

# Faking it: the Biden administration's foreign and nuclear weapons policies

## What can be done?

July 1, 2021

*I do not see how a nation that wants to get along in a century that shouts “parity” and “common purpose” from every quarter will do so if it effectively insists on its own isolation and if it lives in an artificially constructed version of the world. There is always failure, of course, and I ask readers not to miss the optimism buried in this apparently pessimistic thought.*

Patrick Lawrence, “[Arc of Decline](#),” [Consortium News](#), June 28, 2021

*Nothing in the world is more dangerous than sincere ignorance and conscientious stupidity.*

Martin Luther King, “Strength to Love,” 1963

*Does the individual know he is the makeweight that tips the scales?*

Carl Jung, *The Undiscovered Self*, 1957



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Los Alamos Study Group  
2901 Summit Place NE  
Albuquerque, NM 87106  
[www.lasg.org](#), 505-265-1200

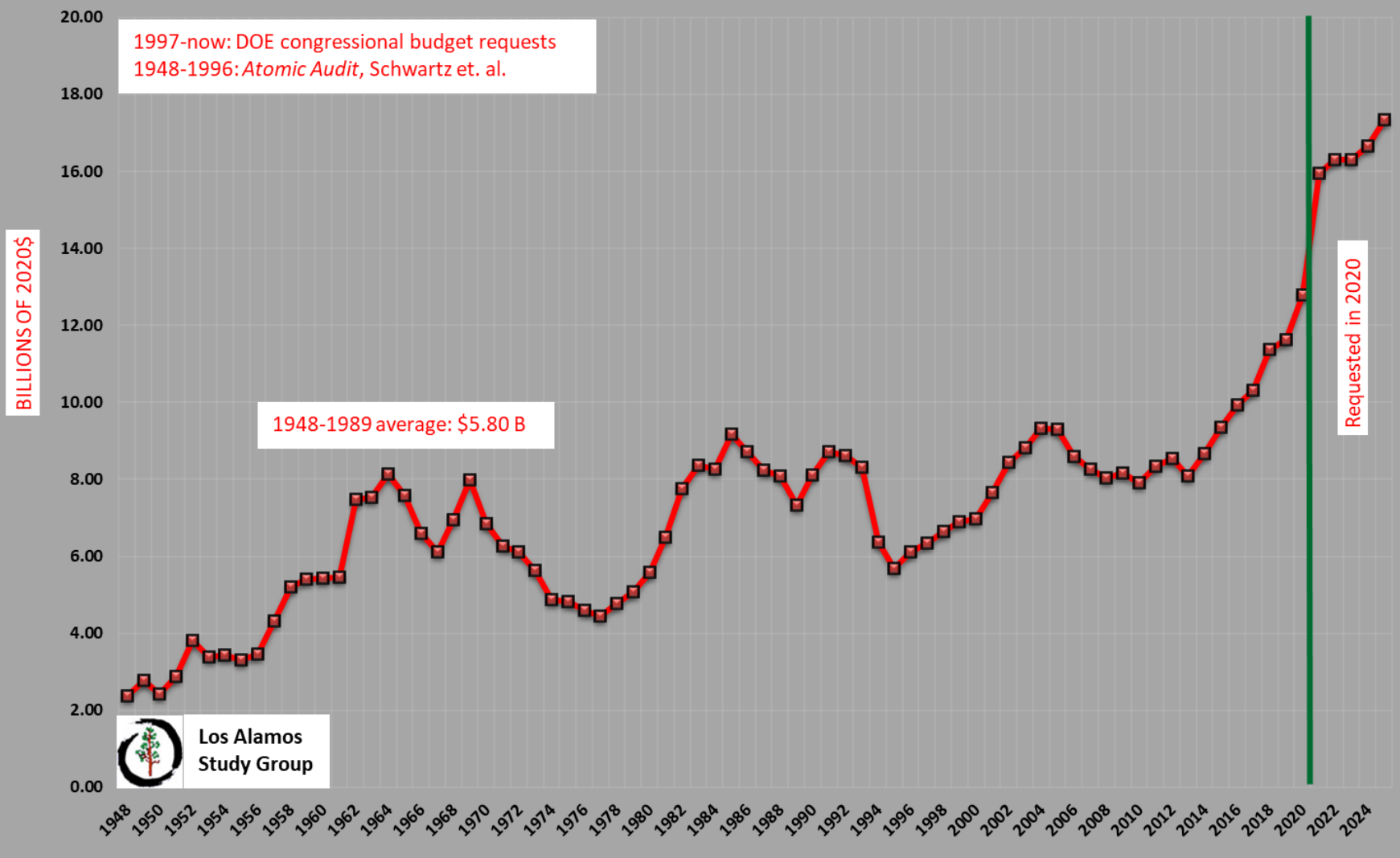
# 1. Biden administration foreign and nuclear weapons policies

- Mostly unchanged from Trump's, which were unchanged from Obama's
- Highlights and key conclusions so far [discussed orally]
- Overall a momentous turning point, with ZERO sign "Biden," or Congress, have any ability, inclination, or strength of mind or will to meet it. More ugly, lost wars likely.
- Nuclear weapons policies: minor corrections expected next year, continuity overall, as internal problems mount and "adversary" capabilities increase.
- Nuclear arms control prospects minimal due to non-nuclear postures and issues. Seeking "kinder, gentler empire" and disarmament without changes in society goes nowhere. Mere stability no longer possible due to converging crises.
- Peace movement largely neutered by progressive Democrats so hasn't reproduced; disarmament efforts intentionally, coopted, redirected by Democratic surrogates.
- Total propaganda, curated discourse, & ideological loyalty for most professionals
- Notes on sources.

## 2. The new nuclear arms race, and LANL's role in it

- Basic outline: U.S., Russia, China modernizing everything; U.S. hegemony, exceptionalism, prosperity threatened; two opposing models for international relations
- Can't be seen or solved alone; U.S. threatens Russia existentially in multiple ways so Russia will continue modernization.
- Internal dynamics of nuclear weapons enterprise play a large part in requirements
- Huge funding and staffing increases, especially at LANL, where the mission is changing
- Pit production a key enabling capability; if LANL is the only site even greater expansion will be necessary than shown in current plans. This is already being quietly discussed.
- In addition to its new role as a weapons production site, LANL is also to be a main plutonium processing site. LANL will also continue its role as a warhead development site. LANL will continue classified work in other areas. It will never be a "diverse," or a "civilian," lab. LANL will also never be "cleaned up." That isn't even the goal.
- Status of pit production (as our time allows).

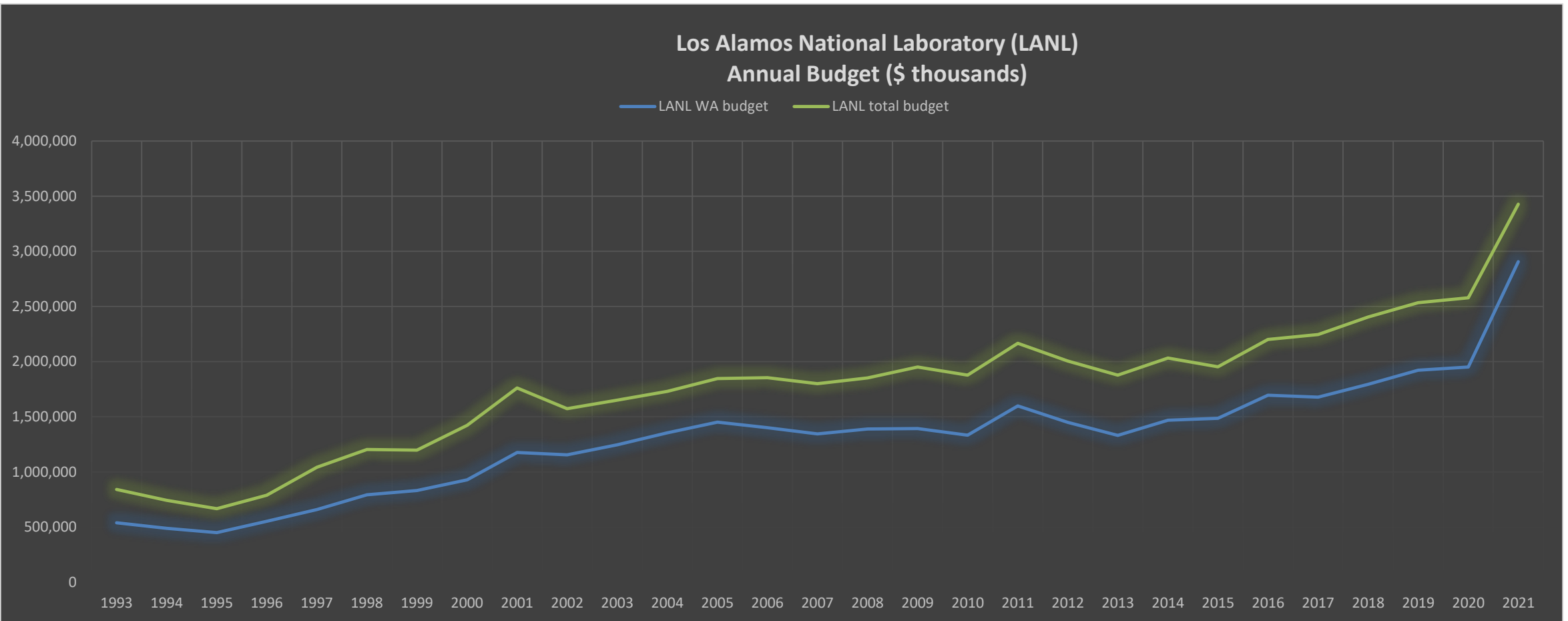
**AEC/ERDA/DOE/NSA Annual Spending for Nuclear Weapons Research, Development, Testing, and Production: NNSA Weapons Activities with administrative costs included; constant 2020\$; ≥FY21 requested, in then-year \$. Updated 2/28/20.**



**Unprecedented expansion of NNSA warhead budget. (Graph 1.5 years old.)**

**Backstory: Trump was blackmailed by bomb advocates as possible impeachment loomed.**





NNSA expects to give LANL a 49% increase in Weapons Activities (WA) spending for FY21. Final figures due this week. [graph 6 months old]

LANL budget expected to rise by 33% overall. With ‘Strategic Partnerships’ (DoD, intelligence, others) (not included here) and local federal oversight, LANL’s budget will reach \$4 billion this year.

