



*Independent Statistics & Analysis*

U.S. Energy Information  
Administration

# Working and Net Available Shell Storage Capacity

November 2018

With Data as of September 30, 2018



This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the Department of Energy or other Federal agencies.

## **Working and Net Available Shell Storage Capacity**

*Working and Net Available Shell Storage Capacity* is the U.S. Energy Information Administration's (EIA) report containing storage capacity data for crude oil, petroleum products, and selected biofuels. The report includes tables detailing working and net available shell storage capacity by type of facility, product, and Petroleum Administration for Defense District (PAD District). Net available shell storage capacity is broken down further to show the percent for exclusive use by facility operators and the percent leased to others. Crude oil storage capacity data are also provided for Cushing, Oklahoma, an important crude oil market center. Data are released twice each year near the end of May (data for March 31) and near the end of November (data for September 30).

In addition to storage capacity, the report includes stocks of crude oil, petroleum products, and selected biofuels. Storage capacity utilization rates are calculated as stocks divided by storage capacity. Storage capacity utilization rates are reported for refineries, bulk terminals and fuel ethanol plants, and crude oil tank farms.

Crude oil tank farm storage capacity includes capacity of tanks and underground caverns but excludes pipeline fill capacity. Stocks reported monthly are a combination of barrels held in tank farms and pipeline fill. March and September reports include stocks held in tank farms without pipeline fill. Stocks held in tank farms are used for calculating the tank farm storage capacity utilization rate.

**Table 1. Working Storage Capacity by PAD District as of September 30, 2018**  
(Thousand Barrels)

Commodity	PAD Districts					U.S. Total	Ending Stocks	Utilization Rate <sup>1</sup>
	1	2	3	4	5			
<b>Refineries</b>								
Crude Oil <sup>2</sup>	13,002	18,409	72,864	3,855	35,914	144,044	99,566	69%
Fuel Ethanol	263	172	311	116	44	906	597	66%
Hydrocarbon Gas Liquids <sup>3</sup>	1,179	8,061	23,744	438	2,176	35,598	20,442	57%
Propane/Propylene (dedicated) <sup>4</sup>	406	2,748	4,677	57	196	8,084	4,921	NA
Motor Gasoline (incl. Motor Gasoline Blending Components)	8,518	28,243	53,874	6,774	27,100	124,509	70,719	57%
Distillate Fuel Oil	4,474	13,223	29,144	3,754	10,128	60,723	30,755	51%
Kerosene and Kerosene-type Jet Fuel	1,124	4,163	11,684	628	6,896	24,495	13,653	56%
Residual Fuel Oil	1,288	2,716	9,546	823	6,497	20,870	8,436	40%
Asphalt and Road Oil	1,001	8,832	3,940	2,059	1,360	17,192	8,880	52%
All Other <sup>5</sup>	14,095	27,793	88,243	6,664	36,227	173,022	98,678	57%
Total <sup>6</sup>	44,944	111,612	293,350	25,111	126,342	601,359	351,726	58%
<b>Bulk Terminals (Including Fuel Ethanol Plants)<sup>7</sup></b>								
Fuel Ethanol	13,211	15,458	8,604	405	4,445	42,123	23,779	56%
Hydrocarbon Gas Liquids <sup>3</sup>	14,425	61,129	338,746	6,190	7,654	428,144	165,924	39%
Propane/Propylene (dedicated) <sup>4</sup>	10,068	25,191	107,809	1,023	3,291	147,382	62,544	NA
Motor Gasoline (incl. Motor Gasoline Blending Components)	85,551	52,004	67,010	4,110	24,124	232,799	121,079	52%
Distillate Fuel Oil	78,651	34,740	37,548	2,588	13,315	166,842	75,467	45%
Kerosene and Kerosene-type Jet Fuel	13,865	6,874	7,767	552	7,595	36,653	21,808	59%
Residual Fuel Oil	15,995	630	29,736	-	4,456	50,817	20,159	40%
Asphalt and Road Oil	12,447	15,129	6,275	2,258	4,437	40,546	15,956	39%
All Other <sup>8</sup>	9,361	4,233	29,283	7	5,243	48,127	18,423	38%
Total	243,506	190,197	524,969	16,110	71,269	1,046,051	462,595	44%
<b>Crude Oil Tank Farms (excludes pipeline fill)<sup>2</sup></b>								
Crude Oil (Excluding SPR)	7,574	152,840	280,918	20,437	27,108	488,877	196,933	40%
Cushing, Oklahoma	--	77,228	--	--	--	77,228	23,939	31%
Strategic Petroleum Reserve	-	-	713,500	-	-	713,500	659,084	92%

<sup>1</sup> Utilization rate for refineries, bulk terminals and fuel ethanol plants equals stocks divided by storage capacity.

