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*Independent Statistics & Analysis*  
U.S. Energy Information  
Administration

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# 2018 Uranium Marketing Annual Report

May 2019



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## Introduction

In this report, the U.S. Energy Information Administration (EIA) provides detailed data on uranium marketing activities in the United States from 2012 through 2018 and summary data back to 1995.

Data in this report are based on information reported on Form EIA-858, *Uranium Marketing Annual Survey*. Form EIA-858 survey collects data on contracts, deliveries (during the report year and projected for the next 10 years), enrichment services purchased, inventories, use in fuel assemblies, feed deliveries to enrichers (during the report year and projected for the next 10 years), and unfilled market requirements for the next 10 years.

[Previous editions](#) of this report are available on EIA's website.

Definitions for terms in this report are available in EIA's [Energy Glossary](#).

## Uranium purchases and prices

Owners and operators of U.S. civilian nuclear power reactors (civilian owner/operators, or COOs) purchased a total of 40 million pounds  $U_3O_8e$  (equivalent<sup>1</sup>) of deliveries from U.S. suppliers and foreign suppliers during 2018, at a weighted-average price of \$38.81 per pound  $U_3O_8e$ . The 2018 total of 40 million pounds  $U_3O_8e$  was 6% lower than the 2017 total of 43 million pounds  $U_3O_8e$ . The 2018 weighted-average price of \$38.81 per pound  $U_3O_8e$  was virtually the same as the 2017 weighted-average price of \$38.80 per pound  $U_3O_8e$  (Table 1).

Nearly 10% of the 40 million pounds  $U_3O_8e$  delivered in 2018 was U.S.-origin uranium at a weighted-average price of \$45.26 per pound. Foreign-origin uranium accounted for the remaining 90% of deliveries at a weighted-average price of \$38.11 per pound (Table 2). Canadian-origin uranium and Australian-origin uranium together accounted for 42% of total uranium purchased by U.S. COOs in 2018. Uranium originating in Kazakhstan, Russia, and Uzbekistan accounted for 40% (Table 3).

COOs purchased three material types of uranium for 2018 deliveries from 37 sellers, one more seller than in 2017 (Table 4, Table 24). Uranium concentrate was 59% of the 40 million pounds  $U_3O_8e$  delivered in 2018. Enriched  $UF_6$  was 21%, and Natural  $UF_6$  was 20% (Table 4). During 2018, 16% of the uranium delivered was purchased under spot contracts at a weighted-average price of \$27.51 per pound. The remaining 84% was purchased under long-term contracts at a weighted-average price of \$40.99 per pound (Table 7). Spot contracts are contracts with a one-time uranium delivery (usually) for the entire contract, and the delivery typically occurs within one year of contract execution (signed date). Long-term contracts are contracts with one or more uranium deliveries to occur at least a year following the contract execution (signed date) and as such may reflect some agreements of short and medium terms as well as longer term.

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<sup>1</sup>Uranium quantities are expressed in the unit of measure  $U_3O_8e$  (equivalent).  $U_3O_8e$  is triuranium octoxide (or uranium concentrate) and the equivalent uranium-component of uranium hexafluoride ( $UF_6$ ) and enriched uranium.

## New and future uranium contracts

In 2018, COOs signed 36 new purchase contracts with deliveries in 2018 of 3.3 million pounds  $U_3O_8e$  at a weighted-average price of \$25.11 per pound. Five of these contracts were long-term and received deliveries of 0.6 million pounds  $U_3O_8e$  at a weighted-average price of \$28.62 in 2018. The other 31 contracts were spot contracts with 3.3 million pounds  $U_3O_8e$  delivered at a weighted-average price of \$24.48 in 2018 (Table 8).

COOs report minimum and maximum quantities of future deliveries under contract to allow for the option of either decreasing or increasing quantities. At the end of 2018, the maximum uranium deliveries for 2019 through 2028 under existing purchase contracts for COOs totaled 175 million pounds  $U_3O_8e$  (Table 10). Also at the end of 2018, unfilled uranium market requirements for 2019 through 2028 totaled 201 million pounds  $U_3O_8e$  (Table 11). These contracted deliveries and unfilled market requirements combined represent the maximum anticipated market requirements of 376 million pounds  $U_3O_8e$  over the next 10 years for COOs.

## Uranium feed, enrichment services, uranium loaded

In 2018, COOs delivered 33 million pounds  $U_3O_8e$  of natural uranium feed to U.S. and foreign enrichers. Foreign enrichment suppliers received 52% of the feed, and the remaining 48% was delivered to U.S. enrichment suppliers (Table 13). Fifteen million separative work units (SWU)<sup>2</sup> were purchased under enrichment services contracts from 13 sellers in 2018, one more than in 2017 (Table 16, Table 25). The average price paid by the COOs for the 15 million SWU was \$115.42 per SWU in 2018, compared with the 2017 average price of \$125 per SWU. In 2018, the U.S.-origin SWU share was 33%, and the foreign-origin SWU accounted for the remaining 67%. Foreign-origin SWU included 23% from Russia, 19% from the Netherlands, and 10% from both the United Kingdom and from Germany, separately (Table 16).

Uranium in fuel assemblies loaded into U.S. civilian nuclear power reactors during 2018 contained 50.2 million pounds  $U_3O_8e$ , compared with 45.5 million pounds  $U_3O_8e$  loaded during 2017. During 2018, 11% of the uranium loaded during 2018 was U.S.-origin uranium, and 89% was foreign-origin uranium (Table 18).

## Uranium foreign purchases/sales and inventories

U.S. suppliers (brokers, converters, enrichers, fabricators, producers, and traders) and COOs purchase uranium each year from foreign suppliers. Together, foreign purchases totaled 41.5 million pounds  $U_3O_8e$  in 2018, and the weighted-average price was \$35.73 per pound  $U_3O_8e$  (Table 19). U.S. suppliers and COOs also sold uranium to foreign suppliers. Together, foreign sales totaled 14 million pounds  $U_3O_8e$  in 2018, and the weighted-average price was \$26.02 per pound  $U_3O_8e$  (Table 21).

<sup>2</sup> Separative work unit (SWU): The standard measure of enrichment services. The effort expended in separating a mass  $F$  of feed of assay  $x_f$  into a mass  $P$  of product assay  $x_p$  and waste of mass  $W$  and assay  $x_w$  is expressed in terms of the number of separative work units needed, given by the expression  $SWU = WV(x_w) + PV(x_p) - FV(x_f)$ , where  $V(x)$  is the *value function*, defined as  $V(x) = (1 - 2x) \ln((1 - x)/x)$ .

Year-end commercial uranium inventories represent ownership of uranium in different stages of the nuclear fuel cycle (in-process for conversion, enrichment, or fabrication) at domestic or foreign nuclear fuel facilities. Total U.S. commercial inventories (including inventories owned by COOs, U.S. brokers, converter, enrichers, fabricators, producers, and traders) were 131.5 million pounds  $U_3O_8e$  at the end of 2018. Commercial uranium inventories owned at the end of 2018 by COOs totaled 111.6 million pounds  $U_3O_8e$ , a 10% decrease in inventories from the year-end 2017 level. Uranium inventories owned by U.S. suppliers (converters, enrichers, fabricators, producers, brokers and traders) totaled 19.9 million pounds  $U_3O_8e$  at the end of 2018 (Table 22).

**Table S1a. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors, 1995–2018**million pounds U<sub>3</sub>O<sub>8</sub> equivalent

Delivery year	total purchased	purchased from U.S. producers	purchased from U.S. brokers and traders	purchased from other owners and operators of U.S. civilian nuclear power reactors, other U.S. suppliers, (and U.S. government for 2007) <sup>1</sup>	purchased from foreign suppliers	U.S.-origin uranium	Foreign-origin uranium	spot contracts <sup>2</sup>	short, medium, and long-term contracts <sup>3</sup>
1995	43.4	5.3	16.2	0.6	21.4	5.2	38.2	13.6	29.8
1996	47.3	5.8	13.3	1.9	26.4	8.3	39.0	9.1	38.3
1997	42.0	5.7	9.9	3.0	23.4	8.1	33.9	5.5	36.5
1998	42.7	6.5	10.5	4.5	21.3	7.2	35.6	7.8	34.9
1999	47.9	5.2	10.4	5.6	26.8	11.4	36.5	8.0	40.0
2000	51.8	3.6	9.1	8.8	30.4	13.3	38.6	10.4	39.1
2001	55.4	2.3	11.7	11.4	30.0	13.2	42.2	14.4	40.0
2002	52.7	1.5	13.4	5.7	32.2	6.2	46.5	8.6	41.4
2003	56.6	0.6	10.5	8.3	37.2	10.2	46.4	8.2	46.7
2004	64.1	0	13.2	12.2	38.7	12.3	51.8	9.2	53.3
2005	65.7	W	10.4	W	39.4	11.0	54.7	6.9	58.8
2006	66.5	0	13.9	12.6	40.0	10.8	55.7	6.3	59.4
2007	51.0	0	9.8	7.6	33.5	4.0	47.0	6.6	43.7
2008	53.4	0.6	9.4	6.3	37.2	7.7	45.6	8.7	42.8
2009	49.8	W	11.1	W	36.8	7.1	42.8	8.1	41.0
2010	46.6	0.4	11.7	1.9	32.6	3.7	42.9	8.2	37.9
2011	54.8	0.6	14.8	1.1	38.4	5.2	49.6	12.0	42.3
2012	57.5	W	11.5	W	37.6	9.8	47.7	8.1	48.9
2013	57.4	W	12.8	W	37.4	9.5	47.9	11.3	46.1
2014	53.3	W	17.1	W	34.4	3.3	50.0	14.5	38.8
2015	56.5	W	13.9	W	38.2	3.4	53.1	11.3	43.2
2016	50.6	W	7.9	W	39.5	5.4	45.2	10.6	37.0
2017	43.0	W	4.5	W	34.4	2.9	40.1	6.2	36.6
2018	40.3	W	3.9	W	24.2	3.9	36.4	6.5	33.4

-- = Not applicable. W = Data withheld to avoid disclosure of individual company data. NA = Not available.

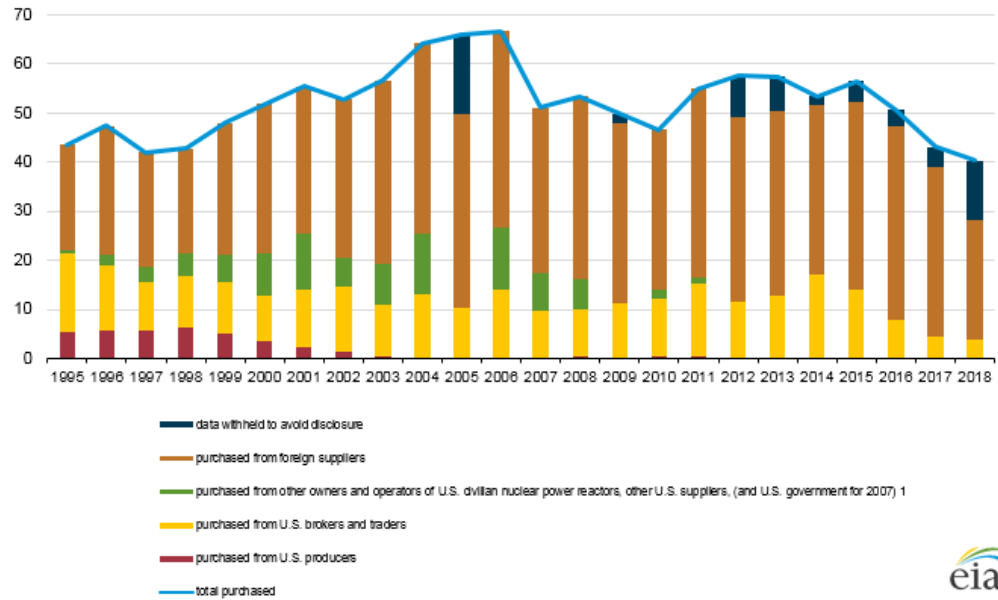
<sup>1</sup> Includes purchases between owners and operators of U.S. civilian nuclear power reactors along with purchases from other U.S. suppliers which are U.S. converters, enrichers, and fabricators.<sup>2</sup> Spot Contract: A one-time delivery (usually) of the entire contract to occur within one year of contract execution (signed date).<sup>3</sup> Short-, Medium-, and Long-Term Contracts: One or more deliveries to occur after a year following contract execution (signed date).

Notes: "Other U.S. Suppliers" are U.S. converters, enrichers, and fabricators. Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration: *Uranium Industry Annual*, Tables 10, 11 and 16, 1995-2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003-2018

Figure S1. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors, 1995–2018

million pounds U<sub>3</sub>O<sub>8</sub> equivalent



<sup>1</sup> Includes purchases between owners and operators of U.S. civilian nuclear power reactors along with purchases from other U.S. suppliers which are U.S. converters, enrichers, and fabricators.

Sources: U.S. Energy Information Administration: *Uranium Industry Annual* reports, 1995–2002. Form EIA-858, *Uranium Marketing Annual Survey* 2003–2018.

Table S1b. Weighted-average price of uranium purchased by owners and operators of U.S. civilian nuclear power reactors, 1995–2018

Delivery year	Total purchased (weighted-average price)	Purchased from U.S. producers	Purchased from U.S. brokers and traders	Purchased from other owners and operators of U.S. civilian nuclear power reactors, other U.S. suppliers, (and U.S. government for 2007) <sup>1</sup>	Purchased from foreign suppliers	U.S.-origin uranium (weighted-average price)	Foreign-origin uranium (weighted-average price)	Spot contracts <sup>2</sup> (weighted-average price)	Short, medium, and long-term contracts <sup>3</sup> (weighted-average price)
1995	11.25	14.84	9.83	12.52	11.40	14.20	10.84	10.30	NA
1996	14.12	14.20	13.36	14.98	14.45	14.62	14.02	14.22	NA
1997	12.88	13.60	12.31	W	12.91	13.36	12.78	11.61	NA
1998	12.14	13.61	11.95	W	11.97	13.37	11.90	10.56	NA
1999	11.63	13.93	11.54	W	11.47	12.24	11.47	9.52	NA
2000	11.04	14.81	11.28	10.45	10.65	11.52	10.88	8.54	11.70
2001	10.15	13.26	10.44	9.98	9.86	10.50	10.05	7.92	10.96
2002	10.36	13.03	10.21	W	10.37	10.89	10.29	9.29	10.58
2003	10.81	14.17	11.05	10.16	10.82	10.81	10.81	10.10	10.94
2004	12.61	--	12.08	11.30	13.15	11.87	12.76	14.77	12.24
2005	14.36	W	13.76	W	14.70	15.11	14.21	20.04	13.70
2006	18.61	--	20.49	W	18.62	17.85	18.75	39.48	16.38
2007	32.78	--	34.10	W	32.36	28.89	33.05	88.25	24.45
2008	45.88	75.16	39.62	W	48.49	59.55	43.47	66.95	41.59
2009	45.86	W	41.88	W	46.68	48.92	45.35	46.45	45.74
2010	49.29	47.13	44.98	42.24	51.30	45.25	49.64	43.99	50.43
2011	55.64	58.12	53.29	52.50	56.60	52.12	55.98	54.69	55.90
2012	54.99	W	54.44	W	54.40	59.44	54.07	51.04	55.65
2013	51.99	W	50.44	W	51.93	56.37	51.13	43.83	54.00
2014	46.16	W	42.90	W	47.62	48.11	46.03	36.64	49.73
2015	44.13	52.35	44.67	W	44.66	43.86	44.14	36.80	46.04
2016	42.43	48.86	50.56	W	44.85	43.92	42.26	29.62	46.11
2017	38.80	48.77	41.80	20.02	41.16	35.55	39.04	22.36	41.58
2018	38.81	46.59	52.51	W	39.82	45.26	38.11	27.51	40.99

-- = Not applicable. W = Data withheld to avoid disclosure of individual company data. NA = Not available.

<sup>1</sup> Includes purchases between owners and operators of U.S. civilian nuclear power reactors along with purchases from other U.S. suppliers which are U.S. converters, enrichers, and fabricators.

<sup>2</sup> Spot Contract: A one-time delivery (usually) of the entire contract to occur within one year of contract execution (signed date).

