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2016 Domestic Uranium Production Report

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Contacts

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Preface

In this report, the *2016 Domestic Uranium Production Report*, the U.S. Energy Information Administration (EIA) reports detailed data spanning 2003 through 2016 and summary data back to 1993 on U.S. uranium production activities.

Data in this report are based primarily on information reported on Form EIA-851A, “Domestic Uranium Production Report (Annual)” and some information reported on Form EIA-858, “Uranium Marketing Annual Survey.” Form EIA-851A survey collects data on uranium milling and in-situ-leach processing, feed sources, mining, employment, drilling, expenditures, and reserve estimates. Form EIA-858 survey includes data collected on contracts and deliveries.

Prior editions of this report may be found:

<http://www.eia.gov/nuclear/reports.cfm>

Definitions for terms used in this report can be found in EIA’s Energy Glossary:

<http://www.eia.doe.gov/glossary/>.

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Drilling

Total uranium drilling was 1,158 holes with total footage of 0.8 million feet in 2016, 14% fewer holes than in 2015. Expenditures for uranium drilling in the United States were \$22 million in 2016, a 22% decrease compared with 2015.

Mining, production, shipments, and sales

U.S. uranium mines produced 2.5 million pounds U_3O_8 in 2016, 31% less than in 2015 and the lowest total since 2004. Seven in-situ-leach (ISL) mining operations produced solutions containing uranium in 2016, one more than in 2015.

Total production of U.S. uranium concentrate¹ in 2016 was 2.9 million pounds U_3O_8 , 14% less than in 2015, from eight facilities: one mill in Utah (White Mesa Mill) and seven ISL plants (Crow Butte Operation, Hobson ISR Plant/La Palangana, Lost Creek Project, Nichols Ranch ISR Project, Ross CPP, Smith Ranch-Highland Operation and Willow Creek Project). The seven ISL plants are located in Nebraska and Wyoming.

Total shipments of uranium concentrate from U.S. mill and ISL plants were 3.0 million pounds U_3O_8 in 2016, 25% less than in 2015. U.S. producers sold 2.7 million pounds U_3O_8 of uranium concentrate in 2016 at a weighted-average price of \$38.22 per pound U_3O_8 .

Facility status (mills, heap leach plants, and in-situ-leach plants)

At the end of 2016, the White Mesa Mill in Utah was operating-processing alternate feed with a capacity of 2,000 short tons of ore per day. Shootaring Canyon Uranium Mill in Utah and Sweetwater Uranium Project in Wyoming were on standby with a total capacity of 3,750 short tons of ore per day. There is one mill planned for Colorado (Pinon Ridge Mill) and one heap leach plant planned for Wyoming (Sheep Mountain).

At the end of 2016, seven U.S. uranium ISL plants were operating with a combined capacity of 14.2 million pounds U_3O_8 per year (Crow Butte Operation in Nebraska; Hobson ISR Plant/La Palangana in Texas; Lost Creek Project, Nichols Ranch ISR Project, Ross CPP, Smith Ranch-Highland Operation, and Willow Creek Project in Wyoming). There were three ISL plants on standby as of the end of 2016 and seven ISL plants planned in New Mexico, South Dakota, Texas, and Wyoming.

¹A yellow or brown powder obtained by the milling of uranium ore, processing of in situ leach mining solutions, or as a byproduct of phosphoric acid production.

Employment

Total employment in the U.S. uranium production industry was 560 person-years in 2016, a decrease of 10% from the 2015 total and the lowest since 2004. Exploration employment was 38 person-years, a 34% decrease compared with 2015. Mining employment was 255 person-years, a 2% increase from 2015. Milling and processing employment was 169 person-years, a 16% decrease from 2015. Reclamation employment decreased 16% to 98 person-years from 2015 to 2016. Uranium production industry employment for 2016 was in 9 States: Arizona, Colorado, Nebraska, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming.

Expenditures

Total expenditures for land, exploration, drilling, production, and reclamation were \$170 million in 2016, 24% less than in 2015. Expenditures for U.S. uranium production, including facility expenses, were the largest category of expenditures at \$98 million in 2016 and were down by 17% from the 2015 level. Uranium exploration expenditures were \$2.5 million in 2016, down 47% from 2015. Expenditures for land were \$10 million in 2016, an 18% decrease compared with 2015. Reclamation expenditures were \$37 million, a 37% decrease compared with 2015.

Reserve estimates

At the end of 2016, estimated uranium reserves were 60 million pounds U_3O_8 at a maximum forward cost of up to \$30 per pound. At up to \$50 per pound, estimated reserves were 160 million pounds U_3O_8 . At up to \$100 per pound, estimated reserves were 339 million pounds U_3O_8 .

The uranium reserve estimates presented here cannot be compared with the much larger historical data set of uranium reserves published in the July 2010 report [U.S. Uranium Reserves Estimates](#). Those reserve estimates were made by EIA based on data collected by EIA and data developed by the National Uranium Resource Evaluation (NURE) program, operated out of Grand Junction, Colorado, by DOE and predecessor organizations. The EIA data covered approximately 200 uranium properties with reserve estimates, collected from 1984 through 2002. The NURE data covered approximately 800 uranium properties with reserve estimates, developed from 1974 through 1983. Although the data collected by the Form EIA-851A survey covers a much smaller set of properties than the earlier EIA data and NURE data, EIA believes that within its scope the EIA-851A data provides more reliable estimates of the uranium recoverable at the specified forward cost than estimates derived from 1974 through 2002. In particular, this is because the NURE data has not been comprehensively updated in many years and are no longer a current data source.