Los Alamos National Laboratory (LANL) spending, current and proposed, \$ billions				
LANL M&O contractor: Triad, LLC	FY 2020 enacted	% total	FY 2021 request	% total
Weapons programs	1.93	59%	2.91	71%
Nonproliferation programs	0.29	9%	0.31	8%
Safeguards & security	0.15	5%	0.03	1%
Environmental Mgmt	0.03	1%	0.03	1%
DOE office of science	0.09	3%	0.06	1%
Energy & other programs	0.09	3%	0.02	0%
Work for others (WFO) (assumed unchanged)	0.35	11%	0.35	9%
<b>Total Triad</b>	<b>2.93</b>	<b>89%</b>	<b>3.71</b>	<b>91%</b>
<b>LANL cleanup (N3B)</b>	<b>0.19</b>	<b>6%</b>	<b>0.19</b>	<b>5%</b>
<b>Los Alamos Site Office (LASO) (federal)</b>	<b>0.17</b>	<b>5%</b>	<b>0.18</b>	<b>4%</b>
<b>Total LANL</b>	<b>3.29</b>	<b>100%</b>	<b>4.08</b>	<b>100%</b>

## What does LANL do?

As of 8/20/20, LANL says it has 13,137 employees:

- Triad: 9,397 (67% university degreed, 21% PhD)
- Guard force (Centerra-LA): 281
- Subcontractors: 478 (part- or full-time?)
- Students: 1,323 (presumably few are full-time)
- Unionized craft workers: 1,160
- Postdocs: 498

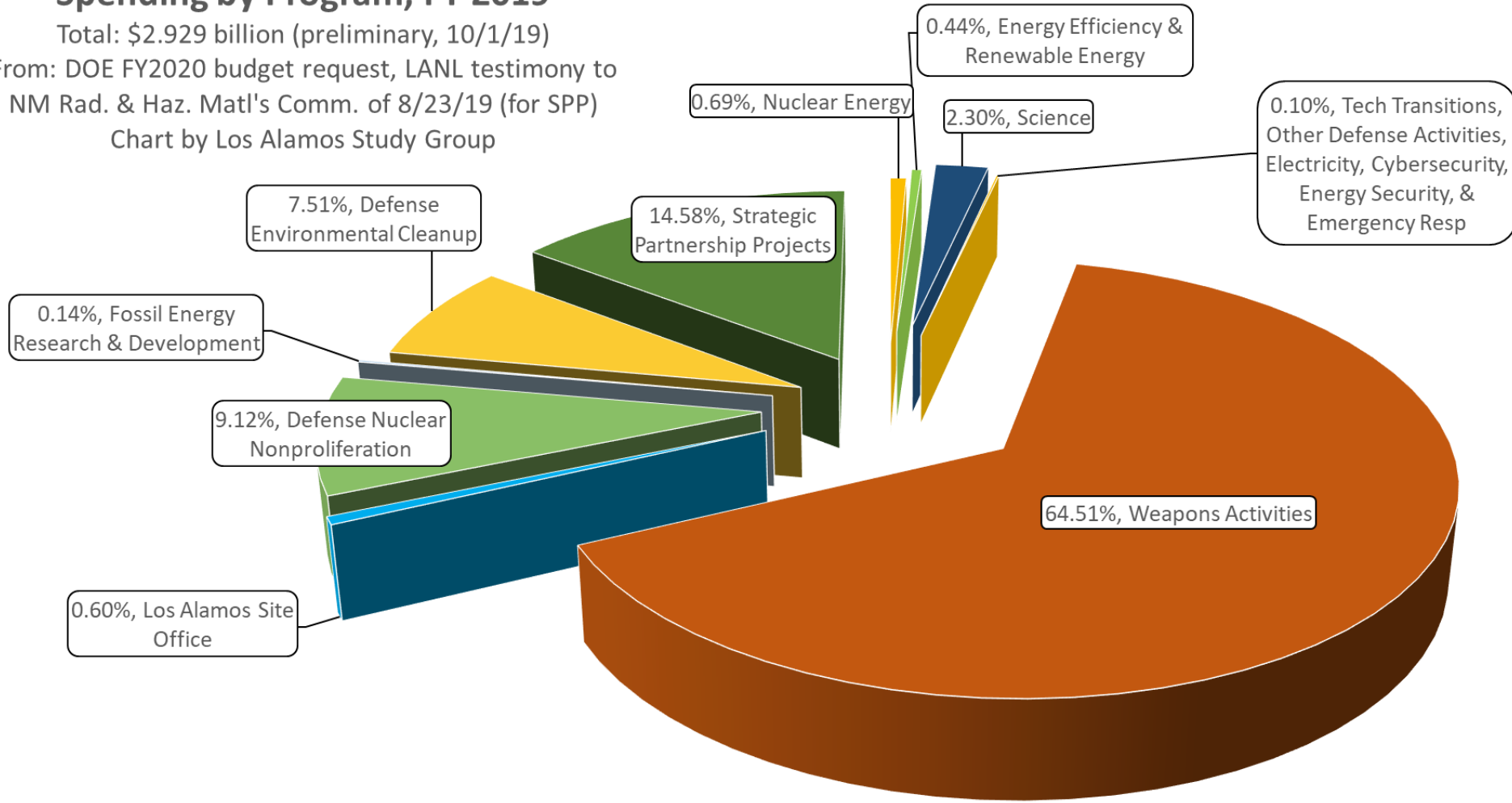
This does not include N3B, its subcontractors, or LASO

Sources:

- <https://www.lanl.gov/about/facts-figures/index.php> (retrieved 8/20/20)
- <https://www.lasg.org/budget/FY2021/doe-fy2021-laboratory-table.pdf>

# Los Alamos National Laboratory Spending by Program, FY 2019

Total: \$2.929 billion (preliminary, 10/1/19)  
From: DOE FY2020 budget request, LANL testimony to  
NM Rad. & Haz. Mat'l's Comm. of 8/23/19 (for SPP)  
Chart by Los Alamos Study Group

