

CONTRARIAN CODEX

WNA report. Dedicated to my grandfather,
who's support helped me get to this point
(15-09-2026)

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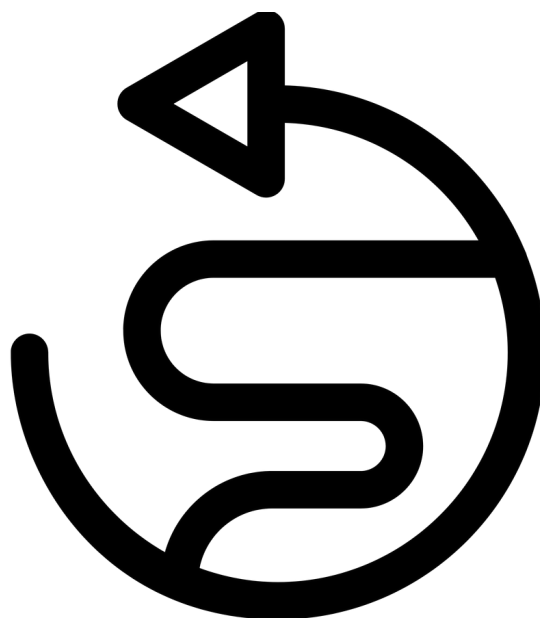
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ANOTHER INSIGHTFUL EDITION

Welcome back for another extensive edition of the annual Codex WNA report. It's safe to say that the past two weeks have been rough, but I am still glad to bring you all a full reporting of everything I heard and saw at the conference. As you all know, I sadly had to fly back a day early for the funeral of my grandfather (who's continued support helped me reach the point to even be in this position and for which I will be forever grateful. Also thanks again for all the supportive messages on that front, I cannot stress enough how much it means to me), however I can assure you that there is plenty of insightful data and information in this report and then some from the time that I was there.

Obviously the bi-annual fuel report last year was the talk of the town and it felt like that got a snowball rolling that has been gathering momentum ever since and we can see that in the price of uranium as well, with it being up over \$15 since then. The shift in mindset from the buy side of the industry that I described as getting properly underway last year has gone up another level this year. One prominent buy side participant described it best, noting that "The conversations used to be more centered around the terms and pricing of the contract, that has firmly shifted to the main focus now being delivery security". In other words, those conversations I had with fuel buyers last year (and which I will touch on again in this piece) have been kicked into a higher gear now as the name of the game is actually getting your supply when you need it, instead of what you would ideally like to pay for it. I had a lot more of those conversations this year and that is what I will dive deeper into as we get into the report, as well as conversations with uranium traders, producers, SMR developers, financial entities and so many others. If you're at all invested in uranium then you will hopefully find this report valuable, so let's dive right in.

WNO REPORT AND FINANCE SUMMIT OVERLOOK

Let's kick things off with a summary of the World Nuclear Outlook report that was shared by the WNA and it was an extremely bullish report when it comes to nuclear power, which is something I think I have said every time they release a new report as things just continue to improve for the sector. Well, I can imagine that you don't really want to spend too much time on this and just want to get straight to what I heard and saw at the conference, but fear not as I went through the entire thing so you don't have to, as well as the Finance Summit that took place on Wednesday. If you're not looking for a mountain of nuclear data being thrown at you, I will see you again on page 7 for more conference chatter.

Still here? Great, let's start with the fact that global nuclear generation reached 2702 TWh in 2025, up 35 TWh on the prior year and an all-time record. That covered 9% of world electricity, down from roughly 17% in the mid-1990s, because total supply keeps growing faster than nuclear can add units. The existing fleet ran at an average capacity factor of 83.7%, up from 82.9%, a fleet-wide number most thermal generation would kill for (as you can see from the chart I will add on page 6). Net operable capacity finished the year at 400 GWe against 398 GWe prior. Construction started on 11 reactors, 9 in China and 2 in Russia. Grid connections came to 3 and permanent shutdowns to 7, including 3 units in Belgium. So the entire Western world contributed exactly zero construction starts. Encouraging stuff guys, nice job... let's hope that changes soon (and I have reason to believe it will).

Start rates need to accelerate to roughly 6 times current levels by the mid-2030s for the tripling goal to be met, on the arithmetic in the WNA's second annual outlook report. Annual capacity additions have generally run below 10 GWe in recent years, and even at the 1980s peak the world only briefly cleared 30 GWe in a single year. Zhangzhou 2 in China went from first concrete to grid in 62 months, real impressive if you ask me, while Rajasthan 7 in India took 163 months, roughly 3 times the schedule for a smaller unit, and serial build of standardized designs is the whole difference. 11 starts against something like 66 required, at least in my opinion, is a gap no amount of policy language closes.

The 2050 projection came in at 1457 GWe against 1446 GWe in the first edition, so it barely moved. Under construction went from 76 to 82 GWe, planned from 107 to 114, proposed fell from 294 to 289, potential fell from 24 to 13, and the additional capacity needed to meet stated government targets rose from 542 to 559 GWe. Firming pipeline at the front, thinning speculation at the back, which is what you would expect if projects were advancing, but we do need to see even more action if we are to get anywhere close to those ambitious targets.

WORLD NUCLEAR OUTLOOK REPORT

Meaningful, sure, but 559 GWe of that 2050 total, roughly 38% of the whole thing, exists only as government ambition with no project attached to it just yet. Yes I am enthusiastic and yes I believe that a significant amount of new reactors will be built over the coming years, but as you can see I am not just going to gloss over the fact that the start has been slower than many would have hoped after that initial ground breaking ‘tripling of nuclear power capacity’ headline hit. Thankfully it’s not like we need that for the uranium thesis to work out and then some given what is already on the table, but still it would be great to see the proverbial wheels get into motion.

Anyway, I digress. As per the point I just made, how many of those gigawatts have a site, a vendor and a financing structure? Zero. 423 GWe gross is operating today and 401 GWe of that same capacity is projected to still be running in 2050. 171 GWe of it comes from reactors that will have operated under 60 years, 230 GWe from reactors running between 60 and 80 years. Mean fleet age is 33 years, 46 reactors have already passed the 50-year mark, and the average retirement age keeps climbing, 48.7 years for the 2025 closures against 47.3 the year before and we have seen several reactors get life extensions to 80 years. The report finds no age-related decline in capacity factors whatsoever, including among reactors past 40 years of operation. Reactors that fuel buyers were penciling in for retirement in the 2030s will be consuming pounds well into the 2040s, and 230 GWe of the 2050 fleet is existing steel running on extended licenses. Demand keeps compounding instead of rolling off, even without that aforementioned tripling of capacity.

Tripling capacity requires major expansion of conversion, enrichment and fabrication and without early action bottlenecks emerge where fuel cycle capacity cannot meet the generation the report itself projects. Uranium exploration and mine development get the same treatment as you can imagine, with supply constraints named as the consequence of standing still and long mine lead times given as the reason timing beats intent. Governments are told to expand fuel supply ahead of demand, set targets and timelines for exploration and resource development and make sure regulators finish mine licensing and permitting on schedule. In other words, we need a lot more investment in the fuel cycle and that starts with a lot more investment in uranium mining.

WORLD NUCLEAR OUTLOOK REPORT

Moving on, HALEU and LEU+ appear explicitly, with many advanced SMR designs requiring higher burnup and higher enrichment and governments are asked to fund both the fuels and the facilities to make them in time. Flipping through the report, reprocessing gets a section, framed around uranium utilization and fuel security. None of it comes with a number of course. No tonnage, no pounds, no enrichment target, no date. The capacity side of this report gets two dozen charts and a projection to the gigawatt, and the fuel side gets adjectives. Seriously, a trade body for utilities and fuel buyers asking governments to secure more uranium without sizing the ask reads to me as a demand-side admission with the arithmetic left to the market and if it's left fully to the market, you can be sure that it will price it firmly in the triple digits for adequate supply.

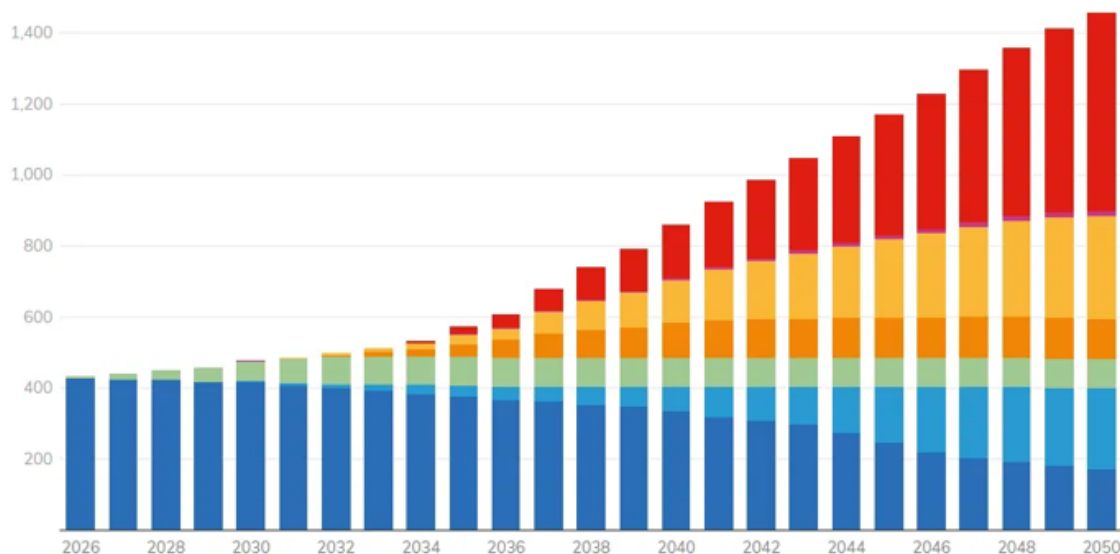
The bear case being thrown around on nuclear has always leaned on delivery failure and 11 starts against 66 needed, 559 GWe of unattached ambition and Western programs that still cannot repeat a build all feed it. None of that changes the pounds. Reactors already under construction add 54 GWe by 2030 and another 28 GWe by 2035, and 401 GWe of today's fleet is still turning in 2050. I cannot stress this enough, uranium demand does not need the tripling target to be met. Existing fleet operation plus completion of the current construction backlog gets you there and both are already happening into a timeframe where large legacy mines will start to deplete.