Table 1. U.S. uranium drilling activities, 2003-16

Year	Exploration Drilling		Development Drilling		Exploration and Development Drilling	
	Number of Holes	Feet (thousand)	Number of Holes	Feet (thousand)	Number of Holes	Feet (thousand)
2003	NA	NA	NA	NA	W	W
2004	W	W	W	W	2,185	1,249
2005	W	W	W	W	3,143	1,668
2006	1,473	821	3,430	1,892	4,903	2,713
2007	4,351	2,200	4,996	2,946	9,347	5,146
2008	5,198	2,543	4,157	2,551	9,355	5,093
2009	1,790	1,051	3,889	2,691	5,679	3,742
2010	2,439	1,460	4,770	3,444	7,209	4,904
2011	5,441	3,322	5,156	3,003	10,597	6,325
2012	5,112	3,447	5,970	3,709	11,082	7,156
2013	1,231	919	4,013	2,926	5,244	3,845
2014	W	W	W	W	1,752	1,299
2015	W	W	W	W	1,518	878
2016	W	W	W	W	1,158	757

NA = Not available. 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-851A, "Domestic Uranium Production Report" (2003-16).

Figure 1. U.S. uranium drilling by number of holes, 2004-16

number of holes

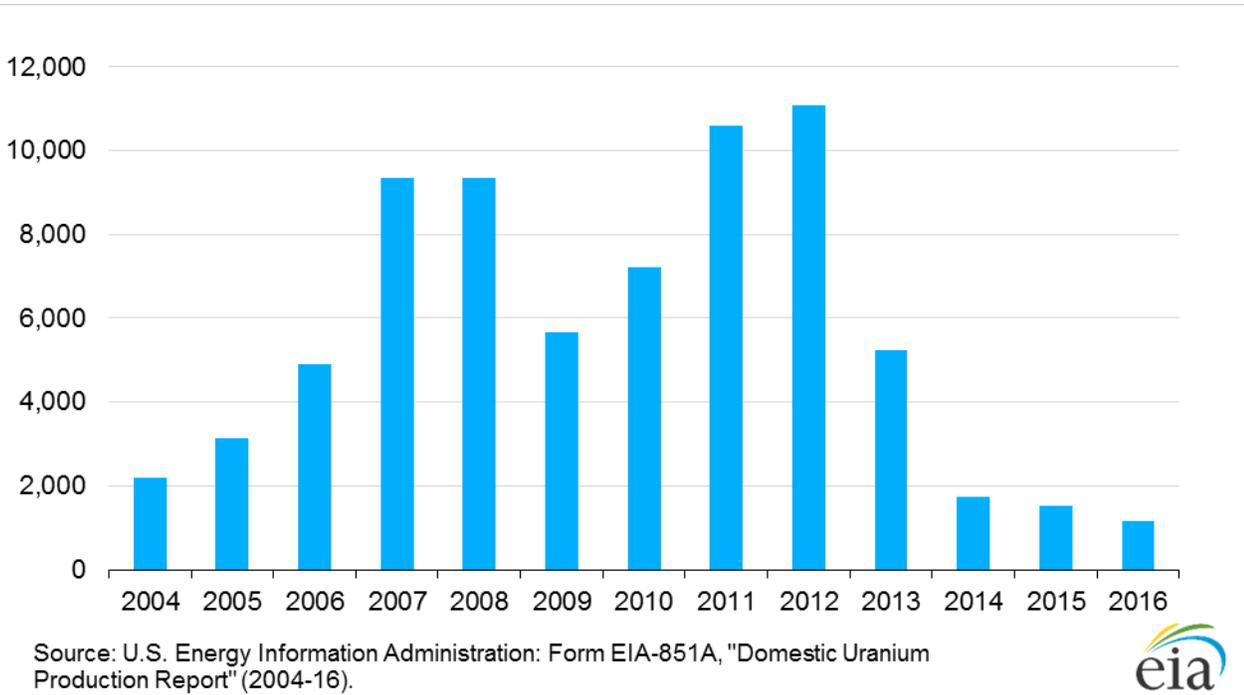
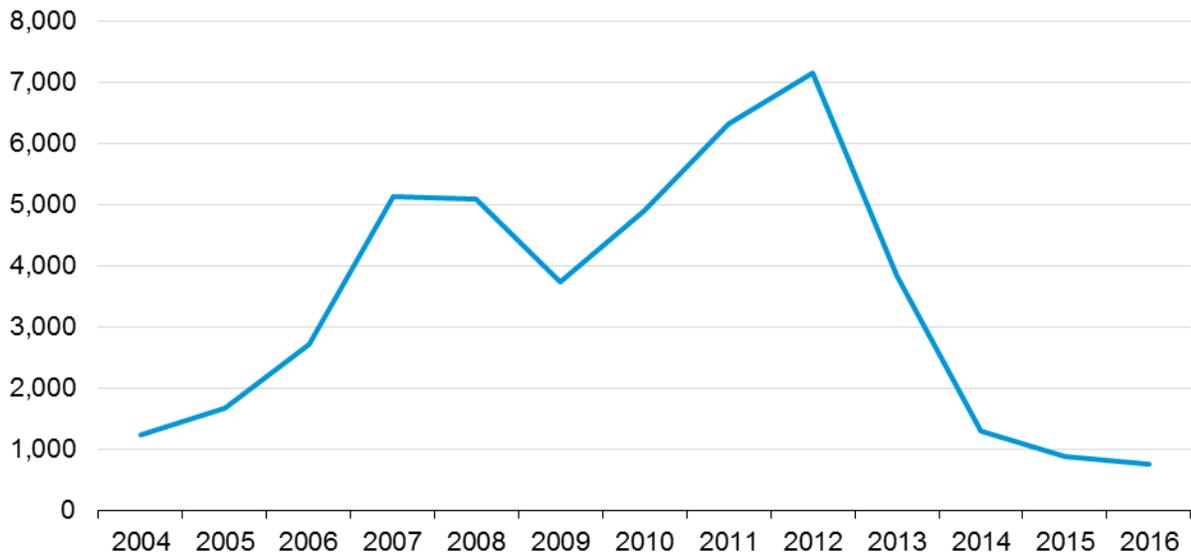