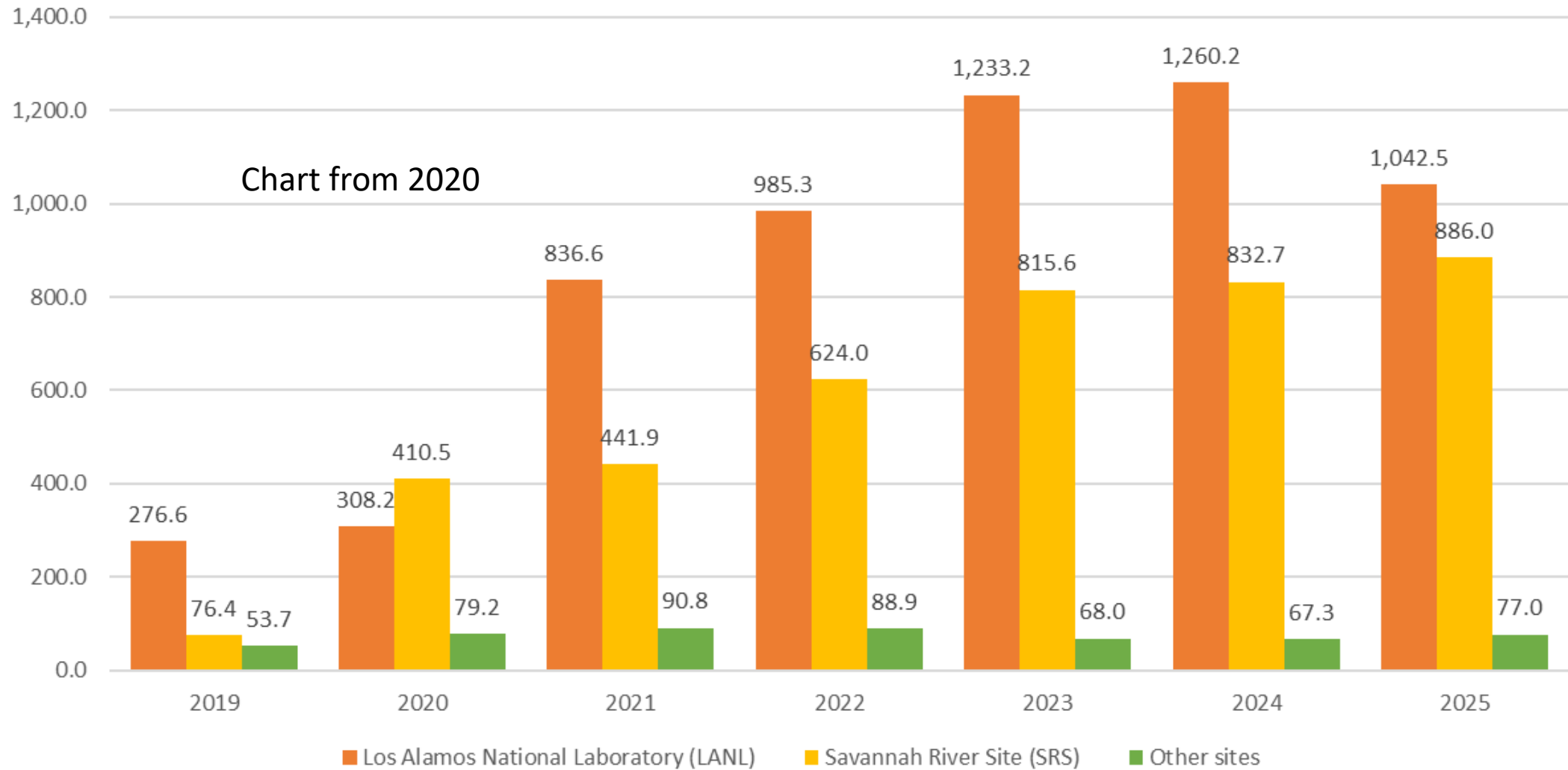


**Plutonium (Pu) Modernization Spending, Actual and Proposed by Site, \$M** Chart from 10/1/20

	2019	2020	2021	2022	2023	2024	2025	Total
Los Alamos National Laboratory (LANL) Pu Operations (pp. 102, 106)	271.6	287.0	610.6	635.3	733.2	810.2	842.5	4,190.4
LANL Plutonium Pit Production Project (LAP4), 21-D-512 (pp. 102, 106, 193)	5.0	21.2	226.0	350.0	500.0	450.0	200.0	1,752.2
<b>Subtotal LANL Pu Modernization</b>	<b>276.6</b>	<b>308.2</b>	<b>836.6</b>	<b>985.3</b>	<b>1,233.2</b>	<b>1,260.2</b>	<b>1,042.5</b>	<b>5,942.6</b>
<b>Not included in the above:</b>								
LANL Chemistry Metallurgy Research Replacement (CMRR) Project, 04-D-125 (pp. 364, 369)	237.0	168.4	169.4	238.1	113.7	275.8	198.5	1,400.9
LANL Transuranic (TRU) Liquid Waste Facility, 07-D-220-04 (pp. 364, 369)	1.0	1.7	37.7	3.0	4.0	3.2	0.0	50.6
LANL TA-55 Reinvestment Phase III (TRP-III), 15-D-302 (pp. 363, 369)	1.8	2.0	32.0	33.0	41.0	41.8	38.5	190.1
<b>Total LANL Pu Modernization*</b>	<b>516.4</b>	<b>480.3</b>	<b>1,075.7</b>	<b>1,259.4</b>	<b>1,391.9</b>	<b>1,581.0</b>	<b>1,279.5</b>	<b>7,584.2</b>
Savannah River Site (SRS) Pu Operations (pp. 102, 106)	76.4	410.5	200.0	179.0	191.6	226.7	366.0	1,650.2
Savannah River Plutonium Processing Facility (SRPPF) Design & Construction, 21-D-511 (pp. 102, 106, 199)	0.0	0.0	241.9	445.0	624.0	606.0	520.0	2,436.9
<b>Total SRS Pu Modernization</b>	<b>76.4</b>	<b>410.5</b>	<b>441.9</b>	<b>624.0</b>	<b>815.6</b>	<b>832.7</b>	<b>886.0</b>	<b>4,087.1</b>
Enterprise plutonium support, multiple sites, (pp. 102, 106)	53.7	79.2	90.8	88.9	68.0	67.3	77.0	524.9
<b>Total Complex-wide Pu Modernization</b>	<b>646.5</b>	<b>970.0</b>	<b>1,608.4</b>	<b>1,972.3</b>	<b>2,275.5</b>	<b>2,481.0</b>	<b>2,242.5</b>	<b>11,671.3</b>

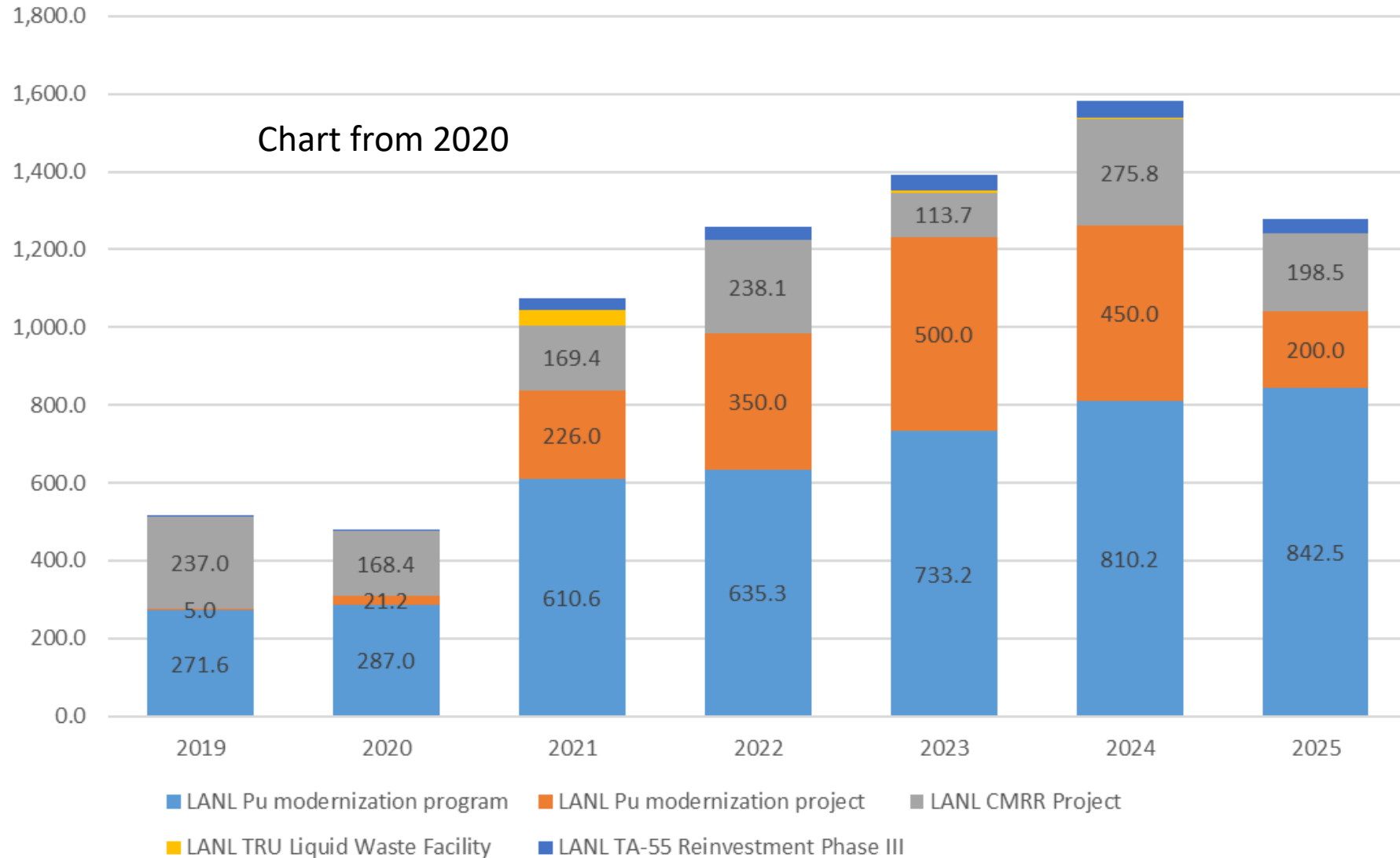


## "Plutonium Modernization" Spending, Actual and Proposed by Site, \$M (omits other Pu-mission-supporting LANL construction funded separately)





## LANL "Plutonium Modernization" with Selected Supporting Construction Cited by Senator Heinrich, \$M



## What will pits cost? (I) [Analysis from 10/1/20. Capital cost at SRS up \$6.5 B, LANL \$2 B; other est. cost changes unknown]

### 1. At SRS: average LCC cost per pit

The 50-year life-cycle cost (LCC) estimate ([EA briefing](#), S.10): \$27.8 billion (B). There are no more recent open estimates, whether of LCC, total SRPPF construction, or total SRPPF startup costs.

This is for  $\geq 50$  pits per year (ppy), which leads to an expected average single-shift production of 84 ppy ([AoA](#), p. 13).

Average cost for each of 4,200 pits: **\$6.6 million (M)/pit**

The LCC for  $\geq 80$  ppy, leading to an average of 103 ppy ([AoA](#), p. 13), will be in the \$30.4 B - \$33.0 B range (see 3. below).

Average cost for each of 5,150 pits: **\$5.9 M/pit to \$6.4 M/pit.**

### 2. At SRS: marginal LCC cost per pit

Increasing LCC by \$2.6 B to \$5.2 B buys  $103 - 84 = 950$  more pits, leading to a marginal cost of **\$2.7 M/pit to \$5.5 M/pit**. CBO ([August 2020](#), p. 14) estimated marginal pit cost at a mature 50-ppy SRPPF to be **\$6.0 M/pit**.

