

Why Have a Strategic Petroleum Reserve?

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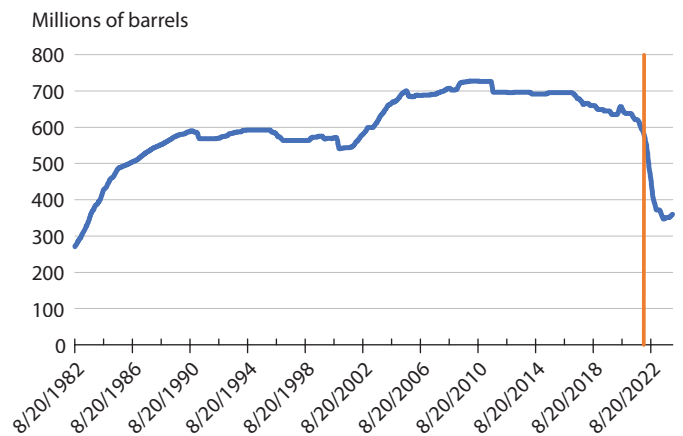
After the 1973 oil embargo that saw skyrocketing gas prices in the United States, Congress passed the Energy Policy and Conservation Act of 1975, which established the U.S. strategic petroleum reserve (SPR).¹ The Act permits the president to order drawdowns from the SPR in the case of “a severe energy supply interruption.”² The SPR has an authorized capacity of 714 million barrels of oil, held in 60 caverns among 4 sites near the U.S. Gulf Coast.³ This essay briefly explains the history and traditional use of the SPR and explores alternative strategies for it.

From 1977 to about 1990, the Department of Energy filled the SPR at varying rates. The quantity of oil in the SPR then waxed and waned until the September 11, 2001, attacks, after which President Bush sought to refill the reserve, with the SPR peaking in January 2010 at 726.6 million barrels (see the figure). There were modest drawdowns in 2016–2021, associated with efforts to ease gas prices after Hurricane Harvey and Congressionally mandated “mandatory sales” to fund the fiscal deficit.⁴ In addition, Congress authorized sales to finance SPR modernization. The table, adapted from Kelly (2023), describes post-2015 SPR releases.⁵

The largest series of oil releases from the SPR, by far, has been in response to the oil price hikes in the wake of the Russian invasion of Ukraine, which began in February 2022 (Neely, 2022). On March 1, 2022, the International Energy Agency coordinated an international release that included 30 million barrels from the U.S. SPR. In the following 8 months, President Biden ordered the release of an additional 340 million barrels of oil. The 370 million barrels in these invasion-of-Ukraine SPR releases was 64 percent of the SPR stock on February 25, 2024, and greater than the combined total of all other releases since 1985.⁶

The Biden administration argued that the releases substantially lowered gasoline prices, and it is very likely that any supply increase lowers prices to some extent. To put the drawdowns in context, however, the U.S. Energy Information Agency reports worldwide production and consumption of about 97.3 million barrels of oil per day, of which the U.S. consumed about 20.3 million barrels. Therefore, the 370 million barrels released over 8 months amounted to about 1.6% of world oil production during that time.

Crude Oil in the U.S. SPR, 1982–2024



NOTE: The orange line denotes February 25, 2022.

Calculating the effect of the recent drawdowns from the U.S. SPR is a bit complex. The oil price decrease was passed through to gasoline and other prices, marginally helping Americans who drive and also buoying the Treasury’s coffers, thereby helping taxpayers. But it marginally hurt Americans who work in the oil industry or who own oil stocks, perhaps through an index fund or a pension fund. It seems likely that the drawdowns had some redistributory effects but were not particularly good or bad for the U.S. as a whole.

This raises the issue of the best purpose for a strategic reserve of any sort. On the one hand, the government could act as a private long-term speculator, keeping a strategic reserve that can be drawn upon when prices are high and refilled when prices are low. Such a strategy would tend to make money and stabilize market prices. In fact, Milton Friedman argued that profitability was a good measure of whether a trading strategy stabilized or destabilized asset prices. The Department of Energy describes the purpose of the SPR in this way, saying that it is “used to alleviate the market impacts of both domestic and international disruptions” (Department of Energy, 2024).

