6634925.959
Statewide	2020	Agricultural - Balers (Self Propelled)	Aggregated	100	Diesel	0.001114069	0.001348023	0.001604259	0.007394109	0.010283976	0.171982558	0.000751879	0.000691728	0.000751879	1.56731E-06	1.41311E-06	39846.42878	17276.7729	52.92957485	1370138.623
Statewide	2020	Agricultural - Balers (Self Propelled)	Aggregated	175	Diesel	0.000753353	0.000911558	0.001084829	0.005943969	0.008531708	0.145369193	0.000438413	0.00040334	0.000438413	1.33042E-06	1.19444E-06	33680.41059	12233.94059	37.53435701	1294385.771
Statewide	2020	Agricultural - Combine Harvesters	Aggregated	75	Diesel	0.000942918	0.00114093	0.001357801	0.005275969	0.007967445	0.118305486	0.000600252	0.000552232	0.000600252	1.07284E-06	9.7207E-07	27410.05356	17201.92587	47.58589721	1059811.742
Statewide	2020	Agricultural - Combine Harvesters	Aggregated	100	Diesel	0.006153571	0.007445821	0.008861142	0.034434148	0.05172082	0.77103328	0.004133207	0.00380255	0.004133207	6.99179E-06	6.33528E-06	178639.7584	79702.18414	219.5106039	6803396.683
Statewide	2020	Agricultural - Combine Harvesters	Aggregated	175	Diesel	0.011474849	0.013884568	0.016523783	0.077026534	0.121267114	1.853103126	0.006434778	0.005919995	0.006434778	1.69035E-05	1.52262E-05	429343.1989	134334.8843	375.7215474	18960379.34
Statewide	2020	Agricultural - Combine Harvesters	Aggregated	300	Diesel	0.073750993	0.089238701	0.10620143	0.309101165	0.989567915	17.64369847	0.036368474	0.033458996	0.036368474	0.000162006	0.000144971	4087846.937	752536.5261	1991.546359	174193814
Statewide	2020	Agricultural - Combine Harvesters	Aggregated	600	Diesel	0.013794052	0.016690802	0.019863434	0.092097337	0.196622527	5.808809338	0.008049066	0.00740514	0.008049066	5.36517E-05	4.77287E-05	1345835.937	168488.9641	371.6783816	55719673.04
Statewide	2020	Agricultural - Construction Equipment	Aggregated	50	Diesel	0.086376509	0.104515576	0.124382173	0.294010359	0.276092987	3.933342189	0.024322656	0.022376844	0.024322656	3.40183E-05	3.23187E-05	911311.2454	880706.311	2240.908598	39030804.98
Statewide	2020	Agricultural - Construction Equipment	Aggregated	75	Diesel	0.066867336	0.080909476	0.096288963	0.33053801	0.544563319	6.976563868	0.040015831	0.036814564	0.040015831	6.29284E-05	5.73237E-05	1616391.557	1094030.325	2961.909142	68917836.31
Statewide	2020	Agricultural - Construction Equipment	Aggregated	100	Diesel	0.136193947	0.164794676	0.196119284	0.785566705	1.124540772	17.06770141	0.090796724	0.083532986	0.090796724	0.000154772	0.000140239	3954394.883	2008315.44	4133.845005	169330747.3
Statewide	2020	Agricultural - Construction Equipment	Aggregated	175	Diesel	0.276514086	0.334582045	0.398180284	1.807885066	2.61704323	39.81744342	0.152887353	0.140656365	0.152887353	0.000362306	0.000327164	9225254.81	3588935.805	5656.753706	440247153.2
Statewide	2020	Agricultural - Construction Equipment	Aggregated	300	Diesel	0.149053671	0.180354942	0.214637286	0.564713831	1.68835929	26.1642193	0.071291521	0.0655882	0.071291521	0.000239052	0.000214981	6061955.999	1463040.451	2592.486263	288027841.4
Statewide	2020	Agricultural - Construction Equipment	Aggregated	600	Diesel	0.016139423	0.019528702	0.023240769	0.077557327	0.164771411	2.467394483	0.007074227	0.006508289	0.007074227	2.24811E-05	2.02736E-05	571667.6128	77922.83876	88.23845202	27583416.28
Statewide	2020	Agricultural - Cotton Pickers	Aggregated	100	Diesel	0.002600208	0.003146252	0.003744299	0.028156738	0.028969588	0.690589845	0.002147071	0.001975305	0.002147071	6.34967E-06	5.67431E-06	160001.9173	68738.73276	151.3886273	6186485.948
Statewide	2020	Agricultural - Cotton Pickers	Aggregated	175	Diesel	0.006091979	0.007371295	0.00877245	0.072430701	0.073464649	1.841407513	0.00406068	0.003735826	0.00406068	1.69562E-05	1.51301E-05	426633.4566	148222.0575	323.4112343	18059011.99
Statewide	2020	Agricultural - Cotton Pickers	Aggregated	300	Diesel	0.005751112	0.006958846	0.008281601	0.029182301	0.082215699	2.112641924	0.003050704	0.002806648	0.003050704	1.94909E-05	1.73588E-05	489475.4259	85211.59418	184.4273816	21041047.12
Statewide	2020	Agricultural - Cotton Pickers	Aggregated	600	Diesel	0.010983765	0.013290356	0.015816622	0.056786035	0.153503628	4.194095088	0.005938874	0.005463764	0.005938874	3.87071E-05	3.44612E-05	971724.7658	128515.6876	279.0569565	41667093.81
Statewide	2020	Agricultural - Forage & Silage Harvesters	Aggregated	100	Diesel	0.000511384	0.000618774	0.000736393	0.002863871	0.004303163	0.064217904	0.000343783	0.00031628	0.000343783	5.82367E-07	5.27654E-07	14878.56782	7191.011533	19.65344989	575280.9226
Statewide	2020	Agricultural - Forage & Silage Harvesters	Aggregated	300	Diesel	0.000486145	0.000588235	0.000700048	0.001906018	0.006454342	0.102686461	0.000232798	0.000214174	0.000232798	9.41171E-07	8.43735E-07	23791.30057	4648.45272	13.03639854	1022659.598
Statewide	2020	Agricultural - Forage & Silage Harvesters	Aggregated	600	Diesel	0.004588234	0.005551764	0.006607058	0.024674789	0.06222317	1.358697771	0.002385712	0.002194855	0.002385712	1.25084E-05	1.11639E-05	314795.0264	32280.22896	80.02855839	13654963.56
Statewide	2020	Agricultural - Forage & Silage Harvesters	Aggregated	750	Diesel	0.007015226	0.008488423	0.010101925	0.04571679	0.09974861	2.855559642	0.004040475	0.003717237	0.004040475	2.63677E-05	2.3463E-05	661601.124	46769.8976	102.7193726	28296191.93
Statewide	2020	Agricultural - Forage & Silage Harvesters	Aggregated	9999	Diesel	0.004512897	0.005460605	0.006498571	0.028469851	0.099466418	1.748995728	0.002554836	0.002350449	0.002554836	1.61434E-05	1.43708E-05	405222.683	20253.8793	44.20985052	17418336.2
Statewide	2020	Agricultural - Forklifts	Aggregated	50	Diesel	0.008329891	0.010079168	0.011995043	0.031867773	0.030535396	0.452964823	0.002431376	0.002236866	0.002431376	3.96608E-06	3.72184E-06	104946.8663	135899.0676	225.4047962	4501397.564
Statewide	2020	Agricultural - Forklifts	Aggregated	75	Diesel	0.000666551	0.000806527	0.000959834	0.00354922	0.005395457	0.073054736	0.000399008	0.000367087	0.000399008	6.59961E-07	6.00262E-07	16925.96242	11169.0931	13.2753232	725991.0514
Statewide	2020	Agricultural - Forklifts	Aggregated	100	Diesel	0.000263394	0.000318706	0.000379287	0.001410587	0.002074989	0.029034574	0.00016858	0.000155093	0.00016858	2.62338E-07	2.38566E-07	6726.985008	3723.031021	4.425107956	288534.9041
Statewide	2020	Agricultural - Hay Squeeze/Stack retriever	Aggregated	75	Diesel	0.000531814	0.000643495	0.000765812	0.002199643	0.003820446	0.041842827	0.000321954	0.000296198	0.000321954	3.73498E-07	3.43806E-07	9694.513367	6368.002594	10.74298747	396017.7104
Statewide	2020	Agricultural - Hay Squeeze/Stack retriever	Aggregated	100	Diesel	0.001004006	0.001214848	0.001445769	0.004157604	0.007168695	0.079088231	0.000627793	0.00057757	0.000627793	7.05994E-07	6.49837E-07	18323.85556	9658.368091	16.27728793	748523.5271
Statewide	2020	Agricultural - Hay Squeeze/Stack retriever	Aggregated	175	Diesel	0.015199372	0.01839124	0.021887095	0.075544853	0.138259771	1.543674826	0.008030367	0.007387938	0.008030367	1.39118E-05	1.26838E-05	357652.134	124287.7548	209.3339196	15074359.51
Statewide	2020	Agricultural - Hay Squeeze/Stack retriever	Aggregated	300	Diesel	0.024397354	0.029520799	0.03513219	0.08426145	0.258801586	2.984410247	0.01128455	0.010381786	0.01128455	2.70455E-05	2.45217E-05	691454.3633	132445.404	222.3550252	31340564.87
Statewide	2020	Agricultural - Hay Squeeze/Stack retriever	Aggregated	600	Diesel	0.007667018	0.009277092	0.011040506	0.042594817	0.08158357	1.026575728	0.003481478	0.00320296	0.003481478	9.32485E-06	8.43497E-06	237846.0759	33226.44267	56.11435245	10553090.83
Statewide	2020	Agricultural - Nut Harvester	Aggregated	50	Diesel	0.017305079	0.020939146	0.024919314	0.157761395	0.209073841	3.71735182	0.008638253	0.007947193	0.008638253	3.40801E-05	3.0544E-05	861268.7006	832557.5467	2163.103518	33509011.04
Statewide	2020	Agricultural - Nut Harvester	Aggregated	75	Diesel	0.010312822	0.012478514	0.014850463	0.149440562	0.153348011	3.820401958	0.007558222	0.006953564	0.007558222	3.5249E-05	3.13908E-05	885144.2612	527876.168	1348.947913	34535547.25
Statewide	2020	Agricultural - Nut Harvester	Aggregated	100	Diesel	0.027294515	0.033026363	0.039304102	0.589897109	0.444740956	15.22567759	0.029471864	0.027114115	0.029471864	0.000140894	0.000125103	3527618.636	1667859.599	2823.777412	137161562.2
Statewide	2020	Agricultural - Nut Harvester	Aggregated	175	Diesel	0.031761944	0.038431952	0.0457372	0.509912831	0.428611524	13.22005895	0.023689457	0.0217943	0.023689457	0.000122093	0.000108624	3062939.303	1037802.558	2109.200003	128907069.1
Statewide	2020	Agricultural - Nut Harvester	Aggregated	300	Diesel	0.002332642	0.002822496	0.003359004	0.014208802	0.03357186	1.046182667	0.001366857	0.001257508	0.001366857	9.66738E-06	8.59608E-06	242388.7837	53181.30936	108.8019435	10467046.06
Statewide	2020	Agricultural - Nut Harvester	Aggregated	600	Diesel	0.008608325	0.010416073	0.012395988	0.060497762	0.135094993	4.72433151	0.005560745	0.005115886	0.005560745	4.37135E-05	3.8818E-05	1094574.594	144768.7803	337.87967	47049853.59
Statewide	2020	Agricultural - Other Harvesters	Aggregated	50	Diesel	0.008901878	0.010771273	0.012818705	0.046736982	0.045268574	0.692941894	0.002945745	0.002710085	0.002945745	6.18251E-06	5.69363E-06	160546.8607	154901.7971	133.1627547	6207556.238
Statewide	2020	Agricultural - Other Harvesters	Aggregated	75	Diesel	0.014621926	0.01769253	0.021055573	0.123885121	0.132694241	2.744770158	0.009127393	0.008397202	0.009127393	2.51083E-05	2.25527E-05	635932.4438	369540.8109	263.2945955	24762844.07
Statewide	2020	Agricultural - Other Harvesters	Aggregated	100	Diesel	0.049694107	0.06012987	0.071559515	0.391511955	0.415455767	8.577962576	0.035647552	0.032795748	0.035647552	7.83486E-05	7.04818E-05	1987417.667	897927.2792	728.0142055	76854316.19
Statewide	2020	Agricultural - Other Harvesters	Aggregated	175	Diesel	0.036362418	0.043998525	0.052361881	0.255609466	0.353819437	5.838406939	0.020627698	0.018977482	0.020627698	5.32502E-05	4.79719E-05	1352693.369	445588.1728	663.9394256	59265853.24
Statewide	2020	Agricultural - Other Harvesters	Aggregated	300	Diesel	0.032301318	0.039084595	0.046513898	0.123726373	0.37282827	6.466930268	0.015175035	0.013961032	0.015175035	5.9222E-05	5.31362E-05	1498315.171	298092.6387	442.4863288	63801635.35
Statewide	2020	Agricultural - Other Harvesters	Aggregated	600	Diesel	0.010914517	0.013206565	0.015716904	0.056758814	0.123821091	2.172559079	0.005121368	0.004711658	0.005121368	1.98937E-05	1.78511E-05	503357.5583	56429.40441	89.39338039	21803055.22
Statewide	2020	Agricultural - Others	Aggregated	50	Diesel	0.007216495	0.008731958	0.010391752	0.02821355	0.027917677	0.41976328	0.002160271	0.001987449	0.002160271	3.69046E-06	3.44903E-06	97254.4413	92698.95177	176.6132793	4171452.829
Statewide	2020	Agricultural - Others	Aggregated	75	Diesel	0.001337765	0.001618696	0.001926382	0.007889627	0.011546726	0.173077661	0.00083155	0.000765026	0.00083155	1.57079E-06	1.42211E-06	40100.15172	26461.26219	53.59573027	1719982.042
Statewide	2020	Agricultural - Others	Aggregated	100	Diesel	0.005496992	0.00665136	0.007915668	0.032498939	0.046241476	0.711832216	0.003662778	0.003369756	0.003662778	6.46048E-06	5.84885E-06	164923.5364	81245.30659	162.9997393	7073926.22
Statewide	2020	Agricultural - Others	Aggregated	175	Diesel	0.015262451	0.018467566	0.02197793	0.106028118	0.1564544	2.444667833	0.008692531	0.007997128	0.008692531	2.22959E-05	2.00869E-05	566402.1028	211832.3884	428.9349416	27008273.82
Statewide	2020	Agricultural - Others	Aggregated	300	Diesel	0.01700882	0.020580672	0.024492701	0.067854726	0.200173165	3.201848319	0.008451068	0.007774982	0.008451068	2.9291E-05	2.63083E-05	741832.3245	162490.6026	325.9994739	35373474.45

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	Agricultural - Others	Aggregated	600	Diesel	0.078411721	0.094878183	0.112912879	0.474977419	0.93850505	16.19982113	0.03888639	0.035775479	0.03888639	0.000148428	0.000133108	3753316.763	479025.0518	970.2369863	178972862
Statewide	2020	Agricultural - Sprayers/Spray rigs	Aggregated	50	Diesel	0.017165093	0.020769762	0.024717733	0.065126272	0.064307446	0.964854499	0.00505936	0.004654611	0.00505936	8.46544E-06	7.92783E-06	223545.9598	242929.7419	434.4094685	9044828.946
Statewide	2020	Agricultural - Sprayers/Spray rigs	Aggregated	75	Diesel	0.004381862	0.005302053	0.006309881	0.024824585	0.037378562	0.538168393	0.002694745	0.002479166	0.002694745	4.87755E-06	4.42192E-06	124687.5773	83592.54841	150.2923314	5091603.773
Statewide	2020	Agricultural - Sprayers/Spray rigs	Aggregated	100	Diesel	0.011570721	0.014000572	0.016661838	0.065787102	0.096219498	1.42451368	0.007593029	0.006985586	0.007593029	1.29116E-05	1.17047E-05	330043.8338	152082.0676	271.0194729	13583842.64
Statewide	2020	Agricultural - Sprayers/Spray rigs	Aggregated	175	Diesel	0.020506221	0.024812528	0.029528959	0.138982468	0.210374338	3.164818588	0.011611399	0.010682487	0.011611399	2.88414E-05	2.60041E-05	733252.9513	272895.5592	487.7741085	32488666.15
Statewide	2020	Agricultural - Sprayers/Spray rigs	Aggregated	300	Diesel	0.007966703	0.009639711	0.011472053	0.032125117	0.093112435	1.435968724	0.003988839	0.003669731	0.003988839	1.31263E-05	1.17988E-05	332697.839	69197.91037	124.3552539	15073452.24
Statewide	2020	Agricultural - Sprayers/Spray rigs	Aggregated	600	Diesel	0.000340093	0.000411513	0.000489735	0.002186725	0.004051508	0.06710771	0.000169421	0.000155867	0.000169421	6.14403E-07	5.51398E-07	15548.10326	2139.666774	3.899239564	706090.0353
Statewide	2020	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregated	50	Diesel	0.002799549	0.003387455	0.004031351	0.018070582	0.02141278	0.359424445	0.001121074	0.001031388	0.001121074	3.26136E-06	2.95325E-06	83274.61038	68258.248	155.6780386	3068369.734
Statewide	2020	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregated	75	Diesel	0.00734329	0.008885381	0.010574337	0.079952853	0.087273349	1.957237432	0.005039152	0.00463602	0.005039152	1.79967E-05	1.60819E-05	453469.949	251507.5948	542.4676691	16257667.43
Statewide	2020	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregated	100	Diesel	0.019483973	0.023575607	0.028056921	0.218680291	0.218527399	5.358985839	0.016002635	0.014722424	0.016002635	4.92943E-05	4.40327E-05	1241616.881	524383.8308	1125.106689	45111844.94
Statewide	2020	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregated	175	Diesel	0.01084632	0.013124047	0.0156187	0.139764686	0.132595605	3.554092233	0.007378318	0.006788052	0.007378318	3.27544E-05	2.92026E-05	823443.2864	268213.8182	559.6251258	31729199.79
Statewide	2020	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregated	300	Diesel	0.004020866	0.004865248	0.005790047	0.021459819	0.055526141	1.522164875	0.002177628	0.002003417	0.002177628	1.40469E-05	1.2507E-05	352668.5198	67932.1257	140.9577005	13960122.68
Statewide	2020	AirGrSupp - A/C Tug Narrow Body	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	AirGrSupp - A/C Tug Narrow Body	Aggregated	50	Diesel	0.00064228	0.000777159	0.000924884	0.002712933	0.002358094	0.235701714	0.000248051	0.000228207	0.000248051	2.15991E-06	1.92377E-06	7647.082518	5757.097511	18.36037232	248356.0876
Statewide	2020	AirGrSupp - A/C Tug Narrow Body	Aggregated	75	Diesel	9.41909E-06	1.13971E-05	1.35635E-05	0.000245996	0.000212722	0.039438976	1.43687E-05	1.32192E-05	1.43687E-05	3.6435E-07	3.21896E-07	1279.554132	803.5642712	2.448049643	46204.94559
Statewide	2020	AirGrSupp - A/C Tug Narrow Body	Aggregated	100	Diesel	0.001779819	0.002153581	0.002562939	0.01502912	0.019601336	2.179009713	0.001345811	0.001238146	0.001345811	2.00926E-05	1.77848E-05	70695.5704	29060.46138	89.35381196	2552900.998
Statewide	2020	AirGrSupp - A/C Tug Narrow Body	Aggregated	175	Diesel	0.003681667	0.004454818	0.005301601	0.042122761	0.048299337	6.969571229	0.002990235	0.002751016	0.002990235	6.43267E-05	5.68847E-05	226120.0629	62138.74411	190.9478721	8165021.899
Statewide	2020	AirGrSupp - A/C Tug Narrow Body	Aggregated	300	Diesel	0.001288727	0.00155936	0.001855768	0.007808017	0.024277368	3.609180697	0.000731142	0.000672651	0.000731142	3.333E-05	2.94576E-05	117095.8929	18883.76037	57.52916661	4228355.195
Statewide	2020	AirGrSupp - A/C Tug Narrow Body	Aggregated	750	Diesel	0.000285558	0.000345526	0.000411204	0.001424951	0.003921137	0.24006333	0.000178056	0.000163812	0.000178056	2.21094E-06	1.95936E-06	7788.590369	401.7821356	1.224024821	281247.4949
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	50	Diesel	1.31441E-05	1.59044E-05	1.89276E-05	0.000303016	0.000253335	0.051197509	9.8678E-07	9.07838E-07	9.8678E-07	4.72952E-07	4.17867E-07	1661.046784	1110.519052	2.789968158	53860.17402
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	75	Diesel	0.0001231	0.000148951	0.000177264	0.00075579	0.001294717	0.090206243	9.08359E-05	8.3569E-05	9.08359E-05	8.30308E-07	7.36251E-07	2926.642214	1665.778578	4.184952238	105499.3099
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	100	Diesel	0.000186108	0.000225191	0.000267996	0.001706014	0.002622855	0.244981166	0.000166148	0.000152856	0.000166148	2.25939E-06	1.9995E-06	7948.144118	3331.557156	8.369904475	286513.9154
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	175	Diesel	0.000702311	0.000849797	0.001011328	0.005607219	0.008895763	0.923427068	0.00051459	0.000473423	0.00051459	8.51647E-06	7.53689E-06	29959.57424	7218.373838	18.13479303	1079979.778
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	300	Diesel	0.002272305	0.00274949	0.00327212	0.016903826	0.036316359	8.469873291	0.001188836	0.001093729	0.001188836	7.824E-05	6.913E-05	274795.711	40838.19719	103.2288219	9905837.551
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	600	Diesel	0.001725955	0.002088406	0.002485375	0.010527904	0.033622302	3.771082193	0.001039424	0.00095627	0.001039424	3.48137E-05	3.07791E-05	122348.6086	11713.69411	30.68964974	4410510.084
Statewide	2020	AirGrSupp - A/C Tug Wide Body	Aggregated	750	Diesel	0.00018226	0.000220535	0.000262455	0.000659573	0.004157083	0.327667092	0.000105489	9.70496E-05	0.000105489	3.02398E-06	2.67437E-06	10630.79793	608.5035902	2.789968158	383357.2618
Statewide	2020	AirGrSupp - Baggage Tug	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	AirGrSupp - Baggage Tug	Aggregated	50	Diesel	0.001854171	0.002243547	0.002670006	0.007383921	0.005544894	0.517251724	0.000706055	0.00064957	0.000706055	4.72662E-06	4.22174E-06	16781.66252	17613.46935	24.58456825	795095.3243
Statewide	2020	AirGrSupp - Baggage Tug	Aggregated	75	Diesel	0.002874197	0.003477779	0.004138844	0.022049788	0.028636371	2.948583786	0.002570321	0.002364695	0.002570321	2.71749E-05	2.40659E-05	95663.55364	80941.39159	110.9457439	5014227.23
Statewide	2020	AirGrSupp - Baggage Tug	Aggregated	100	Diesel	0.003516599	0.004255085	0.005063902	0.033749466	0.04118686	4.476142567	0.002233302	0.002054638	0.002233302	4.12787E-05	3.65337E-05	145223.516	84573.11271	117.2494794	7618613.066
Statewide	2020	AirGrSupp - Baggage Tug	Aggregated	175	Diesel	4.87689E-05	5.90103E-05	7.02272E-05	0.000227711	0.000535305	0.03380473	3.64256E-05	3.35115E-05	3.64256E-05	3.11078E-07	2.7591E-07	1096.757242	459.8942704	0.630373545	57486.7838
Statewide	2020	AirGrSupp - Baggage Tug	Aggregated	300	Diesel	0.000132117	0.000159862	0.000190249	0.000446793	0.002793201	0.194715246	7.24309E-05	6.66364E-05	7.24309E-05	1.79628E-06	1.58924E-06	6317.321711	1839.577082	2.52149418	331123.8747
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	25	Diesel	1.05411E-05	1.27547E-05	1.51791E-05	8.35062E-05	7.90918E-05	0.011167246	5.39381E-06	4.96231E-06	5.39381E-06	1.0293E-07	9.11456E-08	362.3089908	751.441548	1.472364875	18786.0387
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	50	Diesel	0.000694593	0.000840458	0.001000215	0.003371506	0.002698535	0.320946644	0.000251607	0.000231479	0.000251607	2.94647E-06	2.61952E-06	10412.7604	11647.34399	22.82165557	539910.7522
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	75	Diesel	0.001559955	0.001887545	0.002246335	0.012775209	0.017722169	1.796657117	0.001305208	0.001200791	0.001305208	1.65642E-05	1.46641E-05	58290.56151	54479.51223	106.7464535	3360070.882
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	100	Diesel	0.001520062	0.001839275	0.00218889	0.013707368	0.016137925	1.927702635	0.001404098	0.00129177	0.001404098	1.7777E-05	1.57336E-05	62542.189	42026.13478	83.18861546	3605175.701
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	175	Diesel	0.000124762	0.000150962	0.000179657	0.000793724	0.001414035	0.120249028	6.61183E-05	6.08288E-05	6.61183E-05	1.10802E-06	9.81456E-07	3901.347268	1663.447529	3.680912189	224902.6018
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	300	Diesel	2.25747E-05	2.73154E-05	3.25076E-05	0.000197509	0.000289856	0.105874796	1.28627E-05	1.18337E-05	1.28627E-05	9.78188E-07	8.64136E-07	3434.991157	751.441548	1.472364875	198004.8479
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	600	Diesel	3.29004E-05	3.98095E-05	4.73765E-05	0.000179931	0.000436308	0.091409928	2.02752E-05	1.86532E-05	2.02752E-05	8.44143E-07	7.46076E-07	2965.694452	375.720774	0.736182438	170952.9522
Statewide	2020	AirGrSupp - Belt Loader	Aggregated	750	Diesel	9.33342E-05	0.000112934	0.000134401	0.001440072	0.001245979	0.0536091	6.33924E-05	5.8321E-05	6.33924E-05	4.92843E-07	4.3755E-07	1739.288215	160.5644333	0.736182438	100352.7708
Statewide	2020	AirGrSupp - Bobtail	Aggregated	25	Diesel	3.51068E-06	4.24792E-06	5.05537E-06	7.29738E-05	9.51251E-05	0.011372948	3.39219E-06	3.12081E-06	3.39219E-06	1.05043E-07	9.28245E-08	368.9827583	695.8579192	1.515669725	17396.44798
Statewide	2020	AirGrSupp - Bobtail	Aggregated	50	Diesel	5.00383E-05	6.05464E-05	7.20552E-05	0.000462245	0.00040533	0.071756777	1.50729E-05	1.38671E-05	1.50729E-05	6.61926E-07	5.85669E-07	2328.069614	2418.147591	6.062678899	109773.6528
Statewide	2020	AirGrSupp - Bobtail	Aggregated	75	Diesel	1.49167E-05	1.80492E-05	2.148E-05	0.000206959	0.000297969	0.03028103	1.61136E-05	1.48245E-05	1.61136E-05	2.79516E-07	2.4715E-07	982.4346813	695.8579192	1.515669725	51493.48602
Statewide	2020	AirGrSupp - Bobtail	Aggregated	100	Diesel	3.63956E-05	4.40387E-05	5.24097E-05	0.000888602	0.00069439	0.139538262	3.13307E-05	2.88242E-05	3.13307E-05	1.28901E-06	1.13889E-06	4527.165221	2783.431677	6.062678899	237287.5504
Statewide	2020	AirGrSupp - Bobtail	Aggregated	175	Diesel	0.000119913	0.000145095	0.000172675	0.001413166	0.001362285	0.222815364	8.649E-05	7.95708E-05	8.649E-05	2.05644E-06	1.81859E-06	7228.999096	3114.00551	7.578348624	378935.1323
Statewide	2020	AirGrSupp - Bobtail	Aggregated	300	Diesel	0.000517042	0.00062562	0.00074454	0.003302979	0.007441613	1.218417846	0.000293666	0.000270172	0.000293666	1.12494E-05	9.94456E-06	39530.22518	10072.5847	22.73504587	2071995.466
Statewide	2020	AirGrSupp - Cargo Loader	Aggregated	25	Diesel	9.37969E-05	0.000113494	0.000135068	0.000473894	0.000418277	0.047609844	4.14352E-05	3.81204E-05	4.14352E-05	4.37363E-07	3.88585E-07	1544.648957	3208.612593	6.748339012	80215.31482
Statewide	2020	AirGrSupp - Cargo Loader	Aggregated	50	Diesel	0.000171718	0.000207779	0.000247274	0.001022668	0.000926824	0.106246019	6.86774E-05	6.31832E-05	6.86774E-05	9.77146E-07	8.67166E-07	3447.035088	4786.425758	10.79734242	178999.3711
Statewide	2020	AirGrSupp - Cargo Loader	Aggregated	100	Diesel	0.001616494	0.001955957	0.002327751	0.03194249	0.026086007	4.972286738	0.001132629	0.001042019	0.001132629	4.59228E-05	4.05831E-05	161320.3672	108186.1743	234.8421976	9310042.006
Statewide	2020	AirGrSupp - Cargo Loader	Aggregated	175	Diesel	0.001239266	0.001499512	0.001784543	0.039372242	0.018093128	7.000357159	0.000581766	0.000535224	0.000581766	6.46846E-05	5.7136E-05	227118.8785	98477.91347	207.8488416	13112157.26
Statewide	2020	AirGrSupp - Cargo Loader	Aggregated	300	Diesel	0.000191672	0.000231923	0.000276007	0.001505329	0.003033246	0.780495782	9.23655E-05	8.49762E-05	9.23655E-05	7.21032E-06	6.3703E-06	25322.32607	6711.593313	14.84634583	1463975.123
Statewide	2020	AirGrSupp - Cargo Loader	Aggregated	600	Diesel	4.68859E-05	5.67319E-05	6.75157E-05	0.000995322	0.000275363	0.560500425	9.37294E-06	8.6231E-06	9.37294E-06	5.1807E-06	4.57473E-06	18184.81901	3208.612593	6.748339012	1049858.04
Statewide	2020	AirGrSupp - Cargo Loader	Aggregated	750	Diesel	0.000133031	0.000160968	0.000191565	0.001333609	0.001375931	0.713987094	6.06092E-05	5.57604E-05	6.06092E-05	6.59717E-06	5.82747E-06	23164.52495	1925.167556	4.049003407	1337349.729
Statewide	2020	AirGrSupp - Cargo Tractor	Aggregated	25	Diesel	0.000331431	0.000401031	0.00047726	0.001394045	0.001010937	0.117836014	0.000112375	0.000103385	0.000112375	1.07951E-06	9.61762E-07	3823.059695	7353.894977	10.70392288	183847.3744
Statewide	2020	AirGrSupp - Cargo Tractor	Aggregated	50	Diesel	0.000301638	0.000364982	0.000434359	0.001716431	0.001407456	0.172986257	0.000118665	0.000109172	0.000118665	1.59029E-06	1.41189E-06	5612.348613	6816.943915	12.84470745	269864.5999
Statewide	2020	AirGrSupp - Cargo Tractor	Aggregated	75	Diesel	0.005728636	0.00693165	0.008249236	0.037932359	0.052548367	5.045915357	0.004822375	0.004436585	0.004822375	4.64801E-05	4.11841E-05	163709.1667	137447.799	204.444927	8755724.561
Statewide	2020	AirGrSupp - Cargo Tractor	Aggregated	100	Diesel	0.00198038	0.002396259	0.002851747	0.009032667	0.016672056	1.065976473	0.001789686	0.001646511	0.001789686	9.79607E-06	8.70036E-06	34584.4327	21524.73387	34.25255321	1823977.525
Statewide	2020	AirGrSupp - Cargo Tractor	Aggregated	175	Diesel	0.000635922	0.000769466	0.000915728	0.007852121	0.007542599	1.300040499	0.000429768	0.000395387	0.000429768	1.20004E-05	1.06108E-05	42178.38227	15676.63643	23.54863033	2249369.708