Figure 2. U.S. uranium drilling in footage, 2004-16

thousand feet



Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2004-16).



Table 2. U.S. uranium mine production and number of mines and sources, 2003-16

Production / Mining Method	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Underground														
thousand pounds U ₃ O ₈)	W	W	W	W	W	W	W	W	W	W	W	W	W	W
Open Pit														
thousand pounds U ₃ O ₈)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
In-Situ Leaching														
(thousand pounds U ₃ O ₈)	W	W	2,681	4,259	W	W	W	W	W	W	W	W	W	W
Other¹														
(thousand pounds U ₃ O ₈)	W	W	W	W	W	W	W	W	W	W	W	W	W	W
Total Mine Production														
(thousand pounds U ₃ O ₈)	E2,200	2,452	3,045	4,692	4,541	3,879	4,145	4,237	4,114	4,335	4,577	4,912	3,711	2,545
Number of Operating Mines														
Underground	1	2	4	5	6	10	14	4	5	6	3	2	1	0
Open Pit	0	0	0	0	0	0	0	0	0	0	0	0	0	0
In-Situ Leaching	2	3	4	5	5	6	4	4	5	5	7	8	7	8
Other Sources ¹	1	1	2	1	1	1	2	1	1	1	2	1	1	1
Total Mines and Sources	4	6	10	11	12	17	20	9	11	12	12	11	9	9

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

¹ Other includes, in various years, mine water, mill site cleanup and mill tailings, and well field restoration as sources of uranium.

Notes: Totals may not equal sum of components because of independent rounding. Table does not include byproduct production and sources. The 2003 annual production amount was estimated by rounding to the nearest 200,000 pounds to avoid disclosure of individual company data.

Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2003-16).

Table 3. U.S. uranium concentrate production, shipments, and sales, 2003-16

Activity at U.S. Mills and In-Situ-Leach Plants	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimated contained U₃O₈ (thousand pounds)														
Ore from Underground Mines and Stockpiles Fed to Mills ¹	0	W	W	W	0	W	W	W	W	W	W	W	0	0
Other Feed Materials ²	W	W	W	W	W	W	W	W	W	W	W	W	W	W
Total Mill Feed	W													
Uranium Concentrate Produced at U.S. Mills														
(thousand pounds U ₃ O ₈)	W	W	W	W	W	W	W	W	W	W	W	W	W	W
Uranium Concentrate Produced at U.S. In-Situ-Leach Plants														
(thousand pounds U ₃ O ₈)	W	W	W	W	W	W	W	W	W	W	W	W	W	W
Total Uranium Concentrate Production														
(thousand pounds U ₃ O ₈)	E2,000	2,282	2,689	4,106	4,534	3,902	3,708	4,228	3,991	4,146	4,659	4,891	3,343	2,886
Total Uranium Concentrate Shipped from U.S. Mills and In-Situ-Leach Plants														
(thousand pounds U ₃ O ₈)	E1,600	2,280	2,702	3,838	4,050	4,130	3,620	5,137	4,000	3,911	4,655	4,593	4,023	3,018
Total Uranium Concentrate Sales by U.S. Producers³														
Deliveries (thousand pounds U ₃ O ₈)	W	W	W	3,786	3,602	3,656	2,044	2,684	2,870	3,630	4,447	4,746	3,634	2,691
Weighted-Average Price (dollars per pound U ₃ O ₈)	W	W	W	28.98	42.11	43.81	36.61	37.59	52.36	49.63	44.65	39.17	42.86	38.22

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

¹ Uranium ore "Fed to Mills" in any year can include: ore mined and shipped to a mill during the same year, ore that was mined during a prior year and later shipped from mine-site stockpiles, and/or ore obtained from drawdowns of stockpiles maintained at a mill site.

² Includes for various years uranium from mill cleanup, mine water, tailings water, and other materials.

³ Sales of U.S.-origin uranium only.

Notes: The 2003 annual amounts were estimated by rounding to the nearest 200,000 pounds to avoid disclosure of individual company data. Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2003-16) and Form EIA-858, "Uranium Marketing Annual Survey" (2003-16).