### 3. Economies of scale at SRS: pit production has great economies of scale

Increasing capacity at SRPPF from  $\geq 50$  to  $\geq 80$  ppy will require an additional 22 pieces of equipment beyond the original 111 pieces ([AoA](#), p. 17) (20% more), in an additional 6,350 sq. ft. of Hazard Category (HC) 2 space ([AoA](#), p. 45). This is less than 2% of total SRPPF space ([EA](#), p. 2-30). The marginal cost of this equipment and space is too small to compute.

If operational costs – principally staff – scale with equipment, they will be 20% (\$5.2 B) higher. This is a conservative estimate, because many support functions will not increase that much.

The SRS pit production EIS says (at [p. S-27](#)) that increasing capacity at SRPPF from  $\geq 50$  to  $\geq 80$  ppy will require an additional 185 staff (i.e. 10% more). This is likely to be somewhat non-conservative. Increasing operational costs by 10-20% (i.e. bracketing these estimates) in Table 3-16 of the EA leads to an LCC for the  $\geq 80$  ppy case of \$30.4 B to \$33.0 B.

## What will pits cost? (II)

### 4. At LANL, average accrued cost\* per pit through 2030 (\*LANL LCC is unknown; see discussion, slide IV in this series)

There is \$7.6 B programmed for Pu modernization and supporting activities at LANL over FY19-25 (see below). Assume the LANL pit capability requires \$0.4 B in post-FY25 capital costs for a round total of \$8 B in startup costs for FY19-30.

By the end of FY19 LANL employed 2,000 individuals in pit production and support activities (NNSA briefing of Jan 2020). LANL will need to hire 2,000 additional staff to achieve 30 ppy production ([draft SA](#), March 2020, pp. 12, 15). (See also [final SA](#), pp. 15, 18). Overall, LANL needs 4,000 staff to achieve  $\geq 30$  ppy.

Fully-burdened personnel costs at LANL are roughly \$3.29 B / 13,137 employees or \$250,438/person. Pit production and supporting staff will thus cost  $\sim$ \$1.00 B/year. This is our estimate of annual pit program costs. Consider this included in startup costs over FY19-25 but accruing after FY25.

**Total pit production costs through 2030 are \$8 B + \$5 B, plus costs for 5 years of post-FY25 maintenance, waste management, and a pro-rata share of LANL's extensive overall capital expansion and renewal program, which together we might conservatively estimate at \$1 B, gives a total cost of \$14 B for LANL pit production over the FY19-30 period.**

Over this period we may estimate LANL pit production as increasing, per statute, to 30 ppy in FY26 and thereafter to  $\geq 30$  ppy, i.e. an average of 43 ppy ([AoA](#), p. 13), leading to a total production of 233 pits through 2030, or **\$60.0 M/pit**. We do not credit (or credence) LANL "surge" production beyond an average of 43 ppy.

### 5. At LANL, average accrued cost per pit through 2040, assuming no PF-4R

*Very optimistically* assuming no investment in a PF-4 replacement ("PF-4R") is necessary during the 2030s, and allowing \$2 B in maintenance, waste management, and pro rata LANL capital investments over FY26-39, leads to a total cost of \$25 B for 663 pits, or **\$37.7 M/pit**.



## What will pits cost? (III)

### 6. At LANL, average accrued cost per pit through 2040, with PF-4R

More realistically, assume a PF-4R is required and that it is built in the 2030s. Optimistically, assume a LANL site could be found (a building of this scale and character might not be buildable at TA-55; see below). Assume a PF-4R could be built for \$10 B (59,600 sq. ft. x ~[\\$180/sq. ft.](#) in 2020 \$ = \$10.7 B, not counting \$1 B PIDAS or any other infrastructure such as roads and bridges, radioactive waste lines, etc.). This gives a total cost of \$35 B for 663 pits or **\$52.8 M/pit**.

### 7. At LANL, average accrued cost per pit over 50 years, with PF-4R

The above assumptions, with a 2%-of-asset-value maintenance investment per year and \$80 M per year for waste management and pro-rata site-wide improvements but nothing for decommissioning and disposal (D&D), lead to a ballpark \$82 B in overall cost for 2,181 pits or **\$37.6 M/pit**.

### 8. Comparison of SRS and LANL pit costs

**Average pit costs at SRS are 6-10x lower than at LANL, with early LANL pits in the 2020s being particularly expensive if LANL production turns out to be short-lived.** Once pit production is established at SRS, the marginal pit cost at SRS may be even lower in relation to LANL's costs. *It is difficult to even guesstimate a true marginal pit cost at LANL because so many of LANL's operational and support requirements are challenged by even a basic 30 ppy capability.*

### 9. How do these cost differences affect W87-1 warhead cost?

CBO estimates non-pit warhead costs at \$9-14 M each ([August 2020](#), p. 14), i.e. \$15-\$20 M, including a \$6 M pit. **Using LANL pits in the W87-1 approximately triples this unit cost.** GAO [estimates](#) (p. 22) a total cost of \$9-15 B for the W87-1 program. **Establishing industrial pit production at LANL for the W87-1 at least doubles W87-1 program cost.**

# **Interlude: LANL today, from the air**

















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© Los Alamos Study Group, aerial of Los Alamos National Laboratory, Technical Area 55, June 14, 2021







© Los Alamos Study Group, LANL's Technical Area 55 with Elk Ridge trailer park in foreground, April 14, 2021

























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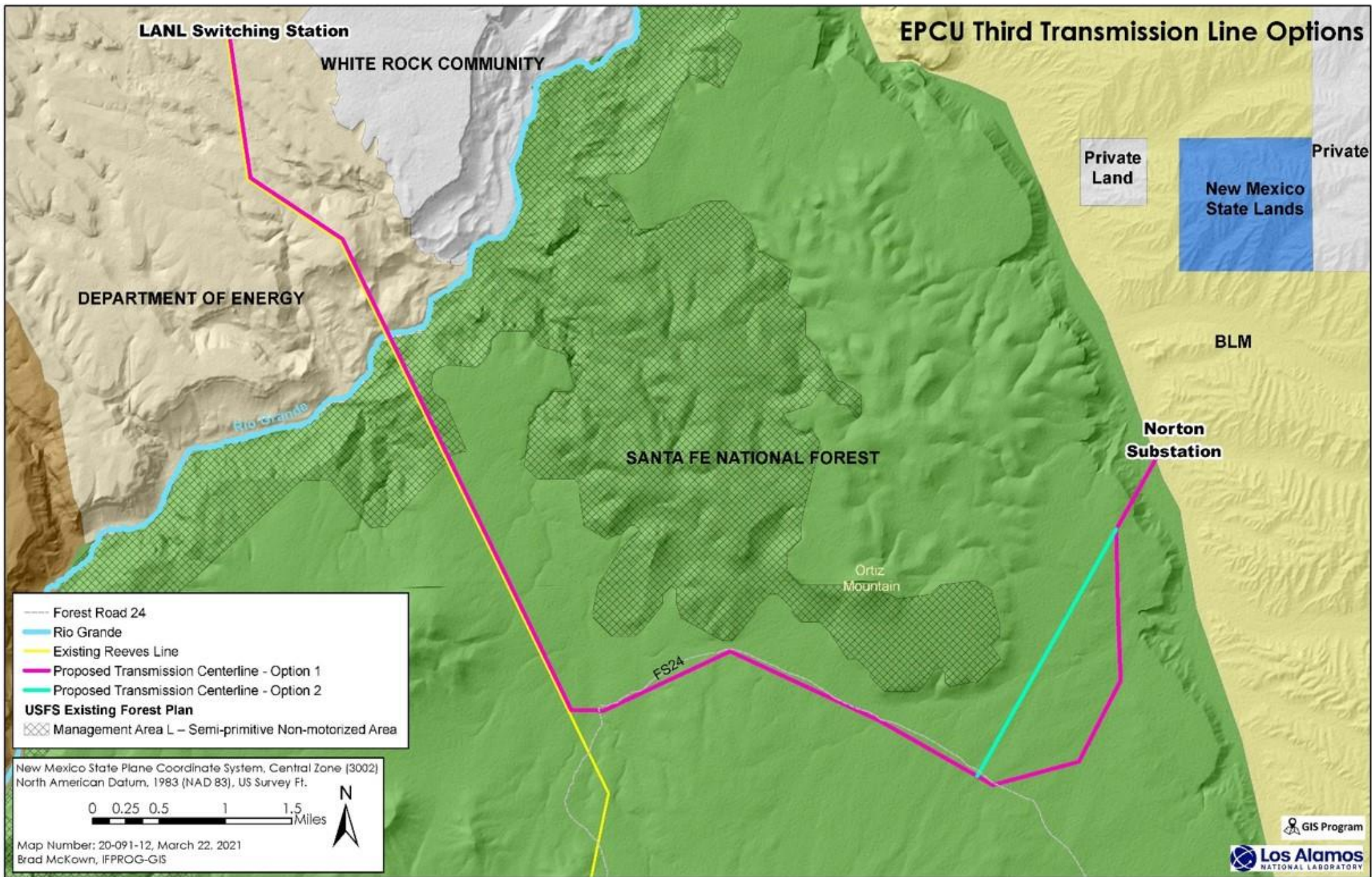
© Los Alamos Study Group, Mirador housing development in foreground near LANL's Area G waste storage in background, Apr 2021















# Savannah River Plutonium Processing Facility (SRPPF)



## 4. Why LANL expansion has hurt and will hurt northern NM

Nuclear weapons jobs don't benefit the region – and won't.