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	AirGrSupp - Cargo Tractor	Aggregated	300	Diesel	0.001243443	0.001504566	0.001790558	0.006096427	0.020554833	2.026299968	0.000732463	0.000673866	0.000732463	1.86968E-05	1.65384E-05	65741.07088	15910.09342	24.61902262	3514543.138
Statewide	2020	AirGrSupp - Cargo Tractor	Aggregated	600	Diesel	0.000600445	0.000726538	0.00086464	0.003656308	0.007816233	1.842187012	0.000252579	0.000232373	0.000252579	1.70139E-05	1.50357E-05	59767.72878	8089.284474	11.77431517	3195267.367
Statewide	2020	AirGrSupp - Forklift	Aggregated	25	Diesel	1.39391E-05	1.68663E-05	2.00723E-05	6.871E-05	5.88833E-05	0.007859744	4.97605E-06	4.57796E-06	4.97605E-06	7.22491E-08	6.41502E-08	255.0007476	881.4522734	2.264105625	22036.30684
Statewide	2020	AirGrSupp - Forklift	Aggregated	50	Diesel	0.000371072	0.000448998	0.000534344	0.001779052	0.001590173	0.172270232	0.000153406	0.000141134	0.000153406	1.58159E-06	1.40605E-06	5589.117942	12393.41649	32.82953156	483006.2172
Statewide	2020	AirGrSupp - Forklift	Aggregated	75	Diesel	0.00017849	0.000215972	0.000257025	0.000774727	0.001730119	0.081295247	0.000133694	0.000122999	0.000133694	7.4626E-07	6.63521E-07	2637.534773	3825.799153	11.32052812	253824.9225
Statewide	2020	AirGrSupp - Forklift	Aggregated	100	Diesel	0.001742264	0.00210814	0.002508861	0.013880363	0.018587457	1.979684221	0.001484234	0.001365495	0.001484234	1.82509E-05	1.61579E-05	64228.6743	70500.13302	189.0528197	6162192.063
Statewide	2020	AirGrSupp - Forklift	Aggregated	175	Diesel	0.000864481	0.001046022	0.001244852	0.007827064	0.011570415	1.242295029	0.000604031	0.000555709	0.000604031	1.14597E-05	1.01394E-05	40304.89406	30322.45202	80.37574967	3872935.04
Statewide	2020	AirGrSupp - Forklift	Aggregated	300	Diesel	0.000453253	0.000548436	0.000652684	0.003181856	0.008029185	0.940055573	0.000251465	0.000231347	0.000251465	8.67768E-06	7.67261E-06	30499.06777	12393.41649	32.82953156	2930162.165
Statewide	2020	AirGrSupp - Forklift	Aggregated	600	Diesel	8.84406E-05	0.000107013	0.000127354	0.000317646	0.001998495	0.155820972	5.15605E-05	4.74356E-05	5.15605E-05	1.43799E-06	1.27179E-06	5055.439822	1322.17841	3.396158437	485680.2026
Statewide	2020	AirGrSupp - Lift	Aggregated	25	Diesel	4.88685E-06	5.91308E-06	7.03706E-06	9.83612E-05	0.000125576	0.014900529	4.40458E-06	4.05221E-06	4.40458E-06	1.37616E-07	1.21616E-07	483.4312687	1002.469221	2.419098477	25061.73052
Statewide	2020	AirGrSupp - Lift	Aggregated	50	Diesel	0.000215816	0.000261137	0.000310775	0.002397387	0.002448741	0.354251241	0.000111709	0.000102772	0.000111709	3.26875E-06	2.89135E-06	11493.29138	13295.90756	32.65782944	595836.0479
Statewide	2020	AirGrSupp - Lift	Aggregated	75	Diesel	3.41763E-05	4.13534E-05	4.92139E-05	0.001060564	0.000669664	0.171560606	1.8829E-05	1.73227E-05	1.8829E-05	1.58514E-06	1.40025E-06	5566.094922	4511.111493	10.88594315	320790.1506
Statewide	2020	AirGrSupp - Lift	Aggregated	100	Diesel	0.001275015	0.001542768	0.001836021	0.015084247	0.015012984	2.283296004	0.001033488	0.000950809	0.001033488	2.1072E-05	1.8636E-05	74079.02424	50651.07641	123.3740223	4265977.619
Statewide	2020	AirGrSupp - Lift	Aggregated	175	Diesel	0.000235286	0.000284696	0.000338812	0.003177587	0.002415277	0.528889181	0.000175738	0.000161679	0.000175738	4.88278E-06	4.31672E-06	17159.227	8019.753766	19.35278782	988935.8862
Statewide	2020	AirGrSupp - Lift	Aggregated	300	Diesel	0.000256084	0.000309862	0.000368761	0.00299638	0.003792947	1.05073302	0.00011166	0.000102727	0.00011166	9.70687E-06	8.57594E-06	34089.87566	8784.796066	21.77188629	1964786.911
Statewide	2020	AirGrSupp - Other GSE	Aggregated	25	Diesel	1.07875E-05	1.30528E-05	1.5534E-05	0.000229114	0.000182777	0.036358228	7.52352E-07	6.92164E-07	7.52352E-07	3.35826E-07	2.96751E-07	1179.602657	2446.457884	5.064074836	61161.44709
Statewide	2020	AirGrSupp - Other GSE	Aggregated	50	Diesel	0.005159914	0.006243496	0.007430276	0.035750505	0.03341217	4.350949372	0.002282327	0.002099741	0.002282327	4.00719E-05	3.55119E-05	141161.7607	212366.9027	450.7026604	7317562.623
Statewide	2020	AirGrSupp - Other GSE	Aggregated	75	Diesel	0.001373029	0.001661365	0.001977162	0.018756384	0.020776594	2.793480117	0.001201194	0.001105099	0.001201194	2.57859E-05	2.28E-05	90631.38592	76825.95677	164.5824322	5224283.794
Statewide	2020	AirGrSupp - Other GSE	Aggregated	100	Diesel	0.001138434	0.001377505	0.001639345	0.017355892	0.013303751	2.68706233	0.000836975	0.000770017	0.000836975	2.48091E-05	2.19314E-05	87178.77804	56820.77915	119.0057586	5015103.361
Statewide	2020	AirGrSupp - Other GSE	Aggregated	175	Diesel	0.002461745	0.002978712	0.003544913	0.044826063	0.030778759	7.930722401	0.001464889	0.001347698	0.001464889	7.32496E-05	6.47295E-05	257303.5542	92175.68518	194.9668812	14831645.4
Statewide	2020	AirGrSupp - Other GSE	Aggregated	300	Diesel	0.002493698	0.003017375	0.003590925	0.01808838	0.039810848	8.454256844	0.001288767	0.001185665	0.001288767	7.8089E-05	6.90025E-05	274289.0526	70157.56423	149.3902077	15810794.6
Statewide	2020	AirGrSupp - Other GSE	Aggregated	600	Diesel	0.001596267	0.001931483	0.002298624	0.01255279	0.024715008	5.27351571	0.00088242	0.000811826	0.00088242	4.87084E-05	4.30417E-05	171093.4095	27463.28455	58.23686061	9862281.963
Statewide	2020	AirGrSupp - Passenger Stand	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	AirGrSupp - Passenger Stand	Aggregated	50	Diesel	2.64942E-05	3.2058E-05	3.81516E-05	0.000241588	0.000307019	0.044164914	1.62294E-05	1.4931E-05	1.62294E-05	4.07532E-07	3.60468E-07	1432.881989	1465.513722	26.1078274	63358.74356
Statewide	2020	AirGrSupp - Passenger Stand	Aggregated	75	Diesel	5.42478E-06	6.56398E-06	7.81168E-06	0.000274043	0.000167298	0.047192028	1.93119E-06	1.77669E-06	1.93119E-06	4.36151E-07	3.85175E-07	1531.09338	1375.604905	37.10059683	75607.32143
Statewide	2020	AirGrSupp - Passenger Stand	Aggregated	100	Diesel	6.59421E-06	7.979E-06	9.49567E-06	2.98353E-05	7.48561E-05	0.003180056	3.96356E-06	3.64647E-06	3.96356E-06	2.92034E-08	2.59552E-08	103.1734083	50.94832981	1.374096179	5094.832981
Statewide	2020	AirGrSupp - Passenger Stand	Aggregated	175	Diesel	1.35748E-05	1.64255E-05	1.95477E-05	0.000129046	0.000212625	0.020780925	1.27927E-05	1.17692E-05	1.27927E-05	1.91723E-07	1.69611E-07	674.2142209	299.6960577	1.374096179	32966.56635
Statewide	2020	AirGrSupp - Passenger Stand	Aggregated	300	Diesel	4.75184E-06	5.74972E-06	6.84264E-06	3.05178E-05	0.000118979	0.017331304	2.1709E-06	1.99723E-06	2.1709E-06	1.60094E-07	1.41456E-07	562.2950755	101.8966596	2.748192358	27766.83975
Statewide	2020	AirGrSupp - Passenger Stand	Aggregated	600	Diesel	1.3913E-06	1.68347E-06	2.00347E-06	3.42008E-05	9.50489E-06	0.019557343	3.17767E-07	2.92345E-07	3.17767E-07	1.80776E-07	1.59624E-07	634.5164613	101.8966596	2.748192358	31333.22283
Statewide	2020	CHC - AE Barge and Dredge	Aggregated		Diesel	0.02257465	0.027315327	0.032507496	0.266567482	0.705648592	19.69613688	0.018247773	0.016787951	0.018247773	0.000181423	0.001140353	4532969.278	0	0	0
Statewide	2020	CHC - AE Charter Fishing	Aggregated		Diesel	0.076949104	0.093108416	0.110806709	0.322445275	0.454030184	5.750192825	0.024989527	0.022990364	0.024989527	5.08549E-05	0.00033292	1323378.67	0	0	0
Statewide	2020	CHC - AE Commercial Fishing	Aggregated		Diesel	0.20144494	0.243748378	0.290080714	0.93885434	1.852903494	16.47006912	0.10219769	0.094021874	0.10219769	0.000146231	0.000953572	3790505.609	0	0	0
Statewide	2020	CHC - AE Crew and Supply	Aggregated		Diesel	0.0130744	0.015820023	0.018827135	0.062915083	0.078482952	1.319856567	0.002833607	0.002606919	0.002833607	1.18105E-05	7.64161E-05	303758.514	0	0	0
Statewide	2020	CHC - AE Ferry and Excursion	Aggregated		Diesel	0.063576891	0.076928038	0.091550723	0.366475909	0.434020539	7.641041054	0.01491097	0.013718093	0.01491097	6.87379E-05	0.000442395	1758548.113	0	0	0
Statewide	2020	CHC - AE Others	Aggregated		Diesel	0.005014868	0.006067991	0.00722141	0.021152241	0.031519902	0.361586465	0.001777965	0.001635728	0.001777965	3.1926E-06	2.09349E-05	83217.35117	0	0	0
Statewide	2020	CHC - AE Pilot Vessels	Aggregated		Diesel	0.000250556	0.000303172	0.0003608	0.000825237	0.00089486	0.012714408	5.68303E-05	5.22839E-05	5.68303E-05	1.10034E-07	7.3613E-07	2926.158675	0	0	0
Statewide	2020	CHC - AE Tow Boats	Aggregated		Diesel	0.013487176	0.016319483	0.019421534	0.078308061	0.101883326	1.664656158	0.004043669	0.003720175	0.004043669	1.4986E-05	9.63791E-05	383112.4483	0	0	0
Statewide	2020	CHC - AE Tug Boats	Aggregated		Diesel	0.029874508	0.036148155	0.043019292	0.18026341	0.225616346	3.829414996	0.008174401	0.007520449	0.008174401	3.45086E-05	0.000221713	881321.0752	0	0	0
Statewide	2020	CHC - AE Work Boats	Aggregated		Diesel	0.002790761	0.003376821	0.004018696	0.016432183	0.026673147	0.313645564	0.001052375	0.000968185	0.001052375	2.81609E-06	1.81592E-05	72183.98786	0	0	0
Statewide	2020	CHC - ME Barge and Dredge	Aggregated		Diesel	0.003303354	0.003997059	0.00475683	0.0305789	0.124870042	2.354634984	0.0033769	0.003106748	0.0033769	2.16707E-05	0.000136327	541907.6902	0	0	0
Statewide	2020	CHC - ME Charter Fishing	Aggregated		Diesel	0.64857278	0.784773064	0.933944804	4.00448483	9.078221831	96.18142221	0.383271879	0.352610128	0.383271879	0.000869788	0.005568642	22135682.48	0	0	0
Statewide	2020	CHC - ME Commercial Fishing	Aggregated		Diesel	0.571784986	0.691859833	0.82337038	2.669592658	10.35940246	64.72790108	0.449495887	0.413536216	0.449495887	0.000581288	0.003747569	14896808.89	0	0	0
Statewide	2020	CHC - ME Crew and Supply	Aggregated		Diesel	0.106146495	0.128437259	0.152850953	0.769352849	0.912683787	16.18869791	0.02488534	0.022894513	0.02488534	0.000146488	0.000937281	3725749.406	0	0	0
Statewide	2020	CHC - ME Ferry and Excursion	Aggregated		Diesel	1.011381845	1.223772032	1.456389857	9.184965823	9.983174319	191.9487631	0.250148104	0.230136256	0.250148104	0.00174432	0.01111331	44176066.17	0	0	0
Statewide	2020	CHC - ME Others	Aggregated		Diesel	0.085540095	0.103503515	0.123177737	0.479783099	1.27727512	11.80802422	0.057405206	0.05281279	0.057405206	0.000106605	0.000683652	2717558.847	0	0	0
Statewide	2020	CHC - ME Pilot Vessels	Aggregated		Diesel	0.018810559	0.022760776	0.027087205	0.119595164	0.247204129	3.00757675	0.01044731	0.009611526	0.01044731	2.72422E-05	0.00017413	692179.0344	0	0	0
Statewide	2020	CHC - ME Tow Boats	Aggregated		Diesel	0.118770124	0.14371185	0.171028979	1.07934156	1.190578791	23.02506997	0.028110997	0.025862118	0.028110997	0.000209315	0.001333089	5299106.899	0	0	0
Statewide	2020	CHC - ME Tug Boats	Aggregated		Diesel	0.510994755	0.618303654	0.735832447	4.559303147	5.545477653	95.75923789	0.162091718	0.149124381	0.162091718	0.000870012	0.005544199	22038518.83	0	0	0
Statewide	2020	CHC - ME Work Boats	Aggregated		Diesel	0.018447665	0.022321675	0.026564638	0.120367844	0.236202116	2.754128184	0.009676381	0.008902271	0.009676381	2.49099E-05	0.000159457	633849.0905	0	0	0
Statewide	2020	CHE - Port Construction Equipment	Aggregated	50	Diesel	0.000542269	0.000656146	0.000780867	0.00511397	0.003818492	0.514078991	6.56216E-05	6.03719E-05	6.56216E-05	4.73665E-06	4.19584E-06	16678.7267	12619.48542	7.066599102	527240.4534
Statewide	2020	CHE - Port Construction Equipment	Aggregated	75	Diesel	0.001849127	0.002237443	0.002662742	0.018352492	0.01999527	2.691731209	0.000394831	0.000363245	0.000394831	2.48309E-05	2.19695E-05	87330.25468	42130.37035	15.08132497	2759810.108
Statewide	2020	CHE - Port Construction Equipment	Aggregated	100	Diesel	0.001392187	0.001684546	0.002004749	0.020668793	0.009382631	3.11866589	0.000187994	0.000172955	0.000187994	2.87918E-05	2.54541E-05	101181.6802	36898.08675	17.24836224	3190778.729
Statewide	2020	CHE - Port Construction Equipment	Aggregated	175	Diesel	0.004276066	0.005174039	0.006157534	0.053988103	0.044652034	8.213087488	0.000671113	0.000617424	0.000671113	7.58058E-05	6.70341E-05	266464.5785	66520.41921	38.9723763	9388658.028
Statewide	2020	CHE - Port Construction Equipment	Aggregated	300	Diesel	0.007954712	0.009625202	0.011454785	0.048078386	0.083275892	17.26331203	0.001080379	0.000993949	0.001080379	0.000159369	0.000140901	560089.1468	79259.80227	35.6523426	19744522.48
Statewide	2020	CHE - Port Construction Equipment	Aggregated	600	Diesel	0.021443738	0.025946923	0.030878983	0.140052222	0.211357755	56.0804647	0.002248687	0.002068792	0.002248687	0.000517848	0.000457721	1819468.916	163696.688	68.86037089	63603859.84
Statewide	2020	CHE - Port Container Handling Equipment	Aggregated	100	Diesel	0.000149504	0.000180899	0.000215285	0.002147892	0.00093272	0.332894833	2.06749E-05	1.90209E-05	2.06749E-05	3.07329E-06	2.71704E-06	10800.40623	3744.360676	2.169897236	318270.6574
Statewide	2020	CHE - Port Container Handling Equipment	Aggregated	175	Diesel	0.008288802	0.010029451	0.011935875	0.116322812	0.076864037	18.19616644	0.000883941	0.000813226	0.000883941	0.000167984	0.000148515	590354.5807	126210.8895	57.27861481	19306936.92
Statewide	2020	CHE - Port Container Handling Equipment	Aggregated	300	Diesel	0.047242226	0.057163093	0.068028805	0.313280138	0.450238706	139.7101671	0.004220621	0.003882972	0.004220621	0.001290273	0.001140296	4532742.51	590407.6455	271.0869885	148741733.2
Statewide	2020	CHE - Port Container Handling Equipment	Aggregated	600	Diesel	0.044905427	0.054335566	0.064663815	0.297900631	0.35879455	144.1113598	0.003796553	0.003492829	0.003796553	0.001331034	0.001176218	4675534.359	459409.9137	205.782881	153271805.7