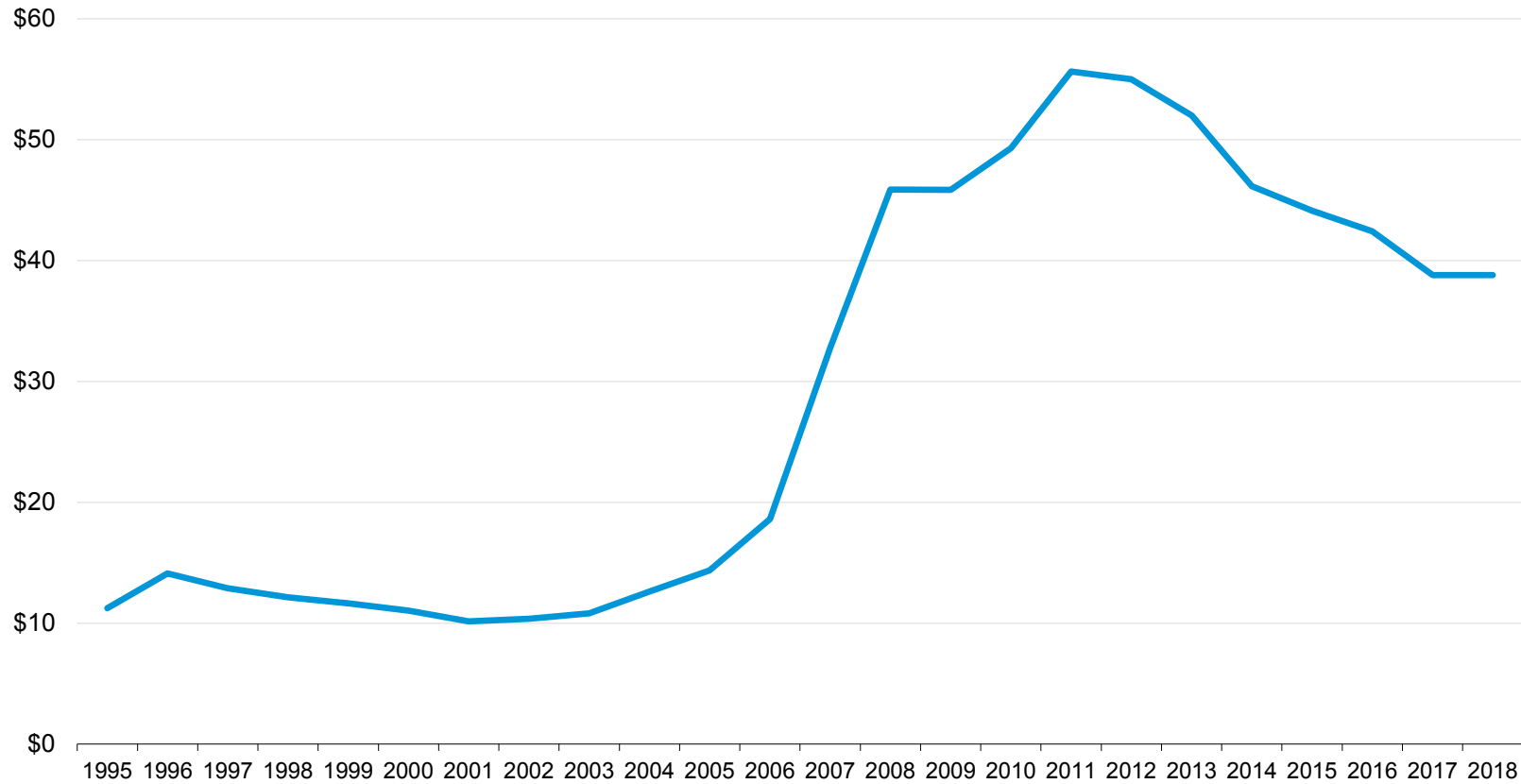
<sup>3</sup> Short-, Medium-, and Long-Term Contracts: One or more deliveries to occur after a year following contract execution (signed date).

Notes: *Other U.S. Suppliers* are U.S. converters, enrichers, and fabricators. Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Sources: U.S. Energy Information Administration: *Uranium Industry Annual*, Tables 10, 11 and 16, 1995-2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2002-2018

Figure S2. Weighted-average price of uranium purchased by owners and operators of U.S. civilian nuclear power reactors, 1995–2018

dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent



Sources: U.S. Energy Information Administration: *Uranium Industry Annual* reports, 1995-2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003-2018



**Table S2. Uranium feed deliveries, enrichment services, and uranium loaded by owners and operators of U.S. civilian nuclear power reactors, 1995–2018**

Year	Million pounds U <sub>3</sub> O <sub>8</sub> equivalent		Million separative work units (SWU)			
	Feed deliveries by owners and operators of U.S. civilian nuclear power reactors	Uranium in fuel assemblies loaded into U.S. civilian nuclear power reactors	U.S.-origin enrichment services purchased	Foreign-origin enrichment services purchased	Total purchased enrichment services	Average price (US\$ per SWU)
1995	44.3	51.1	6.7	2.8	9.5	-
1996	49.1	46.2	8.0	3.2	11.2	-
1997	40.3	48.2	6.0	2.9	8.9	-
1998	40.6	38.2	5.7	4.4	10.1	-
1999	43.9	58.8	4.6	5.4	10.0	-
2000	47.8	51.5	5.2	6.6	11.8	-
2001	47.3	52.7	1.3	9.1	10.4	-
2002	54.7	57.2	1.7	9.8	11.5	-
2003	49.3	62.3	1.7	10.3	12.0	-
2004	53.4	50.1	1.4	10.4	11.8	-
2005	52.9	58.3	1.1	10.3	11.4	-
2006	56.6	51.7	1.6	11.8	13.4	106.57
2007	49.0	45.5	1.5	12.7	14.2	114.58
2008	43.4	51.3	1.9	10.7	12.6	121.33
2009	51.9	49.4	4.1	13.1	17.2	130.78
2010	45.5	44.3	2.3	11.5	13.8	136.14
2011	51.3	50.9	2.4	12.4	14.8	136.12
2012	52.1	49.5	3.3	12.3	15.6	141.36
2013	47.4	42.6	3.9	8.5	12.3	142.22
2014	41.9	50.5	3.8	9.2	12.9	140.75
2015	41.4	47.4	4.1	8.8	12.9	136.88
2016	43.1	42.5	4.8	9.5	14.3	131.00
2017	33.8	45.5	5.6	7.3	12.9	125.43
2018	33.4	50.2	5.0	10.0	15.0	115.42

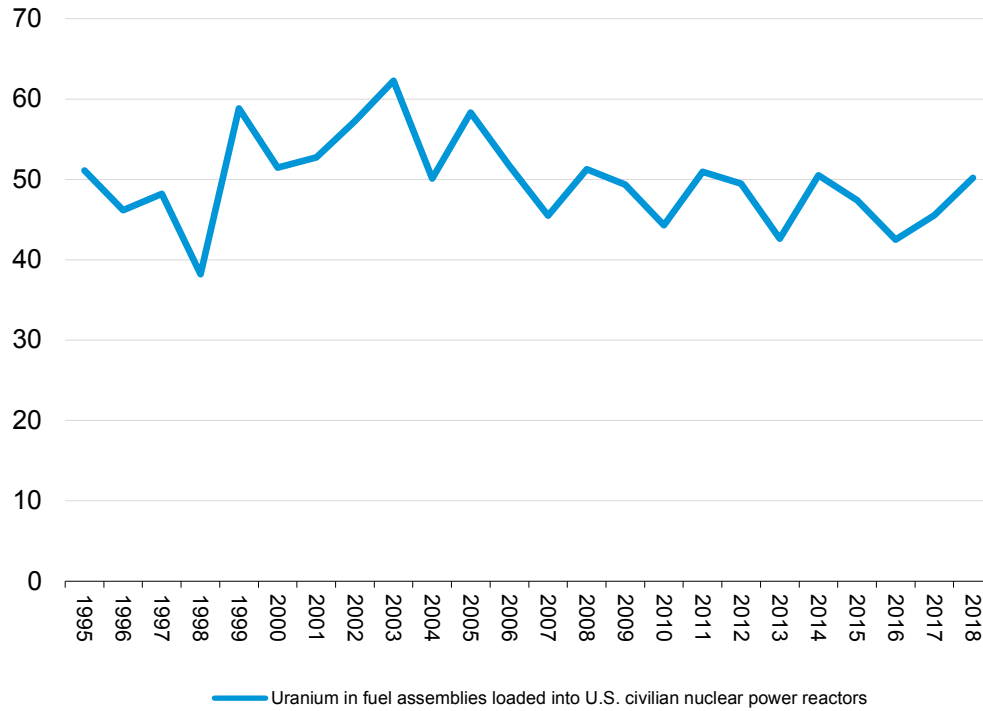
- = No data reported.

Notes: Totals may not equal sum of components because of independent rounding. Average prices are not adjusted for inflation.

Sources: U.S. Energy Information Administration: *Uranium Industry Annual*, Tables 22, 23, 25, and 27, 1995-2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003-2018

Figure S3. Uranium loaded into U.S. civilian nuclear power reactors, 1995–2018

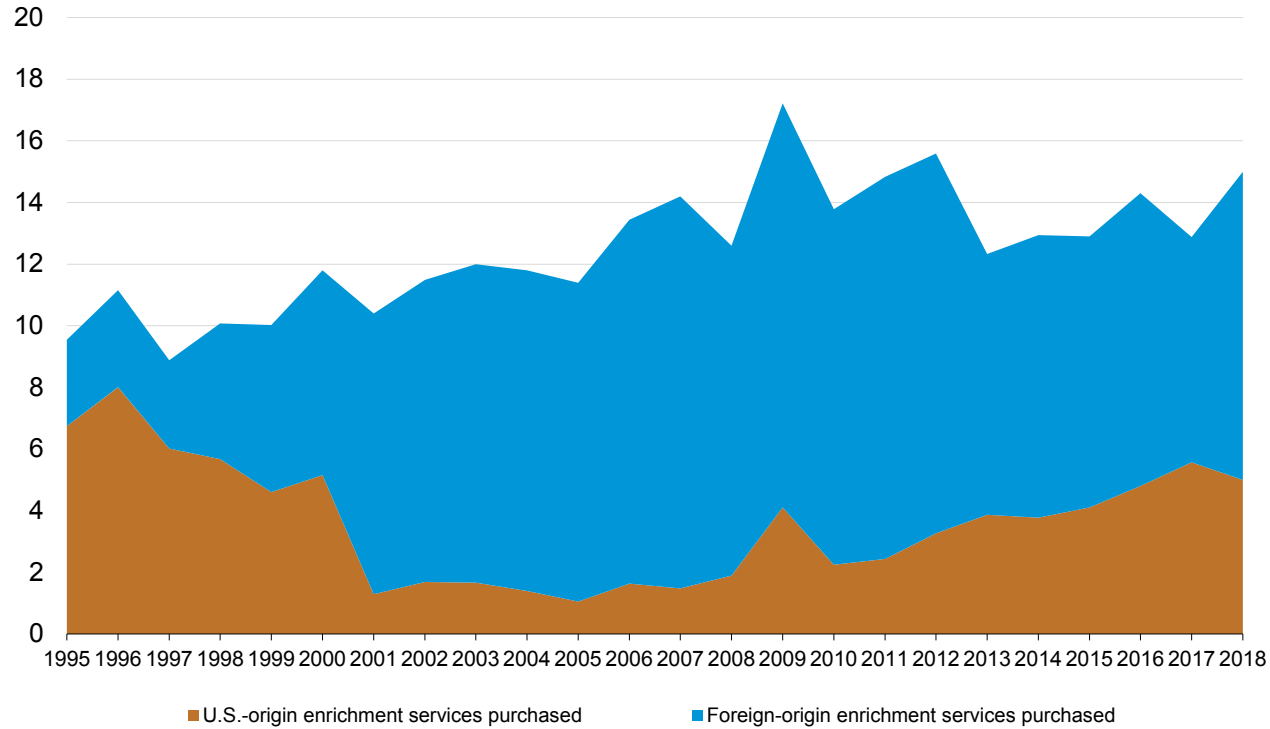
million pounds U<sub>3</sub>O<sub>8</sub> equivalent



Sources: U.S. Energy Information Administration: *Uranium Industry Annual* reports, 1995-2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003-2018

Figure S4. Uranium enrichment services purchased by owners and operators of U.S. civilian nuclear power reactors, 1995–2018

million separative work units (SWU)



Sources: U.S. Energy Information Administration: *Uranium Industry Annual* reports, 1995-2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003-2018

**Table S3a. Foreign purchases, foreign sales, and uranium inventories owned by U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors, 1995–2018**

Delivery year	Foreign purchases by U.S. suppliers	Foreign purchases by owners and operators of U.S. civilian nuclear power reactors	Total foreign purchases	U.S. broker and trader purchases from foreign suppliers	Foreign sales	U.S. supplier owned uranium inventories	Owners and operators of U.S. civilian nuclear power reactors owned uranium inventories	Total commercial uranium inventories
1995	20.2	21.1	41.3	18.3	9.8	13.7	58.7	72.5
1996	21.7	23.7	45.4	17.8	11.5	13.9	66.1	80.0
1997	20.4	22.5	43.0	15.7	17.0	40.4	65.9	106.2
1998	22.6	21.1	43.7	21.7	15.1	70.7	65.8	136.5
1999	21.0	26.6	47.6	19.2	8.5	68.8	58.3	127.1
2000	17.4	27.5	44.9	15.8	13.6	56.5	54.8	111.3
2001	18.7	28.0	46.7	18.3	11.7	48.1	55.6	103.8
2002	22.7	30.0	52.7	18.6	15.4	48.7	53.5	102.1
2003	18.2	34.9	53.0	15.8	13.2	39.9	45.6	85.5
2004	30.2	35.9	66.1	26.4	13.2	37.5	57.7	95.2
2005	27.0	38.5	65.5	24.0	20.5	29.1	64.7	93.8
2006	26.1	38.7	64.8	24.0	18.7	29.1	77.5	106.6
2007	21.6	32.5	54.1	18.9	14.8	31.2	81.2	112.4
2008	24.1	32.9	57.1	21.3	17.2	27.0	83.0	110.0
2009	26.7	32.2	58.9	26.8	23.5	26.8	84.8	111.5
2010	25.0	30.4	55.3	24.7	23.1	24.7	86.5	111.3
2011	19.3	35.1	54.4	19.6	16.7	22.3	89.8	112.1
2012	20.2	36.0	56.2	20.2	18.0	23.3	97.6	120.9
2013	23.2	34.1	57.3	W	18.9	21.3	113.1	134.4
2014	24.2	34.4	58.6	W	20.0	18.7	114.0	132.7
2015	27.2	36.9	64.1	26.1	25.7	14.3	121.1	135.5
2016	22.1	28.5	50.7	22.1	17.2	16.7	128.0	144.6
2017	16.9	25.2	42.1	14.1	14.0	17.8	123.9	141.7
2018	18.3	23.2	41.5	18.9	13.9	19.9	111.6	131.5

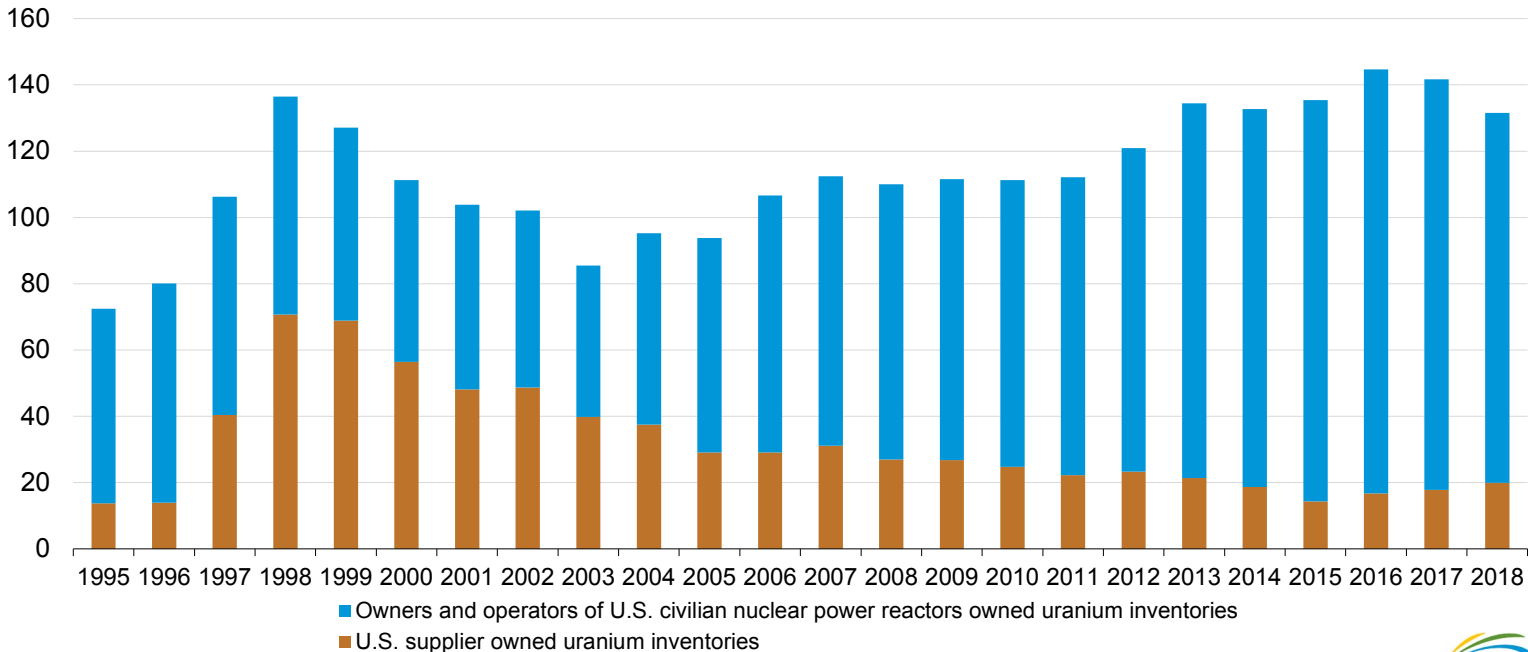
W = Data withheld to avoid disclosure of individual company data.

Notes: Totals may not equal sum of components because of independent rounding. Foreign purchase: A uranium purchase of foreign-origin uranium from a firm located outside the United States. Foreign sale: A uranium sale to a firm located outside the United States.