The figure below shows projected global reactor capacity by category, based on the combined capacity trajectories for each country.

Figure 3.2 Global nuclear capacity projections 2026-2050

GWe (gross) capacity

60-year operation 80-year operation Under construction Planned Proposed Potential Additional target capacity



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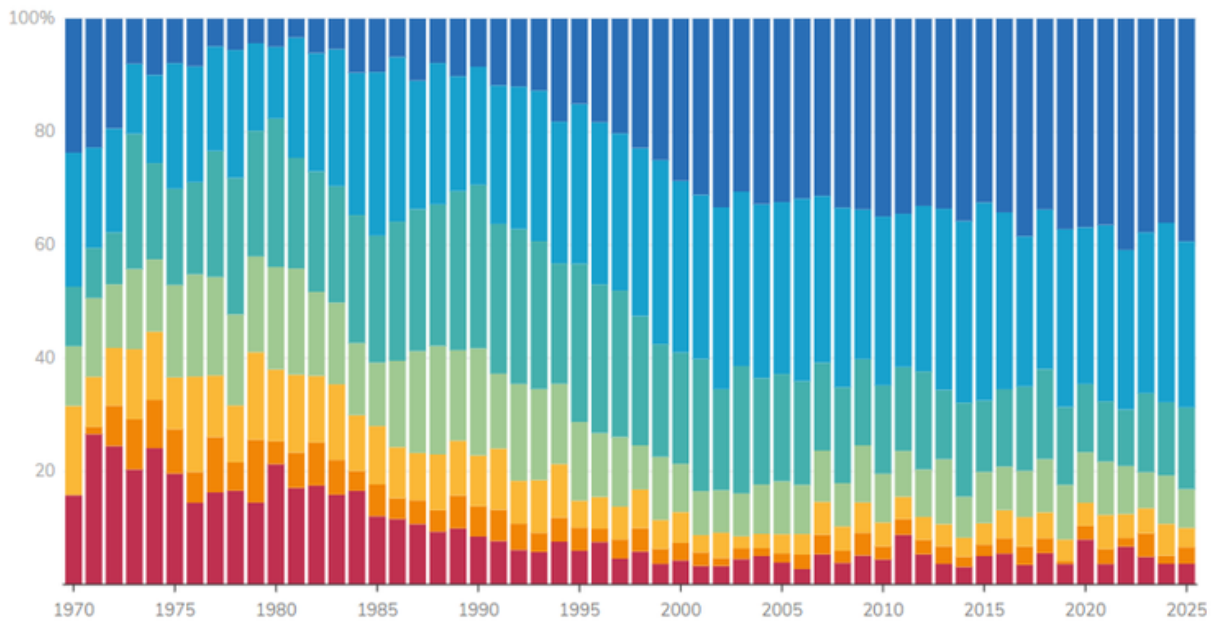
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Higher capacity factors (83.7%, up from 82.9% and trending up as you can see below) equal more uranium demand from existing reactors and planned uprates to continue to increase that figure will only push up the demand side models without a single new reactor coming online.

Figure 2.10 Long-term trends in nuclear reactor capacity factor

Capacity factor (%)

0-40% 40-50% 50-60% 60-70% 70-80% 80-90% 90% plus



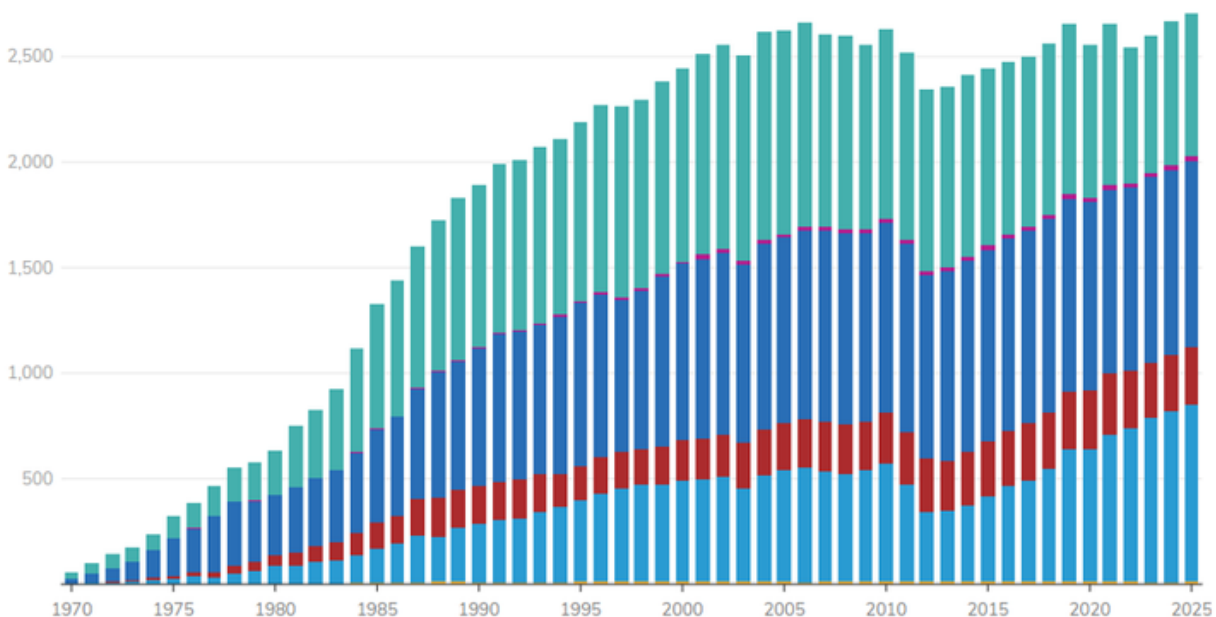
Source: World Nuclear Association • [Get the data](#) • [Download image](#) • [Download SVG](#)

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Figure 2.1. Global nuclear electricity supply, 1970–2025

Electricity supplied in TWh

Africa Asia East Europe & Russia North America South America West & Central Europe



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On top of that, I also wanted to provide a quick summary of the Finance Summit that takes place before all the meetings and presentations really kick into gear late Wednesday into the end of the week. Cost of capital now carries as much weight as cost of construction in a nuclear build, which is how the World Nuclear Association's Director General opened the Finance Summit, with a bang. For a sector that has spent 20 years blaming welders and regulators for its overruns, that is a real change in diagnosis I got to say. Cameco's Grant Isaac pushed it harder and asked why nuclear gets treated as its own asset category at all when the industry needs good projects and nothing more exotic than that. Why would a lender treat a 60-year contracted generating asset differently from a toll road? Banks price contracted cash flows, they do not price reactors. This has to change and slowly but surely, it looks like it finally might.

The advisory panel behind the new World Nuclear Investment Guide, assembled from 30 to 40 contributors across the fuel cycle and the financial world, said capital is available and the investor question has shifted from whether to when. Risk allocation remains bespoke on every single deal and the pre-FID development phase remains the hardest money in this industry to raise. Amir Adnani hung a \$6 trillion figure on the super cycle ahead, driven by AI load growth, reshoring and decarbonization and reckons we are in the first innings. Enormous, sure, but figures that large tend to describe an ambition rather than a pipeline, at least the way I see it and let's be honest, we also need to consider who is saying this. Still though, for the sake of giving you all a complete FS summary, I wanted to include that.

Commercial banks told the room they are not backing away from the sector and in the same breath that first-of-a-kind projects still need government de-risking to clear an investment committee. Money is available for the reactor that has already been built somewhere else, while unit 1 still runs on a sovereign guarantee. Serial build brings the cost of capital down and the awkward unit has to be financed first. ENEC's development side said what frightens them is hesitation, developers and investors stalling out before committing to the next project rather than any technical unknown. Build the next few reactors properly and capital follows. That is a psychological constraint, but one that will weaken in time I believe. Asked what they want inside 12 months, the closing panel named a visible long-term project pipeline and a shared marketplace where developers and investors can find each other. Call the Summit's output a guide and a wish list if you like, which is fair as far as it goes. Standardized documentation on deals that have been renegotiated from scratch every single time is how an asset class gets built. Things are in motion on this front, but it still has teething problems.