Table 4. U.S. uranium mills and heap leach facilities by owner, location, capacity, and operating status at end of the year, 2011-16

Owner	Mill and Heap Leach ¹ Facility Name	County, State (existing and planned locations)	Capacity (short tons of ore per day)	Operating Status at End of the Year					
				2011	2012	2013	2014	2015	2016
Anfield Resources	Shootaring Canyon Uranium Mill	Garfield, Utah	750	Standby	Standby	Standby	Standby	Standby	Standby
EFR White Mesa LLC	White Mesa Mill	San Juan, Utah	2,000	Operating	Operating	Operating-Processing Alternate Feed	Operating-Processing Alternate Feed	Operating-Processing Alternate Feed	Operating-Processing Alternate Feed
Energy Fuels Wyoming Inc	Sheep Mountain	Fremont, Wyoming	725	-	-	Undeveloped	Undeveloped	Undeveloped	Undeveloped
Kennecott Uranium Company/Wyoming Coal Resource Company	Sweetwater Uranium Project	Sweetwater, Wyoming	3,000	Standby	Standby	Standby	Standby	Standby	Standby
Pinon Ridge Resources Corporation	Pinon Ridge Mill	Montrose, Colorado	500	Permitted And Licensed	Partially Permitted And Licensed	Permitted And Licensed	Permitted And Licensed	Permitted And Licensed	Permitted And Licensed
Total Capacity:			6,975						

- = No data reported.

¹ Heap leach solutions: The separation, or dissolving-out from mined rock, of the soluble uranium constituents by the natural action of percolating a prepared chemical solution through mounded (heaped) rock material. The mounded material usually contains low grade mineralized material and/or waste rock produced from open pit or underground mines. The solutions are collected after percolation is completed and processed to recover the valued components.

Notes: Capacity for 2015. An operating status of "Operating" indicates the mill usually was producing uranium concentrate at the end of the period.

Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2011-16).

Table 5. U.S. uranium in-situ-leach plants by owner, location, capacity, and operating status at end of the year, 2011-16

In-Situ-Leach Plant Owner	In-Situ-Leach Plant Name	County, State (existing and planned locations)	Production Capacity (pounds U ₃ O ₈ per year)	Operating Status at End of the Year					
				2011	2012	2013	2014	2015	2016
AUC LLC	Reno Creek	Campbell, Wyoming	2,000,000	-	-	Developing	Developing	Partially Permitted and Licensed	Partially Permitted and Licensed
Azarga Uranium Corp	Dewey Burdock Project	Fall River and Custer, South Dakota	1,000,000	Undeveloped	Developing	Developing	Partially Permitted and Licensed	Partially Permitted and Licensed	Partially Permitted and Licensed
Cameco	Crow Butte Operation	Dawes, Nebraska	1,000,000	Operating	Operating	Operating	Operating	Operating	Operating
Hydro Resources, Inc.	Church Rock	McKinley, New Mexico	1,000,000	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed
Hydro Resources, Inc.	Crownpoint	McKinley, New Mexico	1,000,000	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed
Lost Creek ISR LLC	Lost Creek Project	Sweetwater, Wyoming	2,000,000	Partially Permitted And Licensed	Under Construction	Operating	Operating	Operating	Operating
Mestena Uranium LLC	Alta Mesa Project	Brooks, Texas	1,500,000	Producing	Producing	Producing	Producing	Standby	Standby
Power Resources Inc., dba Cameco Resources	Smith Ranch-Highland Operation	Converse, Wyoming	5,500,000	Operating	Operating	Operating	Operating	Operating	Operating
South Texas Mining Venture	Hobson ISR Plant	Karnes, Texas	1,000,000	Operating	Operating	Operating	Operating	Operating	Standby
South Texas Mining Venture	La Palangana	Duval, Texas	1,000,000	Operating	Operating	Operating	Operating	Operating	Standby
Strata Energy Inc	Ross CPP	Crook, Wyoming	375,000	Developing	Partially Permitted And Licensed	Partially Permitted And Licensed	Under Construction	Changing License to Operational	Operating
URI, Inc.	Kingsville Dome	Kleberg, Texas	1,000,000	Standby	Standby	Restoration	Restoration	Restoration	Restoration
URI, Inc.	Rosita	Duval, Texas	1,000,000	Standby	Standby	Restoration	Restoration	Reclamation	Reclamation
URI, Inc.	Vasquez	Duval, Texas	800,000	Restoration	Restoration	Restoration	Restoration	Restoration	Restoration
Uranerz Energy Corporation	Nichols Ranch ISR Project	Johnson and Campbell, Wyoming	2,000,000	Under Construction	Under Construction	Under Construction	Producing	Operating	Operating
Uranium Energy Corp.	Goliad ISR Uranium Project	Goliad, Texas	1,000,000	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Standby
Uranium One Americas, Inc.	Jab and Antelope	Sweetwater, Wyoming	2,000,000	Developing	Developing	Developing	Developing	Developing	Developing
Uranium One Americas, Inc.	Moore Ranch	Campbell, Wyoming	500,000	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed	Partially Permitted And Licensed
Uranium One USA, Inc.	Willow Creek Project (Christensen Ranch and Irigaray)	Campbell and Johnson, Wyoming	1,300,000	Producing	Producing	Producing	Operating	Operating	Operating
Total Production Capacity:			26,975,000						

-- No data reported.