- LANL has spent ~\$130 B to date, producing what shared prosperity and social advancement? Permanent pollution, >1,600 federally-documented occupational deaths -- yes.
- Only a few benefit economically. LANL drives devastating regional inequality.
- Labor markets are distorted as LANL absorbs scarce local talent. Housing markets are likewise bid up, and scarce resources such as water and road capacity are consumed.
- Taxpayers in bedroom communities pay for public services for LANL, often with negative fiscal impacts.
- Politicians focus and depend on LANL and its wealthy employees – or else fear its power.
- Imaginations are stifled as narrative dominance becomes complete. Political and opinion leaders become unable to “think outside the labs.”
- LANL suborns the attention and loyalty of our political and civic leadership and provides false, self-serving answers to the economic, environmental and social problems we face.
- Instead of coming together to truly grapple with these problems, our leaders talk about LANL “jobs,” a narrative that centers our attention on LANL – not where it belongs, in our communities.

## New Mexico's largest public infrastructure investments

In relation to LANL capital projects (LCPs) planned, FY2020 – FY2030 (\$13 billion)

(Costs are best available; dates mostly at completion)

Project	Year	Cost Then (\$M)	Cost in 2019 (\$M)	Percent LCPs
Elephant Butte Dam, NM	1916	5.2	262	2%
(Golden Gate Bridge, CA)	1937	35	1,003	8%
San Juan Chama Diversion	1964	>35	>321	>2%
Cochiti Dam, NM	1975	94.4	406	3%
LANL TA-55 PF-4	1978	75	251	2%
I-40 + I-25 + I-10 highways, NM (treated here as one project)	1956-1995	~7.4 M/mile, 2006 dollars	Ballpark 9,207	71%
Big I Interchange, Albuquerque	2001	290	455	4%
San Juan Chama drinking water project, Albuquerque	2008	280	334	3%
Railrunner Heavy Rail Extension to Santa Fe (incl. track lease)	2008	~400	~477	4%
LANL DARHT (very approximate)	~2008	~ 400	~477	~4%
SNL MESA Complex	2008	516.5	616	5%

**Make no mistake, do not be distracted by details: this is to be a huge expansion that dominates all investment in NM.**

**It will dominate our politics, attitudes, and institutions, and limit our future possibilities in myriad ways.**



This guy can't be wished away. He's not a New-Ager. Not too into social justice.

He will eat anything he can get his hands on.

He's not accepting calls or well-meaning petitions.

He's smarter than he looks. We had better be smart too, brave, and committed. We'll live then.

(Goya, "Colossus.")

## 5. Stepping back: the big picture

- We face converging crises, some of which are existential for civilization and nature. These crises are quickly increasing in severity. They require immediate, decisive actions, which must therefore be widely-supported across nearly all social sectors.
- There is very little democratic governance remaining at any level, especially federal. We live in an “[inverted totalitarian](#)” society or “managed democracy” (Sheldon Wolin, Chris Hedges, Chalmers Johnson). “Hope” for change is *the* problem for us.
- Nothing can be done without bipartisan cooperation, mutual respect, and nonviolence (the essence of politics). The shock and pain of our situation and its remedies, such as they are, has to be shared.
- We have dysfunction in government, journalism, academia, and NGOs. “The experts are always wrong.” (Fred Harris). Important factual misunderstandings are now a generation or more deep. These must be overcome, on both sides of the aisle.
- We all need “ideological patience” (Goodwyn). *Respect* is the political equivalent of interpersonal love. We need to be more courageous, *and* we need to listen, so we can speak effectively. We need to *convert* people, not just win.





This and following picture: these once-verdant forests, now burned off, will never grow back.





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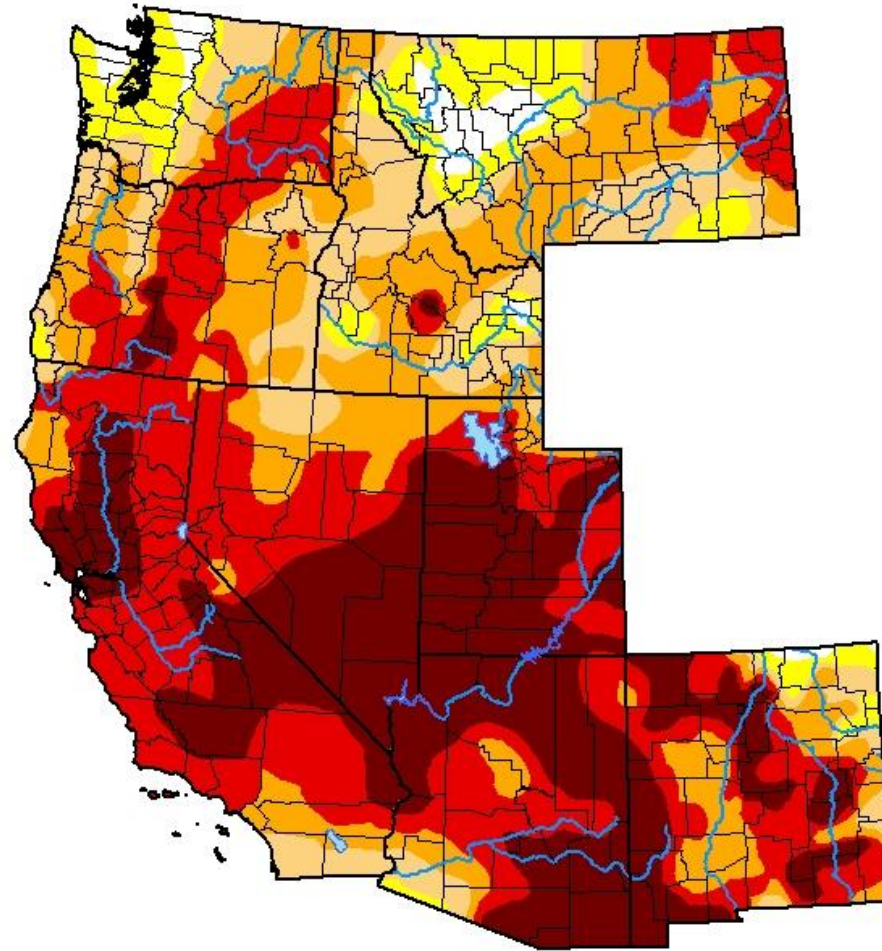










**Dust storm,  
Galisteo  
Creek at I-25,  
spring 2021**

# U.S. Drought Monitor West

**June 22, 2021**  
(Released Thursday, Jun. 24, 2021)  
Valid 8 a.m. EDT



### Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

### Author:

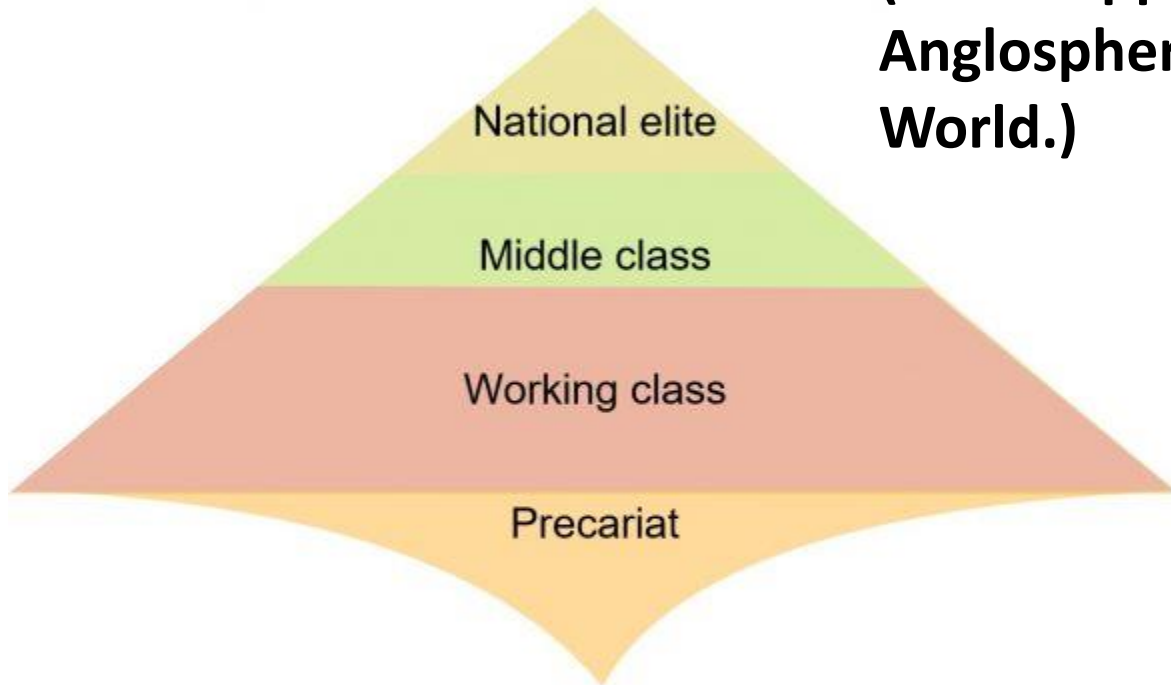
Curtis Riganti  
National Drought Mitigation Center