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	CHE - Port Forklift	Aggregated	50	Diesel	0.000269161	0.000325685	0.000387593	0.003492328	0.003050223	0.45613548	6.57194E-05	6.04619E-05	6.57194E-05	4.20912E-06	3.72292E-06	14798.81331	20388.59665	28.35097008	853093.9608
Statewide	2020	CHE - Port Forklift	Aggregated	75	Diesel	0.000902893	0.001092501	0.001300167	0.01217573	0.012900026	1.964806709	0.000385038	0.000354235	0.000385038	1.81385E-05	1.60365E-05	63745.98981	54167.24329	54.43960301	3687519.239
Statewide	2020	CHE - Port Forklift	Aggregated	100	Diesel	0.001729596	0.002092811	0.002490618	0.044930051	0.008785549	7.533056603	0.000333273	0.000306611	0.000333273	6.9595E-05	6.14838E-05	244401.7253	165542.7299	173.9256025	14154286.04
Statewide	2020	CHE - Port Forklift	Aggregated	175	Diesel	0.005023324	0.006078221	0.007233586	0.106456376	0.051503905	18.00726825	0.001078454	0.000992178	0.001078454	0.000166335	0.000146973	584225.9869	261296.5569	276.84586	37632746.93
Statewide	2020	CHE - Port Forklift	Aggregated	300	Diesel	0.002120673	0.002566014	0.003053769	0.019090543	0.019015584	9.269338665	0.000285031	0.000262228	0.000285031	8.5636E-05	7.56551E-05	300733.4846	90874.19599	96.99237179	19395607.98
Statewide	2020	CHE - Port Forklift	Aggregated	600	Diesel	0.000255455	0.0003091	0.0003678555	0.003105226	0.001865388	1.653364124	3.27375E-05	3.01185E-05	3.27375E-05	1.52785E-05	1.34945E-05	53641.57816	10753.23352	11.99778219	3466451.46
Statewide	2020	CHE - Port Other General Industrial Equipment	Aggregated	50	Diesel	0.001681516	0.002034634	0.002421383	0.013361663	0.010289677	1.35524277	0.000208442	0.000191767	0.000208442	1.24794E-05	1.10613E-05	43969.35915	38964.71663	30.33851143	1496732.988
Statewide	2020	CHE - Port Other General Industrial Equipment	Aggregated	75	Diesel	0.000760364	0.00092004	0.001094924	0.007858743	0.008684238	1.195483536	0.000164283	0.00015114	0.000164283	1.103E-05	9.75738E-06	38786.14674	20492.55045	12.54167499	1313739.551
Statewide	2020	CHE - Port Other General Industrial Equipment	Aggregated	100	Diesel	0.001308461	0.001583238	0.001884184	0.016230528	0.008845347	2.474844357	0.000193609	0.00017812	0.000193609	2.28419E-05	2.01993E-05	80293.59962	32880.40484	16.94674819	2747743.95
Statewide	2020	CHE - Port Other General Industrial Equipment	Aggregated	175	Diesel	0.002683564	0.003247112	0.003864332	0.033301002	0.028681312	5.237980359	0.000417304	0.00038392	0.000417304	4.83472E-05	4.27517E-05	169940.5041	47684.46616	30.83577898	6349966.729
Statewide	2020	CHE - Port Other General Industrial Equipment	Aggregated	300	Diesel	0.001907426	0.002307985	0.002746693	0.011788394	0.019991166	4.458841465	0.000227512	0.000209311	0.000227512	4.1167E-05	3.63925E-05	144662.2008	24799.65197	13.62292095	5610744.392
Statewide	2020	CHE - Port Other General Industrial Equipment	Aggregated	600	Diesel	0.006372783	0.007711067	0.009176808	0.057453072	0.06935476	12.89765384	0.000875196	0.00080518	0.000875196	0.000119054	0.000105269	418450.1745	36164.91317	22.96895853	15808798.08
Statewide	2020	CHE - Port RTG Crane	Aggregated	100	Diesel	1.14165E-06	1.38139E-06	1.64397E-06	1.53555E-05	1.23218E-05	0.002763825	1.46882E-07	1.35131E-07	1.46882E-07	2.55187E-08	2.2558E-08	89.66925099	77.95106778	0.666284979	7795.106778
Statewide	2020	CHE - Port RTG Crane	Aggregated	300	Diesel	0.000983143	0.001189603	0.001415725	0.006452236	0.009289483	2.188214111	0.000115394	0.000106163	0.000115394	2.02016E-05	1.78599E-05	70994.19694	29218.22564	17.89212337	6859878.864
Statewide	2020	CHE - Port RTG Crane	Aggregated	600	Diesel	0.011842604	0.01432955	0.017053349	0.078326921	0.105578242	34.70560124	0.001081435	0.00099492	0.001081435	0.000320515	0.000283262	1125985.011	219871.8689	122.0494924	108888877
Statewide	2020	CHE - Port RTG Crane	Aggregated	750	Diesel	0.011203591	0.013556345	0.016133171	0.071784276	0.091720235	34.73081975	0.000927486	0.000853287	0.000927486	0.000320768	0.000283468	1126803.197	165398.3077	88.58768449	108884702
Statewide	2020	CHE - Port RTG Crane	Aggregated	9999	Diesel	0.008869743	0.010732389	0.012772429	0.047112114	0.141927452	22.85171416	0.001883931	0.001733217	0.001883931	0.000211009	0.000186513	741398.6993	74065.3293	42.43194385	71651361.15
Statewide	2020	CHE - Port Yard Tractor	Aggregated	175	Diesel	0.027182171	0.032890427	0.039142326	1.89648495	0.174865554	303.0082303	0.005982498	0.005503898	0.005982498	0.002800646	0.002473112	9830768.329	2815123.921	1340.279089	487197961.6
Statewide	2020	CHE - Port Yard Tractor	Aggregated	300	Diesel	0.022918125	0.027730931	0.0330021	0.595407404	0.11778007	276.3307261	0.00406302	0.003737978	0.00406302	0.002554127	0.002255374	8965246.084	2023444.516	930.9952148	443860036.1
Statewide	2020	CHE - Port Yard Tractor	Aggregated	600	Diesel	0.000156449	0.000189304	0.000225287	0.003970638	0.001083388	1.950405561	2.84268E-05	2.61526E-05	2.84268E-05	1.80278E-05	1.59189E-05	63278.76045	9800.449585	4.569733955	3136143.867
Statewide	2020	CHE - Rail Construction Equipment	Aggregated	75	Diesel	1.59316E-05	1.92772E-05	2.29415E-05	0.000158849	0.000226299	0.026608276	5.59306E-06	5.14561E-06	5.59306E-06	2.45529E-07	2.17173E-07	863.2762125	440.4772024	2.426301725	27289.50177
Statewide	2020	CHE - Rail Container Handling Equipment	Aggregated	175	Diesel	0.002399606	0.002903523	0.003455433	0.030234845	0.024859929	4.746638347	0.000309688	0.000284913	0.000309688	4.3813E-05	3.87414E-05	153999.4537	33740.47568	20.01050965	5058269.33
Statewide	2020	CHE - Rail Container Handling Equipment	Aggregated	300	Diesel	0.005657836	0.006845982	0.008147284	0.033044593	0.057218492	13.13805273	0.000617076	0.000567709	0.000617076	0.000121298	0.000107231	426249.6518	61824.38048	19.46666725	13960835.09
Statewide	2020	CHE - Rail Container Handling Equipment	Aggregated	600	Diesel	0.001686692	0.002040897	0.002428837	0.01079412	0.015876321	3.996691022	0.000193372	0.000177902	0.000193372	3.69008E-05	3.26205E-05	129668.2386	12446.55353	5.319777627	4231590.213
Statewide	2020	CHE - Rail Forklift	Aggregated	75	Diesel	4.00963E-05	4.85166E-05	5.77387E-05	0.000535701	0.000574329	0.086265474	1.84499E-05	1.69739E-05	1.84499E-05	7.96364E-07	7.04087E-07	2798.788285	2555.452115	2.99077878	162202.4145
Statewide	2020	CHE - Rail Forklift	Aggregated	100	Diesel	0.000395217	0.000478212	0.000569112	0.008167473	0.001358494	1.234445711	4.34839E-05	4.00052E-05	4.34839E-05	1.14012E-05	1.00754E-05	40050.2316	25633.42413	9.615962301	2308928.894
Statewide	2020	CHE - Rail Forklift	Aggregated	175	Diesel	0.000488982	0.000591668	0.000704134	0.009441921	0.003558866	1.454080503	4.70199E-05	4.32583E-05	4.70199E-05	1.3429E-05	1.1868E-05	47176.04053	18731.54646	7.748147424	3026139.177
Statewide	2020	CHE - Rail Forklift	Aggregated	300	Diesel	9.00285E-05	0.000108934	0.000129641	0.0006414	0.000776422	0.290354717	1.14169E-05	1.05035E-05	1.14169E-05	2.68177E-06	2.36984E-06	9420.23901	2636.376732	1.569599203	606936.5449
Statewide	2020	CHE - Rail Other General Industrial Equipment	Aggregated	50	Diesel	0.000625947	0.000757396	0.000901364	0.004397775	0.00321071	0.386326935	8.60147E-05	7.91336E-05	8.60147E-05	3.55301E-06	3.15315E-06	12533.95195	9156.291078	2.531897856	427293.5836
Statewide	2020	CHE - Rail Other General Industrial Equipment	Aggregated	175	Diesel	5.13531E-05	6.21372E-05	7.39484E-05	0.000680368	0.000673228	0.118333778	1.11933E-05	1.02979E-05	1.11933E-05	1.09251E-06	9.65824E-07	3839.209112	1066.186696	1.673043329	145503.7588
Statewide	2020	CHE - Rail Other General Industrial Equipment	Aggregated	300	Diesel	0.000446806	0.000540635	0.0006434	0.002812222	0.005462943	1.138260807	5.16127E-05	4.74837E-05	5.16127E-05	1.05104E-05	9.29033E-06	36929.61833	6645.763365	8.21843519	1484434.109
Statewide	2020	CHE - Rail RTG Crane	Aggregated	300	Diesel	0.009264601	0.011210167	0.013341025	0.054376439	0.091506668	22.01372865	0.000821159	0.000755466	0.000821159	0.00020325	0.000179673	714211.1823	257751.5527	61.72067707	69007235.82
Statewide	2020	CHE - Rail RTG Crane	Aggregated	600	Diesel	0.003368147	0.004075458	0.004850131	0.019385374	0.030943268	9.025109796	0.000269767	0.000248186	0.000269767	8.33406E-05	7.36617E-05	292809.748	84865.04303	23.66772597	28334508.08
Statewide	2020	CHE - Rail Yard Tractor	Aggregated	175	Diesel	0.015952915	0.019303027	0.022972198	1.030841802	0.073397868	165.3785595	0.002852656	0.002624443	0.002852656	0.001528528	0.001349798	5365525.229	1670647.101	436.2745175	265460478.2
Statewide	2020	CHE - Rail Yard Tractor	Aggregated	300	Diesel	0.005774725	0.006987417	0.008315603	0.138976662	0.026881721	66.86425965	0.001008188	0.000927533	0.001008188	0.00061802	0.000545737	2169337.267	539423.8956	156.2472059	107514017.6
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	50	Diesel	0.001495888	0.001810025	0.002154079	0.011405124	0.01174645	1.514136427	0.000743729	0.000684231	0.000743729	1.39541E-05	1.23582E-05	49124.48884	42522.51868	122.3304779	1668165.487
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	75	Diesel	0.001174982	0.001421728	0.001691974	0.017390834	0.020870058	2.637724936	0.001097161	0.001009388	0.001097161	2.43518E-05	2.15288E-05	85578.0806	45392.30393	103.0151393	3332730.383
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	100	Diesel	0.002486302	0.003008425	0.003580274	0.042931038	0.034516172	6.778656541	0.001757383	0.001616792	0.001757383	6.25975E-05	5.53265E-05	219926.0461	100341.9407	270.4147407	8597536.478
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	175	Diesel	0.002986989	0.003614257	0.004301264	0.060883948	0.038690168	10.94695749	0.001714332	0.001577186	0.001714332	0.00010112	8.93476E-05	355161.9799	91149.43542	294.8808362	13626504.14
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	300	Diesel	0.003536796	0.004279523	0.005092986	0.031824449	0.054235399	15.4586558	0.001576028	0.001449946	0.001576028	0.000142817	0.000126171	501539.0627	93993.36675	294.8808362	19431673.65
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	600	Diesel	0.005395464	0.006528512	0.007769468	0.055806179	0.074612077	29.57645281	0.002350151	0.002162138	0.002350151	0.000273287	0.000241399	959575.4387	89020.79591	254.9624698	37287362.52
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	750	Diesel	0.001932467	0.002338285	0.002782753	0.020618331	0.025770517	11.16299281	0.000902503	0.000830303	0.000902503	0.000103149	9.11108E-05	362171.0079	21361.0842	48.93219117	13799363.72
Statewide	2020	ConstMin - Bore/Drill Rigs	Aggregated	9999	Diesel	0.002318229	0.002805058	0.00333825	0.015465638	0.062367801	8.186127037	0.001513912	0.001392799	0.001513912	7.56153E-05	6.68141E-05	265589.8763	5502.576223	7.726135448	10236953.45
Statewide	2020	ConstMin - Cranes	Aggregated	25	Diesel	4.49523E-05	5.43923E-05	6.47313E-05	0.00025483	0.000233064	0.028955934	1.74891E-05	1.609E-05	1.74891E-05	2.66363E-07	2.36334E-07	939.443405	2269.319433	4.851693954	56732.98581
Statewide	2020	ConstMin - Cranes	Aggregated	50	Diesel	0.001435642	0.001737127	0.002067325	0.006087655	0.004912904	0.469185571	0.000518825	0.000477319	0.000518825	4.29478E-06	3.82943E-06	15222.20914	22074.45302	51.75140217	910142.1269
Statewide	2020	ConstMin - Cranes	Aggregated	75	Diesel	0.00043368	0.000524753	0.000624499	0.001811052	0.003964213	0.210937977	0.00036797	0.000338532	0.00036797	1.93722E-06	1.72165E-06	6843.650344	6513.920883	17.7895445	456156.6568
Statewide	2020	ConstMin - Cranes	Aggregated	100	Diesel	0.012597576	0.015243067	0.01814051	0.086842618	0.133633515	10.8890318	0.009424005	0.008670084	0.009424005	0.000100297	8.88748E-05	353282.6445	269506.0354	624.2512887	23791638.92
Statewide	2020	ConstMin - Cranes	Aggregated	175	Diesel	0.026864534	0.032506087	0.038684929	0.216157927	0.335790452	32.15110942	0.01804766	0.016603847	0.01804766	0.000296447	0.000262413	1043107.337	475979.8295	1064.138207	69919131.79
Statewide	2020	ConstMin - Cranes	Aggregated	300	Diesel	0.034024349	0.041169462	0.048995062	0.193263142	0.494114741	57.90677848	0.020202206	0.018586029	0.020202206	0.000534356	0.000472627	1878721.655	567252.29	1224.244108	126123714.6
Statewide	2020	ConstMin - Cranes	Aggregated	600	Diesel	0.045032523	0.054489353	0.064846834	0.438377577	0.662716832	96.14363758	0.026117992	0.024028552	0.026117992	0.000887545	0.000784711	3119274.438	566718.3325	1177.344399	209774775.3
Statewide	2020	ConstMin - Cranes	Aggregated	750	Diesel	0.001543157	0.00186722	0.002222146	0.015197021	0.019899029	1.540245862	0.001026016	0.000943935	0.001026016	1.4194E-05	1.25713E-05	49971.58072	5220.517041	12.93785054	3341532.276
Statewide	2020	ConstMin - Cranes	Aggregated	9999	Diesel	0.006454718	0.007810209	0.009294794	0.066670163	0.089339789	5.391574529	0.004263014	0.003921973	0.004263014	4.96541E-05	4.40053E-05	174923.6978	12520.94291	25.87570109	11747745.37
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	50	Diesel	0.004464928	0.005402563	0.006429496	0.019211729	0.014850301	1.518041588	0.0015558	0.001431336	0.0015558	1.39011E-05	1.23901E-05	49251.18751	47825.65411	143.5336636	2009939.674
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	75	Diesel	0.001529901	0.001851181	0.002203058	0.006001087	0.014660302	0.501061461	0.001074866	0.000988877	0.001074866	4.58666E-06	4.0896E-06	16256.38729	10064.00849	48.80144561	726705.5659
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	100	Diesel	0.072674107	0.087935669	0.104650713	0.502870306	0.74032847	66.60047706	0.061834272	0.05688753	0.061834272	0.000613574	0.000543584	2160779.131	1110692.86	2412.800884	97212253.54
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	175	Diesel	0.054882035	0.066407262	0.07903013	0.464453863	0.678747961	73.17609328	0.037970883	0.034933212	0.037970883	0.000674903	0.000597253	2374117.757	718031.6236	1624.801071	107051310.4
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	300	Diesel	0.051024636	0.061739809	0.073475476	0.324519919	0.766138971	78.22487497	0.030743122	0.028283673	0.030743122	0.000721697	0.000638461	2537919.919	553582.907	1293.238309	114494896

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	600	Diesel	0.110619984	0.133850181	0.159292777	0.83902517	1.620152223	264.7779805	0.06089731	0.056025525	0.06089731	0.002444685	0.002161082	8590429.977	1005715.613	2145.82827	387108544.1
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	750	Diesel	0.003355136	0.004059714	0.004831396	0.020939202	0.064385614	5.688886556	0.001886486	0.001735567	0.001886486	5.24959E-05	4.64319E-05	184569.6591	13437.35655	30.14206935	8339590.964
Statewide	2020	ConstMin - Crawler Tractors	Aggregated	9999	Diesel	0.01026947	0.012426059	0.014788037	0.052402357	0.201317043	15.59589712	0.005708065	0.00525142	0.005708065	0.000143884	0.000127292	505991.7063	23275.6213	43.06009907	22769424.83
Statewide	2020	ConstMin - Excavators	Aggregated	25	Diesel	4.19918E-05	5.08101E-05	6.04682E-05	0.000142684	9.69173E-05	0.007507832	1.35074E-05	1.24268E-05	1.35074E-05	6.81539E-08	6.12779E-08	243.5833332	444.3691972	1.438206773	11109.22993
Statewide	2020	ConstMin - Excavators	Aggregated	50	Diesel	0.050649871	0.061286343	0.072935814	0.465188062	0.416738031	60.75592299	0.0229584	0.021121728	0.0229584	0.000560199	0.000495882	1971159.011	2508180.171	3512.10094	89707497.39
Statewide	2020	ConstMin - Excavators	Aggregated	75	Diesel	0.001084086	0.001311744	0.001561083	0.013697868	0.019382637	1.918646714	0.001121245	0.001031546	0.001121245	1.77063E-05	1.56597E-05	62248.37961	42879.22119	63.28109802	3146750.119
Statewide	2020	ConstMin - Excavators	Aggregated	100	Diesel	0.035778846	0.043292404	0.051521539	0.513919181	0.442672884	77.02209764	0.026454767	0.024338386	0.026454767	0.000711034	0.000628644	2498897.133	1556634.923	2466.524616	127079786.3
Statewide	2020	ConstMin - Excavators	Aggregated	175	Diesel	0.060684682	0.073428465	0.087385942	0.973384051	0.72197501	166.4622268	0.03509013	0.03228292	0.03509013	0.001537205	0.001358642	5400683.623	1871529.053	3240.27986	273257506.9
Statewide	2020	ConstMin - Excavators	Aggregated	300	Diesel	0.059409113	0.071885027	0.085549123	0.454866236	0.821343499	211.7060725	0.025046186	0.023042491	0.025046186	0.001955545	0.001727917	6868570.371	1591024.607	2787.244726	347501309.9
Statewide	2020	ConstMin - Excavators	Aggregated	600	Diesel	0.089532496	0.10833432	0.128926794	0.778734813	1.104904583	375.3528977	0.036370556	0.033460912	0.036370556	0.003467638	0.00306358	12177911.39	1829484.027	2923.87437	617798738.6
Statewide	2020	ConstMin - Excavators	Aggregated	750	Diesel	0.00273005	0.003303361	0.003931272	0.017538357	0.041989192	6.657783456	0.001376443	0.001266328	0.001376443	6.14726E-05	5.43399E-05	216004.452	17490.82078	31.64054901	10957049.47
Statewide	2020	ConstMin - Excavators	Aggregated	9999	Diesel	0.002576325	0.003117354	0.003709908	0.023196396	0.065063725	10.49153725	0.001219913	0.00112232	0.001219913	9.69222E-05	8.56305E-05	340386.3717	14298.42113	21.5731016	17213439.75
Statewide	2020	ConstMin - Graders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Graders	Aggregated	50	Diesel	0.001444012	0.001747255	0.002079378	0.00561789	0.004028677	0.377837502	0.000495033	0.000455431	0.000495033	3.44997E-06	3.08386E-06	12258.52165	14410.43829	41.91248418	521715.6862
Statewide	2020	ConstMin - Graders	Aggregated	75	Diesel	0.000630401	0.000762785	0.000907778	0.004785471	0.005855066	0.622699245	0.00041414	0.000381009	0.00041414	5.73825E-06	5.08239E-06	20202.79122	13301.323	36.13145188	955754.3045
Statewide	2020	ConstMin - Graders	Aggregated	100	Diesel	0.015100674	0.018271815	0.02174497	0.076668461	0.14199413	8.388855137	0.011736812	0.010797867	0.011736812	7.71061E-05	6.84687E-05	272167.1662	144663.7768	401.7817449	12994841.45
Statewide	2020	ConstMin - Graders	Aggregated	175	Diesel	0.088387797	0.106949234	0.127278428	0.688809182	1.043941422	101.6533407	0.058274995	0.053612995	0.058274995	0.000937184	0.000829681	3298030.688	1048194.55	2273.390952	155787854.3
Statewide	2020	ConstMin - Graders	Aggregated	300	Diesel	0.115372211	0.139600375	0.166135984	0.561828527	1.74555588	214.6264786	0.057891833	0.053260486	0.057891833	0.001980867	0.001751752	6963319.729	1518857.616	2046.485435	329199174.5
Statewide	2020	ConstMin - Graders	Aggregated	600	Diesel	0.005008834	0.00606069	0.007212721	0.021702012	0.080172221	9.360577776	0.002480916	0.002282443	0.002480916	8.63929E-05	7.63998E-05	303693.6371	40748.70216	56.36506493	14294847.41
Statewide	2020	ConstMin - Graders	Aggregated	9999	Diesel	0.005666585	0.006856568	0.008159883	0.028964461	0.094892625	7.276127989	0.002975645	0.002737594	0.002975645	6.71014E-05	5.93868E-05	236065.9594	6171.065866	8.671548451	11165444.24
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	50	Diesel	0.035938508	0.043485595	0.051751451	0.237249149	0.200509801	25.19652336	0.014935095	0.013740287	0.014935095	0.000231876	0.000205651	817473.4513	866657.063	1346.691992	32698705.29
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	75	Diesel	0.009090084	0.010999002	0.013089722	0.118194828	0.105457376	17.30682026	0.006355099	0.005846691	0.006355099	0.000159737	0.000141256	561500.7234	351483.9269	559.1113223	24924680.88
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	100	Diesel	0.01325036	0.016032936	0.019080519	0.110405016	0.146991519	14.70000529	0.012172738	0.011198919	0.012172738	0.000135511	0.000119979	476925.4824	264684.1516	420.0430239	21096186.91
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	175	Diesel	0.011587824	0.014021267	0.016686467	0.166349385	0.149544753	27.36974784	0.007255224	0.006674806	0.007255224	0.000252699	0.000223388	887981.3263	249070.734	371.7948387	39435716.95
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	300	Diesel	0.009283468	0.011232997	0.013368194	0.059749162	0.134592609	24.4826313	0.004558947	0.004194231	0.004558947	0.000226076	0.000199824	794312.0096	162851.8716	259.6887614	35337860.58
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	600	Diesel	0.018820494	0.022772798	0.027101512	0.151370925	0.223329638	74.89357252	0.007556584	0.006952057	0.007556584	0.000691864	0.000611271	2429839.48	302636.5964	447.005245	108182856
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	750	Diesel	0.001623268	0.001964154	0.002337506	0.008804188	0.0195751	4.360698559	0.000794496	0.000730936	0.000794496	4.02681E-05	3.55914E-05	141478.0623	9975.239051	14.1906427	6360560.439
Statewide	2020	ConstMin - Off-Highway Tractors	Aggregated	9999	Diesel	0.001583725	0.001916307	0.002280564	0.010218012	0.028875052	4.256810676	0.000759947	0.000699152	0.000759947	3.93088E-05	3.47435E-05	138107.5343	3752.981877	7.095321349	6134447.528
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	25	Diesel	0.000328398	0.000397361	0.000472893	0.001487585	0.000977343	0.106877717	0.000101019	9.29375E-05	0.000101019	9.78286E-07	8.72322E-07	3467.529831	6318.77412	4.218071819	157969.353
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	50	Diesel	0.002655821	0.003213544	0.003824382	0.022227393	0.018664155	2.31583599	0.001298578	0.001194692	0.001298578	2.13314E-05	1.89015E-05	75134.74824	119589.348	75.92529274	3442295.349
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	75	Diesel	0.000345536	0.000418099	0.000497572	0.00541061	0.003174861	0.729463906	0.000127972	0.000117734	0.000127972	6.73389E-06	5.95379E-06	23666.65308	16864.17923	11.24819152	1199626.35
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	100	Diesel	0.00124835	0.001510503	0.001797623	0.012752808	0.012836151	1.688953929	0.001035963	0.000953086	0.001035963	1.55778E-05	1.3785E-05	54796.25018	31549.95755	25.30843091	2777073.78
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	175	Diesel	0.028477158	0.034457362	0.041007108	0.367192702	0.291878483	57.64658755	0.015297306	0.014073521	0.015297306	0.000532117	0.000470504	1870280.047	601262.175	438.6794692	94855263.35
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	300	Diesel	0.050706505	0.061354871	0.073017367	0.310612744	0.559852045	117.4322756	0.0218129	0.020067868	0.0218129	0.001084198	0.000958466	3809960.854	918146.5799	736.7565444	193820759
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	600	Diesel	0.194657599	0.235535695	0.280306943	1.364376461	2.259521419	503.8763347	0.082494644	0.075895073	0.082494644	0.004652747	0.004112571	16347712.76	2200801.267	1656.296201	828404939.5
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	750	Diesel	0.082022299	0.099246982	0.118112111	0.637076972	0.959549718	169.6949914	0.037533657	0.034530965	0.037533657	0.001566454	0.001385028	5505567.109	421206.1266	354.3180328	279310439.7
Statewide	2020	ConstMin - Off-Highway Trucks	Aggregated	9999	Diesel	0.133106491	0.161058854	0.191673347	0.794672886	2.452901733	301.3982779	0.061998209	0.057038353	0.061998209	0.002782583	0.002459972	9778535.197	390385.4393	282.6108119	493432682.7
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	50	Diesel	0.020391525	0.024673746	0.029363797	0.124366619	0.115893726	13.58995378	0.009324623	0.008578653	0.009324623	0.000125034	0.000110919	440911.0837	482844.2201	1039.670839	18398450.7
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	75	Diesel	0.002632177	0.003184935	0.003790335	0.014005844	0.026837846	1.523929068	0.001998365	0.001838496	0.001998365	1.40105E-05	1.24381E-05	49442.20029	31803.05419	103.5472976	2323012.137
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	100	Diesel	0.031960991	0.038672799	0.046023828	0.287259616	0.357997203	41.13313473	0.026532266	0.024409685	0.026532266	0.000379337	0.000335723	1334519.256	757944.697	1729.519727	62159657.6
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	175	Diesel	0.014212675	0.017197337	0.020466252	0.143046351	0.18214476	23.22135551	0.009625171	0.008855157	0.009625171	0.000214267	0.00018953	753391.3058	231062.2371	572.3087123	35193843.11
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	300	Diesel	0.015026776	0.018182399	0.021638557	0.096749312	0.227524335	31.03155986	0.008659152	0.00796642	0.008659152	0.000286451	0.000253275	1006784.785	212490.1649	538.725805	46629610.12
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	600	Diesel	0.040031982	0.048438698	0.057646054	0.339639009	0.585638556	118.2681818	0.020690541	0.019035297	0.020690541	0.001092247	0.000965289	3837080.908	467000.443	1071.854459	178930147.1
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	750	Diesel	0.006137212	0.007426026	0.008837585	0.046049418	0.088632069	21.63001924	0.002896614	0.002664885	0.002896614	0.000199796	0.000176541	701762.1529	52928.61065	102.1480098	32768275.43
Statewide	2020	ConstMin - Other Construction Equipment	Aggregated	9999	Diesel	0.002295618	0.002777697	0.00330569	0.015628691	0.053502784	7.463848972	0.001253352	0.001153084	0.001253352	6.89381E-05	6.09189E-05	242156.3599	12364.73279	26.5864683	11280212.9
Statewide	2020	ConstMin - Pavers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Pavers	Aggregated	50	Diesel	0.003080373	0.003727251	0.004435737	0.015618218	0.0134708	1.664334572	0.00113714	0.001046169	0.00113714	1.52952E-05	1.35841E-05	53997.50226	58350.50373	168.4225778	2258429.409
Statewide	2020	ConstMin - Pavers	Aggregated	75	Diesel	0.004303553	0.0052073	0.006197117	0.021043522	0.039124298	2.725983038	0.003736442	0.003437527	0.003736442	2.5074E-05	2.22491E-05	88441.51754	57160.69951	162.8084919	4134182.505
Statewide	2020	ConstMin - Pavers	Aggregated	100	Diesel	0.007336686	0.00887739	0.010564827	0.088447865	0.09411725	13.28064834	0.006019525	0.005537963	0.006019525	0.000122566	0.000108395	430876.0095	248553.2323	648.4269245	20134078.43
Statewide	2020	ConstMin - Pavers	Aggregated	175	Diesel	0.009626348	0.011647881	0.013861941	0.125985279	0.123716534	22.06304059	0.006101825	0.005613679	0.006101825	0.000203695	0.000180776	715811.0539	210825.4799	560.0050711	33254619.24
Statewide	2020	ConstMin - Pavers	Aggregated	300	Diesel	0.00478518	0.005790068	0.006890659	0.033386315	0.089245661	17.20929957	0.002566216	0.002360918	0.002566216	0.000158965	0.00014046	558336.772	117500.9942	268.072603	26019209.33
Statewide	2020	ConstMin - Pavers	Aggregated	600	Diesel	0.000717679	0.000868392	0.001033458	0.005839192	0.011019316	3.114077396	0.000377592	0.000347384	0.000377592	2.87697E-05	2.54167E-05	101032.8116	12777.8711	29.47395111	4691493.532
Statewide	2020	ConstMin - Pavers	Aggregated	750	Diesel	0.000116714	0.000141224	0.000168068	0.001181165	0.001449849	0.644546303	6.36481E-05	5.85563E-05	6.36481E-05	5.95565E-06	5.2607E-06	20911.59496	1297.825917	2.807042963	973369.4381
Statewide	2020	ConstMin - Paving Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Paving Equipment	Aggregated	50	Diesel	0.001829621	0.002213841	0.002634654	0.015046074	0.014079459	2.072750296	0.000772774	0.000710952	0.000772774	1.91087E-05	1.69175E-05	67248.10061	95418.89377	207.3871312	3309861.667
Statewide	2020	ConstMin - Paving Equipment	Aggregated	75	Diesel	0.000334333	0.000404543	0.000481439	0.002116375	0.003476355	0.252782756	0.000267473	0.000246075	0.000267473	2.32707E-06	2.06318E-06	8201.258116	6666.255765	18.2164372	447477.4329
Statewide	2020	ConstMin - Paving Equipment	Aggregated	100	Diesel	0.004895972	0.005924126	0.0070502	0.057661923	0.057861374	8.66317553	0.003796383	0.003492672	0.003796383	7.99485E-05	7.07077E-05	281067.1893	171853.4165	381.1439169	15276974.01