Sources: U.S. Energy Information Administration: *Uranium Industry Annual*, Tables 28, 29, 30 and 31, 1995–2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003–2018

**Figure S5. Total commercial uranium inventories of U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors, 1995–2018**

million pounds U<sub>3</sub>O<sub>8</sub> equivalent



Sources: Energy Information Administration: *Uranium Industry Annual* reports, 1995–2002. Form EIA-858 *Uranium Marketing Annual Survey*, 2003–2018



**Table S3b. Weighted-average price of foreign purchases and foreign sales by U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors, 1995–2018**

Delivery year	Foreign purchases by U.S. suppliers	Foreign purchases by owners and operators of U.S. civilian nuclear power reactors	Total foreign purchases (weighted-average price)	U.S. broker and trader purchases from foreign suppliers (weighted-average price)	Foreign sales (weighted-average price)
1995	8.96	11.39	10.20	9.02	13.48
1996	11.78	14.41	13.15	11.78	14.20
1997	10.61	12.89	11.81	10.71	12.39
1998	10.50	11.96	11.19	10.77	12.05
1999	9.42	11.45	10.55	9.60	11.97
2000	8.45	10.68	9.84	8.61	8.48
2001	8.98	9.87	9.51	8.87	8.79
2002	9.65	10.37	10.05	9.59	10.04
2003	10.19	10.79	10.59	10.19	10.39
2004	11.21	13.13	12.25	11.15	12.63
2005	15.11	14.63	14.83	15.68	20.70
2006	20.28	18.66	19.31	21.61	32.87
2007	36.59	32.58	34.18	39.88	55.47
2008	33.30	47.46	41.30	35.39	45.62
2009	34.80	46.55	41.23	34.88	41.48
2010	41.30	51.69	47.01	41.23	42.78
2011	48.80	56.87	54.00	49.27	49.05
2012	46.80	54.08	51.44	47.08	47.57
2013	43.25	51.64	48.24	W	42.75
2014	39.13	47.62	44.11	W	35.69
2015	40.68	44.70	42.96	40.77	39.29
2016	36.03	44.08	40.45	36.09	33.66
2017	31.11	41.12	37.09	29.93	25.19
2018	30.90	39.30	35.70	30.84	26.02

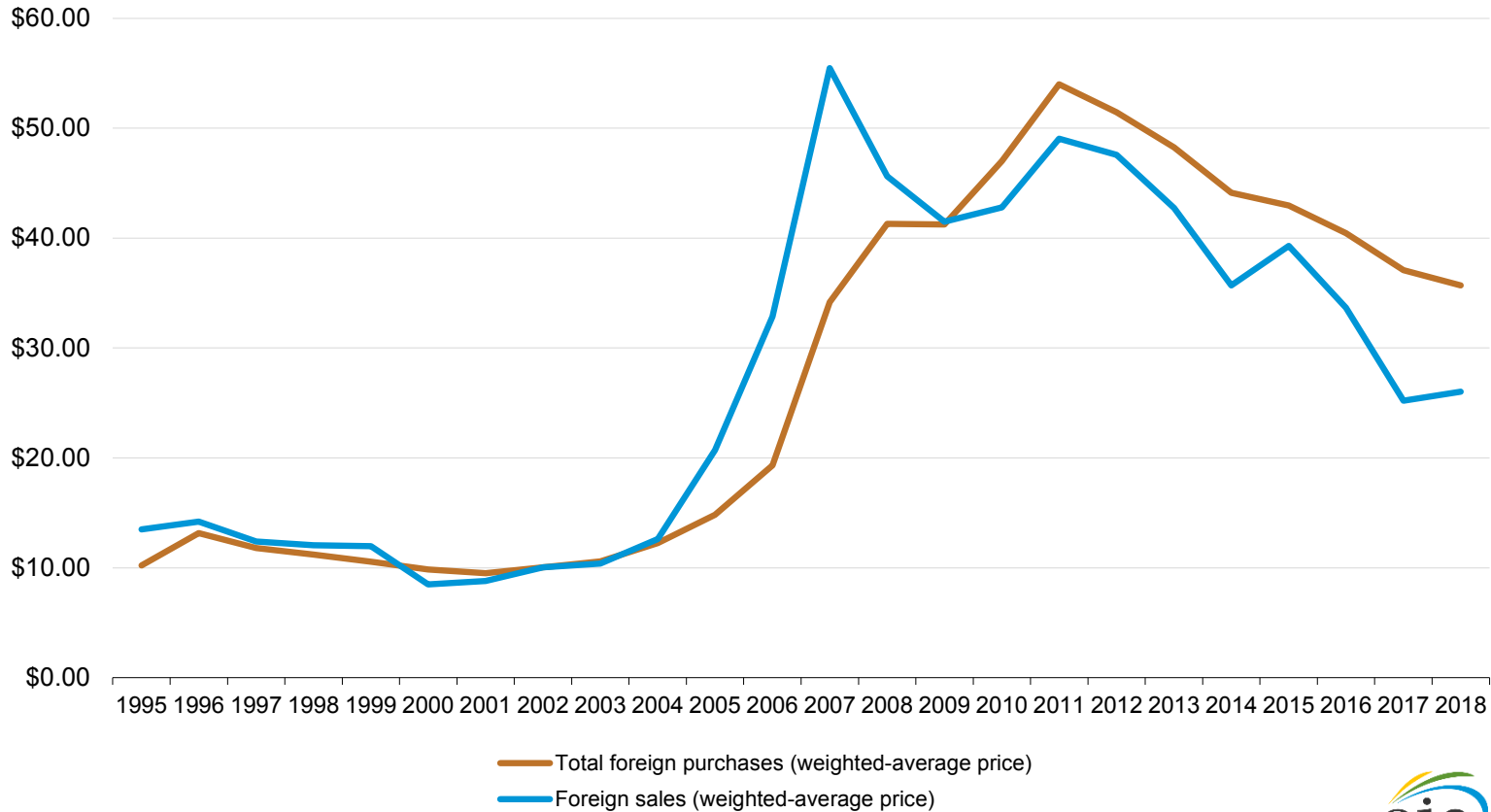
W = Data withheld to avoid disclosure of individual company data.

Notes: Totals may not equal sum of components because of independent rounding. Foreign purchase: A uranium purchase of foreign-origin uranium from a firm located outside the United States. Foreign sale: A uranium sale to a firm located outside the United States. Weighted-average prices are not adjusted for inflation.

Sources: U.S. Energy Information Administration: *Uranium Industry Annual*, Tables 28, 29, 30 and 31, 1995–2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003–2018

Figure S6. Weighted-average price of foreign purchases and foreign sales of uranium, 1995–2018

dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent



Sources: U.S. Energy Information Administration: *Uranium Industry Annual* reports, 1995–2002. Form EIA-858, *Uranium Marketing Annual Survey*, 2003–2018



**Table 1. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by supplier and delivery year, 2013–2018**thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent; dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent

Deliveries	2013	2014	2015	2016	2017	2018
<b>Purchased from U.S. producers</b>						
Purchases of U.S.-origin and foreign-origin uranium	W	W	1,455	2,169	1,762	1,520
Weighted-average price	W	W	52.35	48.86	48.77	46.59
<b>Purchased from U.S. brokers and traders</b>						
Purchases of U.S.-origin and foreign-origin uranium	12,835	17,111	13,852	7,862	4,548	3,897
Weighted-average price	50.44	42.90	44.67	50.56	51.80	52.51
<b>Purchased from other owners and operators of U.S. civilian nuclear power reactors</b>						
Purchases	0	0	W	W	W	W
Weighted-average price	--	--	W	W	W	W
<b>Purchased from other U.S. suppliers</b>						
Purchases of U.S.-origin and foreign-origin uranium	W	W	W	W	W	W
Weighted-average price	W	W	W	W	W	W
<b>Purchased from foreign suppliers</b>						
Purchases of U.S.-origin and foreign-origin uranium	37,405	34,404	38,184	39,469	34,384	33,044
Weighted-average price	51.93	47.62	44.66	44.85	41.16	39.82
<b>Total purchased by owners and operators of U.S. civilian nuclear power reactors</b>						
Purchases of U.S.-origin and foreign-origin uranium	<b>57,403</b>	<b>53,349</b>	<b>56,524</b>	<b>50,595</b>	<b>43,033</b>	<b>40,293</b>
Weighted-average price	<b>51.99</b>	<b>46.16</b>	<b>44.13</b>	<b>42.43</b>	<b>38.80</b>	<b>38.81</b>

W = Data withheld to avoid disclosure of individual company data.

-- = Not applicable.

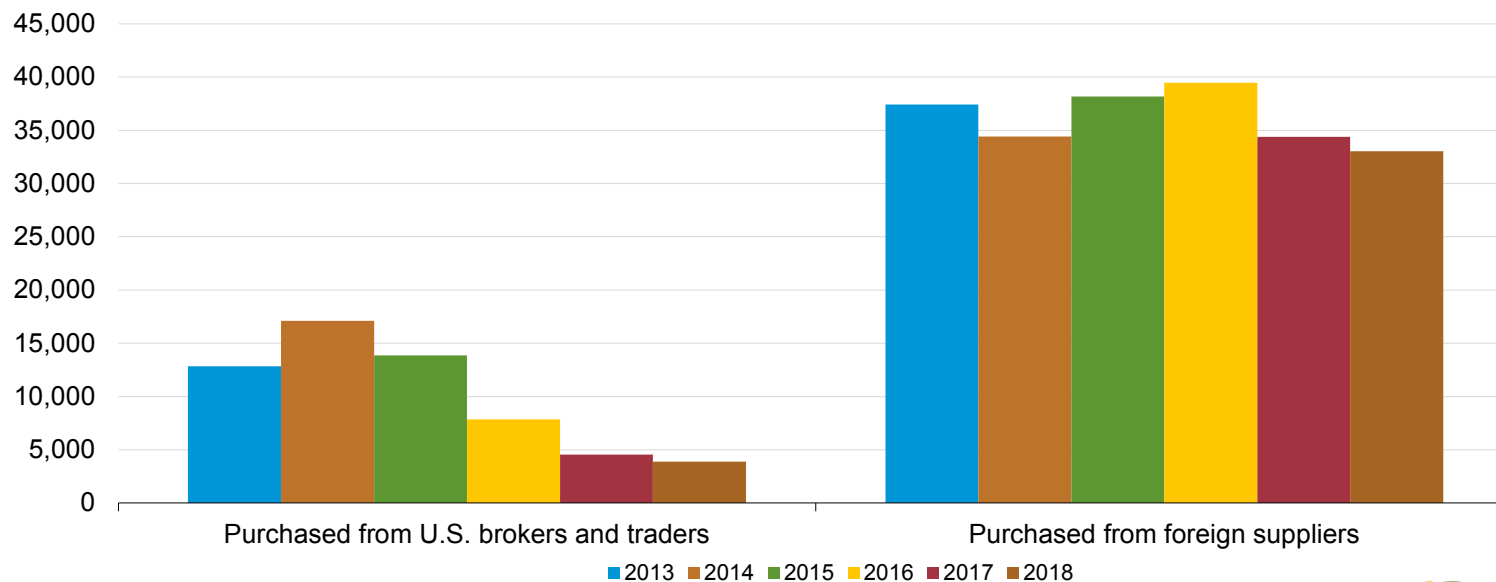
Notes: *Other U.S. Suppliers* are U.S. converters, enrichers, and fabricators. Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2013–2018)



**Figure 1. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by supplier and delivery year, 2013–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent

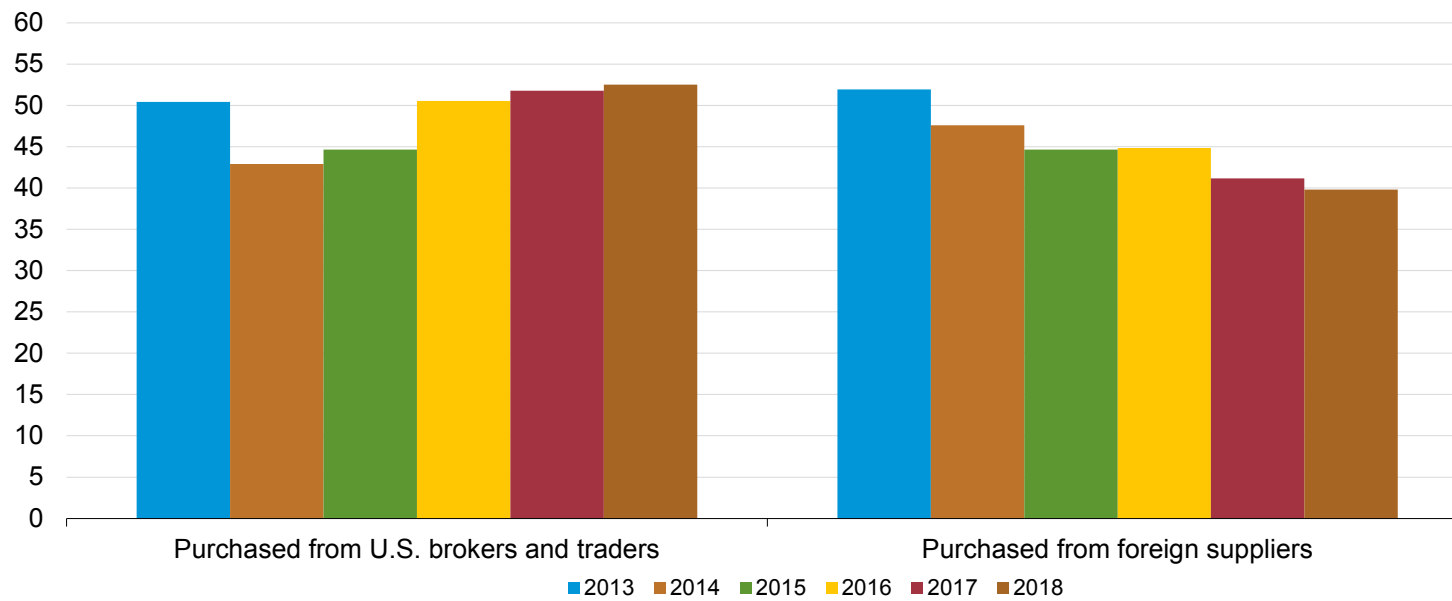


Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2013–2018)



**Figure 2. Weighted-average price of uranium purchased by owners and operators of U.S. civilian nuclear power reactors by supplier and delivery year, 2013–2018**

dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2013–2018)



**Table 2. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by origin and delivery year, 2013–2018**

thousand pounds U3O8 equivalent; dollars per pound U3O8 equivalent

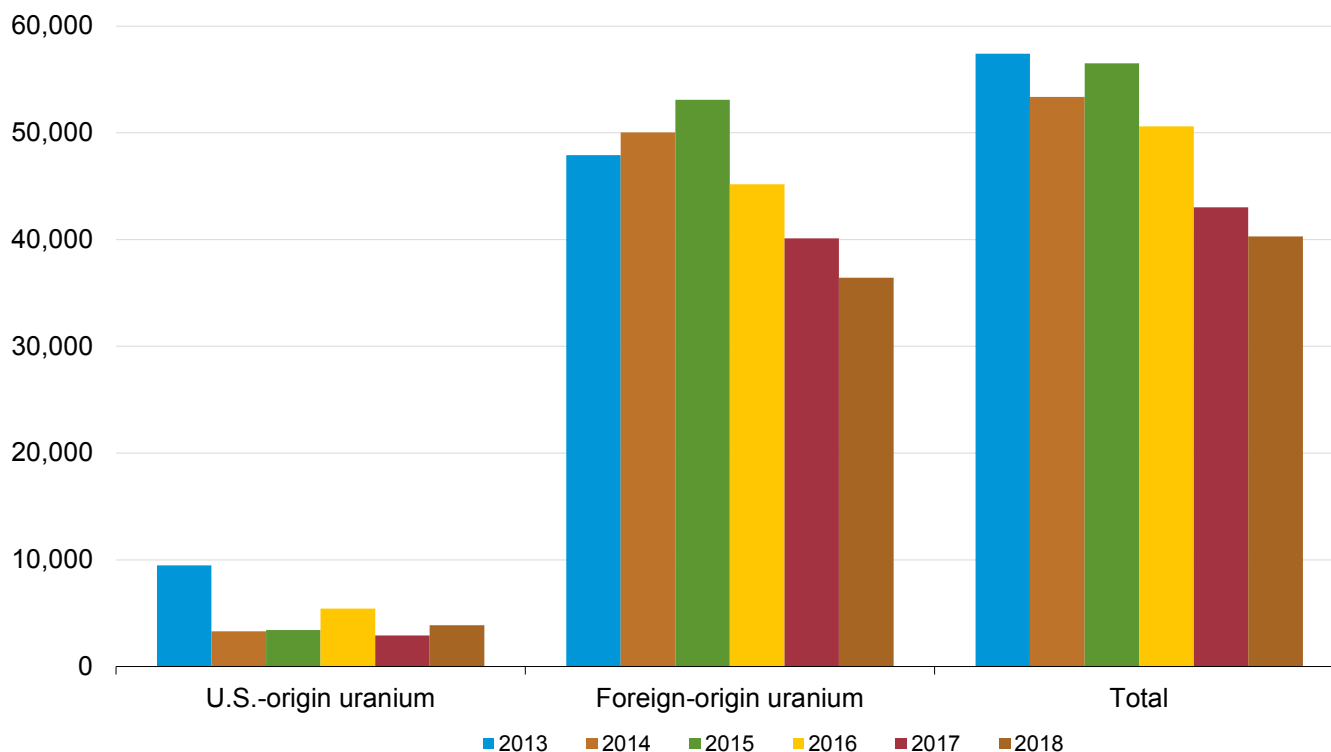
<b>Deliveries</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>U.S.-origin uranium</b>						
Purchases	9,484	3,316	3,419	5,424	2,916	3,878
Weighted-average price	56.37	48.11	43.86	43.92	35.55	45.26
<b>Foreign-origin uranium</b>						
Purchases	47,919	50,033	53,106	45,171	40,117	36,415
Weighted-average price	51.13	46.03	44.14	42.26	39.04	38.11
<b>Total</b>						
Purchases	<b>57,403</b>	<b>53,349</b>	<b>56,524</b>	<b>50,595</b>	<b>43,033</b>	<b>40,293</b>
Weighted-average price	<b>51.99</b>	<b>46.16</b>	<b>44.13</b>	<b>42.43</b>	<b>38.80</b>	<b>38.81</b>

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2013–2018)