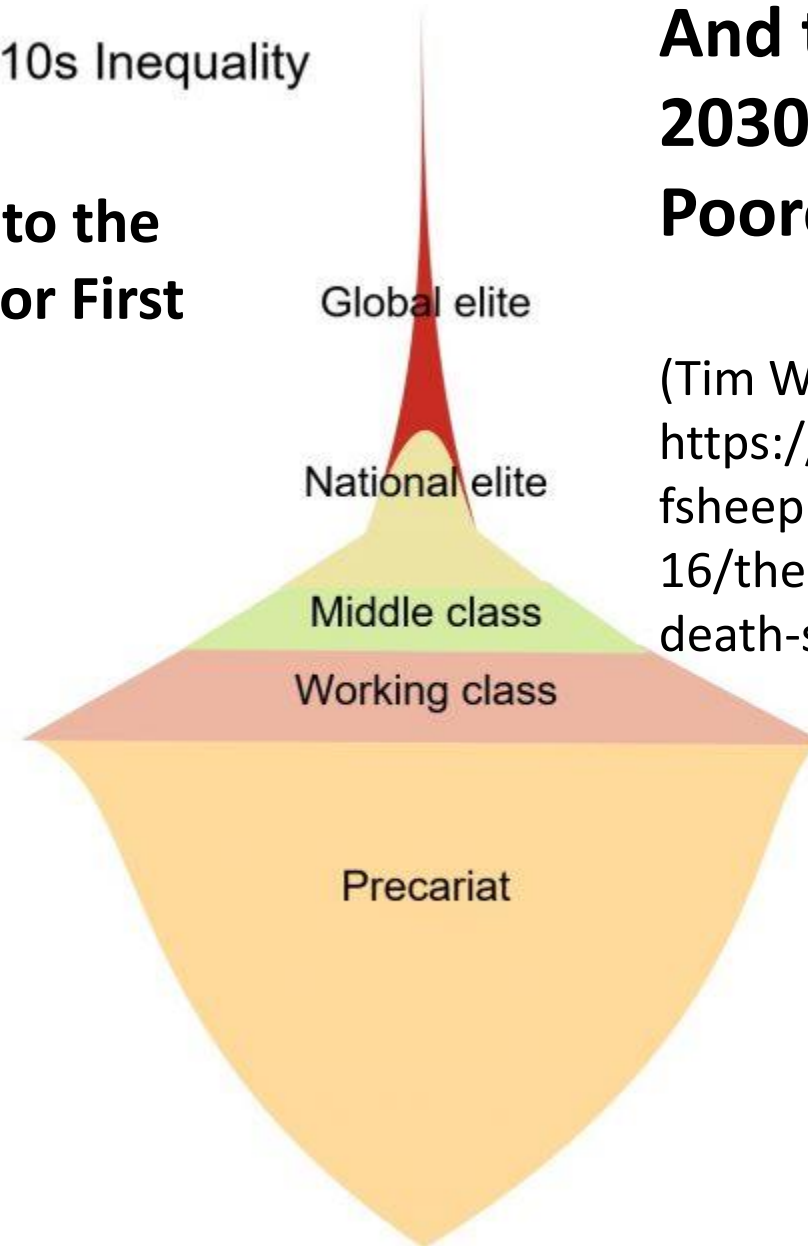
**droughtmonitor.unl.edu**



1970s Inequality



2010s Inequality

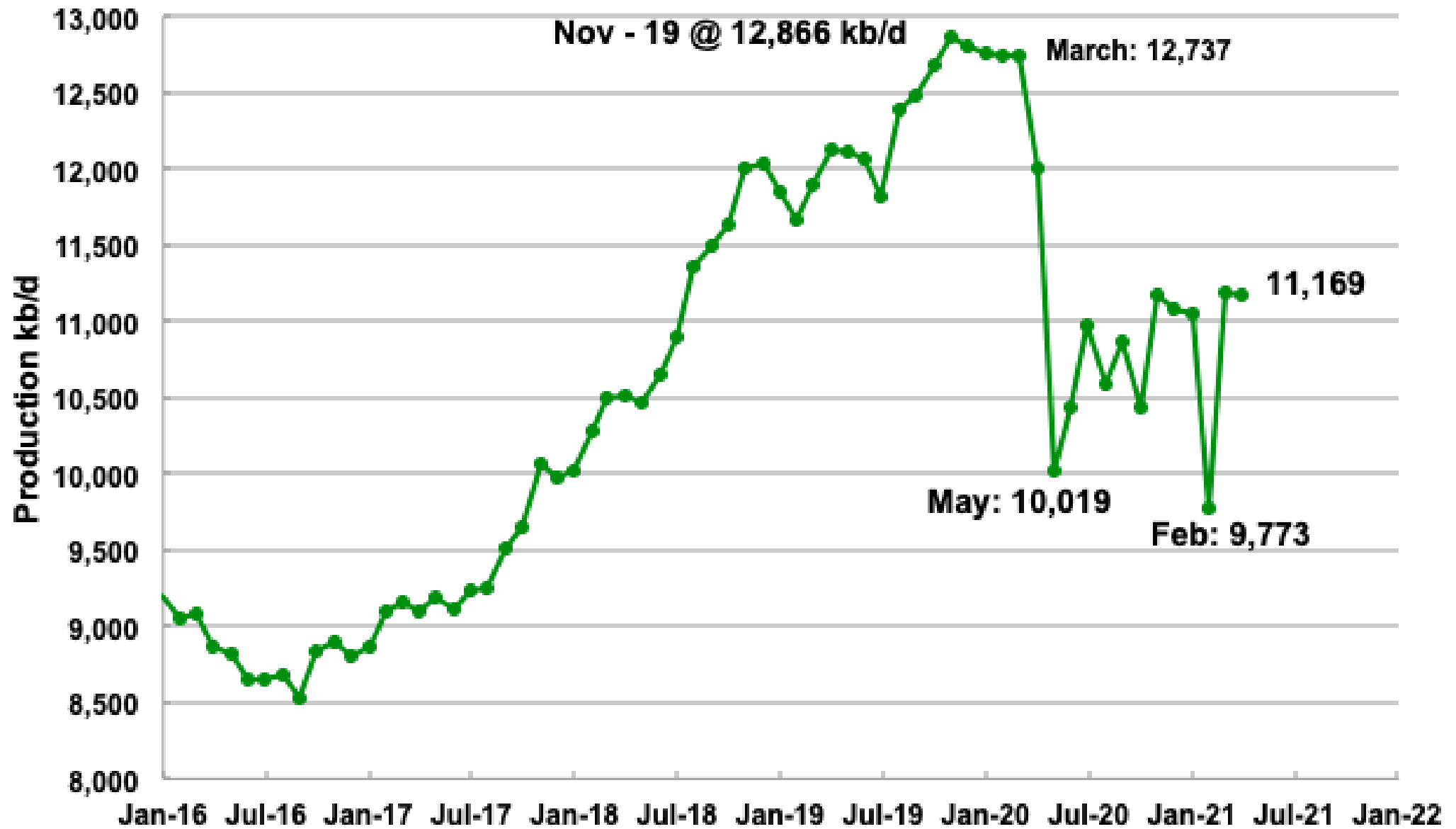


**(These apply to the  
Anglosphere or First  
World.)**

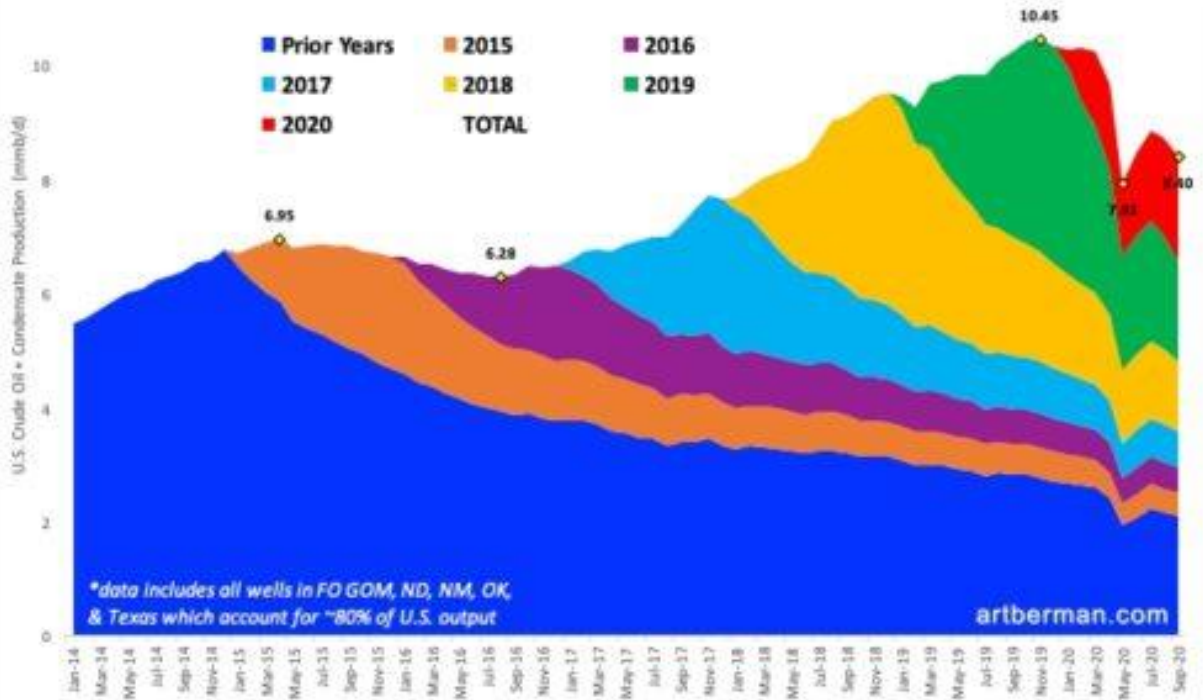
**And the 2020s?  
2030s? 2040s?  
Poorer states?**