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	ConstMin - Paving Equipment	Aggregated	175	Diesel	0.004062846	0.004916043	0.005850498	0.054944804	0.049016652	9.383803885	0.002641735	0.002430396	0.002641735	8.6636E-05	7.65893E-05	304447.1826	114703.3636	255.0301208	16605984.79
Statewide	2020	ConstMin - Paving Equipment	Aggregated	300	Diesel	0.002405721	0.002910922	0.003464238	0.014906492	0.038062173	6.655835604	0.00134908	0.001241154	0.00134908	6.14643E-05	5.4324E-05	215941.2561	50233.71489	109.2986232	11743440.66
Statewide	2020	ConstMin - Paving Equipment	Aggregated	600	Diesel	0.002227096	0.002694786	0.003207018	0.014734119	0.035743147	6.857098949	0.001097556	0.001009751	0.001097556	6.33305E-05	5.59667E-05	222471.0236	29298.70207	64.45816241	12059120.7
Statewide	2020	ConstMin - Paving Equipment	Aggregated	750	Diesel	0.000283535	0.000343077	0.00040829	0.001595349	0.004809248	0.817888947	0.000122656	0.000112843	0.000122656	7.55328E-06	6.6755E-06	26535.50613	2113.195262	4.203793201	1444303.315
Statewide	2020	ConstMin - Paving Equipment	Aggregated	9999	Diesel	8.53571E-05	0.000103282	0.000122914	0.001118791	0.002670434	0.608922351	4.30099E-05	3.95691E-05	4.30099E-05	5.62723E-06	4.96994E-06	19755.81508	1275.419626	2.8025288	1075197.501
Statewide	2020	ConstMin - Rollers	Aggregated	25	Diesel	2.92477E-05	3.53897E-05	4.21167E-05	9.76398E-05	6.92508E-05	0.005350783	9.29179E-06	8.54845E-06	9.29179E-06	4.85932E-08	4.36724E-08	173.6002689	322.0686501	1.443695522	8051.716253
Statewide	2020	ConstMin - Rollers	Aggregated	50	Diesel	0.044475631	0.053815514	0.064044909	0.274664432	0.263598979	34.20033288	0.019113971	0.017584853	0.019113971	0.000314865	0.000279139	1109592.135	1439402.094	4257.458093	51416740.46
Statewide	2020	ConstMin - Rollers	Aggregated	75	Diesel	0.000885514	0.001071472	0.001275141	0.003542794	0.008689253	0.307840672	0.000610446	0.00056161	0.000610446	2.81957E-06	2.51255E-06	9987.551586	7418.851355	33.204997	514092.0986
Statewide	2020	ConstMin - Rollers	Aggregated	100	Diesel	0.031464132	0.038071599	0.04530835	0.352520401	0.382682206	53.13589533	0.024340591	0.022393344	0.024340591	0.000490324	0.000433688	1723935.605	1017975.265	3142.925151	88807912.43
Statewide	2020	ConstMin - Rollers	Aggregated	175	Diesel	0.018620416	0.022530704	0.026813399	0.307082413	0.256668429	55.26132785	0.011790179	0.010846965	0.011790179	0.00051036	0.000451036	1792892.923	643140.4977	1836.380704	92480565.84
Statewide	2020	ConstMin - Rollers	Aggregated	300	Diesel	0.003461853	0.004188842	0.004985068	0.027196651	0.053535842	9.150214605	0.001881251	0.001730751	0.001881251	8.44944E-05	7.46828E-05	296868.6357	70756.87209	235.32237	15292261.14
Statewide	2020	ConstMin - Rollers	Aggregated	600	Diesel	0.001414331	0.00171134	0.002036636	0.015725152	0.021297743	5.368596267	0.000720405	0.000662773	0.000720405	4.95929E-05	4.38178E-05	174178.1934	25541.6543	85.17803578	8929542.643
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	25	Diesel	2.60151E-06	3.14783E-06	3.74618E-06	5.68926E-05	7.64759E-05	0.009242248	2.50461E-06	2.30424E-06	2.50461E-06	8.53711E-08	7.5434E-08	299.8545496	518.4860232	1.666057562	12962.15058
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	50	Diesel	0.002139944	0.002589333	0.00308152	0.012293703	0.011607696	1.553576823	0.000779734	0.000717355	0.000779734	1.42994E-05	1.26801E-05	50404.08907	46059.77091	171.6039289	2179518.165
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	75	Diesel	0.000482495	0.000583819	0.000694792	0.002265431	0.0034265	0.245156422	0.000276564	0.000254439	0.000276564	2.25212E-06	2.00093E-06	7953.830128	6511.738441	26.656921	354421.4351
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	100	Diesel	0.031614064	0.038253018	0.045524253	0.818762645	0.567507591	134.3205905	0.018859399	0.017350647	0.018859399	0.001240912	0.001096307	4357883.631	2177934.92	7873.78804	209372159.1
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	175	Diesel	0.015442307	0.018685191	0.022236922	0.182747618	0.172199771	31.67373493	0.011553481	0.010629203	0.011553481	0.000292376	0.000258517	1027619.447	398643.2753	1507.782094	49413312.49
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	300	Diesel	0.000377056	0.000456238	0.000542961	0.004063785	0.006485722	2.197243319	0.000148026	0.000136184	0.000148026	2.03033E-05	1.79336E-05	71287.13966	16307.2217	66.6423025	3428951.563
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	600	Diesel	0.00011803	0.000142816	0.000169963	0.001474037	0.002196923	0.815341659	4.68756E-05	4.31256E-05	4.68756E-05	7.5347E-06	6.65471E-06	26452.86219	3330.204134	13.3284605	1280233.051
Statewide	2020	ConstMin - Rough Terrain Forklifts	Aggregated	750	Diesel	2.24673E-05	2.71854E-05	3.23529E-05	0.000257403	0.000354597	0.140557685	2.48747E-06	2.28847E-06	2.48747E-06	1.29885E-06	1.14721E-06	4560.239293	351.2324673	1.666057562	219520.2921
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	50	Diesel	0.0026373	0.003191132	0.003797711	0.015472419	0.011668467	1.517735925	0.000964971	0.000887774	0.000964971	1.39531E-05	1.23876E-05	49241.27061	52215.1405	56.3151351	2165433.778
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	75	Diesel	0.002439927	0.002952312	0.003513495	0.011500167	0.023225987	1.182614908	0.001853048	0.001704804	0.001853048	1.08607E-05	9.65234E-06	38368.63828	26518.93627	39.83265654	1863020.387
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	100	Diesel	0.00770373	0.009321513	0.011093371	0.047018532	0.073075632	5.779817303	0.006414844	0.005901657	0.006414844	5.32062E-05	4.71741E-05	187519.8071	108105.7636	123.6185892	9084257.978
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	175	Diesel	0.007097595	0.00858809	0.010220537	0.046102239	0.084374702	6.217326312	0.004860586	0.004471739	0.004860586	5.72693E-05	5.0745E-05	201714.305	66699.51415	90.65363212	9868829.447
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	300	Diesel	0.007329059	0.008868161	0.010553844	0.046607973	0.094461534	6.945496914	0.004600388	0.004232357	0.004600388	6.39947E-05	5.66882E-05	225338.9983	50470.09062	75.54469343	11027703.67
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	600	Diesel	0.062914875	0.076126998	0.090597419	0.60735736	0.817804455	77.19726779	0.036801478	0.03385736	0.036801478	0.00071184	0.000630074	2504580.336	329652.0262	462.8829397	121808749.3
Statewide	2020	ConstMin - Rubber Tired Dozers	Aggregated	750	Diesel	0.000824286	0.000997386	0.001186971	0.004445176	0.015006498	2.192950277	0.000419943	0.000386348	0.000419943	2.02502E-05	1.78986E-05	71147.85664	5350.056355	5.494159522	3479957.332
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	50	Diesel	0.009911013	0.011992326	0.014271859	0.054821622	0.042555963	4.754064869	0.003840635	0.003533384	0.003840635	4.36564E-05	3.8802E-05	154240.399	177805.3911	211.8834193	7398726.533
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	100	Diesel	0.101776897	0.123150046	0.146558732	0.875574833	1.038950847	115.5201928	0.081362509	0.074853508	0.081362509	0.001064988	0.00094286	3747925.431	2356215.261	2632.794649	202325606.8
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	175	Diesel	0.163093075	0.197342621	0.234854028	1.754681418	1.832763086	274.5781094	0.100881434	0.09281092	0.100881434	0.002533718	0.00224107	8908384.366	3178707.319	3453.127077	477004959.1
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	300	Diesel	0.178275271	0.215713077	0.25671639	0.989675296	2.508087642	410.4821603	0.083264026	0.076602904	0.083264026	0.003789763	0.0033503	13317641.63	3388731.793	3221.200631	713348539.7
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	600	Diesel	0.24211208	0.292955617	0.348641395	1.568445503	3.056900662	509.9835402	0.114984501	0.105785741	0.114984501	0.004707787	0.004162417	16545854.32	2669471.427	2833.224911	889193027.1
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	750	Diesel	0.016380647	0.019820583	0.023588132	0.130350484	0.212409337	37.76895249	0.007536951	0.006933995	0.007536951	0.000348701	0.000308265	1225372.069	99348.02768	115.9632227	65694433.7
Statewide	2020	ConstMin - Rubber Tired Loaders	Aggregated	9999	Diesel	0.015864327	0.019195836	0.022844631	0.078340048	0.332239748	35.42701466	0.008400019	0.007728018	0.008400019	0.000327064	0.000289151	1149390.475	64296.04164	55.83414428	61451252.16
Statewide	2020	ConstMin - Scrapers	Aggregated	25	Diesel	6.79648E-05	8.22374E-05	9.78693E-05	0.000230938	0.000156863	0.012151601	2.1862E-05	2.0113E-05	2.1862E-05	1.10309E-07	9.91797E-08	394.2453239	568.4132631	1.415529271	14210.33158
Statewide	2020	ConstMin - Scrapers	Aggregated	50	Diesel	0.000456032	0.000551799	0.000656686	0.001557197	0.001118632	0.096717427	0.000154246	0.000141907	0.000154246	8.8052E-07	7.89395E-07	3137.890409	2969.9593	8.493175623	115026.3184
Statewide	2020	ConstMin - Scrapers	Aggregated	75	Diesel	0.00150758	0.001824172	0.002170915	0.007120988	0.013949672	0.822651815	0.001219041	0.001121518	0.001219041	7.5606E-06	6.71437E-06	26690.03214	15786.09946	38.21929031	1067750.631
Statewide	2020	ConstMin - Scrapers	Aggregated	100	Diesel	0.003790631	0.004586663	0.005458509	0.030769645	0.046994449	4.041348006	0.003457421	0.003180827	0.003457421	3.72505E-05	3.29849E-05	131117.0853	57815.52349	101.9181075	5237587.598
Statewide	2020	ConstMin - Scrapers	Aggregated	175	Diesel	0.038683324	0.046806822	0.055703987	0.343555704	0.477184028	52.53748818	0.025664644	0.023611472	0.025664644	0.000484575	0.000428804	1704520.944	405907.0691	921.5095551	68072923.91
Statewide	2020	ConstMin - Scrapers	Aggregated	300	Diesel	0.042396716	0.051300027	0.061051271	0.237371821	0.58506787	60.31098149	0.025662935	0.0236099	0.025662935	0.000556333	0.00049225	1956723.374	350924.1383	891.7834405	78702794.56
Statewide	2020	ConstMin - Scrapers	Aggregated	600	Diesel	0.349695724	0.423131826	0.503561842	3.036536132	4.988937799	756.4652033	0.190228219	0.175009962	0.190228219	0.006983405	0.006174167	24542680.42	2328560.195	4969.923269	982307934.1
Statewide	2020	ConstMin - Scrapers	Aggregated	750	Diesel	0.013104902	0.015856932	0.018871059	0.149426646	0.217447818	12.21045143	0.008854982	0.008146583	0.008854982	0.000112499	9.96601E-05	396154.6491	25398.59931	66.52987572	15803547.64
Statewide	2020	ConstMin - Scrapers	Aggregated	9999	Diesel	0.01913936	0.023158626	0.027560679	0.231996676	0.29312723	17.51522205	0.012248722	0.011268824	0.012248722	0.000161363	0.000142957	568262.0899	14265.59398	36.80376103	22785161.44
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	50	Diesel	0.015920132	0.019263359	0.02292499	0.165060776	0.16186651	25.88768669	0.0063456	0.005837952	0.0063456	0.000238867	0.000211292	839897.4845	906264.7269	2947.821223	39493188.26
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	75	Diesel	0.039621835	0.04794242	0.057055442	0.834212927	0.635045573	134.479181	0.027136221	0.024965323	0.027136221	0.001242138	0.001097601	4363028.924	3249223.61	9324.293208	228948335.6
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	100	Diesel	0.000870417	0.001053205	0.001253401	0.018145706	0.016388374	2.814340787	0.00106335	0.000978282	0.00106335	2.59939E-05	2.29703E-05	91308.18739	63474.68849	188.5319473	4844953.425
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	175	Diesel	0.000224906	0.000272137	0.000323865	0.005004044	0.003009961	0.927973366	0.000126601	0.000116473	0.000126601	8.57283E-06	7.57399E-06	30107.0739	10407.12976	39.46017502	1584227.12
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	300	Diesel	0.000130991	0.000158499	0.000188627	0.001583676	0.002001096	0.861923497	5.67509E-05	5.22108E-05	5.67509E-05	7.96498E-06	7.0349E-06	27964.15863	7159.792276	24.84529538	1467622.111
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	600	Diesel	5.98759E-05	7.24498E-05	8.62213E-05	0.000465292	0.000976704	0.249345997	4.19371E-05	3.85821E-05	4.19371E-05	2.30353E-06	2.03513E-06	8089.756266	896.604224	2.922975927	423914.4771
Statewide	2020	ConstMin - Skid Steer Loaders	Aggregated	9999	Diesel	0.000152967	0.000185091	0.000220273	0.001059199	0.002813587	0.337524192	9.23231E-05	8.49372E-05	9.23231E-05	3.11599E-06	2.75483E-06	10950.6007	575.4568928	2.922975927	575456.8928
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	50	Diesel	0.000177038	0.000214215	0.000254934	0.001573252	0.001695436	0.239582108	8.65572E-05	7.96326E-05	8.65572E-05	2.20974E-06	1.95544E-06	7772.977639	12311.99952	51.70899614	443326.0419
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	75	Diesel	0.000150011	0.000181513	0.000216016	0.001280175	0.002132844	0.182555115	0.000133179	0.000122524	0.000133179	1.68331E-06	1.48999E-06	5922.799655	5695.316534	22.53981883	378713.6544
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	100	Diesel	0.000666841	0.000806877	0.000960251	0.008908445	0.008766224	1.375634811	0.000494937	0.000455342	0.000494937	1.26984E-05	1.12277E-05	44630.95644	31855.91227	120.6543243	2860734.059
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	175	Diesel	0.000617295	0.000746927	0.000888905	0.007405065	0.008672256	1.287695993	0.000424719	0.000390741	0.000424719	1.18869E-05	1.051E-05	41777.87834	19776.10301	78.22643006	2682800.273
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	300	Diesel	0.000903761	0.00109355	0.001301415	0.006883489	0.016518921	2.54471874	0.000533426	0.000490751	0.000533426	2.35001E-05	2.07697E-05	82560.59701	23213.11044	96.7886338	5293091.003

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	600	Diesel	0.001619375	0.001959444	0.002331901	0.016583157	0.02450803	8.067857812	0.000881605	0.000811076	0.000881605	7.45428E-05	6.58488E-05	261752.7615	41338.74001	147.1717582	16796739.23
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	750	Diesel	0.000981861	0.001188052	0.00141388	0.007705713	0.01808233	3.978241043	0.000637577	0.000586571	0.000637577	3.67514E-05	3.24699E-05	129069.6494	13015.9649	46.40550936	8278275.315
Statewide	2020	ConstMin - Surfacing Equipment	Aggregated	9999	Diesel	0.000505895	0.000612133	0.000728489	0.002878121	0.011987598	1.320483681	0.000286198	0.000263302	0.000286198	1.21933E-05	1.07776E-05	42841.63877	3136.786904	11.93284526	2748189.142
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	25	Diesel	0.000237378	0.000287227	0.000341824	0.000789279	0.000543482	0.041530669	7.4718E-05	6.87406E-05	7.4718E-05	3.7685E-07	3.38968E-07	1347.416818	2056.743446	2.810822586	51418.58615
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	50	Diesel	0.029569539	0.035779143	0.042580137	0.164419253	0.136208389	15.72977518	0.012350603	0.011362555	0.012350603	0.000144542	0.000128384	510335.2323	546090.4671	791.246558	19486917.9
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	75	Diesel	0.004617445	0.005587108	0.006649121	0.032517286	0.046009036	4.277624505	0.003706885	0.003410335	0.003706885	3.94102E-05	3.49134E-05	138782.8161	80990.54374	141.9465406	5867918.043
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	100	Diesel	0.01513231	0.018310095	0.021790526	0.143403993	0.159997947	20.0974517	0.012842707	0.011815291	0.012842707	0.000185357	0.000164033	652039.687	349884.6671	504.5426542	27681655.61
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	175	Diesel	0.004382431	0.005302742	0.006310701	0.038592191	0.052941873	6.080117665	0.002723712	0.002505815	0.002723712	5.60822E-05	4.96251E-05	197262.7216	52359.17004	74.48679853	8368688.424
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	300	Diesel	0.001274988	0.001542735	0.001835982	0.007869851	0.019119549	3.651387337	0.000613954	0.000564838	0.000613954	3.37206E-05	2.98021E-05	118465.2409	23966.07759	33.72987103	5025778.021
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	600	Diesel	0.000396902	0.000480252	0.000571539	0.006534145	0.005511097	0.49311562	0.000278206	0.00025595	0.000278206	4.54719E-06	4.02474E-06	15998.59322	2056.743446	2.810822586	678725.3372
Statewide	2020	ConstMin - Sweepers/Scrubbers	Aggregated	9999	Diesel	0.000242249	0.000293122	0.000348839	0.001261503	0.005076096	0.633578857	0.000144036	0.000132513	0.000144036	5.85048E-06	5.17119E-06	20555.76826	1028.371723	1.405411293	872059.2211
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	50	Diesel	0.06085539	0.073635022	0.087631762	0.446913798	0.390365356	51.21964268	0.025550236	0.023506217	0.025550236	0.000471725	0.000418048	1661764.898	2082552.055	4125.566636	78947502.12
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	75	Diesel	0.020475255	0.024775058	0.029484367	0.082516154	0.194526332	8.131785809	0.015601786	0.014353643	0.015601786	7.45681E-05	6.63705E-05	263826.835	192162.2615	876.8625951	13843240.74
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Diesel	0.402585733	0.487128737	0.579723455	5.487769855	4.949256444	813.9091572	0.309667118	0.284893748	0.309667118	0.007512916	0.006643017	26406386.24	16624965.05	27135.30362	1382156794
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	175	Diesel	0.055196314	0.06678754	0.079482692	0.844739989	0.656892718	142.2627484	0.033096747	0.030449007	0.033096747	0.001313634	0.001161129	4615558.197	1698591.506	3133.705668	243546419.3
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	300	Diesel	0.031409595	0.038005609	0.045229816	0.207032642	0.459755618	87.9874849	0.015348441	0.014120566	0.015348441	0.000812546	0.000718142	2854657.047	722813.9707	1312.418933	150058023.1
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	600	Diesel	0.037433898	0.045295016	0.053904813	0.307968488	0.49386773	117.0486578	0.017449315	0.016053369	0.017449315	0.00108105	0.000955335	3797514.797	597446.5584	1135.608935	201110160
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	750	Diesel	0.000851632	0.001030475	0.00122635	0.007958243	0.009484404	3.95885188	0.00026154	0.000240617	0.00026154	3.6576E-05	3.23116E-05	128440.5894	10739.63943	15.8122763	6821630.138
Statewide	2020	ConstMin - Tractors/Loaders/Backhoes	Aggregated	9999	Diesel	0.01099895	0.01330873	0.015838488	0.078463875	0.257715659	40.00296966	0.0052307	0.004812244	0.0052307	0.000369517	0.000326499	1297852.295	36783.82624	60.37414589	68063277.29
Statewide	2020	ConstMin - Trenchers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	ConstMin - Trenchers	Aggregated	50	Diesel	0.022975092	0.027799862	0.033084133	0.148479062	0.143668282	18.11296988	0.010938957	0.010063841	0.010938957	0.000166774	0.000147836	587655.3598	508954.7474	1352.812285	20305230.58
Statewide	2020	ConstMin - Trenchers	Aggregated	75	Diesel	0.001793235	0.002169814	0.002582258	0.010291984	0.018142744	1.208868994	0.001245078	0.001145471	0.001245078	1.11228E-05	9.86663E-06	39220.42317	21300.4726	81.47619444	1503731.401
Statewide	2020	ConstMin - Trenchers	Aggregated	100	Diesel	0.010666196	0.012900971	0.015353222	0.084363764	0.118171442	11.91643494	0.008960658	0.008243805	0.008960658	0.000109853	9.72603E-05	386615.608	177032.957	545.7367741	14852157.79
Statewide	2020	ConstMin - Trenchers	Aggregated	175	Diesel	0.001781208	0.002155261	0.002564939	0.017056663	0.022849009	2.680105026	0.001168279	0.001074816	0.001168279	2.47255E-05	2.18747E-05	86953.05596	23462.75693	83.01348113	3357365.676
Statewide	2020	ConstMin - Trenchers	Aggregated	300	Diesel	0.00355295	0.004299069	0.005116248	0.020265029	0.052688133	6.506927643	0.002122855	0.001953026	0.002122855	6.00532E-05	5.31087E-05	211110.1013	35399.04656	115.2965016	8100461.158
Statewide	2020	ConstMin - Trenchers	Aggregated	600	Diesel	0.003000085	0.003630103	0.004320123	0.03062122	0.042562034	8.734460827	0.001599965	0.001471968	0.001599965	8.06644E-05	7.12895E-05	283379.9622	27962.22884	78.40162107	10862905.92
Statewide	2020	ConstMin - Trenchers	Aggregated	750	Diesel	0.000329972	0.000399266	0.000475159	0.005141095	0.003361716	2.851120914	4.90496E-05	4.51256E-05	4.90496E-05	2.63501E-05	2.32705E-05	92501.47811	5499.164033	12.2982935	3556381.571
Statewide	2020	ConstMin - Trenchers	Aggregated	9999	Diesel	0.000428643	0.000518658	0.000617246	0.006156318	0.005951064	0.236334198	0.00027479	0.000252807	0.00027479	2.17217E-06	1.92893E-06	7667.602785	342.9475543	1.537286688	294934.8967
Statewide	2020	Industrial - Aerial Lifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	Industrial - Aerial Lifts	Aggregated	50	Diesel	0.006631471	0.00802408	0.009549318	0.14839722	0.141475929	28.12072439	0.001478661	0.001360368	0.001478661	0.000259791	0.000229518	912345.9335	1115896.104	3776.21971	51474842.25
Statewide	2020	Industrial - Aerial Lifts	Aggregated	75	Diesel	0.005933368	0.007179375	0.00854405	0.195412108	0.110950646	32.47154514	0.003045698	0.002802042	0.003045698	0.000300038	0.000265028	1053503.521	914847.6755	3106.159016	66076940.38
Statewide	2020	Industrial - Aerial Lifts	Aggregated	100	Diesel	0.00289212	0.003499465	0.004164652	0.099759846	0.062668835	16.59579282	0.000817197	0.000751821	0.000817197	0.00015335	0.000135453	538432.2209	433976.934	1468.430883	33772334.83
Statewide	2020	Industrial - Aerial Lifts	Aggregated	175	Diesel	0.000457502	0.000553578	0.000658803	0.016131763	0.005592237	2.998798403	0.000181856	0.000167308	0.000181856	2.77117E-05	2.44758E-05	97292.7116	46796.40613	158.604792	6105215.543
Statewide	2020	Industrial - Aerial Lifts	Aggregated	300	Diesel	1.90191E-05	2.30131E-05	2.73875E-05	0.00032074	0.000229273	0.179201548	3.02606E-06	2.78397E-06	3.02606E-06	1.65624E-06	1.46262E-06	5813.996865	1586.251469	5.346228943	364837.838
Statewide	2020	Industrial - Aerial Lifts	Aggregated	600	Diesel	1.08353E-05	1.31107E-05	1.56029E-05	0.000226394	6.26001E-05	0.12725907	2.13529E-06	1.96447E-06	2.13529E-06	1.17625E-06	1.03867E-06	4128.780382	528.7504898	1.782076314	259087.74
Statewide	2020	Industrial - Forklifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	Industrial - Forklifts	Aggregated	50	Diesel	0.02990517	0.036185255	0.043063444	0.183717863	0.150877513	18.92637709	0.011596138	0.010668447	0.011596138	0.000174087	0.000154475	614045.4611	1251643.346	1750.570951	53069676.95
Statewide	2020	Industrial - Forklifts	Aggregated	75	Diesel	0.004325367	0.005233695	0.006228529	0.017534128	0.040923212	1.792114521	0.00338422	0.003113482	0.00338422	1.64392E-05	1.4627E-05	58143.18196	76265.99005	150.4622966	5609780.669
Statewide	2020	Industrial - Forklifts	Aggregated	100	Diesel	0.159533666	0.193035735	0.229728478	1.607608837	1.745471727	226.2102927	0.12970248	0.119326281	0.12970248	0.00208664	0.001846298	7339143.82	8575792.671	11536.40724	707022296
Statewide	2020	Industrial - Forklifts	Aggregated	175	Diesel	0.038128317	0.046135263	0.054904776	0.443072844	0.452907689	72.00842602	0.024522443	0.022560648	0.024522443	0.00066461	0.000587723	2336234.079	1591160.943	2170.129277	224859967.1
Statewide	2020	Industrial - Forklifts	Aggregated	300	Diesel	0.007380963	0.008930966	0.010628587	0.044757395	0.098685845	15.70674114	0.003880797	0.003570333	0.003880797	0.000144995	0.000128196	509587.9183	233106.692	318.2856274	48924440.58
Statewide	2020	Industrial - Forklifts	Aggregated	600	Diesel	0.001314935	0.001591071	0.001893506	0.009073146	0.01492497	3.951566344	0.000546373	0.000502663	0.000546373	3.64947E-05	3.22522E-05	128204.2181	34695.70008	49.18959696	12256785.9
Statewide	2020	Industrial - Forklifts	Aggregated	9999	Diesel	3.86624E-05	4.67815E-05	5.56738E-05	0.000584127	0.001388073	0.313844315	1.18743E-05	1.09244E-05	1.18743E-05	2.90049E-06	2.56156E-06	10182.33318	1113.48991	1.446752852	979871.1205
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	2.47057E-05	2.98939E-05	3.55762E-05	8.21461E-05	5.65642E-05	0.004322404	7.77646E-06	7.15434E-06	7.77646E-06	3.92216E-08	3.52789E-08	140.2356465	285.4183923	1.279408147	7135.459808
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	50	Diesel	0.054045322	0.065394839	0.077825263	0.380551489	0.319596878	40.69836148	0.023088917	0.021241804	0.023088917	0.000374655	0.000332175	1320413.517	1908290.246	2333.64046	66996559.08
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	75	Diesel	0.014029463	0.01697565	0.020202426	0.184314334	0.171677979	26.51624948	0.010992484	0.010113085	0.010992484	0.000244735	0.000216422	860290.5119	679472.7331	822.6594384	48607288.63
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	100	Diesel	0.008594887	0.010399814	0.012376638	0.050011725	0.078238157	6.253837828	0.007213898	0.006636786	0.007213898	5.7562E-05	5.1043E-05	202898.881	146773.5541	194.4700383	11493117.53
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	175	Diesel	0.006829495	0.008263689	0.009834473	0.094628742	0.07839234	15.32387737	0.004200144	0.003864132	0.004200144	0.000141472	0.000125071	497166.325	189260.936	232.8522827	28104281.54
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	300	Diesel	0.006921922	0.008375526	0.009967568	0.042058916	0.105437028	16.47658213	0.003428345	0.003154078	0.003428345	0.000152127	0.00013448	534564.5614	138168.1895	173.999508	30185562.18
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	600	Diesel	0.014169877	0.017145551	0.020404622	0.114342418	0.159529616	47.63169453	0.005622382	0.005172591	0.005622382	0.000439954	0.000388763	1545357.872	228565.9028	275.0727516	87334202.02
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	750	Diesel	0.002122101	0.002567743	0.003055826	0.027467105	0.020573945	8.004955737	0.000980141	0.00090173	0.000980141	7.39461E-05	6.53354E-05	259711.973	23241.61969	28.14697923	14654062.41
Statewide	2020	Industrial - Other General Industrial Equipment	Aggregated	9999	Diesel	0.000780678	0.000944621	0.001124176	0.005389888	0.019699677	2.773616928	0.000396857	0.000365109	0.000396857	2.562E-05	2.26379E-05	89986.94663	4372.60977	5.117632587	5088624.62
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	25	Diesel	3.1914E-05	3.86159E-05	4.59561E-05	0.000108441	7.36576E-05	0.005705987	1.02657E-05	9.44441E-06	1.02657E-05	5.17973E-08	4.65715E-08	185.12447	325.6908272	1.459932187	8142.270681
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	50	Diesel	0.003311879	0.004007374	0.004769106	0.01993057	0.016625515	1.89776363	0.001416966	0.001303608	0.001416966	1.74464E-05	1.54893E-05	61570.85097	75846.87985	102.1952531	2692013.274
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	75	Diesel	0.000461156	0.000557999	0.000664065	0.003943325	0.004973178	0.516399102	0.000400053	0.000368049	0.000400053	4.76053E-06	4.21478E-06	16754.00016	11368.23832	17.51918624	823166.6299
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	100	Diesel	0.00770601	0.009324272	0.011096654	0.137932272	0.106129967	20.82314028	0.004868272	0.004478811	0.004868272	0.000192289	0.000169956	675583.8538	354218.0868	465.7183677	33008646.91
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	175	Diesel	0.007840414	0.009486901	0.011290197	0.090243116	0.080556008	14.37212952	0.005482746	0.005044126	0.005482746	0.000132642	0.000117303	466287.9143	164187.2598	230.6692855	22773224.17
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	300	Diesel	0.011719418	0.014180496	0.016875963	0.063578075	0.162421164	25.24625318	0.005937622	0.005462612	0.005937622	0.000233063	0.000206057	819086.8806	167028.9123	224.8295568	40054926.8