COMMENTS FROM INDUSTRY VETERANS AND BUYERS

Onto the conference floor and two massive conclusions after speaking to several people and including an industry participant with some very good connections. Firstly he noted that the mood in the room between fuel buyers, traders, producers and other participants is that anyone that has any significant amount of pounds for sale is sitting in the strongest position that they have been for many (and I do mean many, that was emphasized) years and this is coming from someone with vast experience in this market. People often talk about 'oh this is a seller's market' without providing much context with it, but here is the context, a broader recognition from the entire industry (including the buy side) that sellers are increasingly able to dictate the terms they want for the sale of material and that this is a trend that is not stopping anytime soon. Some sellers are even keeping material back as they can see what it is doing to the market and that is just further reaffirming the scarcity of pounds available.

In fact, it is accelerating, because on the other side of the coin you have buyers (who I have briefly spoken with before as well) who have been through something of a mindset shift over the past few years, all the way into what feels like a 'wake up and smell the coffee' moment this year. For those who remember the extensive conversation I had with a fuel buyer (more on that later), that was already in motion, but things are moving faster now as buyers are more and more willing to 'hold their nose' and buy with terms they would have laughed at and waved off the table even just a few years ago. Part of that also comes from the fact that these fuel buyers have been disappointed with the lack of coherent supply response, even at these higher prices.

With the idea long being held that ~\$70-80 being enough to balance the market, to see so many projects (brown or greenfield) going over time and over budget and sometimes even not delivering at all, it has impacted the view of how much supply is available, which is my conclusion from having spoken with them directly. Something that some are also starting to understand (and I say some, because there sure are some exceptions to this rule) is that these miners are not just going to sell their production for \$5 over their C1 cash costs. We are only just getting out of a long bear market and not only do these companies finally want to get rewarded for their pounds, they also want to return some shareholder value and that means not just looking at locking in a minor profit, but to get what they can. Some juniors made the mistake of contracting too much too early, it appears that others have started to learn from that. It really felt like a whole different conversation when talking about availability of pounds and expected price trajectory this year compared to when I was at these conferences around 2022 and 2023 and that is a rising positive trend from last year's WNA as well.

COMMENTS FROM INDUSTRY VETERANS AND BUYERS

Yes, some of you will rightly note that the term price is already up massively over the past few years, so surely this recognition would have come in sooner right? No, that does not appear to be the case, but after last year and especially this year it certainly seems like it's finally here and that doesn't mean we are at the end of this, to me it means that we are at the start of an acceleration of the trend and that will keep pushing up term price over the coming years and this seemingly slower recognition of prevailing supply circumstances will continue to drive prices up.

Remember the conversation I had with the fuel manager at one of the largest US utilities during the previous WNA? It's worth another look as that mindset continues to grow, as said fuel buyer plainly stated that supply that used to be readily and, more importantly, widely available is not anymore and pounds utilities once assumed would be there on call may now slip away. Price is the smallest part of that problem, with volume and timing being the real focus, because in the end it doesn't matter what you pay, as long as you actually have the material you need. Miss the window and the material is not there in the volume or timeframe you wanted. His phrasing exactly matched what I have been telling you all for years and has gotten even stronger this year, which is that "coverage on paper is not the same as coverage in the reactor." Remember my line about not being able to put your balance sheet into a reactor core? Near enough word for word. A tidy column of pounds on a spreadsheet or promised pounds in a PFS posted within a fancy presentation belies the reality that not every supplier delivers. Geopolitical disruption, technical setbacks and logistics bottlenecks mean contracted pounds and/or future pounds are no longer fungible or guaranteed. That is uncomfortable fragility for a system that prizes certainty above all else.

US buyers are moving away from the comfort of short-term purchases and into deeper, longer-dated commitments, partly because life extensions and the new build push have redefined what adequate coverage means and because they are not afraid to confirm how much demand there is for their power generation. From what I can tell, the structural imbalance is becoming real in boardrooms and utilities are repositioning before the cracks widen further. Again for those who remember, a second large US utility echoed every bit of it. A third fuel buyer told me a contact of mine that he saw no reason to pay more than a set price per pound, which was lower than today, and I spent a few seconds working out if he was serious. His reasoning rested on recency bias, on secondary supply that was ample right until it wasn't. Those are your marginal buyers, at least the way I see it, and they will chase the term price into triple digits when the time comes to secure supply.

COMMENTS FROM INDUSTRY VETERANS AND BUYERS

When I previously shared my view with all these industry participants, buy side very much included, that we would need much higher prices for much longer, it was often met with skepticism. I remember attending a conference in Zürich a few years ago when I discussed exactly that and the average response was “we know that \$60, maybe \$70-80 at most, is enough to get a lot of supply online, why would I do anything here?”. Well, that mindset changed now and activity is changing with it as we finally (and I do mean finally) get the broader recognition that there is no more cheap and abundant supply available and those who move first, will have the advantage and there is evidence to suggest that, amongst fuel buyers, there are extensive discussions being had about the need to abandon the historical believes of supply in this market and take note of a changing landscape for both primary supply and especially for secondary supply as well.

There were even views shared at the conference that at some point down the line into the 2030s (which is literally right now in terms of the procurement window utilities are looking for fuel, so it matters a great deal *today*), it may not even become a question of what the terms are, but if you are even able to get the amount of pounds you want at exactly the time and place you want them, at least not until we see an actually adequate supply response and one of the major industry analysts in the sector clearly stated that all these higher prices have not been enough to bring said adequate supply response online, to the shock of buyers that thought \$90 would be more than enough to do so. One fuel buyer I have previously spoken with noted that even if they had a lot of demand to bring to the market, they would do it in a very careful manner as to not spark a strong price rally. This piecemeal approach is a good way to prevent that, I agree, but it should also tell everyone involved what the state of the market is right now if you can't come in with large demand without having an immediate impact, which wasn't a problem until even just a few years ago (that does require a bit of nuance though, as I will note when I get to the Korean demand tender later).

A prime example of that was a recent RFP from Duke, who came to market looking for 400,000 pounds a year for 5 years running into the 2030s, with an option to add another 300,000 pounds a year for a further 3 years on top of that. Set against the volumes currently floating around the term market, that is a meaningful piece of business, even though that amount would not be considered anything to write home about a few years ago, but the terms that are likely going to be included in that contract would absolutely have raised eyebrows a few years ago, but that is a sign of the times as buyers increasingly recognize the state of the market.

COMMENTS FROM INDUSTRY VETERANS AND BUYERS

As I stated earlier, there is a mindset change in motion and it will be a major driving force of price and demand going forward. With all that in mind now, let's tackle an argument I have seen a lot of lately and that is that until we see replacement rate contracting come back to the term market, nothing big can happen for uranium and the thin volumes we have printed this year are the proof of it. I understand the instinct behind it, sure, I just find the data sitting in front of me does not line up with that story, at least not the way it usually gets told. None of that is me saying contracting stays thin from here, I have made that pretty clear so far this report and there is more information on it later. I expect a great deal more of it and frankly it has to arrive. Utilities need coverage heading into the 2030s, and that is already underway for the newer contracts, some with delivery timelines stretching into the late 2030s and, in the discussions I am hearing about, even into the 2040s. So the volume is coming. What I am pushing back on is the idea that the price cannot move until it does.

In 2023 the industry contracted a little over 160 million pounds, which at the time was treated as borderline replacement rate, but that 2023 figure was flattered by a single one-time deal, the Energoatom arrangement in Ukraine that involved Westinghouse and Cameco, worth roughly 40 million pounds, which was something like a quarter to a third of the whole year's total depending on whose figure you take. Strip that out and even 2023, the big year everyone points back to, was not really running at recurring replacement rate. 2024 came in near 110 million pounds and 2025 landed around 116 million (of which part was a portion of the India supply contract that was signed this year, which is some important context), both comfortably below replacement, and in 2026 we are running well under that bar again. All the while, the term price kept climbing, what does that tell you?

Replacement rate itself has moved on us, which is part of why the old comparisons feel generous. Annual reactor requirements are now sitting close to 200 million pounds, so the bar for what counts as keeping pace has risen even as annual contracting has stalled out in that 110 to 116 million range. The gap between what reactors burn and what utilities lock in keeps widening. That combination, a rising term price on volumes well below replacement, is about as constructive a setup as I could ask for. When the larger volumes do arrive, and I do mean 'when', and we push back toward that replacement level, I think the effect on term pricing is going to be outsized. The buyers who wait tend to pay for the privilege of seeing this all unfold.

COMMENTS FROM INDUSTRY VETERANS AND BUYERS

Now, as you can imagine it was pretty surprising for some to see the spot price in particular hold steady and even slowly grind upwards over the normally more dormant Summer months. I have tackled this before, but needless to say it was topic of discussion at the conference as well. So, who has been holding spot up while term grinds higher? From what my contacts tell me, part of it is traders, which is no surprise at all. What did surprise me a little is that the traders sitting on offtake out of Uzbekistan and elsewhere have not been slamming the price down into month-end the way they so often do. A few tried at the tail of last month, and according to a physical market contact of mine the buyers were right there waiting, eager to take the material straight off them. The bid underneath was real enough that the sellers could not get their discount.