Notes: Production capacity for 2016. An operating status of "Operating" indicates the in-situ-leach plant usually was producing uranium concentrate at the end of the period. Hobson ISR Plant processes uranium concentrate that came from La Palangana. Hobson and La Palangana are part of the same project. ISR stands for in-situ recovery. Christensen Ranch and Irigaray are part of the Willow Creek Project. Uranerz Energy has a tolling arrangement with Cameco Resources. Uranium is first processed at the Nichols Ranch plant and then transported to the Smith Ranch-Highland Operation plant for final processing into Uranerz's uranium concentrate. CPP stands for central processing plant.

Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2011-16).

Table 6. Employment in the U.S. uranium production industry by category, 2003-16

person-years

Year	Exploration	Mining	Milling	Processing	Reclamation	Total
2003	W	W	W	W	117	321
2004	18	108	W	W	121	420
2005	79	149	142	154	124	648
2006	188	121	W	W	155	755
2007	375	378	107	216	155	1,231
2008	457	558	W	W	154	1,563
2009	175	441	W	W	162	1,096
2010	211	400	W	W	125	1,073
2011	208	462	W	W	102	1,191
2012	161	462	W	W	179	1,196
2013	149	392	W	W	199	1,156
2014	86	246	W	W	161	787
2015	58	251	W	W	116	625
2016	38	255	W	W	98	560

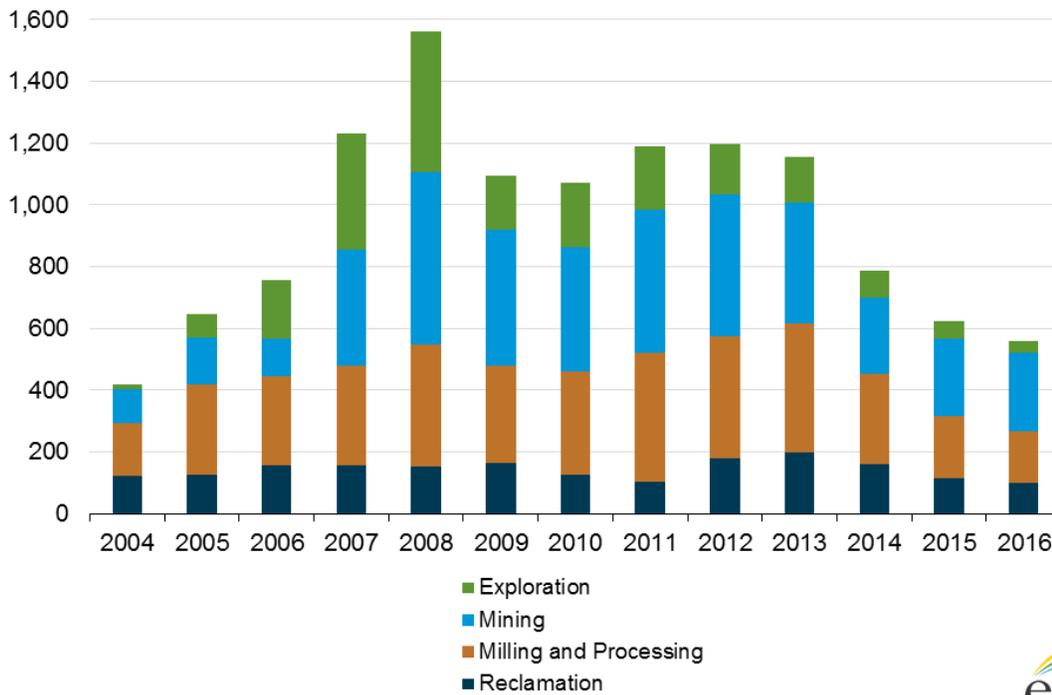
W = Data withheld to avoid disclosure of individual company data.

Note: Totals may not equal sum of components because of independent rounding. A large, one-time reclamation project needed to be withheld and was not included in 2016 data.

Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2003-16).

Figure 3. Employment in the U.S. uranium production industry by category, 2004-16

person-years



Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2004-16).



Table 7. Employment in the U.S. uranium production industry by state, 2003-16

person-years														
State(s)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Wyoming	134	139	181	195	245	301	308	348	424	512	531	416	343	323
Colorado and Texas	48	140	269	263	557	696	340	292	331	248	198	105	79	61
Nebraska and New Mexico	92	102	123	160	149	160	159	134	127	W	W	W	W	W
Washington	47	40	75	120	245	360	273	281	W	W	W	W	W	W
Alaska, Michigan, Nevada, and South Dakota	0	0	0	16	25	30	W	W	W	W	W	0	0	0
Dakota, Oklahoma, Oregon, and Virginia	0	0	0	0	9	17	W	W	W	W	W	W	W	W
Total	321	420	648	755	1,231	1,563	1,096	1,073	1,191	1,196	1,156	787	625	560

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-851A, "Domestic Uranium Production Report" (2003-16).