Utilization rates for crude tank farms equals stocks divided by storage capacity of tanks and underground caverns. It does not include pipeline fill.

<sup>2</sup> See <http://www.eia.gov/petroleum/storagecapacity/crudeoilstorage.xls> for additional information on crude oil stocks and storage capacity.

<sup>3</sup> Includes storage capacity for ethane, propane, propylene, normal butane, butylene, isobutane, isobutylene, and natural gasoline stored separately or in mixes.

<sup>4</sup> Dedicated Propane/Propylene storage capacity includes storage capacity for propane and propylene stored separately. It excludes capacity for storing propane and propylene as a component of mixed hydrocarbon gas liquids. Ending stocks are provided for comparison, but storage capacity utilization is not calculated because ending stocks include propane and propylene stored in mixes as well as in dedicated storage.

<sup>5</sup> All Other storage capacity at refineries includes oxygenates and renewable fuels (except fuel ethanol), other hydrocarbons, unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, petrochemical feedstocks, wax, and miscellaneous products.

<sup>6</sup> Excludes petroleum coke.

<sup>7</sup> Includes ending stocks of fuel ethanol at ethanol plants. Excludes ending stocks of natural gasoline, MTBE, ETBE, other oxygenates, finished motor gasoline and motor gasoline blending components at fuel ethanol plants.

<sup>8</sup> All Other storage capacity at terminals includes oxygenates and renewable fuels (except fuel ethanol), unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, and miscellaneous products.

Source: Energy Information Administration, Form EIA-810 "Monthly Refinery Report", Form EIA-813 "Monthly Crude Oil Report", Form EIA-815 "Monthly Bulk Terminal and Blender Report", Form EIA-819 "Monthly Oxygenate Report"

