

Metrics and Performance Data

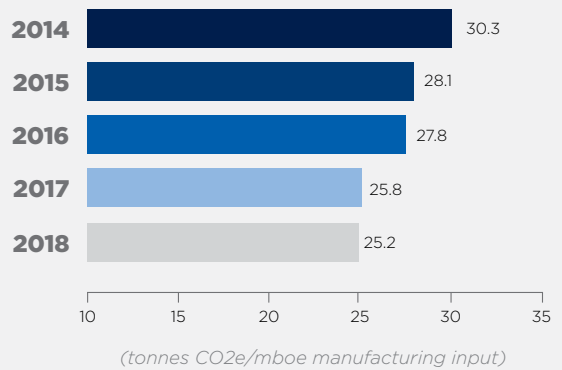
Each year we measure our performance on a variety of environmental metrics and report them in our annual *Sustainability Report*. The graphs to the right and the table on Page 42 include select metrics germane to climate-related risks. These metrics are an important tool we use to measure our performance against our goal of continually lowering the greenhouse gas intensity of our operations. We have reduced our GHG intensity by 17% since 2014. This was accomplished through the diversification of our portfolio to include lower carbon intensive operations such as biofuels production and natural gas gathering and processing. We have also continued to lower the carbon intensity of our assets themselves through the energy-efficiency and emission-reduction programs we outlined in the previous section of this report. By focusing on the intensity, we avoid emitting millions of tonnes of greenhouse gases each year.



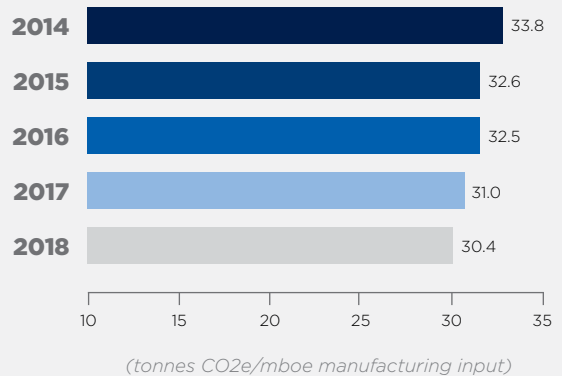
A lab technician analyzes a sample at our Galveston Bay refinery in Texas City, Texas.

MPC GHG Intensities

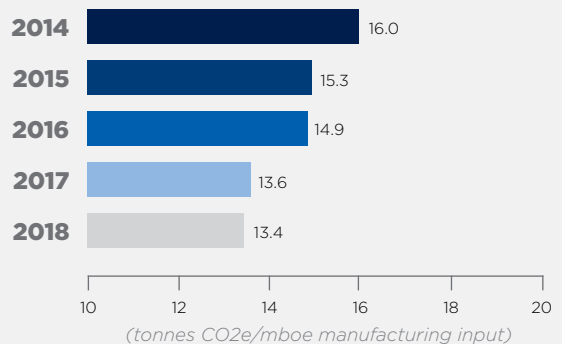
Company GHG Intensity (Scope 1 and Scope 2 Emissions)



Refining GHG Intensity (Scope 1 and Scope 2 Emissions)



Natural Gas Gathering and Processing GHG Intensity (Scope 1 and Scope 2 Emissions)



Environmental Performance^{(1) (2)}	2014	2015	2016	2017	2018
COMPANY MANUFACTURING INPUTS					
Feedstock charged to processing facilities (million boe)⁽³⁾	1,358	1,522	1,588	1,669	1,717
Refining	1,026	1,055	1,075	1,107	1,111
Midstream Natural Gas Gathering and Processing	332	466	513	562	605
GREENHOUSE GAS EMISSIONS					
Total Company direct and energy indirect GHG emissions (million tonnes CO₂e)	42.2	43.9	45.2	44.2	44.4
Scope 1 Direct GHG emissions	35.3	36.1	36.9	36.7	36.4
Refining	31.5	31.2	31.7	31.6	31.1
Midstream	3.7	4.9	5.1	5.1	5.3
Retail and Other	0.04	0.04	0.03	0.04	0.04
Scope 2 Energy indirect GHG emissions	6.9	7.8	8.3	7.6	8.0
Refining	4.2	4.3	4.4	3.9	3.9
Midstream	2.3	3.1	3.4	3.2	3.7
Retail and Other	0.4	0.4	0.5	0.5	0.5
Company direct and energy indirect GHG intensity (tonnes CO₂e/thousand boe manufacturing input)	30.3	28.1	27.8	25.8	25.2
Refining ⁽⁴⁾	33.8	32.6	32.5	31.0	30.4
Midstream Natural Gas Gathering and Processing	16.0	15.3	14.9	13.6	13.4
WATER					
Freshwater withdrawal (million cubic meters (m³))	140	142	145	146	148
Municipal	50	42	42	44	46
Groundwater	17	22	22	21	20
Surface Water	73	78	81	81	82
Freshwater withdrawal intensity (m³/thousand manufacturing boe input)	103	93	91	88	86
Reclaimed water used (million m³)	8	7	8	8	7
Wastewater discharged (million m³)	78	74	76	75	79
To publicly owned treatment works (POTW)	21	20	20	19	18
To injection well	2	2	3	3	2
To surface	55	51	53	54	58
Wastewater discharge intensity⁽⁵⁾ (m³/thousand manufacturing boe input)	58	49	48	45	46

Notes

⁽¹⁾ Includes data from facilities that MPC may have not yet owned, so that performance can be compared across the same asset base over time. Assets included are those that MPC owned/operated as of Dec. 31, 2018.

⁽²⁾ Environmental performance reported for facilities of which MPC has operational control.

⁽³⁾ BOE or barrel of oil equivalent is a unit of energy based on the energy released by burning one barrel of crude oil or 5.8 million British thermal units.

⁽⁴⁾ Refining GHG intensity does not include emissions associated with electricity that is produced by our cogeneration facilities sold to third parties.

⁽⁵⁾ Wastewater discharge levels are influenced by variation in annual precipitation levels.