(Tim Watkins,  
<https://consciousnessofsheep.co.uk/2021/06/16/the-everything-death-spiral/>)

# USA C + C Production

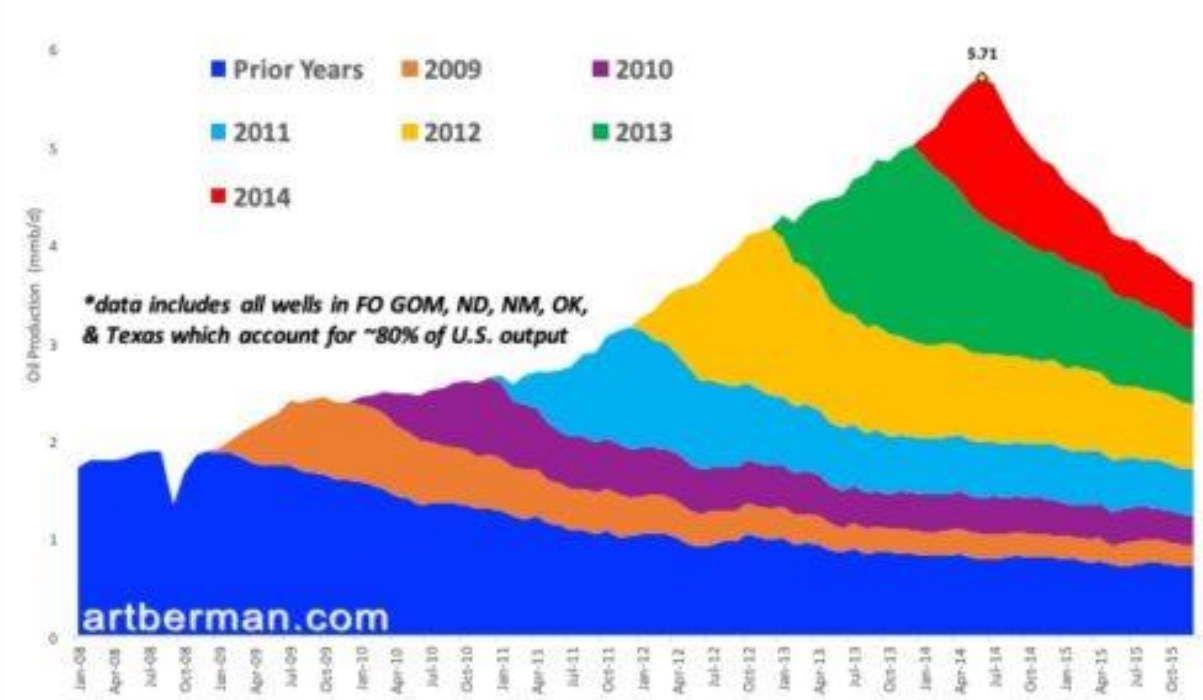


**2020 U.S. oil production\* declines at 43% per year**  
**If no new wells were drilled, total U.S. production would fall - 4.25 mmb/d in one year**



Source Envenus & Labyrinth Consulting Services, Inc. Rig Count/Rig Count Current/FO-ND-NM-OK-TX Merged Vintaged CUM 1980-2020

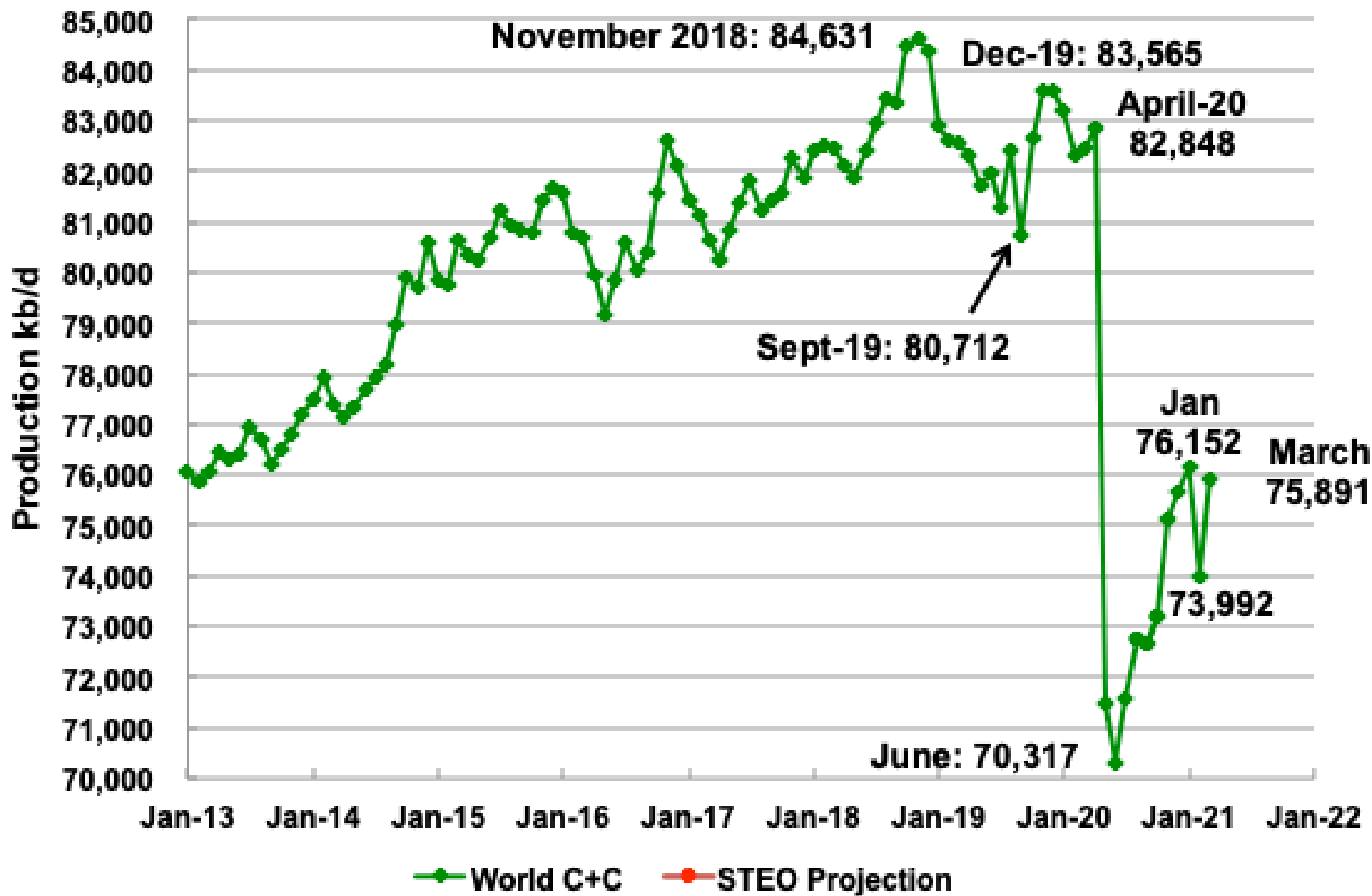
**In 2014, U.S. oil production\* declined at 22% per year**  
**If no new wells were drilled, production would fall about 0.9 mmb/d in one year**



Source: Baker Hughes, EIA, Envenus & Labyrinth Consulting Services, Inc. Rig Count/Rig Count Current/MONTHLY SHALE GAS-TIGHT OIL RIG

Without the fracking treadmill U.S. oil production would collapse.