**Figure 3. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by origin and delivery year, 2013–2018**

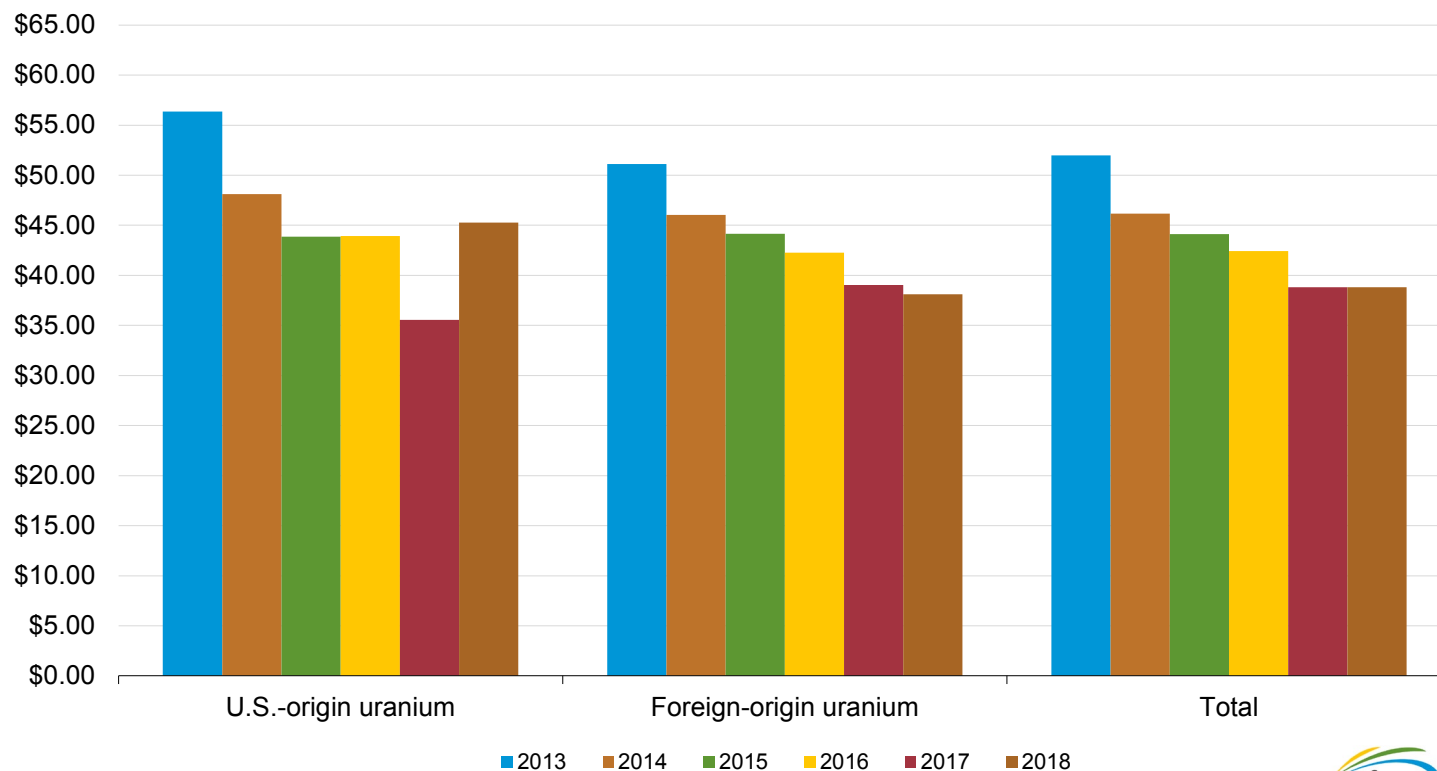
thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2013–2018)

**Figure 4. Weighted-average price of uranium purchased by owners and operators of U.S. civilian nuclear power reactors by origin and delivery year, 2013–2018**

dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2013–2018)



**Table 3. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by origin country and delivery year, 2014–2018**

thousand pounds U3O8 equivalent; dollars per pound U3O8 equivalent

Origin country	Deliveries in 2014		Deliveries in 2015		Deliveries in 2016		Deliveries in 2017		Deliveries in 2018	
	purchases	weighted-average price	purchases	weighted-average price	purchases	weighted-average price	purchases	weighted-average price	purchases	weighted-average price
Australia	10,511	48.03	9,678	44.16	8,963	43.05	8,129	42.44	7,167	40.24
Brazil	W	W	0	--	W	W	0	--	0	--
Bulgaria	0	--	W	W	W	W	0	--	0	--
Canada	9,789	45.87	16,876	45.84	11,119	43.22	14,048	40.63	9,556	37.74
China	W	W	0	--	W	W	0	--	W	W
Czech Republic	W	W	W	W	W	W	0	--	0	--
Germany	0	--	0	--	W	W	0	--	0	--
Hungary	0	--	0	--	0	--	W	W	0	--
Kazakhstan	12,032	44.47	10,723	42.82	10,806	39.91	4,638	38.30	8,168	40.98
Malawi	1,514	44.94	W	W	519	41.38	W	W	0	0.00
Namibia	4,603	45.54	3,456	48.57	1,993	44.30	1,040	38.46	2,178	40.42
Niger	1,316	42.86	922	39.74	1,032	44.12	1,971	49.53	W	W
Portugal	0	--	0	--	0	--	0	--	0	--
Russia	6,859	45.65	9,063	40.87	6,539	43.85	7,068	31.54	5,360	31.71
South Africa	938	43.71	826	37.64	1,169	43.75	W	W	W	W
Ukraine	W	W	0	--	W	W	W	W	0	--
United Kingdom	W	W	0	--	0	--	0	--	0	--
Uzbekistan	1,779	46.84	1,040	47.90	2,030	39.18	2,148	37.17	2,540	37.83
unknown	W	W	W	W	W	W	W	W	W	W
<b>Foreign Total</b>	<b>50,033</b>	<b>46.03</b>	<b>53,106</b>	<b>44.14</b>	<b>45,171</b>	<b>42.26</b>	<b>40,117</b>	<b>39.04</b>	<b>36,415</b>	<b>38.11</b>
United States	3,316	48.11	3,419	43.86	5,424	43.92	2,916	35.55	3,878	45.26
<b>Total Purchases</b>	<b>53,349</b>	<b>46.16</b>	<b>56,524</b>	<b>44.13</b>	<b>50,595</b>	<b>42.43</b>	<b>43,033</b>	<b>38.80</b>	<b>40,293</b>	<b>38.81</b>

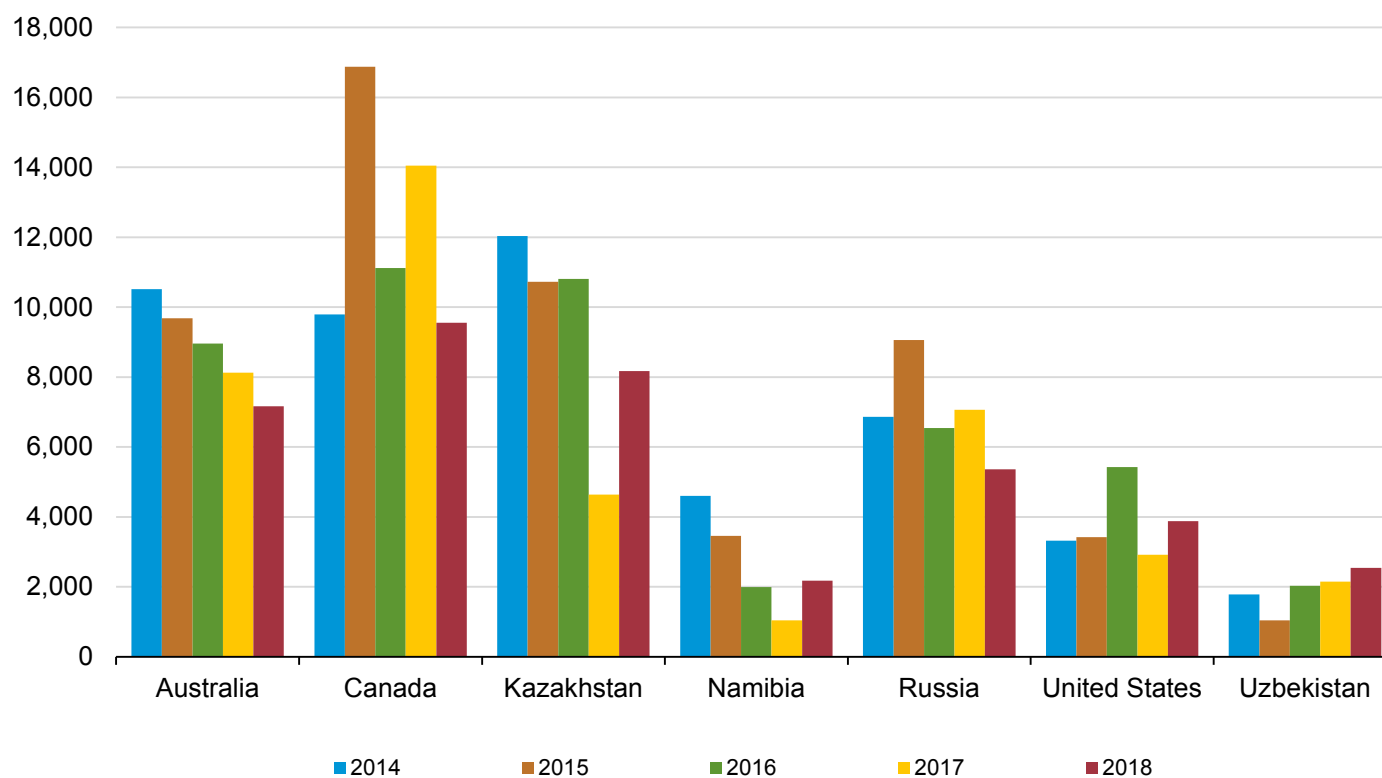
W = Data withheld to avoid disclosure of individual company data. -- = Not applicable.

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–18)

**Figure 5. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by selected origin country and delivery year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration: Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)

**Table 4. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by origin and material type, 2018 deliveries**thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent; dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent

Deliveries	Uranium concentrate	Natural UF <sub>6</sub>	Enriched UF <sub>6</sub>	Natural UF <sub>6</sub> and Enriched UF <sub>6</sub>	Total
<b>U.S.-origin uranium</b>					
Purchases	1,329	W	W	2,548	3,878
Weighted-average price	47.36	W	W	44.17	45.26
<b>Foreign-origin uranium</b>					
Purchases	22,599	W	W	13,856	36,415
Weighted-average price	37.07	W	W	39.62	38.11
<b>Total</b>					
Purchases	<b>23,889</b>	<b>8,063</b>	<b>8,341</b>	<b>19,303</b>	<b>40,293</b>
Weighted-average price	<b>37.64</b>	<b>45.98</b>	<b>35.04</b>	<b>40.42</b>	<b>38.81</b>

W = Data withheld to avoid disclosure of individual company data.

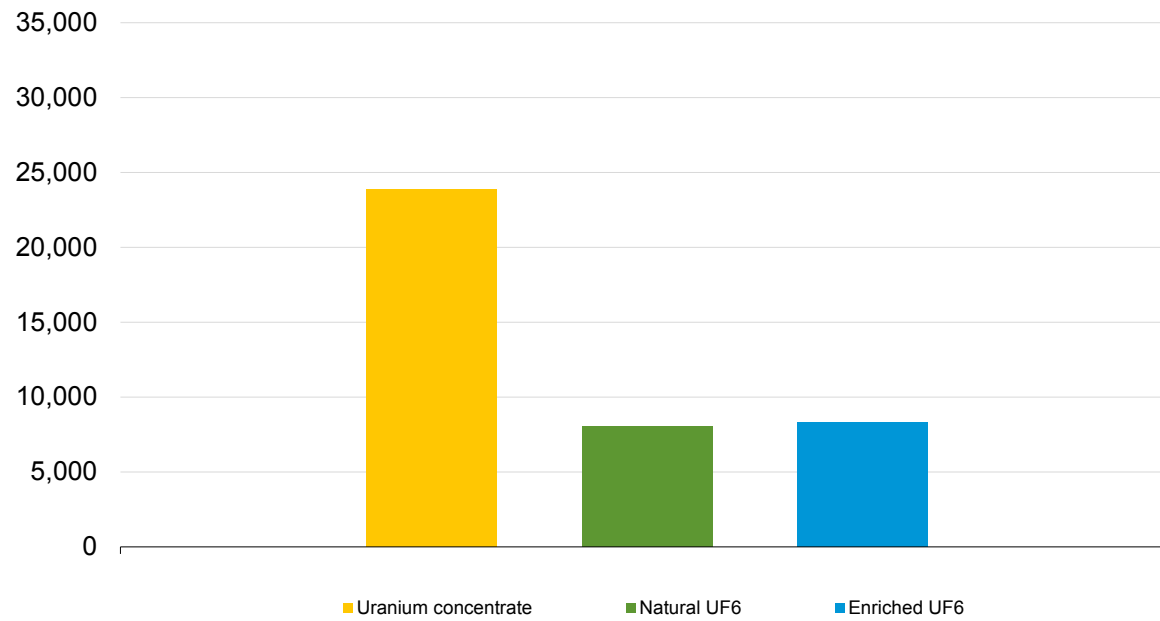
Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation. Natural UF<sub>6</sub> is uranium hexafluoride. The natural UF<sub>6</sub> and enriched UF<sub>6</sub> quantity represents only the U<sub>3</sub>O<sub>8</sub> equivalent uranium-component quantity specified in the contract for each delivery of natural UF<sub>6</sub> and enriched UF<sub>6</sub>. The natural UF<sub>6</sub> and enriched UF<sub>6</sub> weighted-average prices represent only the U<sub>3</sub>O<sub>8</sub> equivalent uranium-component price specified in the contract for each delivery of natural UF<sub>6</sub> and enriched UF<sub>6</sub>, it does not include the conversion service and enrichment service components.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)



**Figure 6. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by material type, 2018 deliveries**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)

**Table 5. Average price and quantity for uranium purchased by owners and operators of U.S. civilian nuclear power reactors by pricing mechanisms and delivery year, 2017–2018**

dollars per pound U3O8 equivalent; thousand pounds U3O8 equivalent

Pricing mechanisms	Domestic purchases <sup>1</sup>		Foreign purchases <sup>2</sup>		Total purchases	
	2017	2018	2017	2018	2017	2018
<b>Contract-specified (fixed and base-escalated) pricing</b>						
Weighted-average price	33.58	40.28	45.27	41.26	38.81	38.34
Quantity with reported price	9,794	7,545	15,707	14,669	28,997	27,221
<b>Spot-market pricing</b>						
Weighted-average price	W	W	W	W	21.94	29.82
Quantity with reported price	W	W	W	W	3,669	2,857
<b>Other pricing</b>						
Weighted-average price	W	W	W	W	44.90	42.72
Quantity with reported price	W	W	W	W	10,081	9,803
<b>All pricing mechanisms</b>						
<b>Weighted-average price</b>	<b>38.57</b>	<b>42.98</b>	<b>41.12</b>	<b>39.32</b>	<b>38.80</b>	<b>38.81</b>
<b>Quantity with reported price</b>	<b>13,933</b>	<b>11,120</b>	<b>25,056</b>	<b>23,246</b>	<b>42,747</b>	<b>39,881</b>
<b>Total quantity</b>	<b>13,958</b>	<b>11,145</b>	<b>25,187</b>	<b>23,246</b>	<b>43,033</b>	<b>40,293</b>

<sup>1</sup> A uranium purchase of both U.S.-origin uranium from a firm located in the United States.

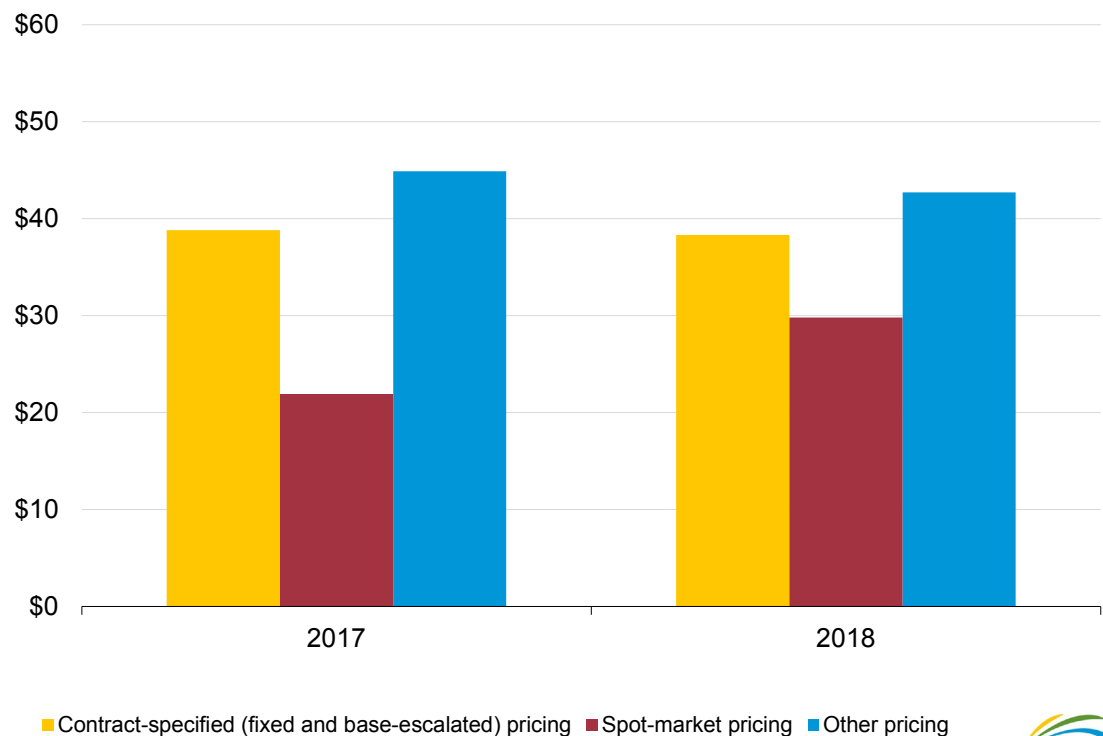
<sup>2</sup> A uranium purchase of foreign-origin uranium from a firm located outside of the United States.