Table 8. U.S. uranium expenditures, 2003-16

million dollars

Year	Drilling ¹	Production ²	Land and Other ³				Total Expenditures
			Total Land and Other	Land	Exploration	Reclamation	
2003	W	W	31.3	NA	NA	NA	W
2004	10.6	27.8	48.4	NA	NA	NA	86.9
2005	18.1	58.2	59.7	NA	NA	NA	136.0
2006	40.1	65.9	115.2	41.0	23.3	50.9	221.2
2007	67.5	90.4	178.2	77.7	50.3	50.2	336.2
2008	81.9	221.2	164.4	65.2	50.2	49.1	467.6
2009	35.4	141.0	104.0	17.3	24.2	62.4	280.5
2010	44.6	133.3	99.5	20.2	34.5	44.7	277.3
2011	53.6	168.8	96.8	19.6	43.5	33.7	319.2
2012	66.6	186.9	99.4	16.8	33.3	49.3	352.9
2013	49.9	168.2	90.6	14.6	21.6	54.4	308.7
2014	28.2	137.6	74.0	11.6	10.7	51.7	239.7
2015	28.7	118.5	76.2	12.1	4.7	59.4	223.5
2016	22.3	98.0	49.6	9.9	2.5	37.2	169.9

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

¹ Drilling: All expenditures directly associated with exploration and development drilling.

² Production: All expenditures for mining, milling, processing of uranium, and facility expense.

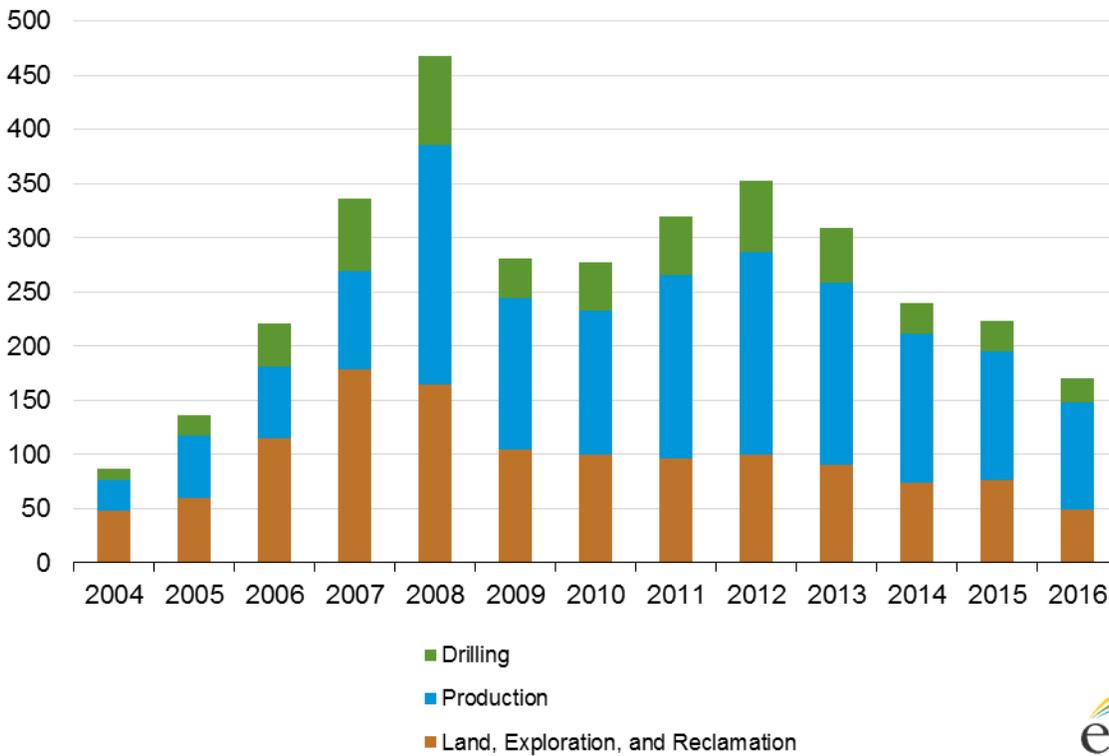
³ Land and Other: All expenditures for land; geological research; geochemical and geophysical surveys; costs incurred by field personnel in the course of exploration, reclamation and restoration work; and overhead and administrative charges directly associated with supervising and supporting field activities.

Notes: Expenditures are in nominal U.S. dollars. Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2003-16).

Figure 4. U.S. uranium expenditures, 2004-16

million dollars



Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2004-16).



