



Independent Statistics & Analysis

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Working and Net Available Shell Storage Capacity

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With Data as of September 30, 2016



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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, 2016
(Thousand Barrels)

Commodity	PAD Districts					U.S. Total	Ending Stocks	Utilization Rate ¹
	1	2	3	4	5			
Refineries								
Crude Oil ²	14,945	20,005	75,500	4,143	36,986	151,579	98,415	65%
Fuel Ethanol	151	136	312	114	64	777	577	74%
Natural Gas Plant Liquids and Liquefied Refinery Gases ³	1,178	11,068	27,978	429	2,274	42,927	19,284	45%
Propane/Propylene (dedicated) ⁴	404	3,465	4,597	44	201	8,711	5,466	NA
Motor Gasoline (incl. Motor Gasoline Blending Components)	8,943	27,578	51,024	6,840	27,745	122,130	68,773	56%
Distillate Fuel Oil	4,986	13,892	29,371	4,048	10,158	62,455	30,537	49%
Kerosene and Kerosene-type Jet Fuel	1,109	4,001	11,433	777	6,932	24,252	13,584	56%
Residual Fuel Oil	1,458	3,180	8,010	659	6,958	20,265	8,129	40%
Asphalt and Road Oil	2,062	8,950	4,453	1,952	2,015	19,432	8,947	46%
All Other ⁵	14,603	27,784	90,148	6,672	36,549	175,756	91,410	52%
Total ⁶	49,435	116,594	298,229	25,634	129,681	619,573	339,656	55%
Bulk Terminals (Including Fuel Ethanol Plants)⁷								
Fuel Ethanol	12,862	14,565	6,661	403	4,308	38,799	20,025	52%
Natural Gas Plant Liquids and Liquefied Refinery Gases ²	11,471	61,006	334,189	3,965	7,625	418,256	193,397	46%
Propane/Propylene (dedicated) ⁴	8,479	28,171	111,039	1,023	3,282	151,994	85,793	NA
Motor Gasoline (incl. Motor Gasoline Blending Components)	82,191	49,695	57,739	3,854	23,199	216,678	111,225	51%
Distillate Fuel Oil	82,531	34,423	38,988	2,472	15,297	173,711	100,152	58%
Kerosene and Kerosene-type Jet Fuel	12,999	6,038	8,528	575	7,622	35,762	19,591	55%
Residual Fuel Oil	20,992	846	39,152	-	3,632	64,622	30,665	47%
Asphalt and Road Oil	11,493	14,584	5,908	2,146	3,825	37,956	14,593	38%
All Other ⁸	5,936	3,905	21,725	7	3,768	35,341	16,459	47%
Total	240,475	185,062	512,890	13,422	69,276	1,021,125	506,107	50%
Crude Oil Tank Farms (excludes pipeline fill)²								
Crude Oil (Excluding SPR)	6,565	148,250	250,478	19,229	28,265	452,787	260,579	58%
Cushing, Oklahoma	--	77,086	--	--	--	77,086	61,119	79%
Strategic Petroleum Reserve	-	-	727,000	-	-	727,000	694,162	95%

¹ 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.

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

³ Includes storage capacity for ethane, ethylene, propane, propylene, normal butane, butylene, isobutane, isobutylene, and pentanes plus stored separately or in mixes.

⁴ 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 natural gas plant liquids and liquefied refinery gases. 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.

⁵ 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.

⁶ Excludes petroleum coke.

⁷ Includes ending stocks of fuel ethanol at ethanol plants. Excludes ending stocks of pentanes plus, MTBE, ETBE, other oxygenates, finished motor gasoline and motor gasoline blending components at fuel ethanol plants.

⁸ 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, wax, and miscellaneous products.