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2017–2018)

**Figure 7. Average price for uranium purchased by owners and operators of U.S. civilian nuclear power reactors by pricing mechanisms and delivery year, 2017–2018**

dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2017–2018)



**Table 6a. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors ranked by price and distributed by quantity, 2015–2017 deliveries**

thousand pounds U3O8 equivalent; dollars per pound U3O8 equivalent

Quantity distribution <sup>1</sup>	Deliveries in 2016		Deliveries in 2017		Deliveries in 2018	
	Quantity with reported price	Weighted-average price	Quantity with reported price	Weighted-average price	Quantity with reported price	Weighted-average price
First	5,956	21.64	5,343	18.66	4,985	20.69
Second	5,956	28.18	5,343	23.10	4,985	26.13
Third	5,956	34.60	5,343	28.39	4,985	28.18
Fourth	5,956	39.41	5,343	33.67	4,985	33.78
Fifth	5,956	42.82	5,343	38.53	4,985	40.04
Sixth	5,956	47.59	5,343	43.65	4,985	44.93
Seventh	5,956	54.68	5,343	51.17	4,985	49.24
Eighth	5,956	70.52	5,343	73.22	4,985	67.46
<b>Total</b>	<b>47,650</b>	<b>42.43</b>	<b>42,747</b>	<b>38.80</b>	<b>39,881</b>	<b>38.81</b>

<sup>1</sup> Distribution divides total quantity of uranium delivered (with a price) into eight distributions by price (sorted from lowest to highest) and provides the quantity-weighted average price for each distribution.

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–2018)

**Table 6b. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors ranked by price and distributed by purchaser, 2016–2018 deliveries**

thousand pounds U3O8 equivalent; dollars per pound U3O8 equivalent

Distribution of purchasers	Deliveries in 2016			Deliveries in 2017			Deliveries in 2018		
	Number of purchasers	Quantity with reported price	Weighted-average price	Number of purchasers	Quantity with reported price	Weighted-average price	Number of purchasers	Quantity with reported price	Weighted-average price
First	7	9,736	34.43	7	17,802	31.75	7	5,654	25.84
Second	7	7,195	39.70	7	8,596	37.07	7	15,493	35.01
Third	7	20,508	42.87	7	10,669	40.18	7	10,507	41.81
Fourth	6	10,212	51.10	6	5,680	60.91	7	8,226	51.04
<b>Total</b>	<b>27</b>	<b>47,650</b>	<b>42.43</b>	<b>27</b>	<b>42,747</b>	<b>38.80</b>	<b>28</b>	<b>39,881</b>	<b>38.81</b>

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–2018)

**Table 7. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by contract type and material type, 2018 deliveries**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent; dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent

Material type	Spot contracts <sup>1</sup>		Long-term contracts <sup>2</sup>		Total	
	Quantity with reported price	Weighted-average price	Quantity with reported price	Weighted-average price	Quantity with reported price	Weighted-average price
U <sub>3</sub> O <sub>8</sub>	4,789	29.18	19,075	39.77	23,864	37.64
Natural UF <sub>6</sub>	W	W	W	W	8,063	45.98
Enriched UF <sub>6</sub>	W	W	W	W	7,954	35.04
<b>Total</b>	<b>6,465</b>	<b>27.51</b>	<b>33,416</b>	<b>40.99</b>	<b>39,881</b>	<b>38.81</b>

<sup>1</sup> A one-time delivery (usually) of the entire contract to occur within one year of contract execution (signed date).

<sup>2</sup> One or more deliveries to occur after a year following contract execution (signed date).

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

UF<sub>6</sub> is uranium hexafluoride. The natural UF<sub>6</sub> and enriched UF<sub>6</sub> quantity represents only the U<sub>3</sub>O<sub>8</sub> equivalent uranium-component quantity specified in the contract for each delivery of natural UF<sub>6</sub> and enriched UF<sub>6</sub>. The natural UF<sub>6</sub> and enriched UF<sub>6</sub> weighted-average price represent only the U<sub>3</sub>O<sub>8</sub> equivalent uranium-component price specified in the contract for each delivery of natural UF<sub>6</sub> and enriched UF<sub>6</sub>, it does not include the conversion service and enrichment service components.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)

**Table 8. Contracts signed in 2018 by owners and operators of U.S. civilian nuclear power reactors by contract type**

thousand pounds U3O8 equivalent; dollars per pound U3O8 equivalent

<b>Purchase contract type (Signed in 2018)</b>	<b>Quantity of deliveries received in 2018</b>	<b>Weighted-average price</b>	<b>Number of purchase contracts for deliveries in 2018</b>
Spot	3,327	24.48	31
Long-term	600	28.62	5
<b>Total</b>	<b>3,927</b>	<b>25.11</b>	<b>36</b>

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)

**Table 9. Contracted purchases of uranium by owners and operators of U.S. civilian nuclear power reactors, signed in 2017, by delivery year, 2019–2028**

thousand pounds U3O8 equivalent

<b>Year of delivery</b>	<b>Minimum</b>	<b>Maximum</b>
2019	3,957	4,088
2020	2,870	2,945
2021	3,533	3,649
2022	2,440	2,474
2023	W	W
2024	W	W
2025	W	W
2026	0	0
2027	0	0
2028	0	0
<b>Total</b>	<b>17,311</b>	<b>17,735</b>

W = Data withheld to avoid disclosure of individual company data.

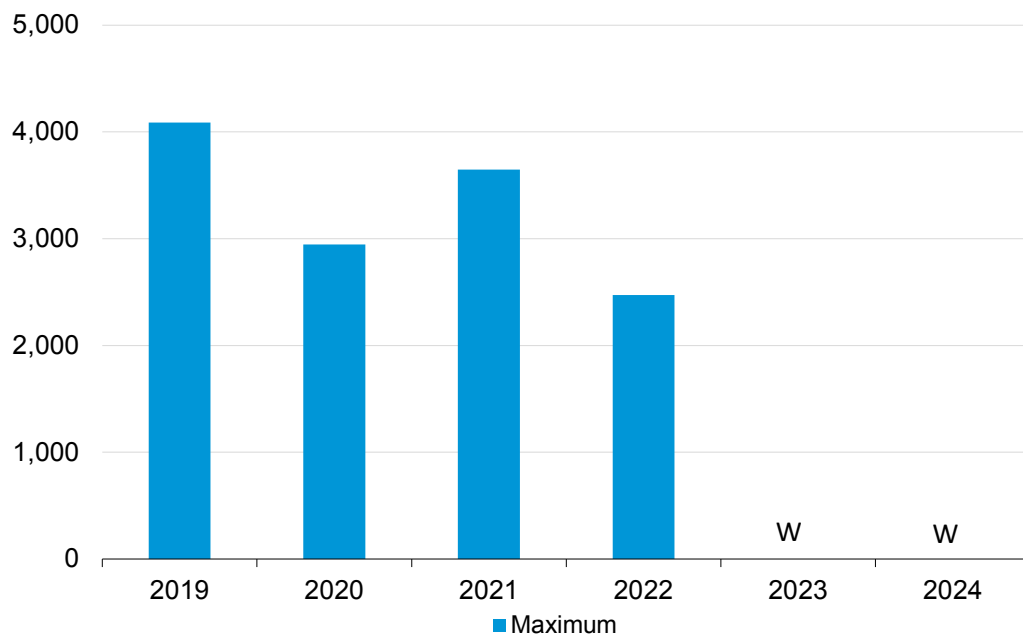
Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)



**Figure 8. Contracted purchases of uranium by owners and operators of U.S. civilian nuclear power reactors, signed in 2018, by delivery year, 2019–2024**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey (2018)*

W = Withheld



**Table 10. Contracted purchases of uranium from suppliers by owners and operators of U.S. civilian nuclear power reactors, in effect at the end of 2018, by delivery year, 2019–2028**

thousand pounds U3O8 equivalent

Year of delivery	Contracted purchases from U.S. suppliers		Contracted purchases from foreign suppliers		Contracted purchases from all suppliers	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
2019	8,011	8,662	29,588	31,809	37,599	40,471
2020	4,134	5,789	25,473	28,014	29,607	33,803
2021	3,679	5,440	21,696	23,489	25,375	28,930
2022	1,968	2,613	16,164	17,742	18,132	20,355
2023	1,830	2,492	12,627	14,888	14,458	17,379
2024	1,602	2,152	10,148	12,211	11,750	14,363
2025	1,905	2,317	6,663	8,145	8,569	10,462
2026	W	W	W	W	W	W
2027	0	0	2,204	3,612	2,204	3,612
2028	W	W	W	W	W	W
<b>Total</b>	<b>23,741</b>	<b>30,076</b>	<b>127,488</b>	<b>144,581</b>	<b>151,229</b>	<b>174,657</b>

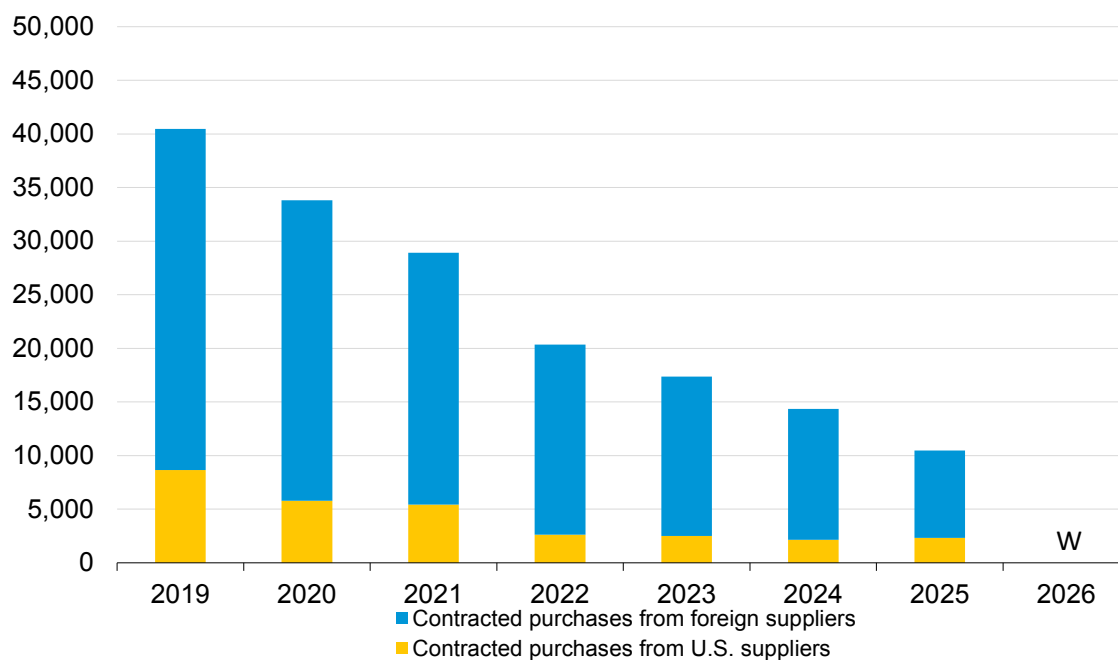
W = Data withheld to avoid disclosure of individual company data.

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)

**Figure 9. Maximum contracted purchases of uranium from suppliers by owners and operators of U.S. civilian nuclear power reactors, in effect at the end of 2017, by delivery year, 2019–2026**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)

W = Withheld



**Table 11. Unfilled uranium market requirements of owners and operators of U.S. civilian nuclear power reactors, 2018–2028**

thousand pounds U3O8 equivalent

Year	As of December 31, 2017		As of December 31, 2018	
	Annual	Cumulative	Annual	Cumulative
2018	3,449	3,449	-	--
2019	4,945	8,394	1,984	1,984
2020	9,630	18,024	4,358	6,342
2021	10,961	28,985	6,036	12,378
2022	21,043	50,028	10,518	22,896
2023	23,699	73,727	17,863	40,759
2024	25,993	99,720	25,004	65,763
2025	33,742	133,462	27,215	92,978
2026	39,519	172,981	33,359	126,336
2027	36,139	209,120	36,226	162,562
2028	-	--	38,498	201,060

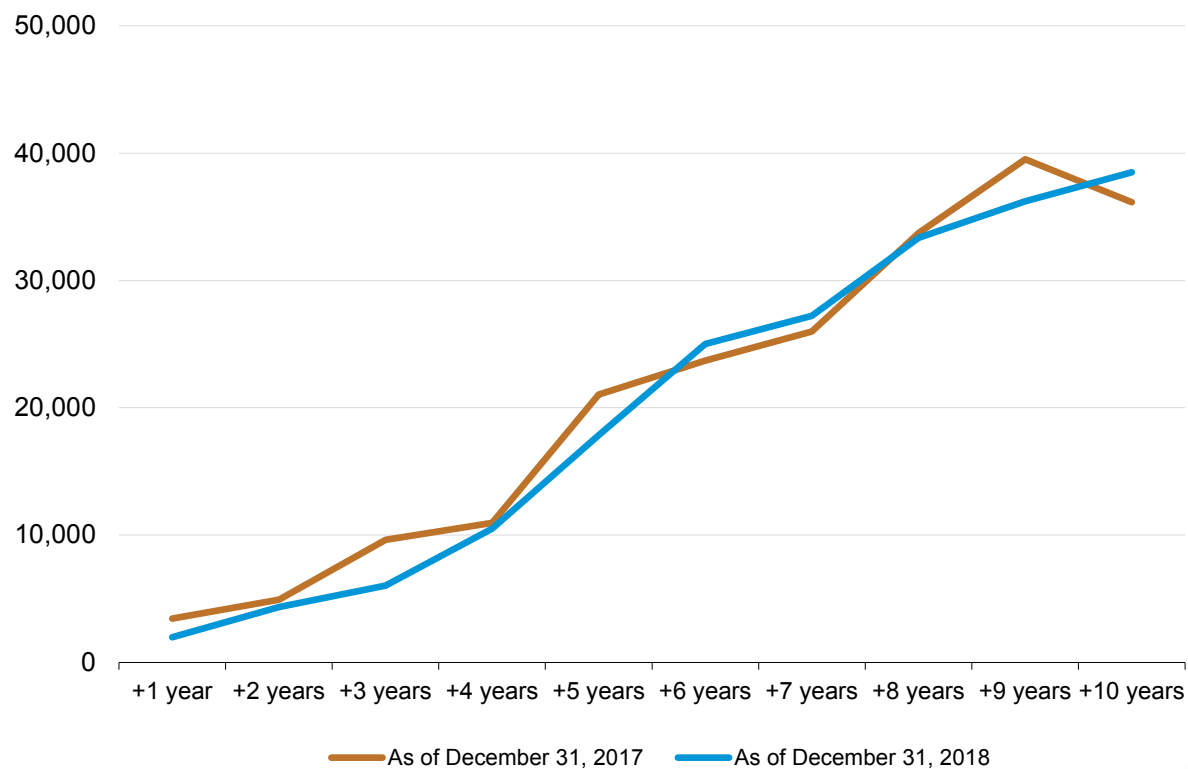
- = No data reported. -- = Not applicable.

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2017–2018)

**Figure 10. Annual unfilled uranium market requirements of owners and operators of U.S. civilian nuclear power reactors, at the end of 2017 and at the end of 2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2017–2018)



**Table 12. Maximum anticipated uranium market requirements of owners and operators of U.S. civilian nuclear power reactors, 2019–2028, at end of 2018**

thousand pounds U3O8 equivalent

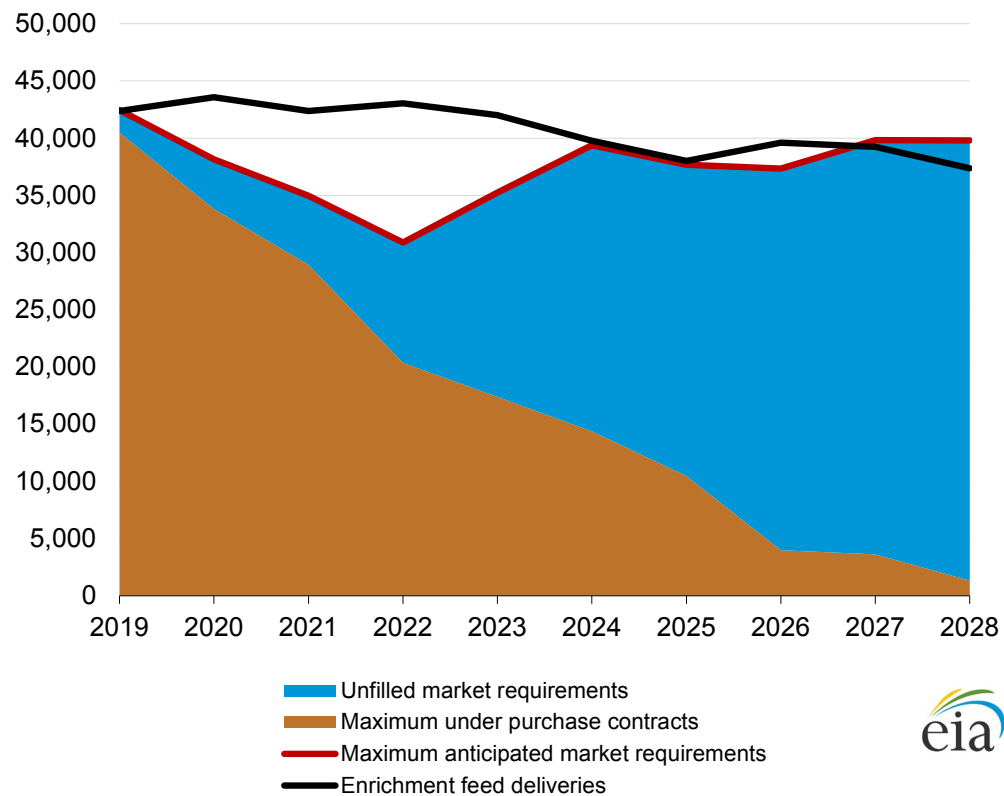
Year	Maximum under purchase contracts	Unfilled market requirements	Maximum anticipated market requirements	Enrichment feed deliveries
2019	40,471	1,984	42,455	42,361
2020	33,803	4,358	38,160	43,565
2021	28,930	6,036	34,965	42,371
2022	20,355	10,518	30,873	43,034
2023	17,379	17,863	35,242	41,999
2024	14,363	25,004	39,367	39,759
2025	10,462	27,215	37,677	38,012
2026	3,973	33,359	37,331	39,605
2027	3,612	36,226	39,837	39,248
2028	1,311	38,498	39,808	37,354
<b>Total</b>	<b>174,657</b>	<b>201,060</b>	<b>375,717</b>	<b>407,308</b>

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)

**Figure 11. Maximum anticipated uranium market requirements of owners and operators of U.S. civilian nuclear power reactors, 2019–2028, at end of 2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)

**Table 13. Deliveries of uranium feed by owners and operators of U.S. civilian nuclear power reactors by enrichment country and delivery year, 2016–2018**

thousand pounds U3O8 equivalent

Enrichment country	Feed deliveries in 2016			Feed deliveries in 2017			Feed deliveries in 2018		
	U.S.-origin	Foreign-origin	Total	U.S.-origin	Foreign-origin	Total	U.S.-origin	Foreign-origin	Total
China	0	0	0	0	0	0	W	W	W
France	W	W	2,555	0	W	W	W	W	W
Germany	W	W	W	0	453	453	W	W	2,206
Netherlands	666	2,832	3,498	W	W	1,228	W	W	3,445
Russia	W	W	3,974	W	W	4,845	W	W	2,211
United Kingdom	0	W	W	W	W	W	W	W	W
Europe <sup>1</sup>	721	7,773	8,494	W	5,941	6,365	514	7,950	8,463
<b>Foreign total</b>	<b>2,334</b>	<b>18,106</b>	<b>20,440</b>	<b>1,994</b>	<b>13,961</b>	<b>15,954</b>	<b>876</b>	<b>16,422</b>	<b>17,298</b>
United States	2,463	20,207	22,670	5,155	12,698	17,853	3,861	12,285	16,146
<b>Total</b>	<b>4,798</b>	<b>38,313</b>	<b>43,110</b>	<b>7,149</b>	<b>26,659</b>	<b>33,808</b>	<b>4,737</b>	<b>28,707</b>	<b>33,444</b>

W = Data withheld to avoid disclosure of individual company data.