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	600	Diesel	0.012114817	0.014658929	0.017445337	0.085620243	0.173785355	29.54699108	0.005978827	0.005500521	0.005978827	0.000272813	0.000241159	958619.5856	127122.0152	172.2719981	46764698.45
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	750	Diesel	0.000590067	0.000713981	0.000849697	0.00277939	0.00666162	1.360424215	0.00032652	0.000300398	0.00032652	1.25601E-05	1.11036E-05	44137.46542	3463.721948	4.379796561	2159053.347
Statewide	2020	Industrial - Other Material Handling Equipment	Aggregated	9999	Diesel	0.000570488	0.000690291	0.000821503	0.004303439	0.013455656	2.199231231	0.000252718	0.000232501	0.000252718	2.03159E-05	1.79498E-05	71351.63527	3463.721948	4.379796561	3490277.149
Statewide	2020	Locomotive - Line haul	Aggregated	9999	Diesel	1.515021523	1.833176042	2.181630993	17.68582119	52.33907175	6782.160964	0.775796242	0.70863681	0.775796242	0.068994099	0.055334619	219957237.6	0	0	0
Statewide	2020	Locomotive - Passenger	Aggregated	9999	Diesel	0.244261151	0.000250929	0.000298626	1.395551619	5.915809063	0	0.107664804	0.099051619	0.107664804	0.004845019	0.004862486	0	0	0	0
Statewide	2020	Locomotive - Short line	Aggregated	9999	Diesel	0.060713538	1.01993E-05	1.2138E-05	0.234723818	1.73494679	0	0.029154344	0.026821996	0.029154344	0.000997524	0.000894056	0	0	0	0
Statewide	2020	Locomotive - Switcher	Aggregated	9999	Diesel	0.297612364	0.000470095	0.000559451	0.799512681	4.616170039	0	0.097504642	0.089704271	0.097504642	0.002662034	0.002394284	0	0	0	0
Statewide	2020	Ocean Going Vessels	Aggregated		Diesel	9.937150594	12.90660493	15.42066482	15.860394	213.4639362	9045.801951	2.384881002	2.194090522	2.384881002	6.760104932	0.219338097	285620623.9	0	0	6248901685
Statewide	2020	OFF - Agricultural - 2-Wheel Tractors	Aggregated	25	Gasoline	0.055398103	0.050955175	0.060962233	2.012661384	0.040738984	3.565416188	0.02265358	0.017116038	0.025170644	0.000104704	9.21891E-05	263154.05	633483.05	2494	4433844.8
Statewide	2020	OFF - Agricultural - Agricultural Mowers	Aggregated	25	Gasoline	0.044193629	0.0406493	0.048632393	1.868776706	0.03304239	3.009625667	0.02270675	0.017156211	0.025229722	7.9635E-05	8.12014E-05	231789.6	386743.05	2145.62	4833461.4
Statewide	2020	OFF - Agricultural - Agricultural Tractors	Aggregated	25	Diesel	0.299910254	0.356917988	0.431870766	1.703430954	2.721963913	361.762241	0.103004538	0.094764175	0.103004538	0.004899056	0.003028289	12037627	16660034.45	31269.93	301117002.8
Statewide	2020	OFF - Agricultural - Agricultural Tractors	Aggregated	100	Gasoline	0.045616886	0.041958412	0.050198601	1.666383955	0.11950358	29.51690203	0.002057989	0.001554925	0.002286655	0.000285174	0.000428334	1222680.65	248006.55	450.36	20336537.1
Statewide	2020	OFF - Agricultural - Agricultural Tractors	Aggregated	175	Gasoline	0.005960832	0.005482774	0.006559533	0.226761441	0.027987315	5.997188891	0.000429935	0.000324839	0.000477705	5.95758E-05	8.4471E-05	241122.65	33817.25	61.14	4227156.25
Statewide	2020	OFF - Agricultural - Balers	Aggregated	50	Gasoline	0.007917825	0.007282815	0.008713083	0.400218994	0.015123238	5.102187349	0.00035174	0.000265759	0.000390822	6.20333E-05	7.6327E-05	217875.8	111934.55	1645.01	3917709.25
Statewide	2020	OFF - Agricultural - Balers	Aggregated	100	Gasoline	0.003768779	0.003466523	0.004147312	0.110184175	0.014547944	4.717954209	0.000328947	0.000248538	0.000365497	4.5582E-05	6.49954E-05	185529.5	57264.85	841.19	3664950.4
Statewide	2020	OFF - Agricultural - Combines	Aggregated	100	Gasoline	0.001029014	0.000946487	0.001132368	0.047388071	0.002672444	2.51970946	0.00017568	0.000132736	0.0001952	2.43439E-05	3.4417E-05	98243.4	13983.15	112.62	1440264.45
Statewide	2020	OFF - Agricultural - Combines	Aggregated	175	Gasoline	0.000655059	0.000602523	0.000720853	0.070056074	0.002546912	2.167715648	0.000155402	0.000117415	0.000172669	2.1534E-05	3.0205E-05	86220.3	7690.55	62.39	1261250.2
Statewide	2020	OFF - Agricultural - Combines	Aggregated	300	Gasoline	0.000119591	0.00011	0.000131603	0.0152993	0.001394847	0.460044685	3.39377E-05	2.56418E-05	3.77086E-05	4.70273E-06	6.38573E-06	18228.1	1160.7	11.05	225175.8
Statewide	2020	OFF - Agricultural - Hydro Power Units	Aggregated	25	Gasoline	0.04329973	0.039827092	0.047648712	1.682733975	0.032182649	2.803849285	0.019909	0.015042356	0.022121111	7.7247E-05	7.45867E-05	212908.15	392977.25	1013.66	3860878.75
Statewide	2020	OFF - Agricultural - Hydro Power Units	Aggregated	25	Diesel	0.002032262	0.00241856	0.002926458	0.010760889	0.018468917	2.438522027	0.000694258	0.000638718	0.000694258	3.19807E-05	2.03938E-05	81066.5	176554.15	216.46	2959047.7
Statewide	2020	OFF - Agricultural - Hydro Power Units	Aggregated	50	Gasoline	0.000428576	0.000394204	0.000471621	0.034207182	0.000663908	0.350264764	2.41469E-05	1.82444E-05	2.68299E-05	4.25858E-06	5.35128E-06	15275.25	6865.65	15.19	260894.7
Statewide	2020	OFF - Agricultural - Hydro Power Units	Aggregated	100	Gasoline	3.24146E-05	2.98149E-05	3.56703E-05	0.001598961	8.1583E-05	0.075190005	5.24243E-06	3.96095E-06	5.82492E-06	7.2644E-07	1.01016E-06	2883.5	817.6	1.64	53961.6
Statewide	2020	OFF - Agricultural - Other Agricultural Equipment	Aggregated	25	Gasoline	0.005699259	0.005242178	0.006271686	0.201701681	0.003935571	0.356879628	0.002127345	0.001607328	0.002363717	1.03008E-05	9.12211E-06	26039.1	56936.35	393.78	493644.25
Statewide	2020	OFF - Agricultural - Other Agricultural Equipment	Aggregated	50	Gasoline	0.000347311	0.000319456	0.000382194	0.02034269	0.00060276	0.239635187	1.65202E-05	1.2482E-05	1.83558E-05	2.91353E-06	3.51637E-06	10037.5	6095.5	50.7	176769.5
Statewide	2020	OFF - Agricultural - Other Agricultural Equipment	Aggregated	100	Gasoline	0.002200705	0.002024209	0.002421742	0.07617579	0.007125402	3.170904929	0.000221083	0.000167041	0.000245648	3.06354E-05	4.369E-05	124713.2	36602.2	295.81	2452347.4
Statewide	2020	OFF - Agricultural - Other Agricultural Equipment	Aggregated	175	Gasoline	0.000327802	0.000301513	0.000360726	0.023308093	0.001800945	0.713665514	5.11622E-05	3.86559E-05	5.68469E-05	7.08952E-06	9.93024E-06	28345.9	3836.15	32.91	521716.4
Statewide	2020	OFF - Agricultural - Other Agricultural Equipment	Aggregated	300	Gasoline	0.000178332	0.000164029	0.000196243	0.015659513	0.001805099	0.465948748	3.43733E-05	2.59709E-05	3.81925E-05	4.76308E-06	6.45862E-06	18436.15	1208.15	11.49	297204.9
Statewide	2020	OFF - Agricultural - Sprayers	Aggregated	25	Gasoline	0.096299109	0.08857592	0.105971295	3.355575568	0.058707649	5.660279386	0.034364491	0.025964282	0.038182768	0.000155896	0.000150118	428513.65	929629.45	9474.69	8725602.4
Statewide	2020	OFF - Agricultural - Sprayers	Aggregated	25	Diesel	0.000492822	0.000586499	0.000709663	0.00226985	0.004141381	0.517747481	0.000196608	0.00018088	0.000196608	6.56923E-06	4.27618E-06	16998.05	31495.85	287.88	598421.15
Statewide	2020	OFF - Agricultural - Sprayers	Aggregated	50	Gasoline	0.001534448	0.001411385	0.001688567	0.078456818	0.002899733	0.968659892	6.67785E-05	5.04549E-05	7.41984E-05	1.17771E-05	1.45066E-05	41409.25	24604.65	309.35	811953.45
Statewide	2020	OFF - Agricultural - Sprayers	Aggregated	100	Gasoline	0.002718688	0.002500649	0.00299175	0.080413743	0.010336107	3.326226493	0.000231912	0.000175223	0.000257681	3.2136E-05	4.58599E-05	130907.25	41635.55	521.76	2831217.4
Statewide	2020	OFF - Agricultural - Sprayers	Aggregated	175	Gasoline	0.000778601	0.000716157	0.000856803	0.048552218	0.005276019	1.501935305	0.000107673	8.13527E-05	0.000119636	1.49202E-05	2.09192E-05	59714	9154.2	117.16	1281588
Statewide	2020	OFF - Agricultural - Swathers	Aggregated	100	Gasoline	0.014437167	0.013279306	0.015887222	0.43289218	0.05388927	17.17657903	0.001197592	0.000904848	0.001330658	0.00016595	0.000237383	677611.55	160402.9	1686.23	14115455.2
Statewide	2020	OFF - Agricultural - Swathers	Aggregated	175	Gasoline	0.01001574	0.009212477	0.01102171	0.610095184	0.066633316	18.77261688	0.001345797	0.001016824	0.00149533	0.000186486	0.000261988	747844.85	122924.7	1292.89	15857286.3
Statewide	2020	OFF - Agricultural - Tillers	Aggregated	25	Gasoline	0.785988294	0.722952032	0.864932172	42.5227535	0.555863833	69.84141646	0.031956647	0.024145022	0.035507386	0.001991368	0.001854423	5293456.3	10835313.35	152386.39	75847193.45
Statewide	2020	OFF - AirGrSupp - A/C Tug Narrow Body	Aggregated	175	Gasoline	0.009429301	0.008673071	0.01037637	0.476131493	0.059992314	11.82106911	0.000847445	0.000640292	0.000941605	0.00011743	0.000167034	476799.5	49822.5	68.22	6476925
Statewide	2020	OFF - AirGrSupp - A/C Tug Wide Body	Aggregated	600	Gasoline	0.004215937	0.003877818	0.004639381	0.447496819	0.039569344	12.52331616	0.000923851	0.000698021	0.001026501	0.000128018	0.000175495	500951.55	14107.25	27.24	7053625
Statewide	2020	OFF - AirGrSupp - Air Conditioner	Aggregated	175	Gasoline	2.47893E-06	2.28012E-06	2.72791E-06	0.00021803	2.67009E-05	0.006728205	4.82341E-07	3.64435E-07	5.35934E-07	6.68377E-08	5.11472E-08	146	0	1.23	0
Statewide	2020	OFF - AirGrSupp - Air Conditioner	Aggregated	175	Nat Gas	0	0	1.18983E-06	0.000892136	0.000121051	0.036157318	0	0	3.2156E-06	0	0	1821.35	58.4	7.97	7592
Statewide	2020	OFF - AirGrSupp - Air Start Unit	Aggregated	175	Gasoline	0.00025515	0.000234687	0.000280777	0.02101566	0.002576095	0.636439245	4.56259E-05	3.44729E-05	5.06955E-05	6.32236E-06	8.81523E-06	25163.1	2248.4	31.13	292292
Statewide	2020	OFF - AirGrSupp - Baggage Tug	Aggregated	100	Gasoline	0.064395159	0.059230667	0.070862944	4.825277071	0.376913423	114.3931857	0.007975767	0.006026135	0.008861964	0.001105198	0.001619742	4623560.85	889202.05	1013.18	88920205
Statewide	2020	OFF - AirGrSupp - Baggage Tug	Aggregated	100	Nat Gas	0	0	0.002577949	0.841744641	0.105745803	18.79023581	0	0	0.001671085	0	0	1046378.35	167673.7	201.37	16767370
Statewide	2020	OFF - AirGrSupp - Belt Loader	Aggregated	100	Gasoline	0.015629052	0.014375602	0.017198819	1.190068744	0.090684305	27.2061064	0.001896875	0.001433194	0.002107639	0.000262849	0.000386127	1102201.45	387721.25	477.63	23263275
Statewide	2020	OFF - AirGrSupp - Belt Loader	Aggregated	100	Nat Gas	0	0	0.000186381	0.071494321	0.008774045	1.806682577	0	0	0.000160675	0	0	99593.9	29393.45	53.12	1763607
Statewide	2020	OFF - AirGrSupp - Bobtail	Aggregated	100	Gasoline	0.009265385	0.008522301	0.010195991	0.694431483	0.054197951	16.43710025	0.001146034	0.000865892	0.001273371	0.000158805	0.000232763	664424.1	127746.35	145.61	12774635
Statewide	2020	OFF - AirGrSupp - Bobtail	Aggregated	100	Nat Gas	0	0	2.15718E-05	0.01460726	0.001328351	0.405232386	0	0	3.60388E-05	0	0	22159.15	3577	4.02	357700
Statewide	2020	OFF - AirGrSupp - Cargo Loader	Aggregated	100	Gasoline	0.004935245	0.004539439	0.005430936	0.373976734	0.028591271	8.57822957	0.000598095	0.000451894	0.00066455	8.28777E-05	0.000121701	347396.05	104765.95	145.35	7333616.5
Statewide	2020	OFF - AirGrSupp - Cargo Loader	Aggregated	100	Nat Gas	0	0	0.000295524	0.088577151	0.011288281	1.82075857	0	0	0.000161927	0	0	101875.15	25356.55	24.44	1774958.5
Statewide	2020	OFF - AirGrSupp - Cargo Tractor	Aggregated	100	Gasoline	0.159662176	0.146857269	0.175698485	13.1627006	0.695119075	145.7475033	0.010161866	0.007677854	0.011290962	0.001203306	0.00221408	6320099.1	1214614.15	898.74	115388344.3
Statewide	2020	OFF - AirGrSupp - Cargo Tractor	Aggregated	175	Nat Gas	0	0	0.000106986	0.068379289	0.009200643	2.600337527	0	0	0.000231258	0	0	140320.6	15019.75	96.99	2337073.1
Statewide	2020	OFF - AirGrSupp - Cart	Aggregated	25	Gasoline	0.000325131	0.000299055	0.000357787	0.020579381	0.000253377	0.033773062	1.53327E-05	1.15847E-05	1.70363E-05	9.62962E-07	8.74618E-07	2496.6	4277.8	28.72	51333.6
Statewide	2020	OFF - AirGrSupp - Catering Truck	Aggregated	300	Gasoline	0.022990682	0.021146829	0.025299843	1.029474246	0.129642368	22.89372562	0.001688881	0.001276044	0.001876535	0.000199987	0.000326036	930669.7	97520.7	95.6	19884470.73
Statewide	2020	OFF - AirGrSupp - Catering Truck	Aggregated	300	Nat Gas	0	0	0.000103422	0.052383238	0.006900381	1.753257777	0	0	0.000155924	0	0	95053.3	7967.95	17.48	1633429.75
Statewide	2020	OFF - AirGrSupp - Deicer	Aggregated	100	Gasoline	0.000120394	0.000110739	0.000132486	0.003901922	0.000745819	0.206613742	1.44056E-05	1.08842E-05	1.60062E-05	1.99618E-06	2.7888E-06	7960.65	934.4	44.92	86899.2
Statewide	2020	OFF - AirGrSupp - Forklift	Aggregated	50	Gasoline	0.00512521	0.004714168	0.00563998	0.481938517	0.011332305	3.541866611	0.000244173	0.000184486	0.000271303	4.30626E-05	5.72325E-05	163370.35	99765.45	137.09	4988272.5
Statewide	2020	OFF - AirGrSupp - Forklift	Aggregated	50	Nat Gas	0	0	0.00033165	0.088600738	0.023949598	7.138465977	0	0	0.00063485	0	0	377446.5	233545.25	321.06	11677262.5
Statewide	2020	OFF - AirGrSupp - Fuel Truck	Aggregated	175	Gasoline	5.26185E-05	4.83985E-05	5.79035E-05	0.004484352	0.00056867	0.14087616	1.00993E-05	7.6306E-06	1.12215E-05	1.39946E-06	1.92697E-06	5500.55	1806.75	86	234877.5
Statewide	2020	OFF - AirGrSupp - Fuel Truck	Aggregated	175	Nat Gas	0	0	2.91357E-05	0.013829749	0.00180957	0.442593254	0	0	3.93615E-05	0	0	23936.7	6117.4	10.59	856436

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	OFF - AirGrSupp - Generator	Aggregated	100	Gasoline	0.001988111	0.001828665	0.002187795	0.100080737	0.006614571	1.207823154	8.42123E-05	6.36271E-05	9.35693E-05	9.97191E-06	1.81368E-05	51771.6	6069.95	6.54	649484.65
Statewide	2020	OFF - AirGrSupp - Ground Power Unit	Aggregated	175	Gasoline	0.007925055	0.007289466	0.00872104	0.809300865	0.071273206	22.96373813	0.001646255	0.001243837	0.001829173	0.000228121	0.00032156	917894.7	89691.45	112.5	13453717.5
Statewide	2020	OFF - AirGrSupp - Hydrant truck	Aggregated	175	Gasoline	0.02627801	0.024170514	0.028917347	1.019872273	0.127584377	20.32562116	0.00145713	0.001100943	0.001619034	0.000172544	0.000292006	833532.25	104944.8	68.26	12750793.2
Statewide	2020	OFF - AirGrSupp - Lav Cart	Aggregated	25	Gasoline	7.61519E-05	7.00445E-05	8.38005E-05	0.00479217	5.97315E-05	0.008014965	3.64361E-06	2.75295E-06	4.04845E-06	2.28528E-07	2.08425E-07	594.95	978.2	6.77	11738.4
Statewide	2020	OFF - AirGrSupp - Lav Truck	Aggregated	175	Gasoline	0.005764898	0.005302553	0.006343918	0.411522303	0.036002113	10.10742501	0.000724595	0.000547472	0.000805105	0.000100407	0.000142795	407610.1	136641.4	112.28	17763382
Statewide	2020	OFF - AirGrSupp - Lav Truck	Aggregated	175	Nat Gas	0	0	1.1599E-05	0.006138311	0.000811632	0.211127981	0	0	1.87764E-05	0	0	11355.15	3044.1	7.88	395733
Statewide	2020	OFF - AirGrSupp - Lift	Aggregated	100	Gasoline	0.009793067	0.009007663	0.010776672	0.429891214	0.042277287	9.676115169	0.000674642	0.00050973	0.000749602	9.34848E-05	0.000137659	392948.05	82570.3	219.18	8257030
Statewide	2020	OFF - AirGrSupp - Lift	Aggregated	100	Nat Gas	0	0	2.21938E-05	0.010204637	0.001224453	0.286404714	0	0	2.5471E-05	0	0	15527.1	2682.75	7.95	268275
Statewide	2020	OFF - AirGrSupp - Maint. Truck	Aggregated	175	Gasoline	0.004861416	0.00447153	0.005349691	0.36707071	0.038340167	10.13540982	0.000726601	0.000548987	0.000807334	0.000100685	0.000142173	405832.55	68415.6	151.97	8894028
Statewide	2020	OFF - AirGrSupp - Other	Aggregated	50	Nat Gas	0	0	0.00037719	0.041631933	0.014827521	2.421913171	0	0	0.00021539	0	0	129403.45	47355.1	46.22	2367755
Statewide	2020	OFF - AirGrSupp - Other GSE	Aggregated	50	Gasoline	0.004380087	0.004028804	0.004820019	0.281634697	0.008981778	2.678445181	0.00018465	0.000139513	0.000205166	3.2565E-05	4.15597E-05	118632.3	45088.45	246.56	2254422.5
Statewide	2020	OFF - AirGrSupp - Passenger Stand	Aggregated	175	Gasoline	0.00169584	0.001559834	0.001866169	0.121332249	0.015331495	3.592682369	0.000257557	0.000194599	0.000286175	3.17961E-05	5.02113E-05	143328.2	21232.05	113.4	2656129.455
Statewide	2020	OFF - AirGrSupp - Passenger Stand	Aggregated	175	Nat Gas	0	0	3.18816E-07	0.000241101	3.28399E-05	0.009817806	0	0	8.73134E-07	0	0	408.8	0	3.99	0
Statewide	2020	OFF - AirGrSupp - Service Truck	Aggregated	300	Gasoline	0.028497032	0.02621157	0.031359245	1.364736495	0.172276075	31.90304178	0.002353503	0.001778202	0.002615004	0.000326124	0.000452708	1292256.95	400751.75	476.16	72135315
Statewide	2020	OFF - AirGrSupp - Service Truck	Aggregated	300	Nat Gas	0	0	0.000310293	0.158486993	0.015071748	4.454324907	0	0	0.00039614	0	0	244031.7	60575.4	46.32	10903572
Statewide	2020	OFF - AirGrSupp - Sweeper	Aggregated	50	Nat Gas	0	0	2.91381E-06	0.000646049	0.000218088	0.053619741	0	0	4.7686E-06	0	0	2726.55	1135.15	3.9	51081.75
Statewide	2020	OFF - AirGrSupp - Sweeper	Aggregated	100	Gasoline	0.000251055	0.000230921	0.000276271	0.010971359	0.001096542	0.252957948	1.76368E-05	1.33256E-05	1.95965E-05	2.08845E-06	3.55601E-06	10150.65	3828.85	10.59	204077.705
Statewide	2020	OFF - AirGrSupp - Water Truck	Aggregated	175	Gasoline	0.000413152	0.000380017	0.000454649	0.026707813	0.003366893	0.756713418	5.42483E-05	4.09876E-05	6.02759E-05	7.51716E-06	1.05491E-05	30112.5	10986.5	35.35	1647975
Statewide	2020	OFF - ConstMin - Asphalt Pavers	Aggregated	25	Gasoline	0.018586094	0.017095489	0.020452863	0.782310714	0.013512634	1.244788688	0.009391568	0.007095852	0.010435076	3.231E-05	3.37955E-05	96469.5	84519.4	213.11	1454156.35
Statewide	2020	OFF - ConstMin - Asphalt Pavers	Aggregated	50	Gasoline	0.002978905	0.002739997	0.003278103	0.192540529	0.004321699	1.380675913	9.51826E-05	7.19157E-05	0.000105758	1.67865E-05	2.23871E-05	63904.2	27385.95	69.79	876350.4
Statewide	2020	OFF - ConstMin - Asphalt Pavers	Aggregated	100	Gasoline	0.001585503	0.001458346	0.00174475	0.059937968	0.004323819	1.429457174	9.96652E-05	7.53026E-05	0.000110739	1.38106E-05	2.02147E-05	57702.85	14859.15	37.8	906408.15
Statewide	2020	OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Gasoline	0.006616635	0.006085981	0.007281203	0.291278774	0.004753185	0.461481621	0.003481745	0.002630651	0.003868605	1.18431E-05	1.24326E-05	35488.95	26688.8	217.31	445913.2
Statewide	2020	OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Diesel	0.000749203	0.000891614	0.001078853	0.004022797	0.006806925	0.899889828	0.000256224	0.000235726	0.000256224	1.18766E-05	7.48445E-06	29751.15	44957.05	55.11	696905.45
Statewide	2020	OFF - ConstMin - Bore/Drill Rigs	Aggregated	50	Gasoline	0.000231048	0.000212518	0.000254254	0.012138359	0.000423731	0.139777391	9.63613E-06	7.28063E-06	1.07068E-05	1.69944E-06	1.97684E-06	5642.9	1967.35	20.87	62955.2
Statewide	2020	OFF - ConstMin - Bore/Drill Rigs	Aggregated	100	Gasoline	0.001491925	0.001372272	0.001641772	0.045365768	0.005445931	1.744864154	0.000121656	9.19179E-05	0.000135173	1.68578E-05	2.40571E-05	68671.1	10449.95	99.5	919595.6
Statewide	2020	OFF - ConstMin - Bore/Drill Rigs	Aggregated	175	Gasoline	0.000327049	0.00030082	0.000359897	0.019682172	0.002124893	0.601431053	4.31162E-05	3.25767E-05	4.79069E-05	5.97459E-06	8.28841E-06	23659.3	2273.95	23.79	286517.7
Statewide	2020	OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Gasoline	0.265197951	0.243929075	0.291834168	9.029593262	0.173922495	16.04607909	0.08993971	0.067954447	0.099933011	0.000482813	0.000415211	1185220.7	3023663.65	32841.64	20960522.85
Statewide	2020	OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Diesel	0.001897829	0.002258574	0.002732874	0.013202551	0.017044032	2.304714368	0.00067734	0.000623153	0.00067734	3.4539E-05	1.92148E-05	76379.9	231921	772.75	2388516.2
Statewide	2020	OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Gasoline	0.202804537	0.186539613	0.223174022	8.426981833	0.154227678	13.88493716	0.102201829	0.07721916	0.113557588	0.000382094	0.000370667	1058069.3	1313675.15	4622.58	13726160.8
Statewide	2020	OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Diesel	6.22035E-05	7.40273E-05	8.95731E-05	0.000305725	0.00056603	0.07424934	2.11499E-05	1.94579E-05	2.11499E-05	9.42083E-07	5.91337E-07	2350.6	3160.9	5.21	56896.2
Statewide	2020	OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Gasoline	0.003615697	0.003325718	0.003978853	0.269383832	0.005802272	3.207448853	0.000221119	0.000167067	0.000245687	3.89967E-05	4.83111E-05	137904.3	49661.9	81.27	1738166.5
Statewide	2020	OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Diesel	0.001138259	0.001354622	0.001639092	0.009348131	0.008617129	1.166939581	0.000435381	0.00040055	0.000435381	1.50856E-05	9.75614E-06	38781.25	27838.55	47.72	918672.15
Statewide	2020	OFF - ConstMin - Concrete/Industrial Saws	Aggregated	100	Gasoline	0.001485918	0.001366748	0.001635163	0.073423193	0.003714093	3.427779809	0.000238993	0.000180573	0.000265548	3.31171E-05	4.70171E-05	134210.5	28437.15	46.55	1876851.9
Statewide	2020	OFF - ConstMin - Cranes	Aggregated	50	Gasoline	0.001050844	0.000966566	0.00115639	0.064717025	0.001603723	0.423780602	2.92151E-05	2.20736E-05	3.24612E-05	5.1524E-06	6.92789E-06	19775.7	9906.1	23.79	366525.7
Statewide	2020	OFF - ConstMin - Cranes	Aggregated	100	Gasoline	0.00222805	0.00204936	0.002451833	0.079045077	0.006258725	1.676078509	0.00011686	8.82944E-05	0.000129845	1.61933E-05	2.38794E-05	68163.75	20330.5	48.77	1504457
Statewide	2020	OFF - ConstMin - Cranes	Aggregated	175	Gasoline	9.42309E-05	8.66736E-05	0.000103695	0.004000089	0.000471753	0.110141343	7.89596E-06	5.96584E-06	8.77329E-06	1.09414E-06	1.45898E-06	4164.65	569.4	1.35	71175
Statewide	2020	OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	25	Gasoline	0.002977251	0.002738475	0.003276283	0.126967271	0.002244552	0.20548052	0.001550291	0.001171331	0.001722545	5.50855E-06	5.49066E-06	15673.1	15727.85	54.49	185036.75
Statewide	2020	OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	100	Gasoline	0.001405037	0.001292353	0.001546157	0.046595076	0.004485861	1.324499833	9.23473E-05	6.97735E-05	0.000102608	1.27965E-05	1.85102E-05	52837.4	6599.2	27.83	633523.2
Statewide	2020	OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Gasoline	0.024378161	0.022423032	0.026826679	0.88181565	0.016897349	1.510490574	0.009969125	0.007532228	0.011076805	4.30823E-05	3.95918E-05	113014.95	326145.75	2188.01	2837254.5
Statewide	2020	OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Diesel	0.000193201	0.000229925	0.000278209	0.000949132	0.001759004	0.23050924	6.70304E-05	6.1668E-05	6.70304E-05	2.92473E-06	1.87869E-06	7467.9	21936.5	32.66	350984
Statewide	2020	OFF - ConstMin - Dumpers/Tenders	Aggregated	100	Gasoline	0.000127251	0.000117046	0.000140032	0.003932067	0.000454093	0.143664915	1.00167E-05	7.56815E-06	1.11296E-05	1.388E-06	1.85025E-06	5281.55	1919.9	16.91	126713.4
Statewide	2020	OFF - ConstMin - Excavators	Aggregated	25	Diesel	0.001353716	0.001611034	0.001949352	0.006653399	0.012318342	1.615866006	0.000460279	0.000423456	0.000460279	2.05023E-05	1.35025E-05	53673.25	71722.5	51.16	1649617.5
Statewide	2020	OFF - ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0.004365066	0.005194789	0.006285695	0.030822859	0.039430027	5.364497474	0.001527931	0.001405696	0.001527931	8.06844E-05	4.49407E-05	178641.95	371121.05	537.26	5038930.85
Statewide	2020	OFF - ConstMin - Other Construction Equipment	Aggregated	175	Gasoline	0.001386602	0.001275397	0.001525871	0.118384817	0.004553206	3.547710106	0.000254333	0.000192163	0.000282592	3.52428E-05	4.95387E-05	141408.3	25652.2	69.1	3232177.2
Statewide	2020	OFF - ConstMin - Pavers	Aggregated	25	Diesel	0.000366851	0.000436582	0.000528265	0.001800491	0.003343746	0.437273213	0.000129073	0.000118747	0.000129073	5.54817E-06	3.60036E-06	14311.65	16881.25	20.14	405150
Statewide	2020	OFF - ConstMin - Paving Equipment	Aggregated	25	Gasoline	0.428308308	0.393957982	0.471327167	15.65724576	0.313351565	27.70661489	0.176730981	0.133530075	0.196367757	0.000813376	0.000716858	2046273.95	4416930.7	23349.27	36207299.2
Statewide	2020	OFF - ConstMin - Paving Equipment	Aggregated	25	Diesel	0.000433906	0.000516383	0.000624824	0.002132608	0.003948387	0.51793214	0.000147456	0.00013566	0.000147456	6.57158E-06	4.30464E-06	17111.2	29864.3	35.82	567421.7
Statewide	2020	OFF - ConstMin - Paving Equipment	Aggregated	50	Gasoline	0.00222317	0.002044871	0.002446463	0.155528302	0.00364504	1.74079196	0.000120009	9.06732E-05	0.000133343	2.11649E-05	2.63702E-05	75273.95	33503.35	192.09	1239623.95
Statewide	2020	OFF - ConstMin - Paving Equipment	Aggregated	100	Gasoline	0.0004281	0.000393766	0.000471098	0.018847092	0.0012091	0.791317343	5.51725E-05	4.16859E-05	6.13028E-05	7.64523E-06	1.08215E-05	30889.95	8446.1	48.91	557442.6
Statewide	2020	OFF - ConstMin - Plate Compactors	Aggregated	25	Gasoline	0.180543385	0.166063805	0.198676982	5.844921923	0.123676045	10.94543204	0.0597934	0.045177235	0.066437111	0.000333207	0.000276726	789914.75	2499253.55	12893.45	15344497.8
Statewide	2020	OFF - ConstMin - Plate Compactors	Aggregated	25	Diesel	0.00128201	0.001525698	0.001846094	0.009683512	0.011560942	1.585919361	0.000451748	0.000415609	0.000451748	2.46783E-05	1.3284E-05	52804.55	268614.45	447.4	2148915.6
Statewide	2020	OFF - ConstMin - Rollers	Aggregated	25	Gasoline	0.092236197	0.084838854	0.101500308	3.819204897	0.067888236	6.226301343	0.045326577	0.034246747	0.050362864	0.00016773	0.000167134	477084.2	629062.9	2526.13	7742453
Statewide	2020	OFF - ConstMin - Rollers	Aggregated	25	Diesel	0.007827978	0.009315941	0.011272288	0.049259545	0.070897374	9.521315654	0.002711481	0.002494563	0.002711481	0.000135335	7.97424E-05	316980.6	829130.35	1191.72	9907162.15
Statewide	2020	OFF - ConstMin - Rollers	Aggregated	50	Gasoline	0.005077683	0.004670453	0.005587681	0.329571968	0.007176732	1.673048038	0.000115338	8.71446E-05	0.000128154	2.03412E-05	2.9246E-05	83482.8	30532.25	48.77	1129693.25
Statewide	2020	OFF - ConstMin - Rollers	Aggregated	100	Gasoline	0.010388127	0.009554999	0.0114315	0.38695891	0.026135203	6.304041982	0.000439533	0.000332092	0.00048837	6.09058E-05	9.21034E-05	262909.5	57746.65	92.41	4330998.75
Statewide	2020	OFF - ConstMin - Rough Terrain Forklifts	Aggregated	50	Gasoline	0.000710711	0.000653712	0.000782094	0.043741567	0.00108559	0.287237956	1.98019E-05	1.49615E-05	2.20021E-05	3.49229E-06	4.65184E-06	13278.7	3792.35	8.99	178240.45
Statewide	2020	OFF - ConstMin - Rough Terrain Forklifts	Aggregated	100	Gasoline	0.009673035	0.008897257	0.010644585	0.342965853	0.027206336	7.293644254	0.00050853	0.000384223	0.000565034	7.04668E-05	0.000104297	297715.9	58009.45	140.16	4930803.25
Statewide	2020	OFF - ConstMin - Rough Terrain Forklifts	Aggregated	175	Gasoline	0.000356141	0.000327579	0.000391912	0.015144256	0.001785173	0.417266327	2.99136E-05	2.26013E-05	3.32373E-05	4.1451E-06	5.74639E-06	16403.1	1700.9	3.96	241527.8
Statewide	2020	OFF - ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	0.000361586	0.000430317	0.000520684	0.001777164	0.003290305	0.431607824	0.000122943	0.000113108	0.000122943	5.47628E-06	3.5921E-06	14278.8	18545.65	19.1	463641.25