⁹ All Other storage capacity at pipelines includes oxygenates and renewable fuels (except fuel ethanol), aviation gasoline, residual fuel oil 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 2. Net Available Shell Storage Capacity by PAD District as of September 30, 2016
(Thousand Barrels)

Commodity	PAD Districts										U.S. Total	
	1		2		3		4		5			
	In Operation	Idle ¹	In Operation	Idle ¹	In Operation	Idle ¹	In Operation	Idle ¹	In Operation	Idle ¹	In Operation	Idle ¹
Refineries												
Crude Oil ²	16,853	981	24,437	777	91,166	2,277	4,672	261	41,979	1,145	179,107	5,441
Fuel Ethanol	174	-	166	18	354	4	134	-	71	9	899	31
Natural Gas Plant Liquids and Liquefied Refinery Gases ³	1,327	22	11,798	751	30,904	216	463	7	2,435	49	46,927	1,045
Propane/Propylene (dedicated) ⁴	450	2	3,719	384	4,801	3	48	6	218	5	9,236	400
Motor Gasoline (incl. Motor Gasoline Blending Components)	10,180	1,661	32,171	1,084	62,493	2,651	8,000	164	31,189	362	144,033	5,922
Distillate Fuel Oil	5,603	1,124	15,506	383	34,064	850	4,455	75	11,170	165	70,798	2,597
Kerosene and Kerosene-type Jet Fuel	1,231	60	4,518	164	13,624	129	847	28	7,799	275	28,019	656
Residual Fuel Oil	1,686	165	3,655	117	9,626	1,410	784	32	7,575	30	23,326	1,754
Asphalt and Road Oil	2,277	-	9,997	512	4,967	36	2,182	84	2,131	314	21,554	946
All Other ⁵	16,310	448	31,359	1,185	105,172	3,093	7,420	119	41,150	1,744	201,411	6,589
Total ⁶	55,641	4,461	133,607	4,991	352,370	10,666	28,957	770	145,499	4,093	716,074	24,981
Bulk Terminals (Including Fuel Ethanol Plants)												
Fuel Ethanol	14,952	23	16,828	18	7,482	7	485	3	4,885	87	44,632	138
Natural Gas Plant Liquids and Liquefied Refinery Gases ³	12,256	2	71,394	1,308	369,738	8,616	4,307	-	8,090	186	465,785	10,112
Propane/Propylene (dedicated) ⁴	9,134	1	32,192	255	121,268	4,082	1,044	-	3,650	186	167,288	4,524
Motor Gasoline (incl. Motor Gasoline Blending Components)	93,949	1,405	58,551	718	67,635	414	4,568	-	26,967	350	251,670	2,887
Distillate Fuel Oil	89,351	1,736	38,853	584	43,454	525	2,846	-	17,087	13	191,591	2,858
Kerosene and Kerosene-type Jet Fuel	14,364	42	6,749	63	9,543	160	684	-	8,519	5	39,859	270
Residual Fuel Oil	22,423	-	936	4	41,280	378	-	-	3,993	549	68,632	931
Asphalt and Road Oil	12,383	3	15,576	329	6,551	40	2,268	-	4,243	20	41,021	392
All Other ⁷	6,651	659	4,321	116	23,534	568	8	-	4,299	26	38,813	1,369
Total	266,329	3,870	213,208	3,140	569,217	10,708	15,166	3	78,083	1,236	1,142,003	18,957
Crude Oil Tank Farms (excludes pipeline fill)²												
Crude Oil (Excluding SPR)	8,144	137	176,987	3,346	291,258	8,230	24,112	123	34,745	379	535,246	12,215
Cushing, Oklahoma	--	--	90,374	897	--	--	--	--	--	--	90,374	897
Strategic Petroleum Reserve	-	-	-	-	727,000	-	-	-	-	-	727,000	-

¹ 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.

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

³ Includes storage capacity for ethane, ethylene, propane, propylene, normal butane, butylene, isobutane, isobutylene, and pentanes plus stored separately or in mixes.

⁴ Dedicated Propane/Propylene storage capacity includes storage capacity for propane and propylene stored separately. It excludes the propane component of mixed natural gas plant liquids and liquefied refinery gases storage.

⁵ 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.