<sup>1</sup> Specific country in Europe was not reported.

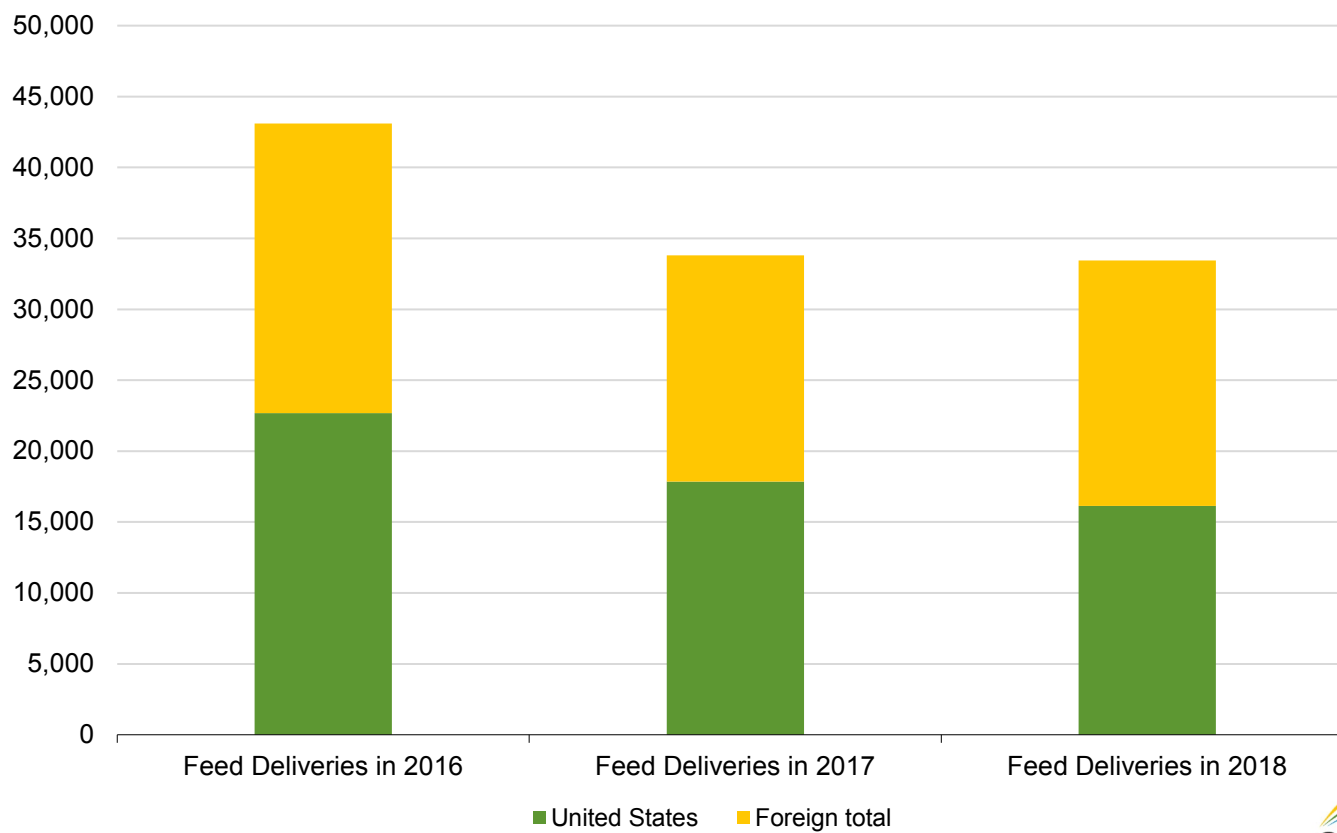
Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–2018)



**Figure 12. Deliveries of uranium feed for U.S. and foreign enrichment by owners and operators of U.S. civilian nuclear power reactors by delivery year, 2016–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–2018)



**Table 14. Deliveries of uranium feed for enrichment by owners and operators of U.S. civilian nuclear power reactors by origin country and delivery year, 2016–2018**

thousand pounds U3O8 equivalent

Origin country of feed	Deliveries in 2016			Deliveries in 2017			Deliveries in 2018		
	U.S. enrichment	Foreign enrichment	Total	U.S. enrichment	Foreign enrichment	Total	U.S. enrichment	Foreign enrichment	Total
Australia	6,524	3,098	9,622	1,035	3,128	4,162	2,509	3,645	6,153
Brazil	W	W	W	0	0	0	W	W	W
Canada	6,635	6,912	13,546	7,327	4,611	11,938	4,460	4,691	9,151
China	0	0	0	0	0	0	0	0	0
Czech Republic	W	W	W	0	0	0	0	0	0
Kazakhstan	2,658	5,027	7,685	1,742	3,018	4,760	3,556	5,093	8,649
Malawi	W	W	W	0	W	W	W	W	W
Namibia	1,033	698	1,731	W	W	W	W	W	1,503
Niger	W	W	W	W	W	W	W	W	W
Portugal	0	0	0	0	0	0	0	0	0
Russia	W	W	4,163	960	1,089	2,049	W	W	779
South Africa	W	W	296	W	W	W	W	W	W
Ukraine	0	0	0	0	0	0	W	W	W
United Kingdom	0	0	0	0	0	0	0	0	0
Uzbekistan	W	W	581	W	W	W	572	612	1,184
unknown/other	W	W	W	W	W	W	W	W	W
<b>Foreign total</b>	<b>20,207</b>	<b>18,106</b>	<b>38,313</b>	<b>12,698</b>	<b>13,961</b>	<b>26,659</b>	<b>12,285</b>	<b>16,422</b>	<b>28,707</b>
United States	2,463	2,334	4,798	5,155	1,994	7,149	3,861	876	4,737
<b>Total</b>	<b>22,670</b>	<b>20,440</b>	<b>43,110</b>	<b>17,853</b>	<b>15,954</b>	<b>33,808</b>	<b>17,298</b>	<b>17,298</b>	<b>33,444</b>

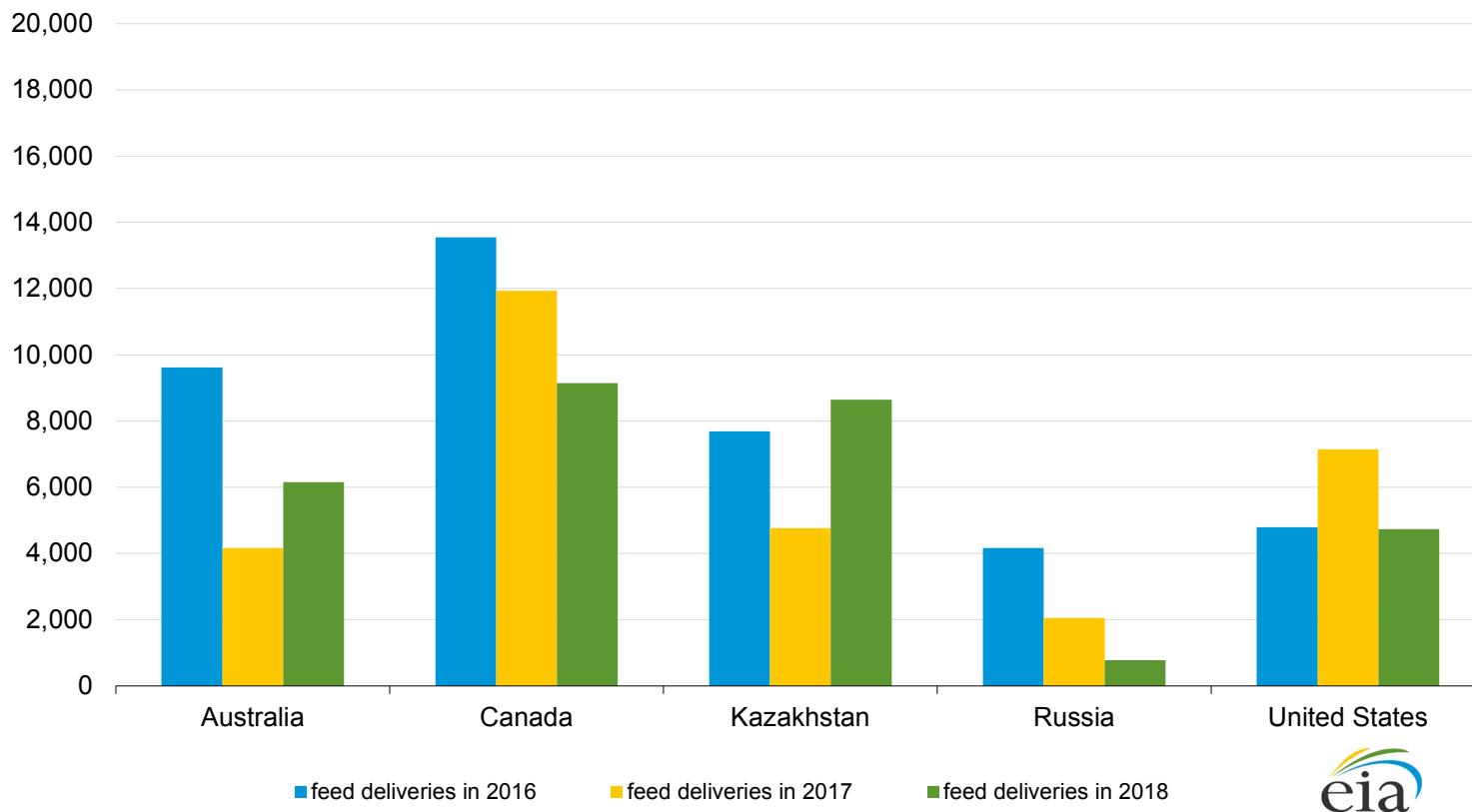
W = Data withheld to avoid disclosure of individual company data.

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–18)

**Figure 13. Deliveries of uranium feed for enrichment by owners and operators of U.S. civilian nuclear power reactors by selected origin country of feed and delivery year, 2016–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–18)



**Table 15. Shipments of uranium feed by owners and operators of U.S. civilian nuclear power reactors to domestic and foreign enrichment suppliers, 2019–2028**

thousand pounds U3O8 equivalent

Year of shipment	Amount of feed to be shipped		Change from 2017 to 2018	
	As of December 31, 2017	As of December 31, 2018	Annual	Cumulative
2018	44,798	42,361	-2,437	-2,437
2019	45,907	43,565	-2,342	-4,779
2020	41,589	42,371	782	-3,997
2021	45,424	43,034	-2,390	-6,387
2022	42,988	41,999	-989	-7,376
2023	43,073	39,759	-3,314	-10,690
2024	43,369	38,012	-5,357	-16,047
2025	44,506	39,605	-4,901	-20,948
2026	40,772	39,248	-1,524	-22,472
2027	-	37,354	--	--

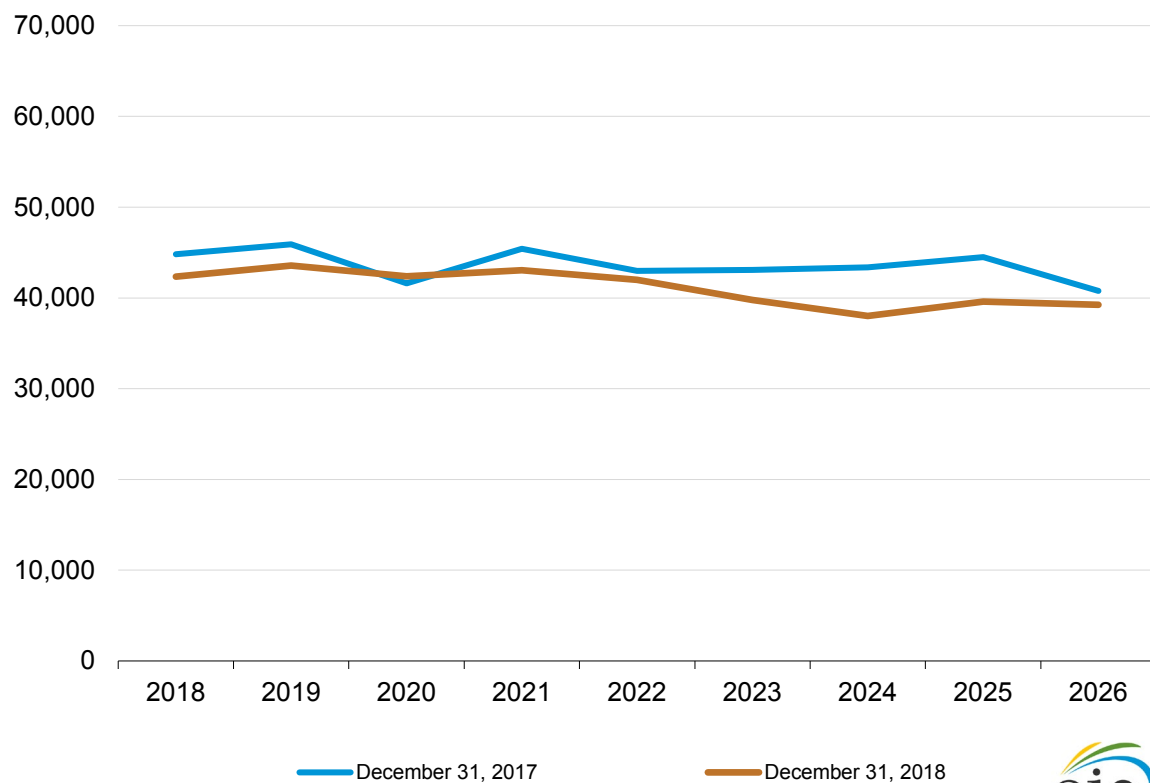
- = No data reported. -- = Not applicable.

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2017–18)

**Figure 14. Shipments of uranium feed by owners and operators of U.S. civilian nuclear power reactors to domestic and foreign enrichment suppliers, 2019–2027**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2017–18)



**Table 16. Purchases of enrichment services by owners and operators of U.S. civilian nuclear power reactors by origin country and year, 2014–2028**

thousand separative work units (SWU)

<b>Country of enrichment service (SWU- origin)</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
China	636	318	W	W	W
France	0	0	0	W	0
Germany	1,005	1,281	1,636	437	1,444
Netherlands	1,801	2,385	2,546	1,183	2,864
Russia	3,083	2,234	3,188	2,912	3,473
United Kingdom	2,435	2,522	1,003	1,525	1,544
Europe <sup>1</sup>	W	W	W	W	W
Other <sup>2</sup>	W	W	W	W	W
<b>Foreign total</b>	<b>9,165</b>	<b>8,769</b>	<b>9,524</b>	<b>7,305</b>	<b>10,034</b>
United States	3,773	4,146	4,756	5,572	4,979
<b>Total</b>	<b>12,939</b>	<b>12,914</b>	<b>14,280</b>	<b>12,877</b>	<b>15,013</b>
<b>Average price (US\$ per SWU)</b>	<b>140.75</b>	<b>136.88</b>	<b>131.00</b>	<b>125.43</b>	<b>115.42</b>

W = Data withheld to avoid disclosure of individual company data.

<sup>1</sup> Specific country in Europe was not reported.