Table 9. Summary production statistics of the U.S. uranium industry, 1993-2016

Year	Exploration and Development Surface Drilling (million feet)	Exploration and Development Drilling (million dollars)	Mine Production of Uranium (million pounds U ₃ O ₈)	Uranium Concentrate Production (million pounds U ₃ O ₈)	Uranium Concentrate Shipments (million pounds U ₃ O ₈)	Employment (person-years)
1993	1.1	5.7	2.1	3.1	3.4	871
1994	0.7	1.1	2.5	3.4	6.3	980
1995	1.3	2.6	3.5	6.0	5.5	1,107
1996	3.0	7.2	4.7	6.3	6.0	1,118
1997	4.9	20.0	4.7	5.6	5.8	1,097
1998	4.6	18.1	4.8	4.7	4.9	1,120
1999	2.5	7.9	4.5	4.6	5.5	848
2000	1.0	5.6	3.1	4.0	3.2	627
2001	0.7	2.7	2.6	2.6	2.2	423
2002	W	W	2.4	2.3	3.8	426
E2003	W	W	2.2	2.0	1.6	321
2004	1.2	10.6	2.5	2.3	2.3	420
2005	1.7	18.1	3.0	2.7	2.7	648
2006	2.7	40.1	4.7	4.1	3.8	755
2007	5.1	67.5	4.5	4.5	4.0	1,231
2008	5.1	81.9	3.9	3.9	4.1	1,563
2009	3.7	35.4	4.1	3.7	3.6	1,096
2010	4.9	44.6	4.2	4.2	5.1	1,073
2011	6.3	53.6	4.1	4.0	4.0	1,191
2012	7.2	66.6	4.3	4.1	3.9	1,196
2013	3.8	49.9	4.6	4.7	4.7	1,156
2014	1.3	28.2	4.9	4.9	4.6	787
2015	0.9	28.7	3.7	3.3	4.0	625
2016	0.8	22.3	2.5	2.9	3.0	560

E = Estimated data, except for employment. W = Data withheld to avoid disclosure of individual company data.

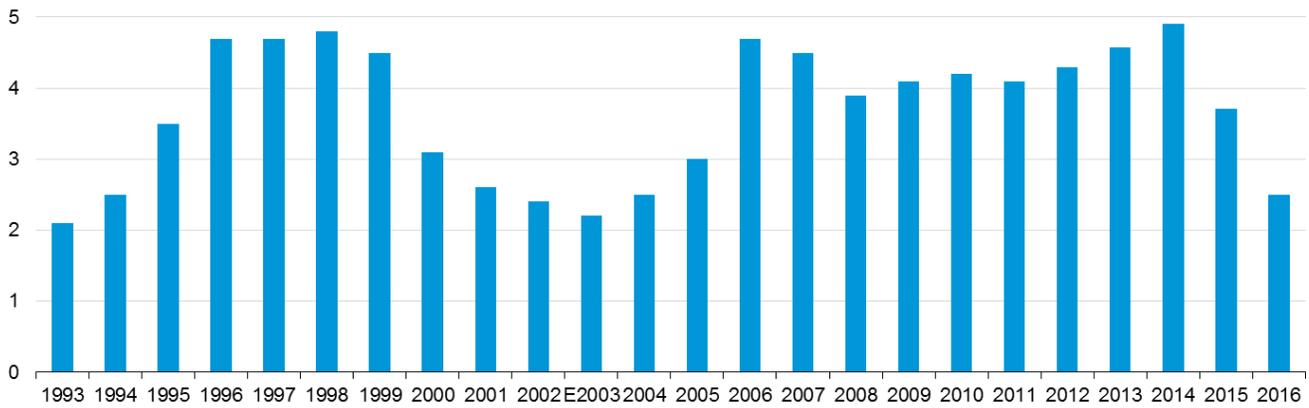
¹ Expenditures are in nominal U.S. dollars.

Note: The 2003 annual production and shipment amounts were estimated by rounding to the nearest 200,000 pounds to avoid disclosure of individual company data. A large, one-time reclamation project needed to be withheld and was

Source: U.S. Energy Information Administration: 1993-2002-Uranium Industry Annual 2002 (May 2003), Table H1 and Table 2. 2003-15-Form EIA-851A, "Domestic Uranium Production Report" (2003-16).

Figure 5. U.S. mine production of uranium, 1993-2016

million pounds U₃O₈



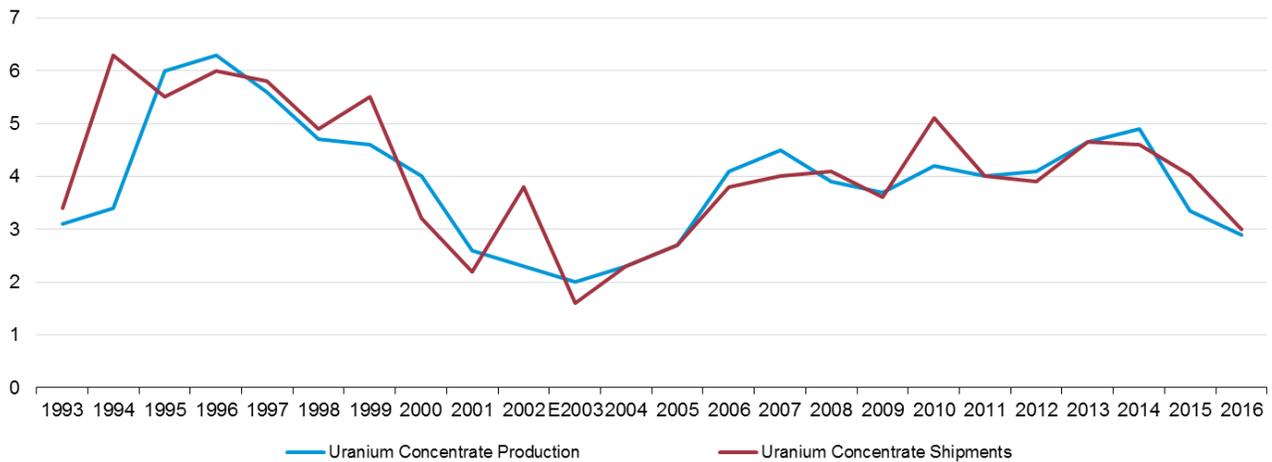
E = Estimated data.