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	OFF - ConstMin - Rubber Tired Loaders	Aggregated	50	Gasoline	0.001674619	0.001540315	0.001842816	0.107989492	0.002363845	0.649407285	4.47696E-05	3.38259E-05	4.97439E-05	7.89561E-06	1.08522E-05	30977.55	12402.7	23.9	496108
Statewide	2020	OFF - ConstMin - Rubber Tired Loaders	Aggregated	100	Gasoline	0.010511052	0.009668066	0.011566772	0.392080896	0.027367528	7.674516144	0.000535086	0.000404287	0.00059454	7.41465E-05	0.000110386	315097.2	84194.55	164.33	6062007.6
Statewide	2020	OFF - ConstMin - Signal Boards	Aggregated	25	Gasoline	0.004608225	0.004238645	0.005071071	0.190239505	0.003646774	0.321756496	0.002337403	0.001766038	0.002597114	9.24899E-06	8.4393E-06	24090	41642.85	157.18	325685.85
Statewide	2020	OFF - ConstMin - Signal Boards	Aggregated	25	Diesel	0.020036899	0.023845566	0.028853134	0.151346408	0.180689288	24.78679134	0.007060506	0.006495666	0.007060506	0.000385704	0.000207912	826462.2	2935377.45	3910.37	17612264.7
Statewide	2020	OFF - ConstMin - Signal Boards	Aggregated	50	Diesel	0.000497165	0.000591667	0.000715917	0.004037368	0.003750498	0.515814625	0.000186993	0.000172033	0.000186993	6.6682E-06	4.24312E-06	16866.65	10026.55	18.6	370982.35
Statewide	2020	OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Gasoline	0.303309154	0.27898376	0.333773222	12.7233652	0.215248553	20.05287803	0.151293128	0.114310363	0.168103475	0.000508925	0.000547446	1562685.45	1408494.85	4411.49	26658015.9
Statewide	2020	OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0.036219536	0.043104241	0.052156132	0.175105475	0.325965746	42.03155838	0.013257854	0.012197225	0.013257854	0.000533301	0.000351587	1397577.7	2226237.2	2666.85	44524744
Statewide	2020	OFF - ConstMin - Skid Steer Loaders	Aggregated	50	Gasoline	0.011076143	0.010187836	0.01218862	0.870550605	0.017217182	9.216741459	0.000635394	0.000480075	0.000705993	0.000112059	0.000140842	402032.9	209889.6	676.54	6716467.2
Statewide	2020	OFF - ConstMin - Skid Steer Loaders	Aggregated	100	Gasoline	0.006366644	0.005856039	0.007006103	0.334993164	0.015972421	13.62970731	0.000950296	0.000718001	0.001055884	0.000131682	0.000187914	536400.35	125476.05	404.51	10038084
Statewide	2020	OFF - ConstMin - Surfacing Equipment	Aggregated	25	Gasoline	0.206302698	0.189757222	0.227023535	7.775117115	0.159008528	13.33242657	0.093345732	0.070527887	0.10371748	0.000384927	0.000349983	999026.9	2696079.8	6301.39	20978772.85
Statewide	2020	OFF - ConstMin - Tampers/Rammers	Aggregated	25	Gasoline	0.022621402	0.020807166	0.024893474	1.055152784	0.019135855	1.989022664	0.015006598	0.011338318	0.016673997	7.94503E-05	4.95399E-05	141411.95	659106.05	3618.44	2787552.45
Statewide	2020	OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0.006717821	0.007994763	0.009673663	0.033017507	0.061129803	8.018739189	0.002301024	0.002116942	0.002301024	0.000101743	6.70571E-05	266555.85	369314.3	391.47	8494228.9
Statewide	2020	OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Gasoline	0.00478102	0.004397582	0.005261221	0.311366088	0.012197246	5.376880444	0.000374889	0.000283249	0.000416543	5.19482E-05	7.79522E-05	222514.95	75901.75	86.9	4781810.25
Statewide	2020	OFF - ConstMin - Trenchers	Aggregated	25	Gasoline	0.186926294	0.171934805	0.205700984	7.751731041	0.139333336	12.46643066	0.094055593	0.071064226	0.104506214	0.000330991	0.000336962	961858.95	983890.35	2265.03	14563715.35
Statewide	2020	OFF - ConstMin - Trenchers	Aggregated	25	Diesel	0.003165524	0.003767235	0.004558355	0.017150602	0.028755775	3.804728941	0.001083775	0.000997073	0.001083775	5.04195E-05	3.18156E-05	126468.85	132243.15	213.57	2952860.95
Statewide	2020	OFF - ConstMin - Trenchers	Aggregated	50	Gasoline	0.020795298	0.019127515	0.022883957	1.275287113	0.031920021	8.50660108	0.000586437	0.000443086	0.000651597	0.000103425	0.000140371	400689.7	181459.75	451.05	5443792.5
Statewide	2020	OFF - ConstMin - Trenchers	Aggregated	100	Gasoline	0.008039786	0.007394996	0.008847295	0.284097856	0.022771451	6.140978828	0.000428164	0.000323502	0.000475738	5.93304E-05	8.76498E-05	250196.55	60155.65	149.21	3970272.9
Statewide	2020	OFF - Industrial - Aerial Lifts	Aggregated	25	Gasoline	0.054119779	0.049779373	0.059555515	2.246683385	0.038359551	3.541784569	0.026721735	0.020189756	0.029690817	8.99424E-05	9.66721E-05	275950.95	314673.8	838.29	5935703
Statewide	2020	OFF - Industrial - Aerial Lifts	Aggregated	25	Diesel	0.005853037	0.006965598	0.008428373	0.033122609	0.052459486	6.882136648	0.002119701	0.001950125	0.002119701	9.37653E-05	5.75433E-05	228738.2	498509.7	1248.23	8714411.5
Statewide	2020	OFF - Industrial - Aerial Lifts	Aggregated	25	Nat Gas	0	0	0.004337447	1.155747383	0.031804795	6.800198702	0	0	0.003495189	0	0	454574.65	384611.45	1024.6	7255057.55
Statewide	2020	OFF - Industrial - Aerial Lifts	Aggregated	50	Gasoline	0.016764212	0.015419722	0.018447993	1.385361219	0.025354563	12.99174398	0.000895639	0.000676705	0.000995155	0.000157956	0.000201909	576349.6	361674.85	1001.1	11935270.05
Statewide	2020	OFF - Industrial - Aerial Lifts	Aggregated	100	Gasoline	0.01322626	0.012165514	0.014554693	0.736452515	0.03345952	26.08084056	0.001818419	0.001373917	0.002020465	0.000251977	0.000361646	1032318.55	361674.85	1001.1	24232214.95
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	25	Gasoline	0.001596002	0.001468003	0.001756303	0.098918648	0.001336785	0.154870849	7.7897E-05	5.88555E-05	8.65523E-05	3.92515E-06	4.18257E-06	11939.15	17275.45	19.09	397335.35
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	50	Nat Gas	0	0	0.000209549	0.033166358	0.00092607	0.172901049	0	0	0.000113813	0	0	12037.7	12253.05	9.65	281820.15
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	50	Gasoline	0.424132765	0.390117317	0.466732236	50.24905923	0.983844126	175.0611849	0.012068562	0.009118469	0.013409513	0.002128425	0.003389343	9674890.75	6016524.95	3339.53	246677522.9
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	50	Nat Gas	0	0	0.029045008	4.824438772	1.261758667	300.639046	0	0	0.026736938	0	0	16015188.95	11996184.9	6658.92	491843580.9
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	100	Gasoline	0.895261944	0.823461936	0.985181158	85.46009534	4.439823594	1037.095264	0.072308766	0.05463329	0.080343074	0.010019787	0.015570514	44446090.15	21113782.7	11719.79	1477964789
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	100	Nat Gas	0	0	0.172290927	81.32940586	8.156117586	1801.474267	0	0	0.160211743	0	0	100227317.3	42102987.25	23370.34	2947209108
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	175	Gasoline	0.0467453	0.042996327	0.051440351	3.272767747	0.274430403	76.886773	0.005511962	0.004164594	0.006124402	0.00076379	0.001089475	3109909.5	771661.1	428.09	112662520.6
Statewide	2020	OFF - Industrial - Forklifts	Aggregated	175	Nat Gas	0	0	0.007903639	4.764547021	0.405799968	137.5005502	0	0	0.012228431	0	0	7522405.45	1540701.5	855.01	224942419
Statewide	2020	OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Gasoline	0.044684645	0.041100936	0.049172726	2.744803972	0.036019226	4.493076452	0.002165608	0.001636237	0.002406231	0.000124544	0.00011913	340055.9	607349.05	1565.15	6415006.4
Statewide	2020	OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	0.007043318	0.00838213	0.010142378	0.039910619	0.06561047	8.696761966	0.002477269	0.002279087	0.002477269	0.000116271	7.27537E-05	289200.45	551420.1	386.3	9935219.7
Statewide	2020	OFF - Industrial - Other General Industrial Equipment	Aggregated	50	Gasoline	0.013165069	0.01210923	0.014487355	1.270837209	0.029268563	8.746730345	0.000602992	0.000455594	0.000669991	0.000106344	0.000143075	408409.45	228165.15	319.63	6844954.5
Statewide	2020	OFF - Industrial - Other General Industrial Equipment	Aggregated	100	Gasoline	0.004072513	0.003745898	0.004481553	0.298239812	0.024126534	7.484131406	0.000521812	0.000394258	0.000579791	7.23071E-05	0.000105565	301336.7	74887.05	104.84	5916076.95
Statewide	2020	OFF - Industrial - Other General Industrial Equipment	Aggregated	175	Gasoline	0.000571578	0.000525738	0.000628987	0.055341532	0.004856784	1.551460971	0.000111223	8.40353E-05	0.000123581	1.54121E-05	2.16839E-05	61896.7	7146.7	9.59	1243525.8
Statewide	2020	OFF - Industrial - Other Material Handling Equipment	Aggregated	50	Gasoline	0.000197157	0.000181345	0.00021696	0.013680971	0.000383429	0.089776306	6.1891E-06	4.67621E-06	6.87678E-06	1.09152E-06	1.3618E-06	3887.25	1423.5	3.7	58363.5
Statewide	2020	OFF - Industrial - Other Material Handling Equipment	Aggregated	100	Gasoline	0.005660064	0.005206127	0.006228556	0.234277247	0.023538579	5.173425999	0.000360704	0.000272532	0.000400782	4.99825E-05	7.36431E-05	210214.45	77033.25	199.52	4159795.5
Statewide	2020	OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Gasoline	0.034102588	0.031367561	0.037527818	2.207465047	0.027711664	3.54397539	0.001655336	0.001250698	0.001839262	9.33346E-05	9.47899E-05	270578.15	297431.2	1100.79	3848063.6
Statewide	2020	OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Diesel	0.001402674	0.001669298	0.002019851	0.008611	0.013256476	1.768206607	0.000503673	0.000463379	0.000503673	2.43572E-05	1.47586E-05	58666.45	81763.65	125.54	1512019.8
Statewide	2020	OFF - Industrial - Sweepers/Scrubbers	Aggregated	50	Gasoline	0.036476979	0.033551525	0.04014069	3.171484464	0.079356612	28.27209721	0.001949053	0.001472618	0.002165615	0.000343737	0.000442673	1263611.75	480913.05	931.26	16831956.75
Statewide	2020	OFF - Industrial - Sweepers/Scrubbers	Aggregated	100	Gasoline	0.021288584	0.01958124	0.023426788	1.355830344	0.1348998	45.34750953	0.003161737	0.002388868	0.003513041	0.00043812	0.000630268	1799103.25	401525.55	777.31	27303737.4
Statewide	2020	OFF - Industrial - Sweepers/Scrubbers	Aggregated	175	Gasoline	0.000164843	0.000151623	0.0001814	0.018017151	0.001599158	0.527912364	3.78457E-05	2.85945E-05	4.20508E-05	5.24426E-06	7.34219E-06	20958.3	2157.15	4.12	302001
Statewide	2020	OFF - Light Commercial - Air Compressors	Aggregated	25	Gasoline	0.482489572	0.443793908	0.530950342	11.17903371	0.287807906	24.16902901	0.092049781	0.069548724	0.102277535	0.000754925	0.000579763	1654935.55	5399269.8	11169.15	33277159.5
Statewide	2020	OFF - Light Commercial - Air Compressors	Aggregated	25	Diesel	0.002176052	0.002589682	0.003133515	0.011066936	0.018678256	2.338378713	0.000885701	0.000814845	0.000885701	3.10235E-05	1.94315E-05	77241.3	141572.55	172.7	2829173.4
Statewide	2020	OFF - Light Commercial - Air Compressors	Aggregated	50	Gasoline	0.027245696	0.025060592	0.029982227	1.755401485	0.038725236	10.3725634	0.000715075	0.000540279	0.000794528	0.000126111	0.000175503	500973.45	223507.75	462.12	7822771.25
Statewide	2020	OFF - Light Commercial - Air Compressors	Aggregated	50	Diesel	0.032008484	0.038092742	0.046092217	0.237693104	0.202409862	26.15721278	0.01154862	0.01062473	0.01154862	0.000338147	0.000220953	878299.5	858009.15	1053.83	31746338.55
Statewide	2020	OFF - Light Commercial - Air Compressors	Aggregated	100	Gasoline	0.093098743	0.085632224	0.102449488	3.461855161	0.244705757	66.51338834	0.004637473	0.003503869	0.005152748	0.000642612	0.000958521	2736102.05	725273.25	1500.52	50769127.5
Statewide	2020	OFF - Light Commercial - Air Compressors	Aggregated	175	Gasoline	0.007603512	0.006993711	0.008367202	0.310111764	0.034956706	8.33035881	0.000597198	0.000451216	0.000663553	8.27534E-05	0.000117196	334537.1	48482.95	100.12	6496715.3
Statewide	2020	OFF - Light Commercial - Gas Compressors	Aggregated	50	Nat Gas	0	0	0.001542249	0.273206051	0.056002952	18.60702082	0	0	0.001425279	0	0	988657.25	289156.65	34.02	9253012.8
Statewide	2020	OFF - Light Commercial - Gas Compressors	Aggregated	100	Nat Gas	0	0	0.008410083	4.368995669	0.331376649	104.5618583	0	0	0.008100337	0	0	5785742.75	597647.35	70.32	52592966.8
Statewide	2020	OFF - Light Commercial - Gas Compressors	Aggregated	175	Nat Gas	0	0	0.002345504	0.888797716	0.088674835	27.21256615	0	0	0.002167612	0	0	1485852.95	96334.45	11.3	14064829.7
Statewide	2020	OFF - Light Commercial - Gas Compressors	Aggregated	300	Nat Gas	0	0	0.001804495	1.022726196	0.085800371	28.04605006	0	0	0.002494239	0	0	1538880.15	77091.65	9.04	16189246.5
Statewide	2020	OFF - Light Commercial - Gas Compressors	Aggregated	600	Nat Gas	0	0	0.002541331	1.440339272	0.120835517	39.49818789	0	0	0.00351272	0	0	2167249.55	67499.45	7.94	22814814.1
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	25	Gasoline	3.708143451	3.410750346	4.080585671	193.2412513	2.559672098	318.8602664	0.210877042	0.15932932	0.234307824	0.008734233	0.008453741	24131234.05	33706472.5	293368.03	361547822.7
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	25	Diesel	0.051405914	0.061177286	0.074024516	0.31715031	0.48729975	61.14857664	0.022477934	0.020679699	0.022477934	0.000853473	0.000512248	2036214.55	3348207.05	9918	48145773.95
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	50	Gasoline	0.137865166	0.12680838	0.151712205	8.063319767	0.286997605	90.03841889	0.006207168	0.00468986	0.006896853	0.001094703	0.001368579	3906613.25	1749167.6	15229.17	55973363.2
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	50	Diesel	0.061166471	0.072793155	0.088079718	0.508999305	0.519204943	72.39692633	0.024812576	0.02282757	0.024812576	0.000935912	0.000608299	2418026.45	1727293.15	5116.86	57000673.95
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	100	Gasoline	0.033280493	0.030611398	0.036623153	1.16584009	0.178330119	44.59695099	0.003109406	0.002349329	0.003454896	0.000430869	0.000617015	1761271	337723.55	2940.96	28031054.65
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	100	Nat Gas	0	0	0.000152911	0.090811105	0.011033174	2.891501831	0	0	0.000257152	0	0	157117.9	24783.5	218.35	2057030.5