**EIA/Working and Net Available Shell Storage Capacity as of September 30, 2018**

**Table 2. Net Available Shell Storage Capacity by PAD District as of September 30, 2018**  
(Thousand Barrels)

Commodity	PAD Districts										U.S. Total	
	1		2		3		4		5			
	In Operation	Idle <sup>1</sup>	In Operation	Idle <sup>1</sup>	In Operation	Idle <sup>1</sup>	In Operation	Idle <sup>1</sup>	In Operation	Idle <sup>1</sup>	In Operation	Idle <sup>1</sup>
<b>Refineries</b>												
Crude Oil <sup>2</sup>	14,737	835	23,068	615	87,851	2,536	4,403	55	41,261	665	171,320	4,706
Fuel Ethanol	322	-	221	4	356	-	139	-	51	9	1,089	13
Hydrocarbon Gas Liquids <sup>3</sup>	1,328	21	9,243	800	27,997	167	472	1	2,325	8	41,365	997
Propane/Propylene (dedicated) <sup>4</sup>	452	1	3,071	346	5,709	44	60	1	213	5	9,505	397
Motor Gasoline (incl. Motor Gasoline Blending Components)	9,653	2,277	33,475	996	64,591	1,544	7,791	240	30,900	258	146,410	5,315
Distillate Fuel Oil	5,066	1,039	14,913	399	33,375	755	4,093	133	11,339	136	68,786	2,462
Kerosene and Kerosene-type Jet Fuel	1,220	94	4,834	57	13,650	163	687	-	7,893	19	28,284	333
Residual Fuel Oil	1,455	208	3,197	197	11,326	548	887	86	7,208	-	24,073	1,039
Asphalt and Road Oil	1,179	52	10,199	706	4,485	22	2,263	117	1,443	264	19,569	1,161
All Other <sup>5</sup>	15,809	597	32,191	1,677	102,121	3,011	7,372	144	41,493	600	198,986	6,029
Total <sup>6</sup>	50,769	5,123	131,341	5,451	345,752	8,746	28,107	776	143,913	1,959	699,882	22,055
<b>Bulk Terminals (Including Fuel Ethanol Plants)</b>												
Fuel Ethanol	15,189	139	18,280	60	9,892	13	494	3	5,294	9	49,149	224
Hydrocarbon Gas Liquids <sup>3</sup>	15,512	511	71,466	1,230	372,830	4,107	6,732	-	8,124	186	474,664	6,034
Propane/Propylene (dedicated) <sup>4</sup>	10,878	1	28,623	508	118,555	3,291	1,112	-	3,659	186	162,827	3,986
Motor Gasoline (incl. Motor Gasoline Blending Components)	97,384	1,245	61,342	779	78,118	928	4,904	-	27,799	190	269,547	3,142
Distillate Fuel Oil	85,375	3,541	39,134	292	42,810	439	2,994	-	14,870	247	185,183	4,519
Kerosene and Kerosene-type Jet Fuel	15,627	22	7,781	144	8,806	40	661	-	8,485	82	41,360	288
Residual Fuel Oil	17,921	1,112	697	10	31,516	611	-	-	4,869	412	55,003	2,145
Asphalt and Road Oil	13,708	295	16,136	216	6,956	138	2,362	-	4,734	147	43,896	796
All Other <sup>7</sup>	10,309	26	4,640	95	31,575	1,876	8	-	5,898	18	52,430	2,015
Total	271,025	6,891	219,476	2,826	582,503	8,152	18,155	3	80,073	1,291	1,171,232	19,163
<b>Crude Oil Tank Farms (excludes pipeline fill)<sup>2</sup></b>												
Crude Oil (Excluding SPR)	8,828	337	181,140	4,303	324,948	11,109	25,485	265	33,155	615	573,556	16,629
Cushing, Oklahoma	--	--	90,209	1,293	--	--	--	--	--	--	90,209	1,293
Strategic Petroleum Reserve	-	-	-	-	713,500	-	-	-	-	-	713,500	-

<sup>1</sup> Idle tanks and caverns are those that were not capable of being used to hold stocks on the report date, but could be placed in operation within 90 days of the report date after maintenance or repair.

<sup>2</sup> See <http://www.eia.gov/petroleum/storagecapacity/crudeoilstorage.xls> for additional information on crude oil stocks and storage capacity.

<sup>3</sup> Includes storage capacity for ethane, propane, propylene, normal butane, butylene, isobutane, isobutylene, and natural gasoline stored separately or in mixes.

<sup>4</sup> Dedicated Propane/Propylene storage capacity includes storage capacity for propane and propylene stored separately. It excludes the propane component of mixed hydrocarbon gas liquids storage.

<sup>5</sup> All Other storage capacity at refineries includes oxygenates and renewable fuels (except fuel ethanol), other hydrocarbons, unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, petrochemical feedstocks, wax, and miscellaneous products.

<sup>6</sup> Excludes petroleum coke.

<sup>7</sup> All Other storage capacity at terminals includes oxygenates and renewable fuels (except fuel ethanol), unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, and miscellaneous products.

Source: Energy Information Administration, Form EIA-810 "Monthly Refinery Report", Form EIA-813 "Monthly Crude Oil Report", Form EIA-815 "Monthly Bulk Terminal and Blender Report" Form EIA-819 "Monthly Oxygenate Report"

**Table 3. Net Available Shell Storage Capacity of Terminals and Tank Farms as of September 30, 2018**  
(Thousand Barrels, Except Where Noted)