Traders were only part of it, though, and I did speak to a major trader at the conference that knows this market inside and out. Utilities were in that spot bid too and producers alongside them, all of them seeing value in buying uranium in the mid \$80s. As you can see, it pays off to go to these conferences to confirm this sort of information as it tells us what is driving this market from behind the scenes and I hope that this report helps you all get a better idea of said drivers. Anyhow, that interest is what has kept spot pinned in the \$80s through what was a real risk-off stretch across Q2 into Q3. It is the utilities I keep coming back to, stepping into that spot bid themselves at these levels. Some of my market contacts describe a very strong floor forming in the mid \$80s right now on the back of all that aforementioned demand, and they think the floor is rising underneath us. As I write this, spot is sitting around \$86 to \$87.

With spot grind towards the \$90 level (and above at this rate) and base escalated contracts printing into the triple digits, there is a carry trade window open that traders will happily use to Hoover up pounds and keep that spot demand in place. For readers who have not run into this before, the mechanic is simple enough. A trader signs a contract a few years out with a utility, buys the physical in the spot market today, and pockets the spread between the two whenever it is wide enough to be worth the trouble. Right now the spread is wide enough, but it is closing as spot is moving upwards again.

COMMENTS FROM INDUSTRY VETERANS AND BUYERS

I flagged something after the WNA conference last year that keeps proving itself out. I have said this before in this report, but I will say it again given how important it is, but utilities are increasingly alert to the risk on reliable supply into the 2030s, and to the reality that the price is not about to fall back to accommodate them. The way that shows up in practice has changed. The terms they turned their noses up at 18 months ago are the terms they are signing today, because the alternative is going uncovered. Market referenced pricing, floors up in the \$80s, ceilings running into the \$150 range and beyond. Utilities hated those structures. They are signing them anyway, and every one of those contracts drags the reported term price higher. A utility accepting a \$150-plus ceiling now, which is happening as we speak according to what I am hearing, when 1 to 2 years ago it would not have entertained the conversation, is the shift I would point any skeptic toward.

Paladin said much the same thing on their recent call as well and it lined up with what I had been hearing on my own. Their read from talking to utilities is very strong interest, with buyers acutely aware of the ramp-up and start-up troubles other producers have been having, which supports the near-term window out to 2030. Beyond that they described the 2030s supply and demand deficit coming home to roost, with utilities chasing supply and no clear answer yet on where those requirements get met. Volumes still below replacement, term pricing still firming underneath and they put the reported term number around \$97, and said their own utility conversations are pointing closer to \$100 and above, which they found encouraging. Mid-term demand, in their framing, is providing a floor for spot through exactly the carry trades I walked through earlier.

Still though, there are still a fair few people that have a different view of the prevailing supply/demand numbers, industry participants and investors alike. Disagreements like that one persist in uranium partly because the market is built to be opaque, and the opacity is deliberate. Utilities are the end buyer here and a buyer who keeps their requirements, their contracted book and the terms they just signed away from public view holds an obvious advantage over one who cannot. Responses to requests for proposal go back privately, long-term contracts vanish under NDAs, and whatever reaches the rest of us arrives second hand or late for those without contacts in the sector. So the published data points argue with each other on a regular basis and anyone can go find a figure that confirms whatever they walked in believing. Scrutiny on the sector has grown a lot alongside the interest in it, which helps at the margin, though I would not say it has made the numbers much easier to read for some.

A CLOSER LOOK AT THE DATA

I also wanted to provide a quick word on inventories as after pulling the EIA and Euratom figures together and discussing this with various people at the conference as it made for soem very interesting conversations in between panels, US and European utility inventories come to about 229 million pounds of uranium equivalent, up some 34 million pounds from the cyclical low in 2022. Stop reading there and you have yourself a tidy bear case maybe. Where did those pounds come from, though? I have answered that question before as well on here, but for the people in the back, it came from two places, as best I can piece it together. Utilities double bought after Russia went into Ukraine because they were frightened of losing supply routes and wanted margin for error and they upflexed legacy contracts, pulling extra volume out of agreements written in a far cheaper era, because who is going to leave discounted pounds on the table when the option is already in the drawer. That is a nervous buyer exercising cheap optionality, and those pounds end up in a reactor either way. Nothing in that behavior describes an oversupplied market. Treating the 2027 to 2035 span as one block is the mistake. Out to roughly 2030, coverage is adequate and nobody sensible is going to claim that it isn't the case, at least nobody that knows the industry in any way. Past that though? Different story. The annual marketing update out of the EIA put 52% of the next 10 years of US utility demand in the uncovered column, with unfilled requirements through 2035 running to 186 million pounds as of the end of last year. Thin cover in the back half of that period is ordinary and always has been, but these are not ordinary times for the sector, because what has changed is the market those uncovered pounds have to be bought into.

Long-term contracting so far this year comes to about 38 million pounds on the UxC count, and that number leaves out the two India deals. Cameco's side is nearly 22 million pounds delivering from 2027 through 2035. The Kazatomprom contract carries a headline value north of \$4 billion with shareholder approval already in hand, though the volume itself stays confidential. The estimates floating around put the combined India total somewhere north of 40 million pounds, though run \$4 billion against anything close to current pricing and the answer comes out larger, so treat that number as large, but still soft in some way. Sovereign buyers took those pounds in one block each, which is how state-level procurement works and Cameco and Kazatomprom have a substantial share of production committed years forward as a result. Whatever remains uncommitted gets fought over by everyone who did not move early and the competition for that residual pool tightens with every deal of this shape and you better believe India is not stopping, as I will explain later as well. Procurement departments work 3 to 10 years ahead, I cannot stress that enough, so a utility carrying a hole in 2033-2035 is a buyer today.

A CLOSER LOOK AT THE DATA

For a fuel buyer, the 2030s is like right now, which again I noted before as well, but cannot stress enough and especially after talking to the buy side of the sector over the course of the conference. The inventory bears skate straight past that when they hold up 229 million pounds and call it a cushion. Cushion for 2027, sure. It does nothing for a 2034 slot that has to be sourced from a producer whose book is already filling or a large greenfield project that may or may not deliver on time. Producers never have to run out of uranium for this to bite. Running out of contracting capacity in the years utilities need their material does the job on its own and they will say so out loud when it happens. Once availability gets communicated as constrained, price stops being the thing under discussion and certainty of supply takes over, at which point a utility that has not secured its pounds has very little leverage to work with. Why do you think Cameco has been so comfortable just sitting back until utilities accept their terms? Because the fallback is buying in the open market at whatever it costs on the day, which is an uncomfortable way to source a decade of fuel.

So which mines are supposed to fill the 2030s? Arrow is the big one that a lot of buyers still have plenty of faith in it seems, but after some conversations the conclusion as clear that if Arrow delivers say... ~16 million pounds by 2033-2034 instead of ~30 million pounds by 2030-2031, that it will cause a massive shockwave through the market and it will be shockwave that I believe (again, based on my observations and conversations at the conference) a lot of people are woefully unprepared for and this is a massive right-tail risk that the sector will, in my view, have to face. As for the rest of all the supply that we are going to need? A large share of the supply penciled in for the early to middle part of that decade comes from projects that do not exist. Not permitted in several cases, not financed, not built. Utilities are being asked to contract for pounds from mines that are currently slide decks and drill intercepts, which is an unusual thing to ask of a procurement department and an even stranger thing for one to agree to. I struggle to think of a good parallel anywhere else in commodities and honestly the price action through this cycle has been mild by any historical standard for a market approaching such tightness, which was affordable only while a deep pool of above-ground mobile inventory absorbed the strain, but that pool has thinned out considerably over the past few years. A utility building a strategic reserve is not going to sell it into a rising market and sovereign stockpiles once built tend not to come back out at all, which was something I discussed at the conference as well and in particular the fact that yes, China has a massive inventory of pounds but no, those won't come to the market and yes, I triple checked that with a great Chinese contact I had the pleasure of speaking with, who also confirmed my numbers on this were pretty accurate, so that is a major compliment.

A CLOSER LOOK AT THE DATA

Governments have moved nuclear fuel from a procurement line item to a national security line item over the past few years and that mean solid strategic reserves are a must have in today's uncertain supply chain world. Higher strategic holdings at both the sovereign and the corporate utility level look structural to me now and sovereign nations buying pounds tend to be pretty price insensitive, Every pound absorbed into that layer stops circulating and that 229 million pounds only looks like supply if you assume those pounds are for sale. If you do, I got an oceanfront property in Switzerland to sell you, because if you ask a fuel buyer with 52% of their next decade uncovered how much of it they plan to part with and see what answer comes back, if you even get one. I will let you guess what answer I got when presenting this hypothetical to the counterparty. The inventory you may see some of the bears or hopeful buyers looking for a lower price are counting is the same inventory almost nobody is willing to give up.

I also spoke to another uranium sector veteran, someone with a pretty incredible set of contacts and knowledge about our little sector. One of the first subjects we discussed was that of hyperscalers coming into said little sector and making their presence known. I know what you're thinking, that's a subject that has been discussed off and on for around 1-2 years now and we are yet to see material influence, but from what I am hearing that is still firmly in motion as said hyperscalers are looking for supply security to ensure that their highly valuable assets are powered for decades, not just years. Price insensitive and ruthless when it comes to protecting the value of their assets, that's how those hyperscalers have been described by industry participants.