Sources: U.S. Energy Information Administration: 1993-2002-Uranium Industry Annual 2002 (May 2003), Table H1 and Table 2. 2003-15-Form EIA-851A, "Domestic Uranium Production Report" (2003-16).



Figure 6. U.S. uranium concentrate production and shipments, 1993-2016

million pounds U₃O₈



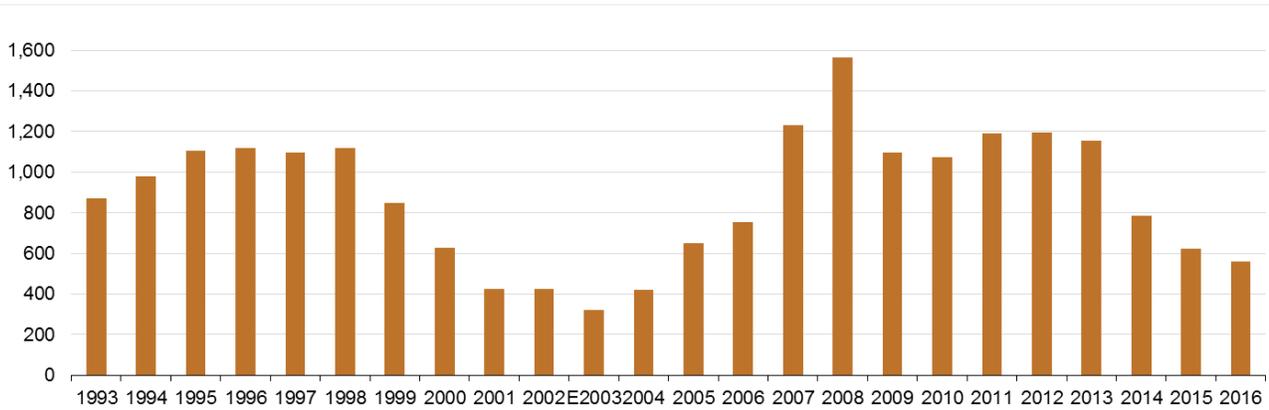
E = Estimated data.

Sources: U.S. Energy Information Administration: 1993-2002-Uranium Industry Annual 2002 (May 2003), Table H1 and Table 2. 2003-15-Form EIA-851A, "Domestic Uranium Production Report" (2003-16).



Figure 7. Employment in the U.S. production industry, 1993-2016

person-years



Sources: U.S. Energy Information Administration: 1993-2002-Uranium Industry Annual 2002 (May 2003), Table H1 and Table 2. 2003-15-Fom EIA-851A, "Domestic Uranium Production Report" (2003-16).



Table 10. Uranium reserve estimates at the end of 2015 and 2016

million pounds U₃O₈

Uranium Reserve Estimates ¹ by Mine and Property Status, Mining Method, and State(s)	End of 2015			End of 2016		
	Forward Cost ²			Forward Cost ²		
	\$0 to \$30 per pound	\$0 to \$50 per pound	\$0 to \$100 per pound	\$0 to \$30 per pound	\$0 to \$50 per pound	\$0 to \$100 per pound
Properties with Exploration Completed, Exploration Continuing, and Only Assessment Work	24.3	W	151.6	24.3	W	136.9
Properties Under Development for Production and Development Drilling	W	38.2	W	W	W	W
Mines in Production	W	16.4	W	17.1	W	W
Mines Closed Temporarily, Closed Permanently, and Mined Out	W	W	135.2	W	28.4	W
Total	66.2	165.8	361.8	59.9	159.5	339.2
In-Situ Leach Mining	W	W	148.6	W	115.3	W
Underground and Open Pit Mining	W	W	213.2	W	44.2	W
Total	66.2	165.8	361.8	59.9	159.5	339.2
Arizona, New Mexico and Utah	0	W	212.0	0	W	209.6
Colorado, Nebraska and Texas	W	39.2	44.3	W	39.2	W
Wyoming	W	W	105.6	W	W	W
Total	66.2	165.8	361.8	59.9	159.5	339.2

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

¹ Reserve estimates on 70 mines and properties for end of 2015 and on 68 mines and properties for end of 2016. These uranium reserve estimates cannot be compared with the much larger historical data set of uranium reserves that were published in the July 2010 report U.S. Uranium Reserves Estimates at <http://www.eia.gov/cneaf/nuclear/page/reserves/ures.html>. Reserves, as reported here, do not necessarily imply compliance with U.S. or Canadian government definitions for purposes of investment disclosure.

² Forward Cost: The operating and capital costs still to be incurred in the production of uranium from in-place reserves. By using forward costing, estimates for reserves for ore deposits in differing geological settings and status of development can be aggregated and reported for selected cost categories. Included are costs for labor, materials, power and fuel, royalties, payroll taxes, insurance, and applicable general and administrative costs. Excluded from forward cost estimates are prior expenditures, if any, incurred for property acquisition, exploration, mine development, and mill construction, as well as income taxes, profit, and the cost of money. Forward costs are neither the full costs of production nor the market price at which the uranium, when produced, might be sold.

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

Source: U.S. Energy Information Administration: Form EIA-851A, "Domestic Uranium Production Report" (2013-16).