## World C + C Production



### [How Much Oil Can Saudi Arabia Really Produce?](#)

By Simon Watkins – Jun 22, 2021, 7:00 PM CDT

### [Shale's 400% Rise in Frack Crews Not Enough to Boost Output](#)

By David Wethe June 22, 2021, 3:14 PM CDT

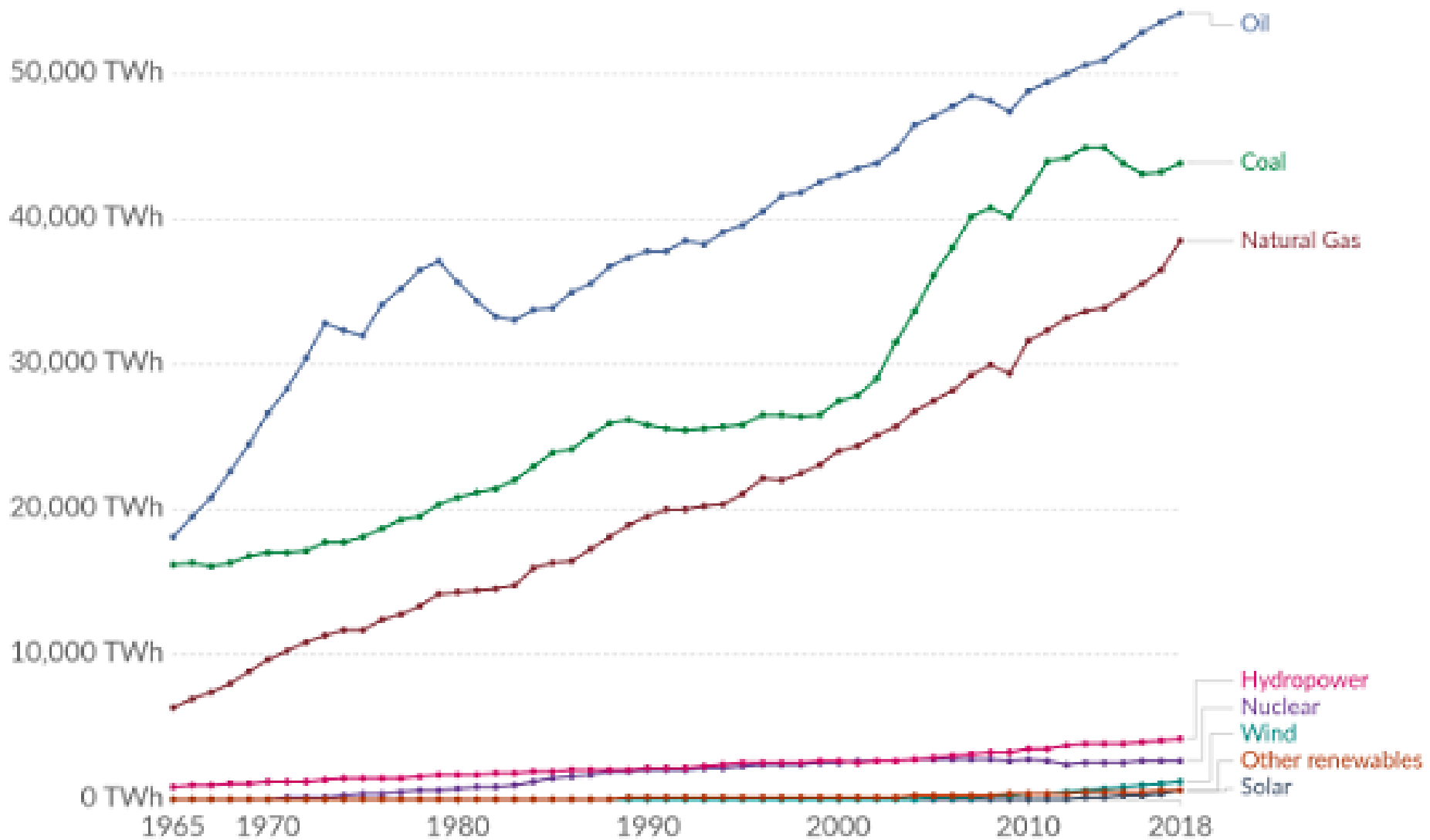
### [Russia Is Struggling To Boost Oil Production](#)

By Irina Slav – Jun 29, 2021, 9:30 AM CDT



# Primary energy consumption by source, World, 1965 to 2018

Primary energy consumption is measured in terrawatt-hours (TWh).

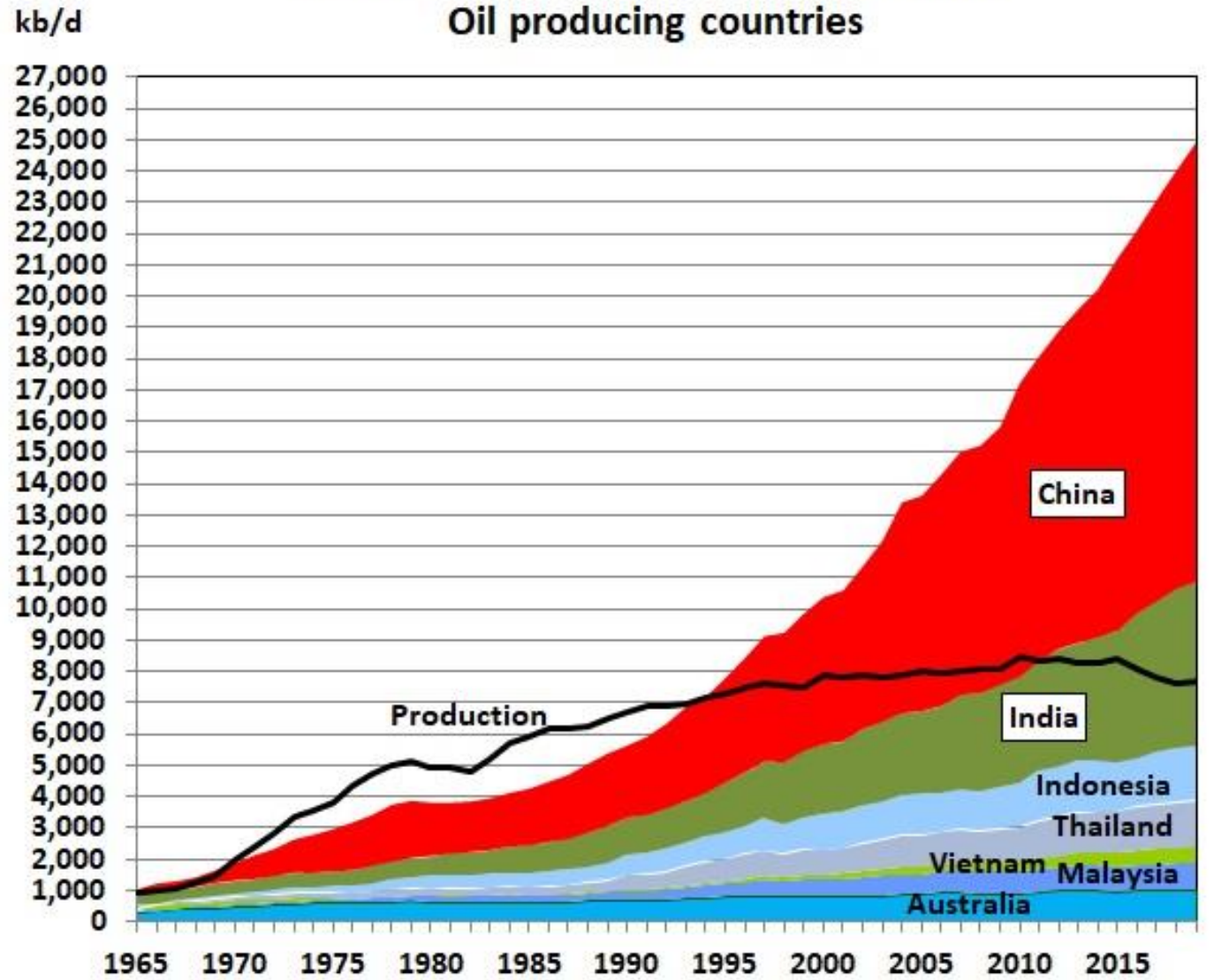


Source: BP Statistical Review of Global Energy (2019)

OurWorldInData.org/energy • CC BY

# Asia Pacific 1965-2019 oil consumption

## Oil producing countries



Data:BP Statistical Review June 2020

<http://crudeoilpeak.info>  
Crude Oil Peak



## Upside down priorities from powerful leaders

<https://www.brookings.edu/events/a-conversation-with-hasc-chairman-adam-smith/>

House Armed Services Chairman Adam Smith, at 36:00:

"As far as prioritizing is concerned, the top two priorities are Command and Control and the pits that we have to make. And all that other stuff you know, if you don't have any of that then you don't you know, we have a significant problem in terms of being able to make the nuclear pits that are necessary to build any weapons whatsoever."

## In New Mexico:

- No realistic or adequate climate, water, habitat, food, employment, education, transportation policies. Energy fantasies prevail
- Trickle-down corporate colonialism, extractivism, growthism, nuclear-military servitude, & distraction industries are pillars of our economic policy
- Massive ignorance, incapacity in legislature, not enough time, staff, and sufficient inclination to learn
- Pervasive legalized corruption in political class at all levels, with brave exceptions
- Top-level totalized narratives (e.g. growth, money, national security), denial, trivia, and infantilized pabulum advanced by key media most of the time
- Insufficient help from NGO community, largely controlled by funders and limited by ignorance, ideology, party allegiances
- Courts generally inaccessible, with important exceptions (Yazzie; on a smaller scale our own litigation; NEE; WildEarth Guardians...)
- Retirees and young adults largely MIA or *hors de combat*.

The formal part of  
this talk ended here.

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**FAILED STATE?**

#1 in nuclear weapons

Child well-being:

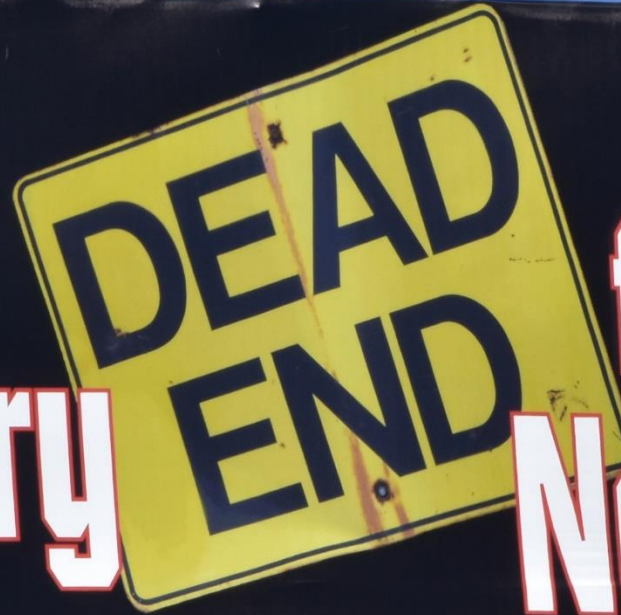
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