Said industry veteran also noted that hyperscalers are having constructive and frequent discussions with enrichers (a few were named liked Centrus and possibly GLE) and according to some people at the table, they will be looking to go about their business in the same way utilities have done, going down the fuel cycle to secure what they need and ending with securing physical uranium if need be. The phrase "maybe they will buy a mine, these guys don't mess around" was uttered in the hallways of the WNA. They are about as price insensitive as it gets and given the impact hyperscalers are already having on the nuclear industry, with the latest news surrounding Google's 22 year PPA in Finland for more nuclear power being yet another example, it wouldn't be a surprise to see them be a consistent and growing part of the demand side of this sector. Again, we don't need them for the price to keep moving, but it's a factor that needs to be taken into account that could provide to be an accelerator of sorts into what we today know as the demand side of the equation.

MAJOR DEMAND SIDE DEVELOPMENTS

You could of course plug in a mining giant with plenty of capital and expertise to potentially speed things up and I will just say one thing, there was a reason why BHP sent some of its people to the conference this year as I spotted an M&A representative on the floor of the WNA. They are getting very interested in the space and that staking of land? Sure it was a nice touch, but according to one very plugged in contact, it was something of a 'minor diversion' if that makes sense. Why? Because they are interested in something bigger in this space and they are seeing the potential value available and "where the puck is going" when it comes to demand (and as a result also the price) of uranium. I expect we will hear a lot more from BHP's role in the space over the coming months and years and to have a mining giant like that actively step into the sector, it can make some major waves. More to come on this front, because they weren't at the WNA just to drink some coffee, they are here with a clear goal.

From supply to demand and some more interesting insights from the conference about what is happening on the term market. Starting with a large enrichment tender from KHNP, the Koreans who always get more active around the WNA and this year was no different. Usually they come in with just a uranium related tender and for those of you who remember, a few years ago they came in with a tender that had a laughably low ceiling and base price. They were so used to getting the terms they wanted that they expected the tender to have plenty of offers, but they didn't receive any on those terms and it ended up being settled off-market with what I would guess had been greatly amended terms. That, for many people I have spoken with, felt like a watershed moment for not just KHNP, but for many other industry participants as well.

Now, as for this enrichment tender, from what I heard from one industry participant at the conference, the tender itself is looking for 800,000 SWU annually and that is enough to keep around a fourth of their Korean reactor fleet fed, maybe even a bit more than that. This means it's a pretty chunky enrichment tender that has already gotten some attention. That's all nice and well I can hear you say, but what does that actually translate into when talking about uranium. Depending on a variety of factors, meaning that we can't get one clear number, I have heard estimates (and my own estimates fall into that range as well) between 26 and 31 million pounds of uranium equivalent. As I said, pretty chunky when you are talking about how much feedstock is required to get to the 800,000 SWU that they need.

MAJOR DEMAND SIDE DEVELOPMENTS

Some of the language in the tender (relayed by those who read through it and discussed it with me) hints at the possibility of a bundled response, meaning someone that can deliver the product and everything needed to make said product, but I was not able to get any confirmation on that front. It is clear though that this is a pretty significant tender (that not many will be able to respond to given the size of it and depending on the timeframe, you may end up knocking on the door of a large greenfield mine and hoping it gets online in time) that the market has taken note and things just continue to move along as every bit of demand is fishing out of an ever smaller pool of available supply at this price.

Conclusion? Demand will continue to be strong and price will continue to rise as a result and this is just one example of more eastern based utilities/entities going out to secure fuel proactively. This will continue to be the case and in this particular example with the Koreans, they will likely be increasingly active over the coming years as support for nuclear power continues to grow in the country. Remember, they went from looking to phase-out nuclear power to holding it in place to now announcing plans to build more down the line. Driven heavily by an AI data center boom and massive chip manufacturing clusters by tech giants like Samsung Electronics and SK Hynix, South Korea faces a projected power demand surge of 25 to 30 GW. You think they are going to try and match that with solar and wind? No shot, especially as one state polls showed that 79% of the public supports adding new nuclear plants to ensure reliable, clean baseline power.

26 

OPERABLE
REACTORS
25,609 MWe

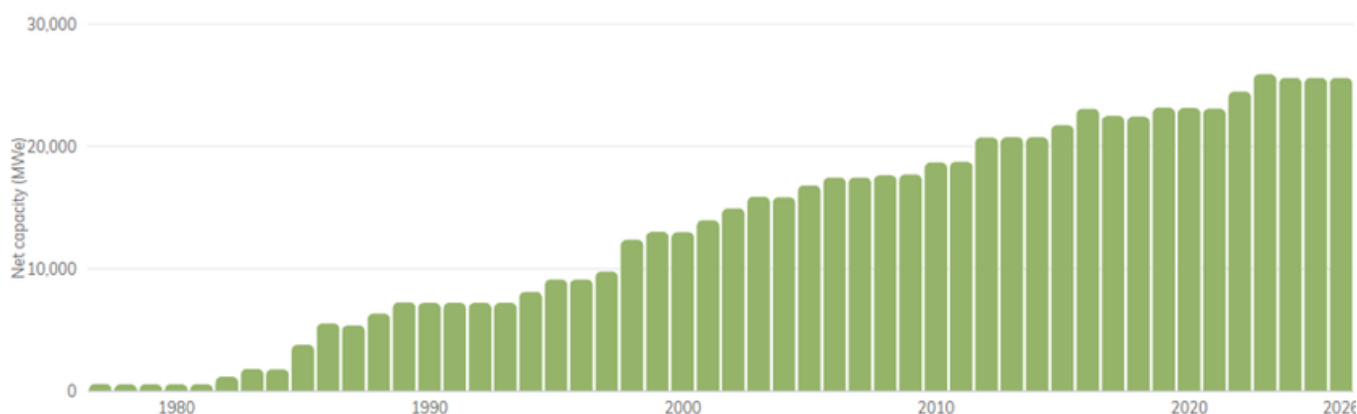
4 

REACTORS UNDER
CONSTRUCTION
5,360 MWe

2 

REACTORS
SHUTDOWN
1,239 MWe

Operable nuclear power capacity



MAJOR DEMAND SIDE DEVELOPMENTS

At the conference I also had the pleasure to speak to part of the Kazatomprom management team and it made for a good conversation, but most of it was just confirming and updating some of the numbers I had on the company from the past few months. Oh and they showed me a video of the sulphuric acid plant site that got delayed and I would like to apologize for sharing the wrong information on that when the news first came out, as it wasn't a bunch of 30-90 million year old fish that died there, it was actually a, and bear with me for a second, Paraceratherium. It's a sort of ancient rhino that decided to lay down for a 28 million year long nap right at the site. Something that was also interesting, was the fact that it was noted that western utilities had finally started to come back to the table to discuss the higher prices and updated terms that reflect the seller's market we are in right now. Over the past two years it appeared that there was more of a 'stand-off' taking place, meaning KAP was more than happy to sell to their eastern customers. Well, it looks like western utilities have gotten the message loud and clear and are starting to become more active as demand urgency is building

Something we spent time discussing as well were the recent results, which I have covered before, but are significant enough to discuss again given the underlying implications, especially on sulphuric acid availability and rising costs. The first half brought attributable C1 of \$24.48 a pound, 37% above the same window last year, with AISC up 25% at \$38.45. Three things did it, the extraction tax rate going from 9% to 12.4%, acid pricing running away and a firmer tenge converting locally booked costs into more dollars at the reporting line. Full-year guidance followed, C1 up to \$25.50 to \$27.00 from \$23.50 to \$25.00, AISC to \$39.00 to \$40.50 from \$35.00 to \$36.50. Put the top of that C1 range against the \$18.06 delivered last year and the largest producer on the planet has added close to 50% to its cash cost base in twelve months. AISC moved about a third above the 2025 range of \$29.00 to \$30.50. For context, 2025 itself only saw C1 rise 9% and AISC 7%. Acid did most of that damage, which they reaffirmed as well. KAP's weighted average cost per tonne went from roughly 48,000 tenge to 70,179, up 46% in a year and around 132% above 2022. On acid, while the company insists that it will be fine with regards to acid availability from both domestic sources as well as their neighbors, I remain somewhat skeptical. I'd say that no massive acid plant means that one can reasonably assume that there cannot be a ramp up of acid-hungry assets on schedule either. On the recent volume numbers, KAP always runs light in the first half, so that's more ordinary. Zarechnoye looks to be depleting faster than plan, Budenovskoye 6&7 is finally hitting its ramp after being cut from 4,000 tonnes to 1,300 last year, Inkai is the standout, Karatau and SMCC are going backwards, and the Ortalyk and Semizbay figures come in below what the JV partner published on the same mines.

MAJOR DEMAND SIDE DEVELOPMENTS

Now, I wouldn't be discussing major demand side developments if I didn't include what I heard about that big US RFI that got updated at the start of the conference. I already touched on it briefly during the conference itself, but the ask is roughly 4 million pounds of unobligated uranium a year, converted to around 1,500 metric tons uranium as UF₆, with acquisition potentially beginning in the early 2030s and requirements running into the early 2040s. Call it 40 million pounds over the course of a decade, give or take a few years depending on the nature of the deal, all US origin. For those of you keeping score, you will know that the entire US produced about 2.1 million pounds of uranium concentrate in 2025, the strongest year since 2017, and that this was basically all Energy Fuels. NNSA is asking the domestic industry to double current output and hand the incremental pounds to the government. Reasonably ambitious to say the least.