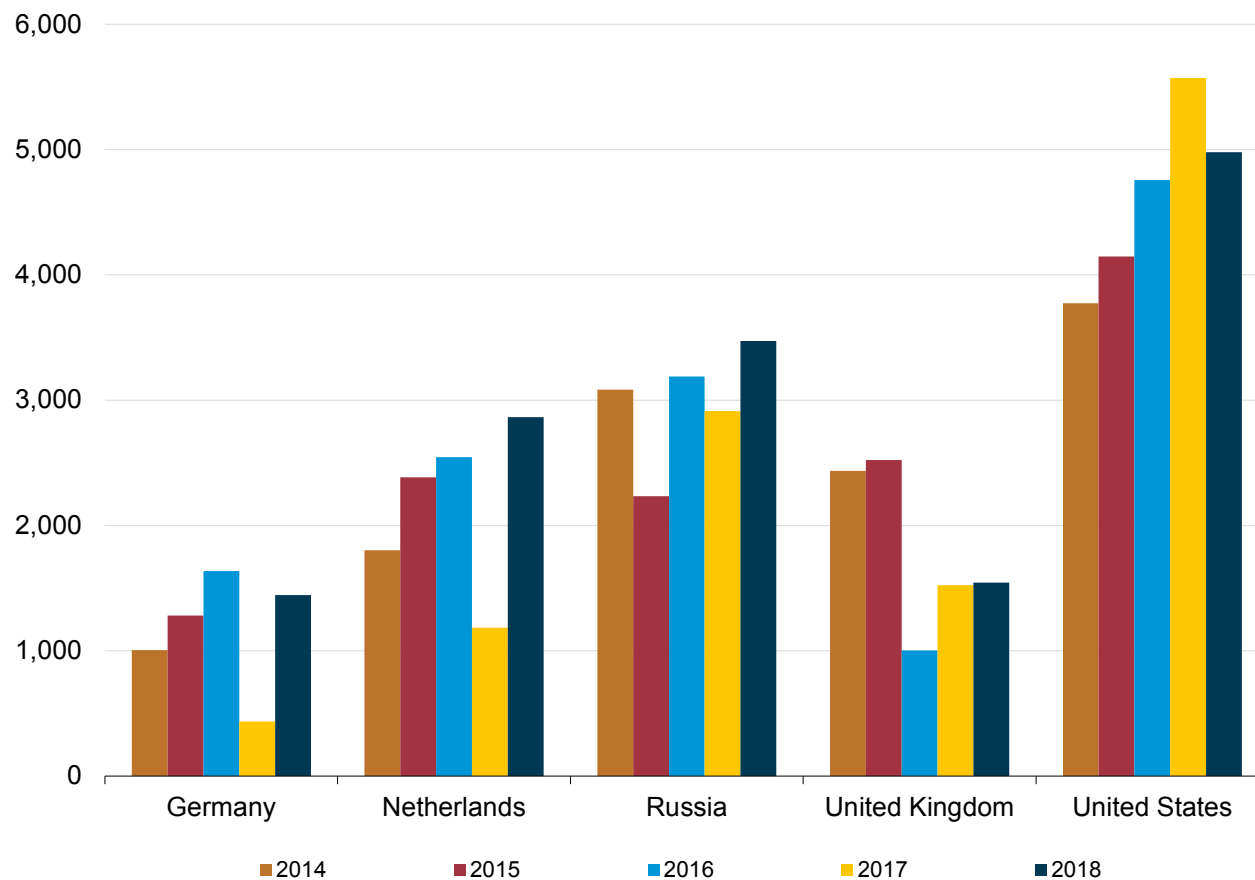
<sup>2</sup> Specific country was not reported.

Notes: Totals may not equal sum of components because of independent rounding. Average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–18)

**Figure 15. Purchases of enrichment services by owners and operators of U.S. civilian nuclear power reactors by selected origin country and year, 2014–2018**

thousand separative work units (SWU)



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–18)

**Table 17. Purchases of enrichment services by owners and operators of U.S. civilian nuclear power reactors by contract type in delivery year, 2018**

thousand separative work units (SWU)

<b>Enrichment service contract type</b>	<b>U.S. enrichment</b>	<b>Foreign enrichment</b>	<b>Total</b>
Spot	W	W	268
Long-term	W	W	14,745
<b>Total</b>	<b>4,979</b>	<b>10,034</b>	<b>15,013</b>

W = Data withheld to avoid disclosure of individual company data.

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2018)



**Table 18. Uranium in fuel assemblies loaded into U.S. civilian nuclear power reactors by year, 2014–2018**

thousand pounds U3O8 equivalent

<b>Origin of uranium</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>P2018</b>
Domestic-origin uranium	3,251	4,050	3,204	5,734	5,400
Foreign-origin uranium	47,281	43,381	38,455	39,807	44,848
<b>Total</b>	<b>50,532</b>	<b>47,431</b>	<b>41,659</b>	<b>45,541</b>	<b>50,248</b>

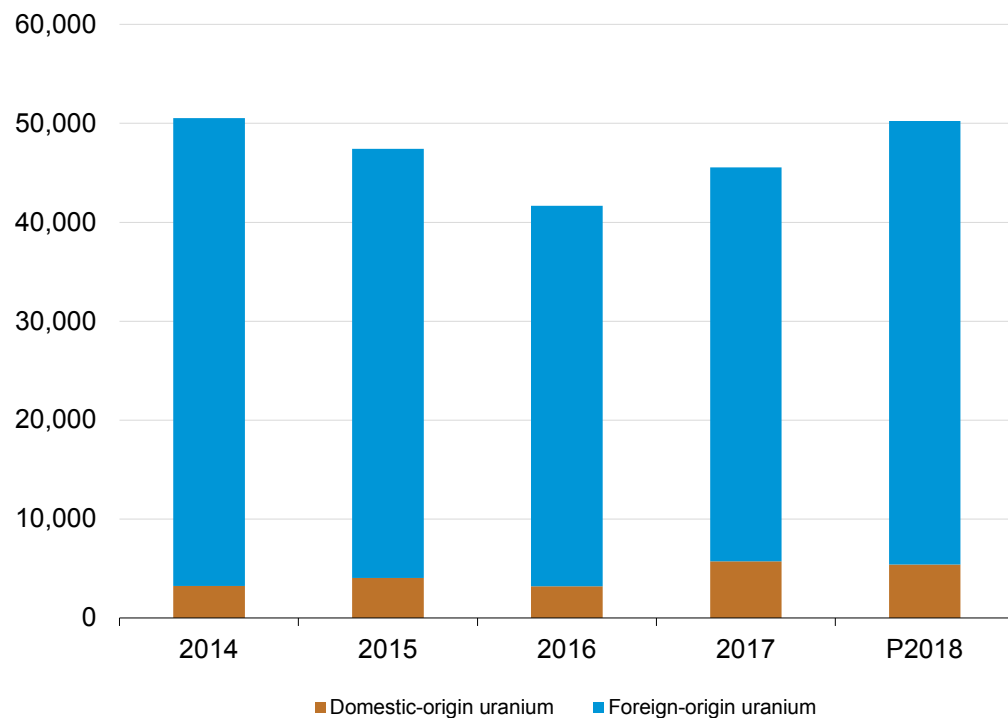
P = Preliminary data. Final 2016 fuel assembly data reported in the 2017 survey.

Notes: Includes only unirradiated uranium in new fuel assemblies loaded into reactors during the year. Does not include uranium removed from reactors that subsequently will be reloaded. Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)

**Figure 16. Uranium in fuel assemblies loaded into U.S. civilian nuclear power reactors by year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



P = Preliminary data. Final 2017 fuel assembly data reported in the 2018 survey.  
 Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)

**Table 19. Foreign purchases of uranium by U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors by delivery year, 2014–2018**

thousand pounds U3O8 equivalent; dollars per pound U3O8 equivalent

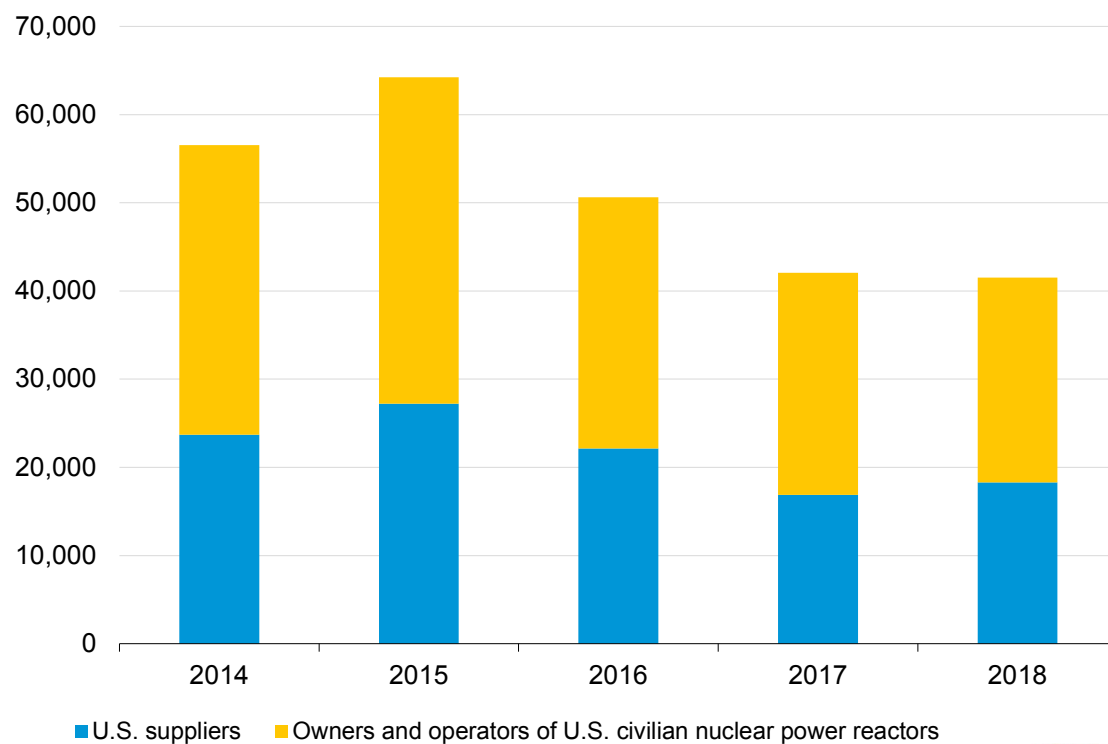
<b>Deliveries</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>U.S. suppliers</b>					
Foreign purchases	23,684	27,233	22,138	16,891	18,278
Weighted-average price	39.22	40.68	36.03	31.11	30.93
<b>Owners and operators of U.S. civilian nuclear power reactors</b>					
Foreign purchases	32,863	37,001	28,512	25,187	23,246
Weighted-average price	47.51	44.67	44.08	41.12	39.32
<b>Total</b>					
Foreign purchases	56,547	64,234	50,650	42,078	41,524
Weighted-average price	44.03	42.95	40.45	37.09	35.73

Notes: Totals may not equal sum of components because of independent rounding. Foreign Purchase: A uranium purchase of foreign-origin uranium from a firm located outside of the United States. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)

**Figure 17. Foreign purchases of uranium by U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors by delivery year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)



**Table 20. U.S. broker and trader purchases of uranium by origin, supplier, and delivery year, 2014–2018**thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent; dollars per pound U<sub>3</sub>O<sub>8</sub> equivalent

<b>Deliveries</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Received U.S.-origin uranium					
Purchases	410	2,702	3,266	3,501	1,765
Weighted-average price	33.55	35.04	26.31	19.88	28.20
Received foreign-origin uranium					
Purchases	28,743	33,014	34,046	35,156	34,400
Weighted-average price	38.42	39.58	32.71	24.83	30.61
<b>Total received by U.S. brokers and traders</b>					
Purchases	<b>29,153</b>	<b>35,716</b>	<b>37,312</b>	<b>38,657</b>	<b>36,165</b>
Weighted-average price	<b>38.35</b>	<b>39.24</b>	<b>32.11</b>	<b>24.38</b>	<b>30.49</b>
Received from foreign suppliers					
Purchases	W	26,069	22,088	14,060	18,870
Weighted-average price	W	40.77	36.09	29.93	30.84

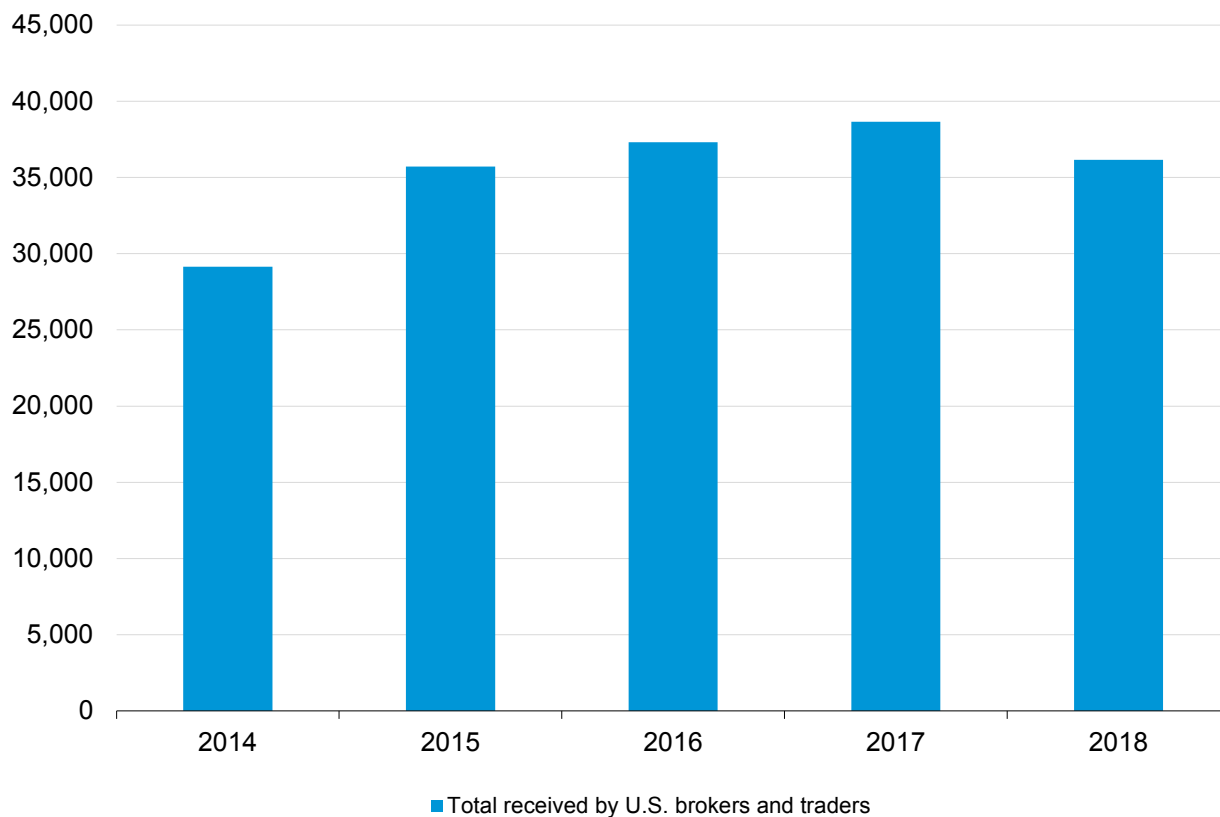
W = Data withheld to avoid disclosure of individual company data.

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)

**Figure 18. U.S. broker and trader purchases of uranium by delivery year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)

**Table 21. Foreign sales of uranium from U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors by origin and delivery year, 2014–2018**

thousand pounds U3O8 equivalent; dollars per pound U3O8 equivalent

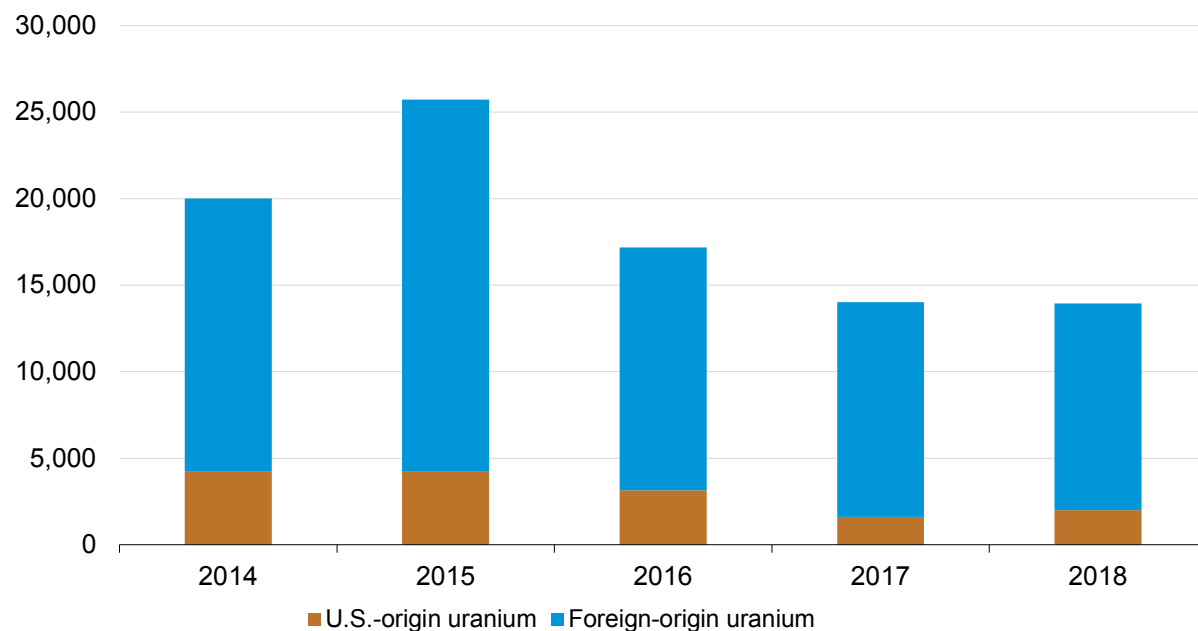
<b>Deliveries to foreign suppliers and utilities</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
U.S.-origin uranium					
Foreign sales	4,210	4,258	3,142	1,617	2,004
Weighted-average price	32.91	37.85	25.99	27.61	27.66
Foreign-origin uranium					
Foreign sales	15,794	21,465	14,034	12,408	11,942
Weighted-average price	36.43	39.58	35.38	24.88	25.75
<b>Total sent:</b>					
<b>Foreign sales</b>	<b>20,004</b>	<b>25,723</b>	<b>17,176</b>	<b>14,025</b>	<b>13,947</b>
<b>Weighted-average price</b>	<b>35.69</b>	<b>39.29</b>	<b>33.66</b>	<b>25.19</b>	<b>26.02</b>
From owners and operators of U.S. civilian nuclear power reactors, U.S. producers, and other U.S. suppliers					
Foreign sales	4,493	6,022	3,153	3,505	2,589
Weighted-average price	36.45	38.77	30.26	29.55	28.97
From U.S. brokers and traders					
Foreign sales	15,511	19,700	14,023	10,520	11,358
Weighted-average price	35.47	39.45	34.43	23.74	25.35

Notes: *Other U.S. Suppliers* are U.S. converters, enrichers, and fabricators. Totals may not equal sum of components because of independent rounding. Foreign sale: A uranium sale to a firm located outside the United States. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)

**Figure 19. Foreign sales of uranium from U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors by origin and delivery year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2014–2018)



**Table 22. Inventories of natural and enriched uranium by material type as of end of year, 2014–2018**

thousand pounds U3O8 equivalent

Type of uranium inventory owned by	Inventories at the end of the year				
	2014	2015	2016	2017	P2018
<b>Owners and operators of U.S. civilian nuclear power reactors inventories</b>	<b>114,046</b>	<b>121,131</b>	<b>127,964</b>	<b>123,850</b>	<b>111,615</b>
Uranium concentrate (U <sub>3</sub> O <sub>8</sub> )	19,060	20,635	20,790	20,612	19,270
Natural UF <sub>6</sub>	40,803	48,136	53,602	50,615	43,312
Enriched UF <sub>6</sub>	43,382	41,557	43,743	43,451	40,588
Fabricated fuel (not inserted into a reactor)	10,802	10,803	9,829	9,173	8,445
<b>U.S. supplier inventories</b>	<b>18,682</b>	<b>14,340</b>	<b>16,667</b>	<b>17,818</b>	<b>19,876</b>
Uranium concentrate (U <sub>3</sub> O <sub>8</sub> )	6,170	6,289	7,185	7,174	8,285
Natural UF <sub>6</sub>	W	W	W	4,364	W
Enriched UF <sub>6</sub>	W	W	W	6,280	W
Fabricated fuel (not inserted into a reactor)	0	0	0	0	0
<b>Total Commercial Inventories</b>	<b>132,728</b>	<b>135,471</b>	<b>144,631</b>	<b>141,668</b>	<b>131,491</b>

P = Preliminary data. Final 2017 inventory data reported in the 2018 survey.