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	175	Gasoline	0.003281329	0.003018167	0.003610903	0.236910253	0.031481944	7.208770952	0.000516792	0.000390465	0.000574213	7.16116E-05	0.000100586	287123.6	31605.35	277.5	4614381.1
Statewide	2020	OFF - Light Commercial - Generator Sets	Aggregated	175	Nat Gas	0	0	0.000172944	0.108840663	0.015403318	4.21658549	0	0	0.000374996	0	0	227413.25	20458.25	181.1	2986904.5
Statewide	2020	OFF - Light Commercial - Pressure Washers	Aggregated	25	Gasoline	0.391626711	0.360218249	0.430961306	14.09686287	0.199663452	26.85756755	0.0371589	0.028075614	0.041287667	0.000804473	0.000670955	1915242.6	3518329.9	30625.39	24357523.1
Statewide	2020	OFF - Light Commercial - Pressure Washers	Aggregated	25	Diesel	0.000280775	0.000334145	0.000404316	0.001990014	0.002748719	0.345432369	0.000128323	0.000118057	0.000128323	5.1231E-06	2.65E-06	10533.9	46668.9	326.12	657722.7
Statewide	2020	OFF - Light Commercial - Pressure Washers	Aggregated	50	Gasoline	0.001237305	0.001138074	0.001361579	0.075754132	0.002129439	0.91163404	6.28472E-05	4.74846E-05	6.98303E-05	1.10838E-05	1.3687E-05	39069.6	15267.95	135.55	442770.55
Statewide	2020	OFF - Light Commercial - Pressure Washers	Aggregated	50	Diesel	0.000212382	0.000252752	0.00030583	0.002077118	0.002398054	0.34786794	9.86329E-05	9.07423E-05	9.86329E-05	4.49706E-06	2.80701E-06	11158.05	17301	122.06	657438
Statewide	2020	OFF - Light Commercial - Pumps	Aggregated	25	Gasoline	1.198922608	1.102769015	1.319341196	40.56345167	0.816445522	74.18607958	0.461665175	0.348813688	0.512961305	0.002262043	0.001893861	5406033.25	14939993.85	67694.1	82893700.95
Statewide	2020	OFF - Light Commercial - Pumps	Aggregated	25	Diesel	0.028697898	0.034152871	0.041324974	0.169852741	0.250829964	31.39175694	0.012195939	0.011220264	0.012195939	0.00044885	0.000263154	1046053.5	2249005.9	5587.23	24715474.95
Statewide	2020	OFF - Light Commercial - Pumps	Aggregated	50	Gasoline	0.021285079	0.019578016	0.023422931	1.42143483	0.033934224	13.59337471	0.000937115	0.000708042	0.001041239	0.000165271	0.000210881	601961.65	268563.35	1216.97	8325463.85
Statewide	2020	OFF - Light Commercial - Pumps	Aggregated	50	Diesel	0.039134054	0.046572759	0.056353038	0.313005339	0.307846472	42.37291257	0.015364949	0.014135753	0.015364949	0.000547776	0.000356362	1416561.35	901648.55	2239.96	33360996.35
Statewide	2020	OFF - Light Commercial - Pumps	Aggregated	100	Gasoline	0.037416327	0.034415538	0.041174386	1.509224132	0.109534808	51.10707497	0.003563308	0.002692277	0.003959231	0.000493766	0.000710664	2028593.35	340304.1	1542.64	31648281.3
Statewide	2020	OFF - Light Commercial - Pumps	Aggregated	175	Gasoline	0.00120198	0.001105581	0.001322706	0.078605515	0.005549292	2.320188369	0.000166333	0.000125674	0.000184814	2.30486E-05	3.23992E-05	92483.7	9796.6	45.48	1410710.4
Statewide	2020	OFF - Light Commercial - Welders	Aggregated	25	Gasoline	1.171832234	1.077851289	1.289529892	48.92144766	0.843997951	77.33857051	0.583496997	0.440864398	0.648329997	0.001997318	0.002108426	6018510.55	7447624.25	35850.19	116926308.3
Statewide	2020	OFF - Light Commercial - Welders	Aggregated	25	Diesel	0.025449221	0.030286676	0.036646878	0.140142215	0.220461694	27.595552	0.010589338	0.009742191	0.010589338	0.000380623	0.000231222	919121.1	2348512.2	3656.54	35728119.9
Statewide	2020	OFF - Light Commercial - Welders	Aggregated	50	Gasoline	0.051473775	0.047345578	0.056643749	2.965131466	0.08547186	27.27455705	0.001880284	0.001420659	0.002089204	0.000331609	0.000425948	1215869.75	502283.8	2417.92	22602771
Statewide	2020	OFF - Light Commercial - Welders	Aggregated	50	Diesel	0.137667113	0.163835242	0.198240643	1.023926146	0.910476852	120.2144209	0.050549683	0.046505708	0.050549683	0.001554072	0.001014139	4031260.75	3383633.95	5268.83	155647161.7
Statewide	2020	OFF - Light Commercial - Welders	Aggregated	100	Gasoline	0.041924232	0.038561909	0.04613506	1.399587415	0.13394278	42.81621189	0.002985249	0.002255521	0.003316943	0.000413664	0.000598774	1709203.75	512675.35	2467.81	35887274.5
Statewide	2020	OFF - Light Commercial - Welders	Aggregated	175	Gasoline	0.003361258	0.003091685	0.00369886	0.180969618	0.018898031	5.330937793	0.000382171	0.000288752	0.000424635	5.29573E-05	7.45292E-05	212743.9	35069.2	169.73	4558996
Statewide	2020	OFF - Logging - Chainsaws	Aggregated	25	Gasoline	1.287208711	1.183974572	1.416494666	2.853403505	0.02552499	7.712523258	0.004040885	0.003053113	0.004489872	0.00031764	0.000233098	665380.4	807982.25	3918.89	6463858
Statewide	2020	OFF - Logging - Fellers/Bunchers	Aggregated	100	Diesel	0.028998336	0.034510417	0.041757604	0.509312093	0.305593529	79.73469308	0.010774719	0.009912742	0.010774719	0.000935329	0.000667348	2652747	635289.8	497.49	65434849.4
Statewide	2020	OFF - Logging - Fellers/Bunchers	Aggregated	175	Diesel	0.044601113	0.05307901	0.064225602	0.820846652	0.330474559	145.540412	0.013646889	0.012555138	0.013646889	0.001637579	0.001216278	4834775.4	785768.35	615.31	119436789.2
Statewide	2020	OFF - Logging - Fellers/Bunchers	Aggregated	300	Diesel	0.033943289	0.040395319	0.048878336	0.245823166	0.207844263	127.9385994	0.006442462	0.005927065	0.006442462	0.001439529	0.001062745	4224473.5	479398.3	375.34	104988227.7
Statewide	2020	OFF - Logging - Fellers/Bunchers	Aggregated	600	Diesel	0.014930806	0.017768893	0.021500361	0.104182757	0.086892206	56.4533594	0.002816939	0.002591584	0.002816939	0.000554108	0.000468879	1863821.4	140817	110.21	46328793
Statewide	2020	OFF - Logging - Shredders	Aggregated	25	Gasoline	0.182642969	0.167995003	0.200987447	8.04568257	0.1475683	12.36101215	0.093260236	0.07046329	0.103622485	0.000352446	0.000341446	974659.5	1489221.9	6148.49	11913775.2
Statewide	2020	OFF - Logging - Shredders	Aggregated	175	Diesel	2.4511E-06	2.91701E-06	3.52958E-06	4.75248E-05	3.77925E-05	0.009715896	1.48086E-06	1.36239E-06	1.48086E-06	1.09321E-07	3.6729E-08	146	0	0.34	0
Statewide	2020	OFF - Logging - Skidders	Aggregated	100	Diesel	0.016242943	0.019330445	0.023389838	0.276752684	0.165013435	42.80353983	0.005827698	0.005361483	0.005827698	0.000502107	0.000358327	1424372.35	330398	228.86	33700596
Statewide	2020	OFF - Logging - Skidders	Aggregated	175	Diesel	0.032327221	0.038472065	0.046551198	0.578524761	0.231356875	101.3390411	0.009543865	0.008780356	0.009543865	0.001140238	0.000847039	3367030.1	528432.4	366.15	79793292.4
Statewide	2020	OFF - Logging - Skidders	Aggregated	300	Diesel	0.015463843	0.018403251	0.022267934	0.108978076	0.091388252	56.03461827	0.002838928	0.002611813	0.002838928	0.000630486	0.000465511	1850433.2	194413.6	134.54	44131887.2
Statewide	2020	OFF - Logging - Skidders	Aggregated	600	Diesel	0.001031506	0.001227577	0.001485368	0.006984434	0.005794278	3.749012297	0.000188225	0.000173167	0.000188225	3.67978E-05	3.11278E-05	123735	10836.85	7.34	2925949.5
Statewide	2020	OFF - Military - A/C unit	Aggregated	100	Diesel	0.001380566	0.001642987	0.001988014	0.018996961	0.018014804	3.219810457	0.001002674	0.00092246	0.001002674	3.777E-05	2.69361E-05	107072.75	30882.65	102.9	3119147.65
Statewide	2020	OFF - Military - A/C unit	Aggregated	300	Diesel	0.00066255	0.000788489	0.000954072	0.005017352	0.009956478	2.768238479	0.000291642	0.000268311	0.000291642	3.11474E-05	2.29841E-05	91363.15	12910.05	42.96	2685290.4
Statewide	2020	OFF - Military - A/C unit	Aggregated	600	Diesel	0.000376912	0.000448556	0.000542753	0.002947066	0.005387395	1.65741461	0.000168562	0.000155077	0.000168562	1.62681E-05	1.37532E-05	54669.7	4996.85	16.75	1574007.75
Statewide	2020	OFF - Military - Aircraft Support	Aggregated	100	Diesel	0.000252677	0.000300706	0.000363855	0.003476902	0.003297144	0.589302975	0.000183514	0.000168833	0.000183514	6.91283E-06	4.9171E-06	19545.75	8365.8	27.9	568874.4
Statewide	2020	OFF - Military - Aircraft Support	Aggregated	175	Diesel	0.000546717	0.000650638	0.000787272	0.008868288	0.007268811	1.733244	0.000318845	0.000293337	0.000318845	1.9502E-05	1.44648E-05	57498.45	12012.15	39.95	1681701
Statewide	2020	OFF - Military - Cart	Aggregated	100	Diesel	0.000128993	0.000153512	0.000185749	0.001774973	0.001683206	0.300841647	9.36845E-05	8.61897E-05	9.36845E-05	3.52903E-06	2.51043E-06	9979.1	3500.35	11.62	283528.35
Statewide	2020	OFF - Military - Cart	Aggregated	175	Diesel	4.48113E-05	5.33291E-05	6.45282E-05	0.000726883	0.000595783	0.142064111	2.61339E-05	2.40432E-05	2.61339E-05	1.59846E-06	1.15696E-06	4599	824.9	2.75	126209.7
Statewide	2020	OFF - Military - Cart	Aggregated	300	Diesel	0.000145933	0.000173672	0.000210143	0.001105119	0.002193008	0.609730493	6.4237E-05	5.9098E-05	6.4237E-05	6.86051E-06	5.05299E-06	20085.95	2930.95	9.69	577397.15
Statewide	2020	OFF - Military - Communications	Aggregated	50	Diesel	3.95383E-05	4.70538E-05	5.69351E-05	0.000339001	0.000356307	0.049521258	1.6716E-05	1.53788E-05	1.6716E-05	6.40186E-07	3.90246E-07	1551.25	1102.3	3.67	44092
Statewide	2020	OFF - Military - Communications	Aggregated	100	Diesel	6.37E-05	7.58083E-05	9.1728E-05	0.00087653	0.000831213	0.148563774	4.62639E-05	4.25628E-05	4.62639E-05	1.74273E-06	1.21298E-06	4821.65	1737.4	5.93	138992
Statewide	2020	OFF - Military - Compressor (Military)	Aggregated	50	Diesel	4.84344E-05	5.76409E-05	6.97455E-05	0.000415276	0.000436477	0.06066354	2.04772E-05	1.8839E-05	2.04772E-05	7.84228E-07	4.98596E-07	1981.95	1102.3	3.67	54012.7
Statewide	2020	OFF - Military - Compressor (Military)	Aggregated	100	Diesel	0.001422767	0.00169321	0.002048784	0.019577663	0.018565482	3.31823386	0.001033324	0.000950658	0.001033324	3.89246E-05	2.77506E-05	110310.3	45358.55	150.93	3220457.05
Statewide	2020	OFF - Military - Compressor (Military)	Aggregated	175	Diesel	6.52155E-05	7.76119E-05	9.39103E-05	0.00105786	0.000867065	0.20675125	3.80336E-05	3.49909E-05	3.80336E-05	2.32631E-06	1.70698E-06	6785.35	1102.3	3.67	184084.1
Statewide	2020	OFF - Military - Compressor (Military)	Aggregated	300	Diesel	0.000132154	0.000157275	0.000190302	0.001000778	0.001985952	0.552162006	5.8172E-05	5.35182E-05	5.8172E-05	6.21277E-06	4.57552E-06	18187.95	2376.15	7.79	529881.45
Statewide	2020	OFF - Military - Compressor (Military)	Aggregated	600	Diesel	0.000735101	0.000874831	0.001058545	0.005747742	0.01050718	3.232499991	0.000328752	0.000302452	0.000328752	3.1728E-05	2.68296E-05	106649.35	8365.8	27.9	3120443.4
Statewide	2020	OFF - Military - Crane	Aggregated	100	Diesel	9.249E-05	0.000110071	0.000133186	0.002919164	0.001736392	0.519973241	3.66503E-05	3.37182E-05	3.66503E-05	6.09955E-06	4.32943E-06	17209.75	4785.15	15.95	502440.75
Statewide	2020	OFF - Military - Crane	Aggregated	175	Diesel	1.9264E-05	2.29257E-05	2.77401E-05	0.000649983	0.000246781	0.130921825	6.11522E-06	5.626E-06	6.11522E-06	1.4731E-06	1.08718E-06	4321.6	839.5	2.91	118369.5
Statewide	2020	OFF - Military - Crane	Aggregated	300	Diesel	1.69389E-05	2.01587E-05	2.4392E-05	0.000224082	0.000165689	0.132469362	4.1657E-06	3.83245E-06	4.1657E-06	1.49051E-06	1.09269E-06	4343.5	551.15	1.82	117946.1
Statewide	2020	OFF - Military - Deicer	Aggregated	100	Diesel	5.83917E-05	6.94909E-05	8.4084E-05	0.000803486	0.000761945	0.136183461	4.24086E-05	3.90159E-05	4.24086E-05	1.5975E-06	1.10646E-06	4398.25	1102.3	3.67	121253
Statewide	2020	OFF - Military - Generator (Military)	Aggregated	50	Diesel	0.000253539	0.000301733	0.000365096	0.002173843	0.002284821	0.317555064	0.000107192	9.86163E-05	0.000107192	4.10519E-06	2.66194E-06	10581.35	8062.85	26.91	306388.3
Statewide	2020	OFF - Military - Generator (Military)	Aggregated	100	Diesel	0.007401944	0.008808925	0.010658799	0.101852787	0.096586918	17.26311041	0.00537587	0.0049458	0.00537587	0.000202505	0.000144434	574134.05	201965.45	672.1	16763132.35
Statewide	2020	OFF - Military - Generator (Military)	Aggregated	175	Diesel	0.007764063	0.009239877	0.011180251	0.125940771	0.10322619	24.61423259	0.004527992	0.004165753	0.004527992	0.000276952	0.000205545	817052.5	162581.95	541.01	23899546.65
Statewide	2020	OFF - Military - Generator (Military)	Aggregated	300	Diesel	0.002362261	0.002811285	0.003401655	0.017888903	0.035498895	9.86989595	0.001039824	0.000956638	0.001039824	0.000111053	8.19718E-05	325842.8	42956.85	142.9	9579377.55
Statewide	2020	OFF - Military - Generator (Military)	Aggregated	600	Diesel	0.001420651	0.001690692	0.002045738	0.011108047	0.020306101	6.247106504	0.000635343	0.000584516	0.000635343	6.13174E-05	5.18604E-05	206148.35	17406.85	57.91	6057583.8
Statewide	2020	OFF - Military - Generator (Military)	Aggregated	750	Diesel	7.62514E-05	9.07455E-05	0.000109802	0.000587686	0.001097802	0.330511718	3.39561E-05	3.12396E-05	3.39561E-05	3.3232E-06	2.74182E-06	10898.9	481.8	1.77	257763
Statewide	2020	OFF - Military - Hydraulic unit	Aggregated	100	Diesel	0.000844689	0.00100525	0.001216352	0.011623153	0.011022227	1.970017591	0.000613479	0.000564401	0.000613479	2.31093E-05	1.64702E-05	65470.05	20096.9	66.9	1909205.5
Statewide	2020	OFF - Military - Lift (Military)	Aggregated	100	Diesel	2.52146E-05	3.00075E-05	3.6309E-05	0.00034696	0.000329022	0.058806498	1.83128E-05	1.68478E-05	1.83128E-05	6.8983E-07	4.78395E-07	1901.65	481.8	1.77	45771
Statewide	2020	OFF - Military - Light	Aggregated	50	Diesel	6.17785E-05	7.35216E-05	8.89611E-05	0.000529689	0.00055673	0.077376966	2.61188E-05	2.40293E-05	2.61188E-05	1.00029E-06	6.42758E-07	2555	1387	4.85	69350
Statewide	2020	OFF - Military - Other tactical support equipment	Aggregated	50	Diesel	1.23557E-05	1.47043E-05	1.77922E-05	0.000105938	0.000111346	0.015475393	5.22376E-06	4.80586E-06	5.22376E-06	2.00058E-07	1.01005E-07	401.5	189.8	0.78	9490

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	OFF - Military - Other tactical support equipment	Aggregated	100	Diesel	0.000167743	0.000199629	0.000241551	0.002308196	0.00218886	0.391217931	0.000121828	0.000112082	0.000121828	4.58919E-06	3.27164E-06	13004.95	4686.6	15.66	370241.4
Statewide	2020	OFF - Military - Other tactical support equipment	Aggregated	175	Diesel	0.000231183	0.000275127	0.000332904	0.003750019	0.003073669	0.732914613	0.000134826	0.00012404	0.000134826	8.24655E-06	6.10987E-06	24287.1	4686.6	15.66	693616.8
Statewide	2020	OFF - Military - Other tactical support equipment	Aggregated	300	Diesel	9.68935E-05	0.000115311	0.000139527	0.000733754	0.001456068	0.40483628	4.26508E-05	3.92387E-05	4.26508E-05	4.5551E-06	3.35979E-06	13355.35	1737.4	5.93	378753.2
Statewide	2020	OFF - Military - Other tactical support equipment	Aggregated	600	Diesel	3.80079E-05	4.52325E-05	5.47314E-05	0.000297183	0.000543267	0.167134251	1.69979E-05	1.56381E-05	1.69979E-05	1.64048E-06	1.35989E-06	5405.65	481.8	1.77	130086
Statewide	2020	OFF - Military - Other tactical support equipment	Aggregated	750	Diesel	4.47E-05	5.31967E-05	6.4368E-05	0.000344512	0.000643552	0.193751922	1.99056E-05	1.83132E-05	1.99056E-05	1.94812E-06	1.58578E-06	6303.55	189.8	0.78	118814.8
Statewide	2020	OFF - Military - Pressure Washers	Aggregated	175	Diesel	4.45184E-05	5.29805E-05	6.41065E-05	0.000722132	0.000591889	0.141135587	2.59631E-05	2.3886E-05	2.59631E-05	1.58802E-06	1.14595E-06	4555.2	824.9	2.75	125384.8
Statewide	2020	OFF - Military - Pump (Military)	Aggregated	50	Diesel	0.000558972	0.000665223	0.00080492	0.004792624	0.005037296	0.700106787	0.000236323	0.000217417	0.000236323	9.05063E-06	5.87205E-06	23341.75	17406.85	57.91	678867.15
Statewide	2020	OFF - Military - Pump (Military)	Aggregated	100	Diesel	0.000597188	0.000710703	0.00085995	0.008217469	0.007792619	1.392785362	0.000433724	0.000399026	0.000433724	1.63381E-05	1.16431E-05	46282	13519.6	44.92	1351960
Statewide	2020	OFF - Military - Start Cart	Aggregated	100	Diesel	1.32708E-05	1.57934E-05	1.911E-05	0.00018261	0.000173169	0.030950786	9.63832E-06	8.86725E-06	9.63832E-06	3.63069E-07	2.35984E-07	938.05	189.8	0.78	18980
Statewide	2020	OFF - Military - Start Cart	Aggregated	600	Diesel	1.9919E-05	2.37052E-05	2.86833E-05	0.000155746	0.000284712	0.087590727	8.90815E-06	8.1955E-06	8.90815E-06	8.59732E-07	7.07952E-07	2814.15	189.8	0.78	53713.4
Statewide	2020	OFF - Military - Test Stand	Aggregated	100	Diesel	0.000402903	0.000479488	0.00058018	0.005544052	0.005257421	0.939665855	0.000292619	0.00026921	0.000292619	1.10228E-05	7.84164E-06	31171	9906.1	32.99	911361.2
Statewide	2020	OFF - Military - Test Stand	Aggregated	175	Diesel	2.77264E-05	3.29967E-05	3.9926E-05	0.000449749	0.000368633	0.087900233	1.617E-05	1.48764E-05	1.617E-05	9.89028E-07	7.14379E-07	2839.7	481.8	1.77	68415.6
Statewide	2020	OFF - Military - Test Stand	Aggregated	300	Diesel	0.000452392	0.000538384	0.000651444	0.003425869	0.006798324	1.890164507	0.000199135	0.000183204	0.000199135	2.12676E-05	1.5698E-05	62400.4	9281.95	31	1828544.15
Statewide	2020	OFF - Military - Test Stand	Aggregated	600	Diesel	0.000289705	0.000344773	0.000417175	0.002265196	0.004140899	1.273934344	0.000129562	0.000119197	0.000129562	1.25041E-05	1.05679E-05	42007.85	3500.35	11.62	1200620.05
Statewide	2020	OFF - Military - Welder	Aggregated	50	Diesel	0.000181629	0.000216153	0.000261546	0.001557285	0.001636787	0.22748827	7.67893E-05	7.06462E-05	7.67893E-05	2.94086E-06	1.89981E-06	7551.85	6226.9	20.85	217941.5
Statewide	2020	OFF - Military - Welder	Aggregated	100	Diesel	0.000477219	0.000567931	0.000687196	0.00656667	0.006227169	1.112990251	0.000346594	0.000318866	0.000346594	1.30559E-05	9.3053E-06	36989.1	17406.85	57.91	1079224.7
Statewide	2020	OFF - Oil Drilling - Compressors (Workover)	Aggregated	25	Diesel	5.72952E-05	6.8186E-05	8.25051E-05	0.000280893	0.000514725	0.064511204	2.34589E-05	2.15821E-05	2.34589E-05	8.18525E-07	4.80232E-07	1908.95	3197.4	3.61	76737.6
Statewide	2020	OFF - Oil Drilling - Generator (Drilling)	Aggregated	50	Diesel	5.52678E-05	6.57733E-05	7.95857E-05	0.00041605	0.000336735	0.041826722	1.94872E-05	1.79282E-05	1.94872E-05	5.40715E-07	3.19542E-07	1270.2	1113.25	0.59	36737.25
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	25	Diesel	1.1073E-05	1.33983E-05	1.59451E-05	0.000235017	0.000187408	0.037273938	7.71792E-07	7.10049E-07	7.71792E-07	3.44284E-07	3.04225E-07	1209.311854	1673.244571	1.049714286	41831.11429
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	50	Diesel	0.001682842	0.002036238	0.002423292	0.006078079	0.004294334	0.361909803	0.000564792	0.000519609	0.000564792	3.29555E-06	2.95386E-06	11741.765	9629.029143	8.397714286	406184.8434
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	75	Diesel	0.0001142	0.000138182	0.000164449	0.001541311	0.001437063	0.215740258	8.64706E-05	7.9553E-05	8.64706E-05	1.9912E-06	1.76084E-06	6999.455066	3846.153143	4.198857143	269262.2114
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	100	Diesel	0.001164372	0.00140889	0.001676695	0.009335964	0.012806104	1.190137139	0.000978956	0.000900639	0.000978956	1.09685E-05	9.71374E-06	38612.68878	16542.44743	12.59657143	1471894.151
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	175	Diesel	0.005581457	0.006753563	0.008037298	0.057440843	0.0561008	8.769476705	0.003486482	0.003207564	0.003486482	8.09107E-05	7.15753E-05	284516.0139	75436.66743	62.98285714	10901186.46
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	300	Diesel	0.00468877	0.005673412	0.006751829	0.023804064	0.066298077	10.19594214	0.001965722	0.001808464	0.001965722	9.41259E-05	8.32179E-05	330796.1139	56711.864	45.13771429	12689337.3
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	600	Diesel	0.007373498	0.008921933	0.010617838	0.039666338	0.106182654	18.40919707	0.00334006	0.003072855	0.00334006	0.000169981	0.000150253	597266.1248	55740.87829	39.88914286	22925813.89
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	750	Diesel	0.002006899	0.002428348	0.002889935	0.009544083	0.024911382	4.507752114	0.000913558	0.000840473	0.000913558	4.16162E-05	3.67917E-05	146249.053	8839.644	6.298285714	5609469.498
Statewide	2020	Oil Drilling - Drill Rig (Mobile)	Aggregated	9999	Diesel	0.001329566	0.001608775	0.001914575	0.006557851	0.028022016	3.22590371	0.000706518	0.000649997	0.000706518	2.97852E-05	2.63294E-05	104660.8932	5233.875429	3.149142857	4025248.046
Statewide	2020	Oil Drilling - Workover Rig (Mobile)	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	2020	Oil Drilling - Workover Rig (Mobile)	Aggregated	75	Diesel	1.11369E-05	1.34757E-05	1.60372E-05	0.000101572	0.000144868	0.012955971	1.06862E-05	9.83135E-06	1.06862E-05	1.1945E-07	1.05745E-07	420.3421992	218.4931507	1.092465753	16168.49315
Statewide	2020	Oil Drilling - Workover Rig (Mobile)	Aggregated	175	Diesel	0.000165833	0.000200658	0.0002388	0.002010734	0.001657281	0.298502641	0.000119628	0.000110058	0.000119628	2.75483E-06	2.43634E-06	9684.589446	2194.763699	2.184931507	372536.2842
Statewide	2020	Oil Drilling - Workover Rig (Mobile)	Aggregated	300	Diesel	0.001989989	0.002407886	0.002865584	0.011416591	0.019780203	4.245325816	0.000747345	0.000687558	0.000747345	3.91904E-05	3.46498E-05	137734.9207	24150.04795	43.69863014	5234422.12
Statewide	2020	Oil Drilling - Workover Rig (Mobile)	Aggregated	600	Diesel	0.090762945	0.109823164	0.130698641	0.533204508	1.022417074	258.5363165	0.033652739	0.030960519	0.033652739	0.002387574	0.002110139	8387926.062	822681.3356	588.8390411	322927522.8
Statewide	2020	Oil Drilling - Workover Rig (Mobile)	Aggregated	750	Diesel	0.000668996	0.000809485	0.000963354	0.004104062	0.005818624	2.071075271	0.000297073	0.000273307	0.000297073	1.9128E-05	1.69038E-05	67193.75628	3790.856164	2.184931507	2585003.39
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	50	Diesel	0.000298091	0.000360691	0.000429252	0.002790143	0.002675769	0.366358625	0.000121496	0.000111776	0.000121496	3.37822E-06	2.99017E-06	11886.10211	15262.95938	38.7646857	705886.2397
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	75	Diesel	0.002355471	0.00285012	0.003391879	0.0412691	0.03877251	6.275079026	0.001645281	0.001513658	0.001645281	5.79456E-05	5.12164E-05	203588.0282	199765.2037	507.3613276	13441309.9
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	100	Diesel	0.003431454	0.004152059	0.004941293	0.098679204	0.053973907	14.7144911	0.003692129	0.003396759	0.003692129	0.00013594	0.000120098	477395.4588	365413.2041	928.0721813	31518652.45
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	175	Diesel	0.003958643	0.004789959	0.005700447	0.111593902	0.067053433	19.89397777	0.002601145	0.002393054	0.002601145	0.000183811	0.000162372	645438.1995	303014.6348	769.593025	42613187.7
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	300	Diesel	0.003098975	0.00374976	0.004462524	0.028090862	0.046487	14.21429561	0.00164517	0.001513556	0.00164517	0.000131325	0.000116015	461167.1667	106840.7157	271.3527999	30447226.47
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	600	Diesel	0.005449158	0.006593481	0.007846787	0.046188272	0.08198596	24.14741483	0.002985502	0.002746662	0.002985502	0.000223091	0.000197088	783436.2805	104596.1628	265.6521109	51724111.3
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	750	Diesel	0.001016917	0.00123047	0.001464361	0.008342905	0.01868328	4.399456862	0.000623119	0.000573269	0.000623119	4.06447E-05	3.59078E-05	142735.5328	13467.3171	34.20413444	9423700.136
Statewide	2020	Portable Equipment - Non-Rental Compressor	Aggregated	9999	Diesel	0.002805571	0.003394741	0.004040022	0.029531273	0.032851936	2.451712455	0.001447746	0.001331927	0.001447746	2.25831E-05	2.00105E-05	79543.11051	2693.463421	6.840826889	5251603.485
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	50	Diesel	0.001534453	0.001856688	0.002209612	0.020201768	0.012180267	1.97702751	0.000330626	0.000304175	0.000330626	1.82326E-05	1.61362E-05	64142.48027	74884.09384	57.00689074	3809263.439
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	75	Diesel	0.016726746	0.020239363	0.024086515	0.242540758	0.195499232	33.13797651	0.008088741	0.007441642	0.008088741	0.000305875	0.000270468	1075125.153	1049874.996	799.2366082	70982024.26
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	100	Diesel	0.019444187	0.023527466	0.027999629	0.361275971	0.232785309	48.80112874	0.018257774	0.016797152	0.018257774	0.000450607	0.000398308	1583298.877	1066349.496	811.7781241	104532722.6
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	175	Diesel	0.038649706	0.046766145	0.055655577	0.672493384	0.405985935	104.8385805	0.020740147	0.019080935	0.020740147	0.000968125	0.000855678	3401372.286	1544110.015	1175.482087	224565753.5
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	300	Diesel	0.038196798	0.046218126	0.05500339	0.231404774	0.337418029	101.3018591	0.014478958	0.013320641	0.014478958	0.00093544	0.000826812	3286627.254	855176.3517	651.0186923	216990045.2
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	600	Diesel	0.085972832	0.104027126	0.123800878	0.498533774	0.838093503	234.2809555	0.034335749	0.031588889	0.034335749	0.002163464	0.00191217	7600987.586	1180173.319	898.4285981	501833190.1
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	750	Diesel	0.033610134	0.040668262	0.048398592	0.172559444	0.325191372	80.93739202	0.014849273	0.013661331	0.014849273	0.000747298	0.0006606	2625924.548	245619.8278	186.9826016	173369062.6
Statewide	2020	Portable Equipment - Non-Rental Generator	Aggregated	9999	Diesel	0.214799677	0.25990761	0.309311535	1.052123626	3.353595134	490.7165795	0.108004671	0.099364297	0.108004671	0.004530474	0.004005163	15920758.99	718887.3009	547.2661511	1051122000
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	50	Diesel	0.000213749	0.000258637	0.000307799	0.001861769	0.001805594	0.260012418	8.65404E-05	7.96172E-05	8.65404E-05	2.39753E-06	2.12219E-06	8435.816543	10840.2139	35.34427226	500982.3038
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	75	Diesel	0.002179791	0.002637548	0.0031389	0.050398921	0.043456652	8.056974321	0.001418801	0.001305297	0.001418801	7.44253E-05	6.57599E-05	261399.6587	243030.602	792.3957813	17258155.36
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	100	Diesel	0.004374031	0.005292578	0.006298605	0.122978284	0.088059477	19.37345448	0.005532364	0.005089775	0.005532364	0.000178986	0.000158124	628550.3947	450393.4034	1468.497505	41498219.3
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	175	Diesel	0.012104073	0.014645928	0.017429865	0.328232145	0.220104592	59.06661584	0.008866532	0.008157209	0.008866532	0.000545737	0.000482094	1916351.301	890296.2773	2902.790877	126521544.2
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	300	Diesel	0.005618573	0.006798473	0.008090745	0.050700073	0.081255215	25.2521814	0.002912593	0.002679585	0.002912593	0.0002333	0.000206105	819279.2152	219951.4369	717.1466855	54090537.25
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	600	Diesel	0.009009882	0.010901958	0.012974231	0.079642315	0.14655659	41.30891237	0.005025284	0.004623261	0.005025284	0.000381651	0.000337158	1340222.168	188130.1639	613.3941444	88484286.88
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	750	Diesel	0.004191512	0.00507173	0.006035778	0.036764386	0.075030996	19.57069123	0.002623517	0.002413636	0.002623517	0.000180815	0.000159733	634949.5239	58746.96566	191.5431529	41920703.27
Statewide	2020	Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	9999	Diesel	0.085905911	0.103946152	0.123704512	0.771185129	1.319038774	126.9051676	0.047442841	0.043647414	0.047442841	0.001170724	0.001035783	4117298.402	109451.192	356.863136	271832701.8
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	50	Diesel	3.61605E-05	4.37542E-05	5.20711E-05	0.000680481	0.000683855	0.106114647	2.32394E-05	2.13802E-05	2.32394E-05	9.79998E-07	8.66093E-07	3442.772852	4205.182469	13.68165378	204457.7743
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	75	Diesel	0.001727583	0.002090376	0.00248772	0.039062474	0.033989567	6.211601506	0.001142734	0.001051315	0.001142734	5.73775E-05	5.06983E-05	201528.57	186079.3243	605.4131797	13305340.13