Demand that has nothing to do with reactor requirements is why this kept coming up and I will remind you that US utilities wanted to focus a bit more on secure pounds as well, so they are competing with the government now, which is ironic. There was some discussion regarding the fact that this would go toward restocking maritime and naval inventories. I believe that could be the correct take, although as you can imagine not all details are present right now. I won't have to tell you that strategic demand tends to behave differently from utility demand. Delivery certainty outranks price and price insensitivity at the margin is the name of the game, although that is more and more starting to become the playbook for utility fuel buyers as well, as I noted earlier, just not as much as with government related buying.

So who fills a 4 million pound annual order for a decade or more? UEC holds licensed capacity in abundance at Irigaray, Hobson and Sweetwater. Licensed capacity and delivered pounds are separate animals though and UEC drummed under 70,000 pounds in a recent quarter. Spreadsheet pounds are not the same as actual pounds, no matter how flashy the presentation is. Energy Fuels, guiding to 2-2.5 million pounds this year, of course owns the only fully licensed conventional mill operating in the country, though feeding White Mesa for 10 straight years demands ore volumes the company does not currently mine. With \$23 workhorse Pinyon Plain running out, the heavy lifting probably falls on Roca Honda, Bullfrog, Nichols Ranch paired with Whirlwind and Sheep Mountain, which management reckons could expand production by over 5 million pounds a year (plus potentially other feed from US uranium projects, but that is speculation), subject to market conditions and contracting. All permitted, built and financed within roughly 4 years? Possible, sure, but mining timelines have a habit of slipping and they would need a lot of support.

MAJOR DEMAND SIDE DEVELOPMENTS

Cameco's Smith Ranch has the processing capacity and nowhere near the resource base to keep it running, so that's one to consider, but which has a question mark. My bet would be Energy Fuels if UEC keeps on focusing more on presentation than delivery, assuming somebody helps a bit with the asset pipeline of course. Lastly though, GAO concluded recently that NNSA's supplies are probably adequate into the early 2040s, which bears will read as no urgency. Adequate until the need date is precisely why procurement starts a decade early. Nobody builds a mine in 18 months folks and I assume we will hear a lot more about 'US domestic uranium' demand over the coming months and years and whether the producers deliver or not, I believe narrative price action will be present. From another valued contact of mine that is also a subscriber and who I had the pleasure to meet at the conference for a chat, he noted that NNSA's 40m pound request for information was repeated brought up in various meetings according to what he heard as well, as a proof for additional demand outside civilian needs and a potential larger-than-expected supply/demand gap and I think that is the right read, there will be upside surprises to demand that we will have to deal with going forward. Somehow I expect that we will see fewer upside surprises for supply, I wonder why that is the case.

Let's see what else we have on the demand front. My apologies if some of these are a bit less coherent, as I am going through my notes. Starting with the folks over at Rolls Royce SMR that I spoke with and there is so much demand that it's a case of "we will buy as many as you can make and more" down the road. It's pretty clear that the SMR rollout and subsequently the SMR demand story for uranium is very very real and will have a major impact on this market as preparations are being made to secure customers and fuel going forward. Yes most of the rollout will be into the 2030s and especially the later parts, but preparation starts right now and the potential impact is wildly underestimated

I also spoke to representatives from GE-Vernova, lots of interest in Darlington and it will likely be a major de-risking moment for them, with several major players ready to move and that same valued contact of mine noted that one of the American utilities said that "We are a proud follower on SMR, but we won't consider an FID until Darlington is put into operation". If they had to guess, they would aim for perhaps 10 units online by 2035 to the tune of 3GW of capacity. By 2040? You can probably quadruple that number if all goes well and that is just them, with others like Westinghouse (who were very enthusiastic about their AP-300 design and the demand building for it in the US), Holtec, some Chinese entities and more also looking to have a major impact on the market.

MAJOR DEMAND SIDE DEVELOPMENTS

Not all of the SMR names in the space will make it, but those that do will have a massive impact and a snowball like effect into the 2030's. Ramp up for Rolls Royce is a bit slower than GE, but they are still targeting their first reactor in 2035 and then another nine following that into the end of the decade. The problem is not demand, especially when you have the prime minister of the Netherlands flying over to make sure they are in line for a reactor in the 2030s, but now real capital also needs to come in to get the proverbial snowball rolling as I noted above. As for demand from hyperscalers, they are speaking to all of them and I do mean all of them.

What I will also add, from the same valued contact that I provide notice of above, is that we will need to see fuel standardization to make sure the proposed SMR fleet can actually run and this is probably one of the biggest risks that will have to be tackled in order to make SMR actually be able to compete on cost. Make of that what you will, but together with GE and others, the SMR market is gathering an increasing amount of interest and is moving at a strong pace to have a real impact on the industry

One aspect to take into account when it comes to SMRs, is their potential use in the shipping industry. From what I heard at the conference from the secretary general of the International Maritime Organization, there is already a significant amount of interest from large shipping companies to incorporate the use of SMRs for their ships. I will do more research on this going forward, as it will be a very interesting subject to do a deep dive on. One very connected person I spoke with that has ties to this industry told me that we could be “severely underestimating the demand from this side of the sector”, which was interesting.

Finally, the IAEA discussed a report as well that noted the following: “The role of SMRs is set to expand in the coming decades. In the high growth projection, 28% of all new nuclear capacity added by 2060 comes from SMRs, while in the low case they account for 23% of new capacity. In the previous edition of RDS-1, SMRs represented 24% of new capacity in the high case and just 5% in the low case. The latest edition of the report also includes a breakdown of SMR deployment across regions, and projects a particularly strong uptake in North America where about 60% of new nuclear capacity could come from SMRs. In South-Eastern Asia and in Latin America and the Caribbean it is also strong at 40% in both the high and low cases.”. No lack of optimism on the SMR buildout there, that's for sure.

TALKING TO SPUT

Moving on to some other snippets and insights from the conference, let's make a pitstop at SPUT shall we? As a reminder, SPUT holds 81.7 million pounds of uranium and no, they are not planning to sell it to utilities to help fill the gaps and yes, that is still something that is apparently being discussed from time to time. As you all know, SPUT is capped at 9 million pounds of spot purchases per calendar year under its prospectus undertaking, and it has bought roughly 7 million so far this year against 8.67 million last year. John noted that the 9 million pound limit applies specifically to material the trust takes delivery of within 12 months and that purchases scheduled for delivery past that window fall outside the annual cap. That's good to know, although I will add that he framed it as what Sprott believes rather than something a regulator has signed off on, so temper it accordingly.

The cap governs how much SPUT is permitted to buy. The discount governs whether it buys anything at all, at least if there is not form of outsized financing taking place, like what we have seen before and trust me, there is plenty of interest available to take a similar raising route if the time (and more importantly the circumstances) is deemed right, but for now they are happy to sit back and watch the market do its thing and they will be more careful with their cash position if needed. Circling back to the regular route though, the premium to NAV way, in 2025, units closed at a premium on 12 trading days and at a discount on 239. In the first quarter of this year, 16 premium days against 46 at a discount. In the second quarter, 6 against 57. Over the past year and a half, units have closed at a discount on roughly 9 of every 10 trading days and the 7 million pounds bought this year came overwhelmingly out of a window early in the year when the premium was open and spot was flirting with \$100 and you better believe they are ready for when we get another similar run.

Now, as for that earlier sales talk, would SPUT sell the units at \$88? At \$100? At \$120? At \$150? John puts that ladder to institutional audiences and says the nods start arriving around \$150. A takeover requires approval from more than 66% of outstanding units and 344 million units held largely by retail and generalist funds is a hard block to move. Any buyer credible enough to want 81.7 million pounds would, by the act of bidding, signal that physical material is scarce, which moves spot, which moves NAV, which moves the price required to clear the vote and above all it would move equities as well in my view.

TALKING TO SPUT

Another interesting subject that was discussed as the Urenco expansion in New Mexico, which adds 2.1 million SWU, close to a 50% increase at the only commercial enrichment site in the country and construction begins in 2029 with first production in 2032 and cascades installing through 2036. The near-term relief is a separate 700,000 SWU program running to early 2027, set against an existing base of 4.3 million SWU that covers about a third of American demand. Orano's \$5 billion Oak Ridge facility, backed by \$900 million of DOE money and an accelerated NRC review, targets first deliveries in the early 2030s. So the pressure valve opens sometime in the 2030s, arriving exactly as uncovered uranium requirements go vertical, which from what I can tell reads like a second bottleneck showing up rather than the first one clearing.

The Section 232 proclamation on processed critical minerals earlier this year named uranium explicitly and then imposed nothing, holding minimum import prices in reserve pending negotiation, and that template has since been fired in anger elsewhere with polysilicon picking up minimum import prices and a tariff under the same authority. Tiered pricing for domestically produced material, or the Department of Energy taking equity and debt positions in development projects in exchange for future supply, both fall inside a mechanism that already exists and has already been used once. Uranium is queued behind rare earths, lithium and cobalt for the straightforward reason that nobody loses a reactor next quarter if fuel gets expensive. Queues move because of that, but it doesn't mean that it is being viewed as any less important and I expect further US strategic reserve buying interest down the line.