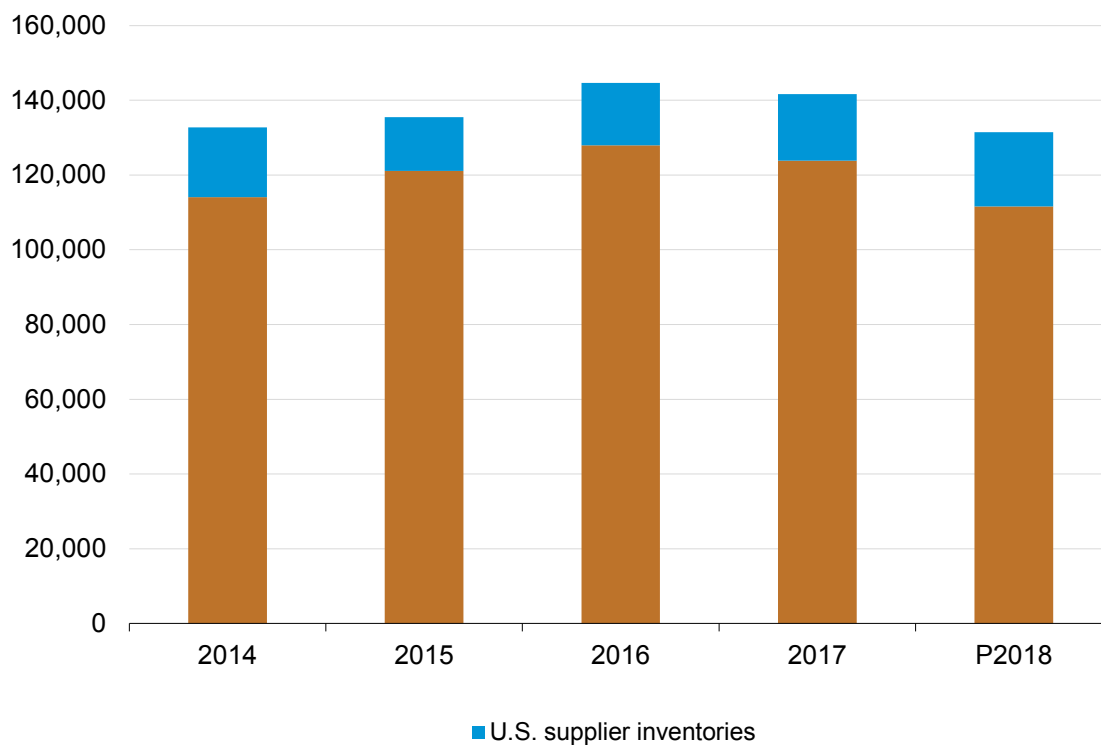
W = Data withheld to avoid disclosure of individual company data.

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2015–2018)

**Figure 20. Commercial inventories of natural and enriched uranium as of end of year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent

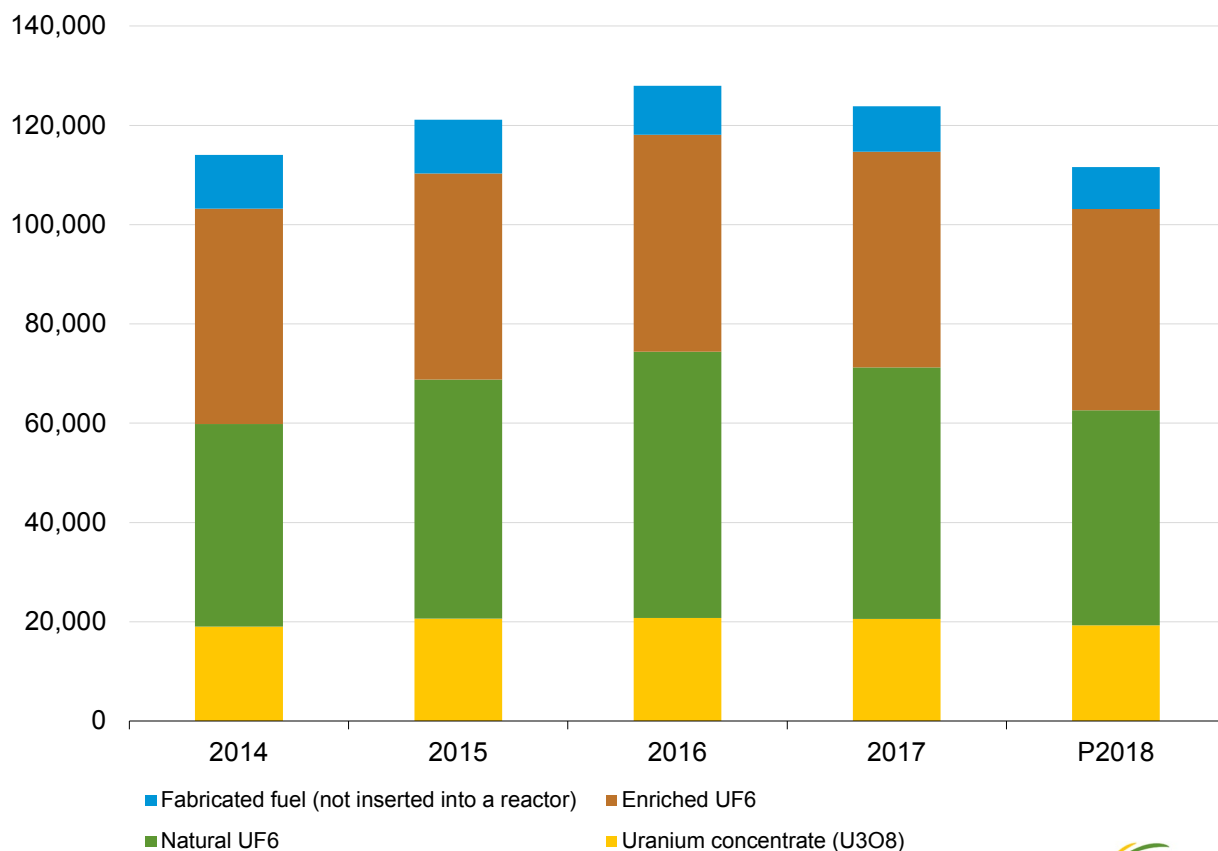


P = Preliminary data. Final 2017 inventory data reported in the 2018 survey.  
Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2015–2018)



**Figure 21. Owners and operators of U.S. civilian nuclear power reactors inventories by material type as of end of year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



P = Preliminary data. Final 2017 inventory data reported in the 2018 survey.  
 Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2015–2018)



**Table 23. Inventories of uranium by owner as of end of year, 2014–2018**thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent

Owner of uranium inventory	Inventories at the End of Year				
	2014	2015	2016	2017	P2018
Owners and operators of U.S. civilian nuclear power reactors	114,046	121,131	127,964	123,850	111,615
U.S. brokers and traders	5,916	5,678	7,772	8,519	10,601
U.S. converter, enrichers, fabricators, and producers	12,766	8,662	8,895	9,299	9,275
<b>Total commercial inventories</b>	<b>132,728</b>	<b>135,471</b>	<b>144,631</b>	<b>141,668</b>	<b>131,491</b>

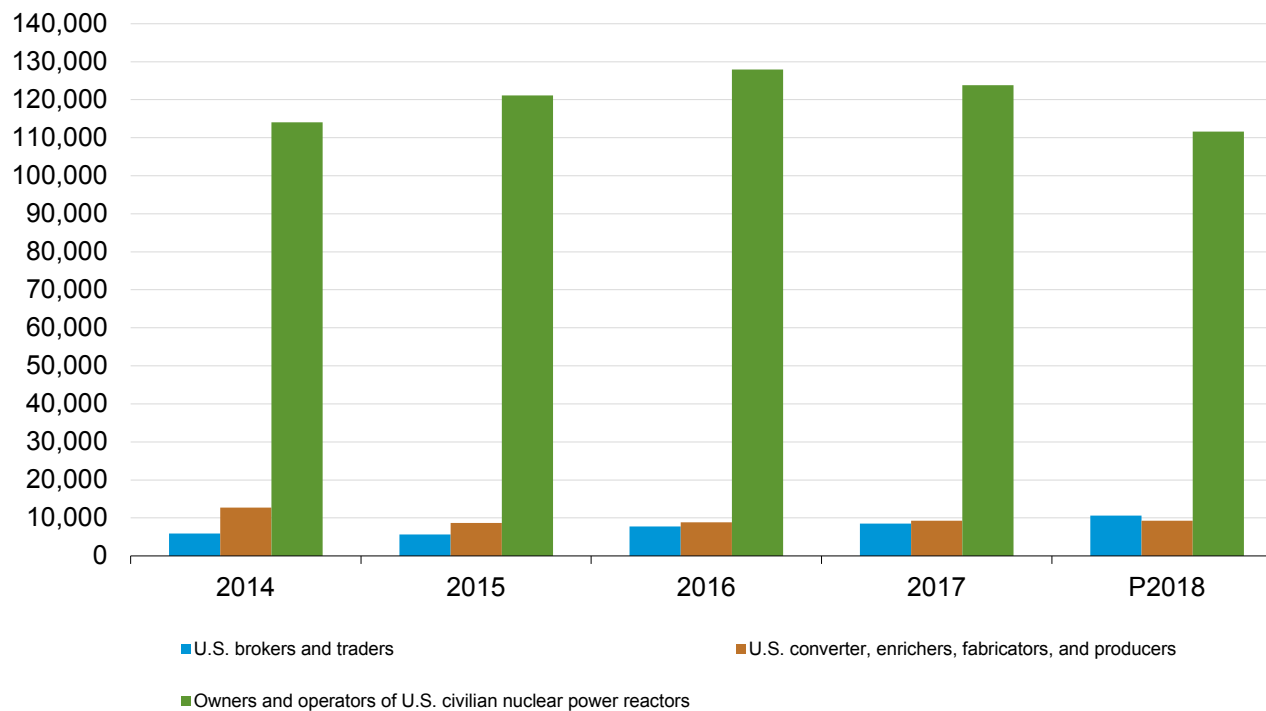
P = Preliminary data. Final 2017 inventory data reported in the 2018 survey.

Note: Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2015–2018)

**Figure 22. Commercial inventories of uranium by owner as of end of year, 2014–2018**

thousand pounds U<sub>3</sub>O<sub>8</sub> equivalent



P=Preliminary data. Final 2017 inventory data reported in the 2018 survey.

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2015–2018)

Table 24. Uranium sellers to owners and operators of U.S. civilian nuclear power reactors, 2016–2018

2016	2017	2018
AREVA / AREVA NC, Inc.	AREVA / AREVA NC, Inc.	AREVA / AREVA NC, Inc./ AREVA Resources Canada
ARMZ (AtomRedMetZoloto)	ARMZ (AtomRedMetZoloto)	ARMZ (AtomRedMetZoloto)
BHP Billiton Olympic Dam Corporation Pty Ltd	BHP Billiton Olympic Dam Corporation Pty Ltd	BHP Billiton Olympic Dam Corporation Pty Ltd
CAMECO	CAMECO	CAMECO
CGN Global Uranium Limited	CGN Global Uranium Limited	CGN Global Uranium Limited
ConverDyn	ConverDyn	ConverDyn
Deutsche Bank	Deutsche Bank	Curzon Uranium Trading Limited
Duke Energy Florida, Inc.	Duke Energy Florida, Inc.	Energy Northwest
Energy Fuels Resources	Energy Fuels Resources	Energy USA, Inc.
Energy Resources of Australia Ltd.	Energy Resources of Australia Ltd.	Idemitsu
Energy USA, Inc.	Energy USA, Inc.	Itochu Corporation / Itochu International
Itochu Corporation / Itochu International	Itochu Corporation / Itochu International	Kazatomprom
Kazatomprom	Kazatomprom	Macquarie Bank
Langer Heinrich Uranium Ltd (Paladin Energy)	Langer Heinrich Uranium Ltd (Paladin Energy)	Mitsui & Co.
Macquarie Bank	Macquarie Bank	MTM Trading, LLC
Mitsui & Co.	Mitsui & Co.	Nufcor International Limited
MTM Trading, LLC	MTM Trading, LLC	NUKEM, Inc. / RWE Nukem
Nufcor International Limited	Nufcor International Limited	NYNCO Trading, Ltd.
NUKEM, Inc. / RWE Nukem	NUKEM, Inc. / RWE Nukem	Paladin Resources Limited / Paladin Energy
NYNCO Trading, Ltd.	NYNCO Trading, Ltd.	Orano, USA
Paladin Resources Limited / Paladin Energy	Paladin Resources Limited / Paladin Energy	Peninsula Energy / Strata Energy
Rio Tinto Uranium Limited	Rio Tinto Uranium Limited	Quasar Resources
Rossing Uranium Limited	Rossing Uranium Limited	Rio Tinto Uranium Limited
SOPAMIN (Société de Patrimoine des Mines du Niger "Heritage Society of Mines in Niger")	SOPAMIN (Société de Patrimoine des Mines du Niger "Heritage Society of Mines in Niger")	Rossing Uranium Limited
Southern Cross Resources Australia Pty. Ltd.	Southern Cross Resources Australia Pty. Ltd.	TENAM Corporation
TENAM Corporation	TENAM Corporation	TENEX (Techsnabexport)
TENEX (Techsnabexport)	TENEX (Techsnabexport)	TEPCO Resources
Traxys North America, LLC	Traxys North America, LLC	Traxys North America, LLC
UG U.S.A., Inc.	UG U.S.A., Inc.	UG U.S.A., Inc.
Uranez Energy Corporation	Uranez Energy Corporation	USEC, Inc. (United States Enrichment Corporation)
Uranium One	Uranium One	Uranez Energy Corporation
UrAsia Energy Ltd.	UrAsia Energy Ltd.	Uranium One
URENCO, Inc.	URENCO, Inc.	URENCO, Inc.
Ur-Energy / Ur-Energy USA Inc	Ur-Energy / Ur-Energy USA Inc	Ur-Energy / Ur-Energy USA Inc
USEC, Inc. (United States Enrichment Corporation)	USEC, Inc. (United States Enrichment Corporation)	Western Uranium Corporation
Westinghouse Electric Company, LLC	Westinghouse Electric Company, LLC	Westinghouse Electric Company, LLC

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–2018)

**Table 25. Enrichment service sellers to owners and operators of U.S. civilian nuclear power reactors, 2016–2018**

2016	2017	2018
AREVA Enrichment Services, LLC / AREVA NC, Inc.	AREVA Enrichment Services, LLC / AREVA NC, Inc.	Advance Uranium Asset Management
CAMECO	CAMECO	AREVA Enrichment Services, LLC / AREVA NC, Inc.
CNEIC (China Nuclear Energy Industry Corporation)	CNEIC (China Nuclear Energy Industry Corporation)	CNEIC (China Nuclear Energy Industry Corporation)
Energy Northwest	Energy Northwest	Energy Northwest
LES, LLC (Louisiana Energy Services)	LES, LLC (Louisiana Energy Services)	LES, LLC (Louisiana Energy Services)
TENAM Corporation	TENAM Corporation	Nukem, Inc.
TENEX (Techsnabexport Joint Stock Company)	TENEX (Techsnabexport Joint Stock Company)	NYNCO Trading, LTD
UG U.S.A., Inc.	UG U.S.A., Inc.	TENAM Corporation
URENCO, Inc. (Deutschland GmbH, Nederland B.V., UK Limited)	URENCO, Inc. (Deutschland GmbH, Nederland B.V., UK Limited)	TENEX (Techsnabexport Joint Stock Company)
URENCO USA, Inc.	URENCO USA, Inc.	URENCO, Inc. (Deutschland GmbH, Nederland B.V., UK Limited)
USEC, Inc. (United States Enrichment Corporation)	USEC, Inc. (United States Enrichment Corporation)	URENCO USA, Inc.
Westinghouse Electric Company, LLC	Westinghouse Electric Company, LLC	USEC, Inc. (United States Enrichment Corporation)
		Westinghouse Electric Company, LLC

Source: U.S. Energy Information Administration, Form EIA-858, *Uranium Marketing Annual Survey* (2016–2018)