On the other hand, one might argue that the government functioning as a long-term speculator reduces the incentive for private actors to perform that function themselves and creates incentives for policymakers to use the

Drawdowns from U.S. SPR from 2015 through February 2023

Event date	Name	Type	Volume announced	Volume delivered
8/31/2017	2017 Hurricane Harvey exchange	Exchange	1.0	5.2
2/1/2017	FY 2017 SPR modernization sale	Non-emergency sale		6.28
5/1/2017	FY 2017 mandatory sale	Non-emergency sale		9.894
10/1/2017	FY 2018 mandatory sale	Non-emergency sale		13.717
2/9/2018	FY 2018 SPR modernization sale	Non-emergency sale		4.74
10/1/2018	FY 2019 mandatory sale	Non-emergency sale		10.87
2/28/2019	FY 2019 SPR modernization sale	Non-emergency sale	6.0	
8/21/2019	FY 2020 mandatory sale	Non-emergency sale	10.0	9.85
2/28/2020	FY 2020 SPR modernization sale	Non-emergency sale	12.0	
2/11/2021	FY 2021 mandatory sale	Non-emergency sale	10.1	10.1
4/16/2021	FY 2021 SPR modernization sale	Non-emergency sale	9.0	
8/23/2021	FY 2022 mandatory sale	Non-emergency sale	20.0	20.0
9/2/2021	2021 Hurricane Ida exchange	Exchange	1.8	
11/23/2021	High gas prices	Accelerated sale	50.0	
12/10/2021	High gas prices	Accelerated sale	18.0	
3/1/2022	IEA coordinated release	Emergency sale	30.0	
3/31/2022	War in Ukraine	Emergency sale	180.0	180.0
4/1/2022	War in Ukraine	Emergency sale	30.0	30.0
5/24/2022	War in Ukraine	Emergency sale	40.0	40.0
6/14/2022	War in Ukraine	Emergency sale	45.0	45.0
7/26/2022	War in Ukraine	Emergency sale	20.0	20.0
9/19/2022	War in Ukraine	Emergency sale	10.0	10.0
10/18/2022	War in Ukraine	Emergency sale	15.0	15.0
2/13/2023	FY 2023 mandatory sale	Non-emergency sale	26.0	

NOTE: This table displays the dates, names, types, and amounts of drawdowns (in millions of barrels) from the U.S. SPR from 2015 through February 2023. It is adapted from Table 1 in Kelly (2023), reproduced here with permission from the *Journal of Business Administration Online*.

SPR for short-term gain at the expense of long-term preparedness. Some people would advocate that strategic reserves of natural resources should be saved for a true emergency, such as a war or very large natural disaster.

Finally, some analysts, such as Lee (2023), question whether the U.S. should have a strategic reserve at all, given that the U.S. is now a net oil exporter, not the major importer it was during the 1970s when the SPR was established. The validity of this argument would seem to depend on whether the U.S. is likely to remain a net exporter and whether U.S. production and private storage facilities are as secure from disruptions as the SPR. ■

Notes

¹ The United States also has a strategic reserve for helium and formerly had strategic grain and uranium reserves; https://www.energy.gov/sites/default/files/2023-03/Infographic%20SPR%202022_2023.pdf.

² <https://www.energy.gov/ceser/statutory-authority-spr-drawdown>

³ China, India, and Japan also have fairly large strategic petroleum reserves; https://www.energy.gov/sites/default/files/2022-09/strategic%20petroleum%20reserve%20factsheet.2_1.pdf

⁴ <https://www.reuters.com/article/us-storm-harvey-crude/u-s-releases-oil-from-strategic-reserve-in-harveys-wake-idUSKCN1BB1MZ>

⁵ The following page describes SPR releases: <https://www.energy.gov/ceser/history-spr-releases>.

⁶ Recently, the Biden administration has moved to slowly replenish the SPR: <https://www.reuters.com/markets/commodities/biden-administration-slowly-puts-oil-back-into-spr-emergency-stash-2024-01-04/>.

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