Let's see, what else did we discuss? Ah yes, John noted that trading houses that walked away from uranium during the bear market are staffing up again, every other investment bank seems to be hosting something around this year's WNA edition and larger balance sheets are appearing on the other side of physical trades. Just like the giant hyperscalers that are arriving into the sector, so too are we seeing larger pools of capital show an interest in the sector that will actually be fueling the nuclear renaissance they are hearing so much about. More counterparties means deeper markets, and deeper markets mean spot starts reflecting supply and demand rather than whoever happened to be desperate that week. The trust holds 81.7 million pounds, up from 18 million at inception, and has never sold or lent a single one.

AN IN DEPTH LOOK AT DEMAND FROM INDIA

On the demand front, one of the most frequently discussed developments at this conference has been how active India has been (and how industry participants widely expect that demand to continue to increase materially over the coming years). I have spent an unhealthy amount of time mapping out the present and future backdrop of India's nuclear power sector and believe me when I tell you that they will be a massive player in this space, which is why they were at the conference as well to share some insights. India could be buying uranium on the same magnitude as the United States or China within 20 years and the buying has already started at a pace running well ahead of anything the country publicly says it needs for today, but then again they are looking forward and not just buying for today are they?

Time for some present numbers folks, as the fleet stands at 24 operating reactors, 8,780 MWe gross and roughly 7,900 MWe net, supplying about 3% of Indian electricity. The Nuclear Energy Mission for Viksit Bharat, announced by Finance Minister Nirmala Sitharaman in the 2025 Union Budget, targets 100 GWe by 2047, around 10% of a projected 1000 GW of total installed capacity, alongside INR 20,000 crore (about \$2.1 billion) for at least 5 indigenously designed SMRs operating by 2033. NPCIL targets 22,480 MWe by 2031-32 before that, built from 18 reactors totaling 13,800 MWe plus the 500 MWe fast breeder on top of the 8,180 MWe base it counted at announcement. Officials say that 22.48 GW will be met largely through PHWRs. Aggressive targets to say the least and it's unlikely that those targets will all be met, but anyone making that argument (how right it may be) is missing the point, as it's the trajectory that matters and if the trajectory is anywhere close to what they are targeting, it will have a massive impact on this market.

Most of that near-term capacity is the indigenous PHWR-700, a 60-year design life unit derived from the Canadian CANDU and sanctioned in 2017 as a fleet of 10 identical builds to compress construction. For some technical data, the design burns natural uranium at 0.7% U-235 with no enrichment step and refuels online, and that combination is what kept the program running through the import ban years. The legacy fleet underneath runs 220 MWe and 540 MWe PHWRs plus the 2 Tarapur BWRs from the 1960s at about 150 MWe each, both recently back from refurbishment. Kakrapar 3 and 4 and Rajasthan 7 are grid-connected, Rajasthan 8 is expected in 2026, Kaiga 5 and 6 poured first concrete earlier this year, and Gorakhpur 1 and 2 in Haryana are guided to criticality around 2030 and completion by 2031-32 after soil remediation delays. Chutka in Madhya Pradesh and Mahi Banswara in Rajasthan hold the remaining approved sites and I believe that is all of them, but excuse me if I missed some amidst the pile of paperwork on my desk labeled 'nuclear power in India'.

AN IN DEPTH LOOK AT DEMAND FROM INDIA

Russia is building 4 more VVER-1000 units at Kudankulam on top of the 2 operating at 917 MWe net, taking that park past 6,000 MWe, with unit 3 now in active commissioning, Russian fuel committed for the reactors' lifetime and India reprocessing part of the spent fuel domestically to feed its fast reactor program. Oh and for those wondering, Russia's export pipeline for reactors means they are looking for a lot of fuel and right now it appears they are short and that was a topic of discussion at the conference. Expect them to be a very motivated buyer for years to come and that will just continue the trend of keeping more pounds in the east as Russia, China, India, Japan and South-Korea are all very active when it comes to their procurement strategy.

Anyway, the SHANTI Act, passed late last year, repealed both the Atomic Energy Act of 1962 and the Civil Liability for Nuclear Damage Act of 2010 and replaced them with a single framework letting private companies build, own and operate plants, while enrichment, heavy water production and off-site spent fuel management stay with the DAE. That is absolutely massive as it opens the sector up to private capital investment and from what I have been hearing at and outside of the conference, there is plenty of private sector interest in this development. Supplier liability kept Westinghouse, GE-Hitachi and EDF out for 15 years, so Jaitapur at 6 x 1650 MWe (9.9 GWe) and Kovvada at 6 AP1000 units return to the table, along with competitive bidding to diversify technology choices. The Act's definition of a company excludes entities incorporated outside India, so foreign vendors can supply the technology and cannot own the plant, a distinction I have seen almost nobody draw.

On the small end, BARC holds in-principle approval for 3 designs, a 200 MWe Bharat Small Modular Reactor, a 50 to 55 MWe unit and a 5 MWt high-temperature gas-cooled reactor running helium or CO2 coolant with likely TRISO fuel and aimed at thermochemical hydrogen, with construction estimated at 60 to 72 months after sanction, so early 2030s if nothing slips and as we all know in this sector and especially when it comes to newer designs, timelines do tend to slip here and there, but again the trajectory is very clear and that is that India is betting on nuclear power across the board and just in the form of traditional large reactors. NPCIL has separately tendered a fleet of 220 MWe Bharat Small Reactors financed by industrial users, drawing Hindalco, Jindal Steel & Power, Tata Power, Reliance, JSW Energy and Adani Power across 16 candidate sites in 6 states. Captive nuclear for heavy industry, if you will.

AN IN DEPTH LOOK AT DEMAND FROM INDIA

The 500 MWe sodium-cooled Prototype Fast Breeder Reactor at Kalpakkam, MOX fueled and run by BHAVINI, attained first criticality earlier this year, 22 years after construction started in 2004, with commercial operation targeted for later in 2026. Apply that ratio to every date above. A 63 GWe by 2032 target set in 2010 was abandoned as unrealistic and I remain skeptical of the 2047 number on the same precedent. Breeders do not solve the fuel problem either, since the PFBR still needs depleted or natural uranium for the blanket breeding Pu-239 alongside the thorium blanket breeding U-233, and until fast reactors form a large share of capacity, which will not happen before 2040 at the earliest, Indian uranium demand tracks thermal capacity growth.

Then there are 2 follow-on 600 MWe FBRs proposed, though reprocessing is the binding constraint, since existing throughput runs mostly to the weapons program and PFBR MOX with the Integrated Nuclear Recycle Plant intended to handle civil spent fuel at scale. The DAE scenario of 40 GWe of LWRs and FBRs multiplying to 400 GWe through a closed cycle, supplemented by 200+ GWe of PHWR-FBR-AHWR, is a 2070s conversation and while I am always reaffirming that this industry often looks a decade or more ahead, the 2070s are too far even for me to consider modeling anything for other than a footnote as part of this research, even if there is plenty of ambition from the Indian side for their future nuclear power industry according to everything I heard on them and from them at the conference.

So what does the buildout consume? That is where it gets, well, complicated as we can't just slap a 500,000 pound per GW label on it and plug it into the model. Heavy water fuel reaches around 7,000 MWd/t burn-up against roughly 45,000 MWd/t for LWR fuel, which sounds wasteful until you account for the enrichment tails an LWR throws away. On natural uranium input a PHWR runs at 370,000 to 410,000 pounds per GWe-year, roughly 80% of what an LWR needs, so a single 700 MWe unit consumes around 260,000 to 285,000 pounds annually against the 325,000 to 390,000 I estimated. The current 8.78 GWe fleet needs roughly 3.5-4.5 million pounds a year at high capacity, 22.3 GWe in the early 2030s comes to 8.8 to 9.4 million pounds, and 100 GWe in 2047 lands at about 45 million pounds if I push it towards the target in a linear fashion (which is a simple way of doing it, but the main point is that the demand number will grow a lot over the coming years). Given the deficit that is already here and growing, as well as all the demand that is expected to be added beyond just India, adding 90 GWe means something over 150 new reactors of various sizes, India is a demand player we need to carefully account for even if they don't make that 2047 target. If they fulfill even a fraction of their desired goals, it moves the entire supply/demand model materially.

AN IN DEPTH LOOK AT DEMAND FROM INDIA

Oh and before anyone asks, almost none of those pounds come out of Indian ground, I double checked this both myself and by talking to representatives regarding where they plan to source pounds. The DAE claimed 229,499 tU of identified resources in 2017, roughly 597 million pounds, the Red Book, whatever opinion you may have on the thing regarding the naming of reserves, carried 292,867 tU in situ at the start of 2021, roughly 761 million pounds, and an official cited 425,570 tonnes of natural uranium in 2025, a figure I still cannot reconcile between U metal and oxide. Whichever you take, the Red Book puts essentially all of it in the highest cost category above \$130 to \$260 per kg U and it's likely to be a lot higher and a lot more difficult to actually extract than what the Red Book discusses, which is not the first time I have written that exact sentence now that I think about it.

Tummalapalle grades around 0.04% across a carbonate-hosted belt 160 km long holding more than 260 million pounds, enormous tonnage attached to unpleasant metallurgy and an alkali leach circuit. Record output was 2.76 million pounds in FY2015 against 1.0 million pounds reported for calendar 2015, a gap I now read as a reporting-basis artifact rather than a collapse. Recent production looks like under 1 million pounds a year, and even at a peak of roughly 2.6 million pounds it barely covered a 4 to 5 GW fleet running at reduced capacity.