Output from OFFROAD2017 Model Run

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Source: California Air Resources Board. 2017. OFFROAD2017-ORION computer program, Version 1.0.1 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/orion/?bay. Accessed April 25, 2017

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	100	Diesel	0.002388731	0.002890364	0.003439772	0.064591223	0.047984982	10.19248676	0.002902803	0.002670578	0.002902803	9.41629E-05	8.31897E-05	330684.0079	234789.3545	763.8923359	21832453.84
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	175	Diesel	0.003977645	0.004812951	0.005727809	0.104010949	0.074524022	18.71137333	0.003086637	0.002839706	0.003086637	0.000172877	0.00015272	607069.9007	282448.0892	918.9510787	40080031.9
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	300	Diesel	0.003603947	0.004360776	0.005189684	0.034519921	0.054015097	17.41420758	0.001973087	0.00181524	0.001973087	0.000160895	0.000142132	564984.7868	148583.1139	483.4184335	37301484.14
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	600	Diesel	0.009608736	0.01162657	0.01383658	0.090746253	0.171658525	49.07627721	0.006395923	0.005884249	0.006395923	0.000453446	0.000400554	1592225.766	225327.694	733.1086149	105122094.5
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	750	Diesel	0.004409491	0.005335484	0.006349667	0.043803844	0.085610072	23.74949717	0.003442824	0.003167398	0.003442824	0.000219444	0.00019384	770526.2803	71838.53384	233.728252	50871765.93
Statewide	2020	Portable Equipment - Non-Rental Pump	Aggregated	9999	Diesel	0.013012245	0.015744817	0.018737633	0.103580264	0.369007781	56.1703256	0.009576213	0.008810116	0.009576213	0.000518932	0.000458455	1822384.354	61325.57767	199.5241176	120317648.6
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	50	Diesel	7.38828E-05	8.93982E-05	0.000106391	0.001524154	0.001313631	0.235993636	3.39026E-05	3.11903E-05	3.39026E-05	2.17966E-06	1.92615E-06	7656.553622	8823.655742	17.10206722	454703.804
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	75	Diesel	0.000566558	0.000685536	0.000815844	0.011443739	0.009577718	1.752316136	0.00030443	0.000280076	0.00030443	1.6184E-05	1.43022E-05	56851.9672	55883.15304	108.3130924	3753486.47
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	100	Diesel	0.000443753	0.000536941	0.000639004	0.01283264	0.007275286	1.9302812	0.00048262	0.00044401	0.00048262	1.78331E-05	1.57547E-05	62625.8477	45883.00986	88.93074956	4134690.207
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	175	Diesel	0.004256856	0.005150796	0.006129873	0.135198491	0.076105212	24.52370212	0.002510238	0.002309419	0.002510238	0.000226606	0.000200159	795644.5074	375299.4909	727.4079259	52530124.12
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	300	Diesel	0.003080514	0.003727423	0.004435941	0.037303011	0.036521998	19.68026078	0.001284054	0.001181329	0.001284054	0.000181861	0.000160628	638504.387	147649.1728	286.1745915	42155402.81
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	600	Diesel	0.023982743	0.029019119	0.03453515	0.268073727	0.26324913	141.7724368	0.010996422	0.010116708	0.010996422	0.001310037	0.001157128	4599650.578	538831.244	1044.366238	303678607.1
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	750	Diesel	0.002381541	0.002881664	0.003429418	0.023906739	0.022852226	12.24614826	0.001168418	0.001074945	0.001168418	0.00011315	9.99514E-05	397312.7937	38235.84155	74.10895796	26231426.44
Statewide	2020	Portable Equipment - Rental Compressor	Aggregated	9999	Diesel	0.001478152	0.001788564	0.002128539	0.013186763	0.03480069	6.969135166	0.000834641	0.00076787	0.000834641	6.43888E-05	5.68811E-05	226105.9153	14117.84919	27.36330756	14927988.18
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	50	Diesel	0.000152296	0.000184278	0.000219306	0.002325295	0.002020356	0.2503595	9.09877E-05	8.37087E-05	9.09877E-05	2.31013E-06	2.0434E-06	8122.638247	11228.54904	7.980964704	482383.4185
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	75	Diesel	0.019004612	0.02299558	0.027366641	0.294442867	0.236840381	41.06901797	0.009406843	0.008654295	0.009406843	0.000379133	0.0003352	1332439.059	1272034.198	904.1292871	87970429.61
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	100	Diesel	0.032970304	0.039894068	0.047477238	0.64660258	0.429091177	88.89802547	0.031698004	0.029162164	0.031698004	0.000820917	0.000725574	2884198.533	1902437.023	1352.203448	190420854.4
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	175	Diesel	0.049258565	0.059602864	0.070932334	0.987186813	0.550107935	157.7817241	0.02250152	0.020701398	0.02250152	0.001457293	0.001287793	5119054.275	2250522.043	1599.613354	337970731.8
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	300	Diesel	0.076454302	0.092509705	0.110094195	0.490385739	0.676469518	222.5618515	0.027110745	0.024941885	0.027110745	0.002055401	0.00181652	7220774.163	1865543.219	1325.980279	476730700.1
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	600	Diesel	0.132607793	0.16045543	0.190955222	0.898913123	1.170971791	439.3969411	0.049750537	0.045770494	0.049750537	0.004058464	0.003586299	14255749.85	2160693.651	1535.765637	941194593.7
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	750	Diesel	0.025742767	0.031148748	0.037069584	0.168039637	0.273499703	81.55362394	0.011111023	0.010222142	0.011111023	0.000753231	0.00066563	2645917.513	248632.1573	176.7213613	174689040.3
Statewide	2020	Portable Equipment - Rental Generator	Aggregated	9999	Diesel	0.288590583	0.349194606	0.41557044	1.755141757	4.763137489	855.8931787	0.14114734	0.129855553	0.14114734	0.007904499	0.006985685	27768511.58	1310532.081	931.4925947	1833335550
Statewide	2020	Portable Equipment - Rental Other Portable Equipment	Aggregated	50	Diesel	0.000237189	0.000286998	0.000341552	0.002288833	0.001542155	0.243975643	6.02171E-05	5.53997E-05	6.02171E-05	2.24856E-06	1.9913E-06	7915.521032	11098.55259	9.121102519	470083.2387
Statewide	2020	Portable Equipment - Rental Other Portable Equipment	Aggregated	100	Diesel	0.003362602	0.004068748	0.004842146	0.075082657	0.040319361	10.08548888	0.003149994	0.002897995	0.003149994	9.31445E-05	8.23164E-05	327212.5796	235844.2425	193.8234285	21603262.84
Statewide	2020	Portable Equipment - Rental Other Portable Equipment	Aggregated	175	Diesel	0.011769697	0.014241333	0.016948363	0.254417323	0.127995613	41.4269034	0.005552216	0.005108039	0.005552216	0.000382659	0.000338121	1344050.257	621518.9448	510.781741	88737025.37
Statewide	2020	Portable Equipment - Rental Other Portable Equipment	Aggregated	300	Diesel	0.010393499	0.012576134	0.014966639	0.064452265	0.089133001	28.29711388	0.0036494	0.003357448	0.0036494	0.000261309	0.000230957	918068.6962	241393.5188	198.3839798	60612826.6
Statewide	2020	Portable Equipment - Rental Other Portable Equipment	Aggregated	600	Diesel	0.009121249	0.011036711	0.013134598	0.057461306	0.083969399	27.84036592	0.003483179	0.003204524	0.003483179	0.000257124	0.000227229	903250.0114	138731.9073	114.0137815	59634465.86
Statewide	2020	Portable Equipment - Rental Other Portable Equipment	Aggregated	750	Diesel	0.004501418	0.005446716	0.006482042	0.031040245	0.041778855	15.15840886	0.002150201	0.001978185	0.002150201	0.000140012	0.000123721	491797.8816	45781.52942	37.62454789	32469530.71
Statewide	2020	Portable Equipment - Rental Other Portable Equipment	Aggregated	9999	Diesel	0.091010247	0.110122399	0.131054756	0.845518432	1.145650043	114.1074379	0.046149662	0.042457689	0.046149662	0.00105225	0.00093133	3702090.157	99886.97328	82.08992267	244419780
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	50	Diesel	0.000439871	0.000532244	0.000633414	0.005208092	0.004635148	0.563261834	0.000283098	0.00026045	0.000283098	5.19444E-06	4.59727E-06	18274.40989	20563.34738	21.66261848	1085272.057
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	75	Diesel	0.005044797	0.006104204	0.007264507	0.108902757	0.088095977	16.74277055	0.00281104	0.002586157	0.00281104	0.000154644	0.000136652	543200.7517	472956.9897	498.2402251	35863256.32
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	100	Diesel	0.009296095	0.011248274	0.013386376	0.177916961	0.128462612	24.75248545	0.009005322	0.008284897	0.009005322	0.00022857	0.000202026	803067.1304	570362.3193	600.8526284	53020181.31
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	175	Diesel	0.01789788	0.021656435	0.025772947	0.398535659	0.223070015	66.30284803	0.009381422	0.008630908	0.009381422	0.000612466	0.000541155	2151122.885	931844.3206	981.6586586	142021658
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	300	Diesel	0.026607945	0.032195614	0.038315441	0.214018085	0.283446795	104.4494429	0.010436578	0.009601651	0.010436578	0.000964889	0.000852502	3388747.145	905869.566	954.295351	223732215.2
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	600	Diesel	0.024009606	0.029051623	0.034573833	0.179859207	0.246328738	90.95528561	0.010564831	0.009719644	0.010564831	0.000840206	0.000742365	2950944.072	458887.3309	483.4184335	194827535.4
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	750	Diesel	0.001793916	0.002170638	0.002583239	0.011179572	0.02313256	5.610706039	0.001106445	0.001017929	0.001106445	5.18199E-05	4.57938E-05	182033.1783	17316.50305	18.24220504	12018213.37
Statewide	2020	Portable Equipment - Rental Pump	Aggregated	9999	Diesel	0.000241361	0.000292047	0.00034756	0.004361647	0.013482074	2.407569102	0.000278278	0.000256016	0.000278278	2.22519E-05	1.96503E-05	78110.92806	1082.281441	1.140137815	5157047.787
Statewide	2020	TRU - Instate Genset TRU	Aggregated	50	Diesel	0.027953832	0.033824137	0.040253518	0.569462579	0.442498605	12.37506767	0.0018784	0.001728128	0.0018784	0.000114342	0.000101681	7855.244678	4732231.312	6061.362925	149065286.3
Statewide	2020	TRU - Instate Trailer TRU	Aggregated	50	Diesel	0.55893336	0.676309365	0.804864038	8.663635237	6.199066511	147.5054518	0.118946807	0.109431062	0.118946807	0.00135614	0.001211995	93631.11745	37489892.85	28296.75798	1274656357
Statewide	2020	TRU - Instate Truck TRU	Aggregated	25	Diesel	0.085734206	0.103738389	0.123457256	0.835697541	1.006758848	20.03943787	0.04179778	0.038453958	0.04179778	0.000183945	0.000164656	12720.30924	10088376.25	7412.473368	142246105.2
Statewide	2020	TRU - Instate Van TRU	Aggregated	25	Diesel	0.001984807	0.002401616	0.002858122	0.019346983	0.023307172	0.463927015	0.000967648	0.000890236	0.000967648	4.25846E-06	3.81191E-06	294.4840636	365899.6569	268.8461843	3293096.912
Statewide	2020	TRU - Out-of-State Genset TRU	Aggregated	50	Diesel	0.017533384	0.021215395	0.025248073	0.357943725	0.278676851	7.797867027	0.001190055	0.001094851	0.001190055	7.20527E-05	6.4072E-05	4949.803514	2981907.775	24116.89677	93930094.91
Statewide	2020	TRU - Out-of-State Trailer TRU	Aggregated	50	Diesel	0.292687487	0.354151859	0.421469981	5.010861418	3.586090988	90.94566571	0.036660988	0.033728109	0.036660988	0.000837697	0.000747265	57729.01413	23114693.2	110162.4303	785899568.9
Statewide	2020	TRU - Railcar TRU	Aggregated	50	Diesel	0.030296925	0.03665928	0.043627572	0.518688708	0.371206614	9.414047986	0.003794884	0.003491294	0.003794884	8.67124E-05	7.73516E-05	5975.696641	2392668.516	7420.737883	81350729.53

Dust Emissions from Worker Commute Travel on Unpaved Roads

Worker Trips

Emission Factor (EF) Calculation for Travel on Unpaved Roads

	value	units	source
Vehicle Type	LDT2	NA	EMFAC 2014
gross vehicle weight rating	6,000	lb	EMFAC 2014
mass conversion rate	2,000	lb/ton	wksht: Unit Conversions
vehicle total weight	3.00	tons/veh	conversion calculation

Emission Factor Calculation (Based on formula 1a in AP-42 Section 13.2.2., EPA 2006)

Variables	PM10 EF Calc	PM2.5 EF Calc	Unit	Source
a	0.9	0.9	constant	Source 1, Table 13.2.2-2 Constants for Equations 1a and 1b AP-42 Section 13.2.2
b	0.45	0.45	constant	
k	1.5	0.15	constant (lb/VMT)	
s	4.3%	4.3%	surface material silt content (%)	CalEEMod2013.2, Mobile module, Road Dust tab
W	3.00	3.00	mean vehicle weight (tons)	Calc'ed above based on truck size anticipated for project
Emission Factor	0.009	0.0009	lb/VMT	calculation

Maximum Daily VMT by Surface Type

	value	units	source
daily trips per worker	2	trips/worker	one-ways
Avg. distance of truck trip on unpaved road	5.0	miles/trip	assumption

	PM10	PM2.5	units	source
Worker Trip Fugitive Dust Emiss.	0.047	0.005	lb/trip	calc using emission factor

Sources

1 U.S. Environmental Protection Agency 2006 (November). Emission Factors & AP 42, Compilation of Air Pollutant Emission Factors-Section 13.2.2 Unpaved Roads. Available https://www3.epa.gov/ttn/chief/ap42/ch13/index.html. Accessed May 1, 2019

Running Exhaust Emission Rates for On-Road Vehicles

Source: These emission rates were provided by the California Air Resources Board's Mobile Source Emissions Inventory (EMFAC2017), which is available at http://www.arb.ca.gov/emfac/2017/.

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Statewide Model Year: Aggregated
Region: California Speed: Aggregated
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Vehicle Category	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_RUNLOSS	NOx_RUNEX	NOx_IDLEX	NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2_5_RUNEX	PM2_5_IDLEX
			VMT/day	trips/day	g/mile	g/veh/day	g/trip	g/mile	g/mile	g/veh/day	g/trip	g/mile	g/veh/day	g/trip	g/mile	g/veh/day	g/trip	g/mile	g/mile	g/mile	g/veh/day	g/trip	g/mile	g/mile
LDA	GAS	14,938,665	580,265,384	70,231,059	0.014	0.000	0.294	0.247	0.053	0.000	0.224	283.524	0.000	58.303	0.004	0.000	0.063	0.002	0.000	0.002	0.008	0.037	0.002	0.000
LDA	DSL	140,943	5,584,264	661,749	0.022	0.000	0.000	0.000	0.127	0.000	0.000	220.170	0.000	0.000	0.001	0.000	0.000	0.012	0.000	0.000	0.008	0.037	0.011	0.000
LDT1	GAS	1,683,471	60,697,626	7,658,663	0.040	0.000	0.494	0.940	0.156	0.000	0.331	331.121	0.000	68.884	0.009	0.000	0.094	0.003	0.000	0.003	0.008	0.037	0.002	0.000
LDT1	DSL	1,588	30,217	5,441	0.210	0.000	0.000	0.000	1.252	0.000	0.000	449.259	0.000	0.000	0.010	0.000	0.000	0.162	0.000	0.000	0.008	0.037	0.155	0.000
LDT2	GAS	5,354,642	198,929,135	24,863,918	0.024	0.000	0.421	0.532	0.119	0.000	0.377	363.522	0.000	76.335	0.006	0.000	0.086	0.002	0.000	0.002	0.008	0.037	0.002	0.000
LDT2	DSL	27,474	1,201,848	135,458	0.020	0.000	0.000	0.000	0.060	0.000	0.000	299.925	0.000	0.000	0.001	0.000	0.000	0.007	0.000	0.000	0.008	0.037	0.007	0.000
T6 instate construction heavy	DSL	10,766	731,955	48,672	0.342	0.079	0.000	0.000	4.859	5.476	1.798	1158.731	667.791	0.000	0.016	0.004	0.000	0.127	0.014	0.000	0.012	0.130	0.122	0.014

EMFAC2014 only provides idling exhaust emissions for large trucks, but not for passenger vehicles.

Source: wksht: raw EMFAC Output

Worker Trip Exhaust Emissions

Commute Trips by Workers on Thinning Crew

	value	units	source
Trip rate for crew workers	2	trips/day	assumption
Avg. worker commute trip length	16.8	miles/trip	Source 1, CARB 2017:D-86 (default worker trip length in CalEEMod V2016.3.2 for home-to-work trips, statewide)
Daily VMT by a single crew worker	33.6	VMT/day	calculation

Mix of passenger vehicles used in employee commutes

breakdown of passenger car VMT in Placer County	value	units	source
light duty autos - gasoline	580,265,384	VMT/day	wksht: On-Rd Veh Emiss Rates
light duty autos - diesel	5,584,264	VMT/day	wksht: On-Rd Veh Emiss Rates
light duty trucks 1 - gasoline	60,697,626	VMT/day	wksht: On-Rd Veh Emiss Rates
light duty trucks 1 - diesel	30,217	VMT/day	wksht: On-Rd Veh Emiss Rates
light duty trucks 2 - gasoline	198,929,135	VMT/day	wksht: On-Rd Veh Emiss Rates
light duty trucks 2 - diesel	1,201,848	VMT/day	wksht: On-Rd Veh Emiss Rates
Total, all passenger vehicle types	846,708,475	VMT/day	summation

relative portion of passenger car VMT by veh type	value	units	source
light duty autos - gasoline	68.5%	%	calculation
light duty autos - diesel	0.7%	%	calculation
light duty trucks 1 - gasoline	7.2%	%	calculation
light duty trucks 1 - diesel	0.00%	%	calculation
light duty trucks 2 - gasoline	23.5%	%	calculation
light duty trucks 2 - diesel	0.14%	%	calculation
Total, all passenger vehicle types	100.0%	%	summation

Emission Rates (running exhaust only; not including running loss, brake ware, and tire ware)

	ROG	NOx	PM10	PM2.5	CO2	units	source
light duty autos - gasoline	0.014	0.053	0.002	0.002	283.524	g/mile	wksht: On-Rd Veh Emiss Rates
light duty autos - diesel	0.022	0.127	0.012	0.011	220.170	g/mile	wksht: On-Rd Veh Emiss Rates
light duty trucks 1 - gasoline	0.040	0.156	0.003	0.002	331.121	g/mile	wksht: On-Rd Veh Emiss Rates
light duty trucks 1 - diesel	0.210	1.252	0.162	0.155	449.259	g/mile	wksht: On-Rd Veh Emiss Rates
light duty trucks 2 - gasoline	0.024	0.119	0.002	0.002	363.522	g/mile	wksht: On-Rd Veh Emiss Rates
light duty trucks 2 - diesel	0.020	0.060	0.007	0.007	299.925	g/mile	wksht: On-Rd Veh Emiss Rates
Composite emiss rates - all pass vehicles	**0.019**	**0.077**	**0.002**	**0.002**	**305.343**	**g/mile**	**Sumproduct calculation**

	value	units	source
mass conversion rate	453.59	g/lb	wksht: Unit Conversions
mass conversion rate	1,000,000	g/MT	wksht: Unit Conversions

Commute Emissions *of a Single Worker* (exhaust only, round trip)

ROG	NOx	PM10	PM2.5	CO2
lb/day/wrkr	lb/day/wrkr	lb/day/wrkr	lb/day/wrkr	MT/day/wrkr
1.38E-03	5.67E-03	1.40E-04	1.29E-04	1.03E-02

Source: calculations

Sources

1 California Air Pollution Control Officers Association. 2017 (November). *California Emissions Estimator Model Version 2016.3.2 User's Guide* . Available http://www.caleemod.com/. Accessed April 29, 2019.

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Statewide
Region: California
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

This version includes a row for LDT2 ELEC and extra columns for emission rates.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSOAK	TOG_RUNLOSS	TOG_RESTLOSS	TOG_DIURN	CO_RUNEX
Statewide	2020	LDA	Aggregated	Aggregated	GAS	14938664.82	580265383.8	70231058.65	0.014427123	0	0.294047592	0.12395274	0.247315958	0.259502196	0.302349703	0.021034396	0	0.321941585	0.12395274	0.247315958	0.259502196	0.302349703	0.806550096
Statewide	2020	LDA	Aggregated	Aggregated	DSL	140942.5885	5584263.839	661748.7684	0.022412003	0	0	0	0	0	0	0.025514575	0	0	0	0	0	0	0.280421872
Statewide	2020	LDA	Aggregated	Aggregated	ELEC	229562.6801	8903857.113	1147304.242	0	0	0	0.004888026	0	0.006997468	0.021038651	0	0	0	0.004888026	0	0.006997468	0.021038651	0
Statewide	2020	LDT1	Aggregated	Aggregated	GAS	1683470.918	60697625.96	7658662.781	0.040317853	0	0.494160212	0.267869835	0.939574346	0.579663316	0.765169104	0.05876174	0	0.541037103	0.267869835	0.939574346	0.579663316	0.765169104	1.693056916
Statewide	2020	LDT1	Aggregated	Aggregated	DSL	1587.879901	30217.22898	5441.163013	0.210048005	0	0	0	0	0	0	0.239125688	0	0	0	0	0	0	1.300651054
Statewide	2020	LDT1	Aggregated	Aggregated	ELEC	5173.033214	195709.9958	25565.34844	0	0	0	0.004888026	0	0.007061922	0.021268319	0	0	0	0.004888026	0	0.007061922	0.021268319	0
Statewide	2020	LDT2	Aggregated	Aggregated	GAS	5354641.627	198929135.4	24863918.45	0.024222605	0	0.420881577	0.161086306	0.532022268	0.381893325	0.427113182	0.035314857	0	0.46080955	0.161086306	0.532022268	0.381893325	0.427113182	1.173227109
Statewide	2020	LDT2	Aggregated	Aggregated	DSL	27473.8024	1201848.498	135458.3453	0.019646618	0	0	0	0	0	0	0.022366368	0	0	0	0	0	0	0.155888271
Statewide	2020	LDT2	Aggregated	Aggregated	ELEC	27502.2146	929240.3692	139544.1129	0	0	0	0.004888026	0	0.007292743	0.021671404	0	0	0	0.004888026	0	0.007292743	0.021671404	0
Statewide	2020	T6 instate construction heavy	Aggregated	Aggregated	DSL	10765.92067	731955.1255	48672.30877	0.34165794	0.079408193	0	0	0	0	0	0.388951558	0.090400183	0	0	0	0	0	0.820255383

Source:
California Air Resources Board. 2017. EMFAC2017 computer program, Version 1.0.2 (web-based). Sacramento, CA. Available: https://www.arb.ca.gov/emfac/2017/. Accessed April 25, 2017.

Model run by Ascent Environmental on April 29, 2019.

CO_IDLEX	CO_STREX	NOx_RUNEX	NOx_IDLEX	NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_PMTW	PM2_5_PMBW	SOx_RUNE	SOx_IDLEX	SOx_STREX	N2O_RUNE	N2O_IDLEX	N2O_STRE
0	2.391177872	0.053358978	0	0.223615411	283.5240705	0	58.30258337	0.003573865	0	0.062908031	0.001718122	0	0.002115422	0.008000002	0.036750011	0.0015798	0	0.001945244	0.002000001	0.015750005	0.002806	0	0.000577	0.005488	0	0.028462
0	0	0.126705736	0	0	220.169733	0	0	0.001040995	0	0	0.011706172	0	0	0.008000002	0.036750011	0.011199768	0	0	0.002000001	0.015750005	0.002081	0	0	0.034608	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0	0.002000001	0.015750005	0	0	0	0	0	0
0	2.648677967	0.155559762	0	0.330886703	331.1208664	0	68.88398988	0.008958438	0	0.094441755	0.002676207	0	0.003120605	0.008000002	0.036750011	0.002460926	0	0.002869702	0.002000001	0.015750005	0.003277	0	0.000682	0.01093	0	0.032829
0	0	1.251644108	0	0	449.2591648	0	0	0.009756328	0	0	0.161640143	0	0	0.008000002	0.036750011	0.154647662	0	0	0.002000001	0.015750005	0.004247	0	0	0.070617	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0	0.002000001	0.015750005	0	0	0	0	0	0
0	3.076403896	0.118683915	0	0.376770193	363.5224431	0	76.33539049	0.005723943	0	0.086393931	0.001801521	0	0.002113505	0.008000002	0.036750011	0.001656532	0	0.001943464	0.002000001	0.015750005	0.003597	0	0.000755	0.008885	0	0.03792
0	0	0.059630281	0	0	299.9245565	0	0	0.000912548	0	0	0.006985442	0	0	0.008000002	0.036750011	0.006683254	0	0	0.002000001	0.015750005	0.002835	0	0	0.047144	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008000002	0.036750011	0	0	0	0.002000001	0.015750005	0	0	0	0	0	0
1.885276222	0	4.859275603	5.476007634	1.7980492	1158.73126	667.7913158	0	0.015869126	0.003688305	0	0.12719086	0.014380054	0	0.012000003	0.130340037	0.12168864	0.01375798	0	0.003000001	0.055860016	0.010947	0.006309	0	0.182136	0.104967	0

Unit Conversion Rates

Global Warming Potential (rates)

	CO_2	CH_4	N_2O	units
global warming potential	1	25	298	unitless

Source: Intergovernmental Panel on Climate Change. *Climate Change 2007—The Physical Science Basis* . Working Group I Contribution to the Fourth Assessment Report. Available: https://www.ipcc.ch/report/ar4/wg1/. Accessed May 2, 2019.

Mass Conversion Rates

value	units	source
1,000	kg/MT	onlineconversion.com/weight_common.htm
1,000,000	g/MT	onlineconversion.com/weight_common.htm
2,000	lb/ton	onlineconversion.com/weight_common.htm
2,204.62	lb/MT	onlineconversion.com/weight_common.htm
453.59	g/lb	onlineconversion.com/weight_common.htm
1.1023	ton/MT	onlineconversion.com/weight_common.htm
2,204.62	lb/MT	onlineconversion.com/weight_common.htm
1,000,000	MT/MMT	million