⁶ Excludes petroleum coke.

⁷ 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, wax, and miscellaneous products.

⁸ All Other storage capacity at pipelines includes oxygenates and renewable fuels (except fuel ethanol), aviation gasoline, residual fuel oil 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, 2016
(Thousand Barrels, Except Where Noted)

Commodity	PAD Districts					U.S. Total
	1	2	3	4	5	
Crude Oil (Excluding SPR)						
Capacity In Operation	8,144	176,987	291,258	24,112	34,745	535,246
Percent Exclusive Use ²	68%	47%	66%	89%	79%	62%
Percent Leased to Others	32%	53%	34%	11%	21%	38%
Cushing, Oklahoma						
Capacity In Operation	--	90,374	--	--	--	90,374
Percent Exclusive Use ²	--	15%	--	--	--	15%
Percent Leased to Others	--	85%	--	--	--	85%
Fuel Ethanol						
Capacity In Operation	14,731	6,453	7,082	367	4,689	33,322
Percent Exclusive Use ²	64%	51%	41%	77%	62%	57%
Percent Leased to Others	36%	49%	59%	23%	38%	43%
Natural Gas Plant Liquids and Liquefied Refinery Gases³						
Capacity In Operation	12,256	71,394	369,738	4,307	8,090	465,785
Percent Exclusive Use ²	73%	21%	16%	1%	63%	19%
Percent Leased to Others	27%	79%	84%	99%	37%	81%
Propane/Propylene (dedicated)⁴						
Capacity In Operation	9,134	32,192	121,268	1,044	3,650	167,288
Percent Exclusive Use ²	80%	19%	15%	0%	56%	20%
Percent Leased to Others	20%	81%	85%	100%	44%	80%
Motor Gasoline (incl. Motor Gasoline Blending Components)						
Capacity In Operation	93,949	58,551	67,635	4,568	26,967	251,670
Percent Exclusive Use ²	58%	70%	29%	71%	47%	52%
Percent Leased to Others	42%	30%	71%	29%	53%	48%
Distillate Fuel Oil						
Capacity In Operation	89,351	38,853	43,454	2,846	17,087	191,591
Percent Exclusive Use ²	58%	62%	45%	74%	45%	55%
Percent Leased to Others	42%	38%	55%	26%	55%	45%
Kerosene and Kerosene-type Jet Fuel						
Capacity In Operation	14,364	6,749	9,543	684	8,519	39,859
Percent Exclusive Use ²	54%	58%	20%	26%	45%	44%
Percent Leased to Others	46%	42%	80%	74%	55%	56%
Residual Fuel Oil						
Capacity In Operation	22,423	936	41,280	-	3,993	68,632
Percent Exclusive Use ²	43%	54%	3%	-	26%	18%
Percent Leased to Others	57%	46%	97%	-	74%	82%
Asphalt and Road Oil						
Capacity In Operation	12,383	15,576	6,551	2,268	4,243	41,021
Percent Exclusive Use ²	42%	76%	51%	61%	75%	61%
Percent Leased to Others	58%	24%	49%	39%	25%	39%
All Other⁵						
Capacity In Operation	6,651	4,321	23,534	8	4,299	38,813
Percent Exclusive Use ²	43%	66%	7%	75%	45%	24%
Percent Leased to Others	57%	34%	93%	25%	55%	76%
Total						
Capacity In Operation	274,252	379,820	860,075	39,160	112,632	1,665,939
Percent Exclusive Use ²	57%	49%	35%	73%	58%	44%
Percent Leased to Others	43%	51%	65%	27%	42%	56%

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

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

³ Includes storage capacity for ethane, ethylene, propane, propylene, normal butane, butylene, isobutane, isobutylene, and pentanes plus stored separately or in mixes.

⁴ Dedicated Propane/Propylene storage capacity includes storage capacity for propane and propylene stored separately.

It excludes the propane component of mixed natural gas plant liquids and liquefied refinery gases storage.

⁵ 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, wax, and miscellaneous products.

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

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