Commodity	PAD Districts					U.S. Total
	1	2	3	4	5	
<b>Crude Oil (Excluding SPR)</b>						
Capacity In Operation	8,828	181,140	324,948	25,485	33,155	573,556
Percent Exclusive Use <sup>2</sup>	90%	45%	60%	88%	79%	58%
Percent Leased to Others	10%	55%	40%	12%	21%	42%
<b>Cushing, Oklahoma</b>						
Capacity In Operation	--	90,209	--	--	--	90,209
Percent Exclusive Use <sup>2</sup>	--	11%	--	--	--	11%
Percent Leased to Others	--	89%	--	--	--	89%
<b>Fuel Ethanol</b>						
Capacity In Operation	14,940	7,341	9,500	376	5,098	37,255
Percent Exclusive Use <sup>2</sup>	61%	50%	31%	78%	53%	50%
Percent Leased to Others	39%	50%	69%	22%	47%	50%
<b>Hydrocarbon Gas Liquids<sup>3</sup></b>						
Capacity In Operation	15,512	71,466	372,830	6,732	8,124	474,664
Percent Exclusive Use <sup>2</sup>	76%	21%	17%	0%	63%	20%
Percent Leased to Others	24%	79%	83%	100%	37%	80%
<b>Propane/Propylene (dedicated)<sup>4</sup></b>						
Capacity In Operation	10,878	28,623	118,555	1,112	3,659	162,827
Percent Exclusive Use <sup>2</sup>	81%	23%	16%	0%	57%	22%
Percent Leased to Others	19%	77%	84%	100%	43%	78%
<b>Motor Gasoline (incl. Motor Gasoline Blending Components)</b>						
Capacity In Operation	97,384	61,342	78,118	4,904	27,799	269,547
Percent Exclusive Use <sup>2</sup>	53%	69%	22%	73%	46%	47%
Percent Leased to Others	47%	31%	78%	27%	54%	53%
<b>Distillate Fuel Oil</b>						
Capacity In Operation	85,375	39,134	42,810	2,994	14,870	185,183
Percent Exclusive Use <sup>2</sup>	52%	62%	39%	76%	45%	51%
Percent Leased to Others	48%	38%	61%	24%	55%	49%
<b>Kerosene and Kerosene-type Jet Fuel</b>						
Capacity In Operation	15,627	7,781	8,806	661	8,485	41,360
Percent Exclusive Use <sup>2</sup>	39%	63%	14%	23%	46%	40%
Percent Leased to Others	61%	37%	86%	77%	54%	60%
<b>Residual Fuel Oil</b>						
Capacity In Operation	17,921	697	31,516	-	4,869	55,003
Percent Exclusive Use <sup>2</sup>	30%	52%	4%	-	31%	16%
Percent Leased to Others	70%	48%	96%	-	69%	84%
<b>Asphalt and Road Oil</b>						
Capacity In Operation	13,708	16,136	6,956	2,362	4,734	43,896
Percent Exclusive Use <sup>2</sup>	48%	74%	58%	64%	94%	65%
Percent Leased to Others	52%	26%	42%	36%	6%	35%
<b>All Other<sup>5</sup></b>						
Capacity In Operation	10,309	4,640	31,575	8	5,898	52,430
Percent Exclusive Use <sup>2</sup>	35%	48%	4%	75%	61%	20%
Percent Leased to Others	65%	53%	96%	25%	39%	80%
<b>Total</b>						
Capacity In Operation	279,604	389,677	907,059	43,522	113,032	1,732,894
Percent Exclusive Use <sup>2</sup>	52%	48%	33%	69%	59%	42%
Percent Leased to Others	48%	52%	67%	31%	41%	58%

<sup>1</sup> Includes storage capacity of terminals and tank farms. Excludes storage capacity of refineries, fuel ethanol plants, and pipelines.

<sup>2</sup> Percent exclusive use is that portion of capacity in operation that is for the exclusive use of the operating company.

<sup>3</sup> Includes storage capacity for ethane, propane, propylene, normal butane, butylene, isobutane, isobutylene, and natural gasoline stored separately or in mixes.

<sup>4</sup> Dedicated Propane/Propylene storage capacity includes storage capacity for propane and propylene stored separately. It excludes the propane component of mixed hydrocarbon gas liquids storage.

<sup>5</sup> All Other storage capacity at terminals includes oxygenates and renewable fuels (except fuel ethanol), unfinished oils, aviation gasoline, aviation gasoline blending components, special naphthas, lubricants, and miscellaneous products.

Source: Energy Information Administration, Form EIA-813 "Monthly Crude Oil Report", Form EIA-815 "Monthly Bulk Terminal and Blender Report"