Fuel shortage drove average load factors below 60% across 2006 to 2010 and down to 40% in 2008, so the cost of under-contracting is not exactly theoretical for this country. Lambapur-Peddagattu stays shelved over water contamination fears near the Nagarjuna Sagar dam, Meghalaya stays closed to UCIL over land rights, and imports were already covering 40% of requirements back in 2013. The NFC-Kota plant in Rajasthan took its operating license this year at 500 tonnes a year of fabricated fuel plus 65 tonnes of zirconium cladding, enough for 4 of the 700 MWe units. A parliamentary committee has since pressed the government to accelerate domestic mining and while the country does have its deposits (as I extensively discussed in the original piece), it's not enough to come even remotely close to what they need for their growing demand. So how does the import book square with the requirement? The stated need is at least 9,000 tonnes across 2025 to 2033, or 23.4 million pounds, framed against 2,600.299 MTU imported over the prior 5 years, 6.8 million pounds, and reported as a near quadrupling. Meaningful, sure, but with the caveat that 23.4 million pounds over 9 years against 6.8 million over 5 annualizes to 2.6 million versus 1.35 million pounds a year, so closer to double, and the 9,000 tonnes covers imported natural uranium for safeguarded PHWRs specifically, since imported material cannot fuel unsafeguarded units at all.

AN IN DEPTH LOOK AT DEMAND FROM INDIA

As you can probably imagine, Kazakhstan has anchored the book since a 2009 MoU for 5.5 million pounds and a 2015 contract for 13 million pounds, and the buying has been lumpy, with 5.2 million pounds landing in FY21 from Canada and Kazakhstan, nothing at all in FY22 and FY23 that I was able to find, then 0.9 million and 0.65 million pounds of Uzbek material in FY24 and FY25. Against that history, Kazatomprom shareholders approved a long-term contract with India's Department of Atomic Energy at 92.9% in favor, valued above \$4 billion, large enough to exceed 50% of the company's book asset value and trigger the vote as I reported at the time as well. Cameco signed a 9-year agreement for nearly 22 million pounds of uranium ore concentrate, deliveries 2027 through 2035 on market-related terms. Australia finalized the Administrative Arrangement operationalizing exports to India over the summer after more than a decade of stalemate, and Modi and Mirziyoyev have agreed to a long-term Uzbek arrangement replacing a 2019 contract for 2.9 million pounds through 2026 against which only 1.6 million had been delivered by early 2025, though that last one carries no tonnage yet.

Just for some scale and this is in no way me saying I have insights into the exact terms of these two contracts, but if you apply Cameco's own \$86.95 reference to the Kazatomprom headline and the implied volume runs near 46 million pounds, call it 40 to 50 million depending on the price path. Add Cameco's 22 million (using that same pricing logic) and 2 suppliers alone come to 62 to 72 million pounds against a stated 9-year requirement of 23.4 million. That derivation is mine, since neither volume nor contract length was published, so if the price was higher (which it very likely was) and/or the Kazakh book runs to 2040 the annualized picture softens. Again, this is just to provide notice of the potential scale of their buying activity and even allowing for that, India has contracted 2-3 times its own published requirement inside a single year, before Uzbekistan, before Australia, before Russia's lifetime commitment at Kudankulam. They are serious about building a strategic reserve and taking a leaf out of the Chinese utility playbook with regards to strategic reserves and security of supply.

All in all, that projected exponential growth of nuclear power capacity in the country all the way up to a demand picture of 45 million pounds a year at 100 GWe is massive. Taking up a massive share of projected global primary mine supply, from a country producing under 1 million pounds of its own. Whether India gets there by 2047 or reaches only half of it by 2040, it buys those pounds from somebody and it is bidding for them now and given what I have been hearing and seeing at the conference, that is not stopping anytime soon.

URANIUM POSITIONING UPDATE

Now, the price action for the equities has been undeniably frustrating in light of all the constructive developments on the demand side of the sector that I described extensively over the course of this piece, I will not deny that and one can see that in the sentiment readings as well (we are making our way back to depression levels as we speak). Could we go lower from here? Of course we can, given uranium equities are a relatively small part of the market and firmly classified as risk assets during a time when things have rarely been more uncertain for the overall macro backdrop. Still, I think that the fundamentals will prevail for the sector and that we will be trading higher once the proverbial smoke clear, especially given how both term and spot pricing continues to climb higher constructively. That brings me to what I am buying and using another third of the cash position for and it will be going to the two cornerstone/largest uranium holdings in the portfolio, Denison and Energy Fuels.

Starting with Denison, of which we sold 20% of the position at around \$4.10 during the spike in late January of this year, I think it's time to add 10% back to that position at \$2.85 now. I expect that as the price of uranium continues to rise, that they will be able to lock in increasingly favorable terms and participants at the conference (fuel buyers included) appeared to be viewing the project as very favorable and the first big greenfield mine to come to market over the coming years. That is a strong position to be in, so let's see if they can deliver and the company remains a very important and oversized holding in the portfolio.

As for Energy Fuels, even though a lot of their focus is on rare earth elements (which I think will make them a significantly important industrial supply chain player over the coming years), they are still the largest uranium producer in the US and in light of the recent RFI for domestically produced uranium, that status of a US uranium producer will be worth a lot I believe. Here too we sold part of the holding in Q1 when it was trading firmly in the mid \$20s range and now I want to make it a full position again. I will also be looking to add another small speculative bolt-on option position in light of more expected domestic US uranium demand and a general sector turnaround. This is risky, so please remember that and size it accordingly (if at all depending on your risk tolerance), but I added the Jan'27 \$15 calls for \$1.30 apiece. Let's see if these treat us even remotely as well as the 2955% run UUUU calls had last year, but time will tell and please be aware of the risk.

Something that I cannot stress enough is that this is just what I am personally doing right now. Your risk tolerance and sleeping level may be completely different and are more important to take into account, especially during uncertain times like these.

SUMMARY

Given the sheer size of this report, I thought it would be good to add a summary and then I found out that the summary alone would probably take 3 pages as well, which should tell you all you need to know. Still though, I promised a summary, so let's dive right in and if you skipped all the way down to read just the summary, please do read the entire report because 3 pages does not do it justice. Anyone with a meaningful quantity of pounds to sell holds the strongest hand they have had in many years, and the emphasis on many was not mine. That came from someone with better contacts than most of us, and the buy side agrees with him. Sellers are dictating terms, some are withholding material because they can see what that does to their own pricing power, and fuel buyers have reached something close to a wake up and smell the coffee moment. Why the change of heart? Because \$70-80 was supposed to balance this market and it plainly didn't, with brown and greenfield projects running over time, over budget, or even not delivering at all. We have the \$90's, but we need more.

Price has become the smallest part of the problem for them. A fuel manager at one of the largest US utilities told me supply that was once widely available on call may now slip away, and that volume and timing are the real concern, because the price is irrelevant if the pounds never show up. Coverage on paper is not coverage in the reactor, and you cannot load a balance sheet into a core, as you have heard me say before. One buyer told me a contact of mine that he saw no reason to pay more than a set price per pound and those are the marginal buyers, at least the way I see it, and they will chase the term price into triple digits. 2023's 160 million pounds gets waved around as the replacement rate benchmark we are all waiting to see again, except roughly 40 million of that was the one-off Energoatom arrangement, a quarter to a third of the year depending on whose figure you take. 2024 came in near 110 million, 2025 around 116 million, this year is tracking under again, and annual reactor requirements have climbed toward 200 million so the bar moved too. Term price rose through all of it. What does that tell you? Thin volumes against a rising term price is about as constructive a setup as I could ask for, and when the larger contracting arrives, and it has to arrive, the effect should be outsized. Spot grinding higher through the normally dormant summer months caught a few people off guard, so who was buying? Traders in part, and I spoke to a big one, no surprise there, though the ones holding Uzbek offtake could not slam the price into month end the way they usually manage. Buyers were waiting to take the material straight off them, which is notable. Utilities were in that bid alongside producers, all of them seeing value in the mid \$80s, and my contacts describe a floor forming there that is rising underneath us. With spot around \$86-87 and base escalated contracts printing into the triple digits, the carry trade window is open, though it narrows every time spot moves up.

SUMMARY

Market referenced pricing with floors in the \$80s and ceilings past \$150 used to be structures utilities refused outright and they are signing them now because the alternative is going uncovered and those floors and ceilings are on the rise. The terms in those contracts drags the reported term number higher. A utility accepting a \$150-plus ceiling today when it would not have entertained the conversation 18 months ago is the shift I would put in front of any skeptic and Paladin's comments on this line up, with the reported number near \$97 and their own utility discussions pointing closer to \$100 and above. US and European utility inventories come to about 229 million pounds of equivalent, up 34 million from the 2022 low, but no, that is not a bear case. Where did those pounds come from though? Double buying after Russia went into Ukraine, and upflexing legacy contracts written in a far cheaper era, because nobody leaves discounted pounds in the drawer. They all end up in a reactor anyway. Coverage out to 2030 is adequate and I won't pretend otherwise, but 52% of the next decade of US demand is uncovered with 186 million pounds unfilled through 2035. Procurement works 3 to 10 years ahead, so a hole in 2034 is a purchase order today, and 229 million only counts as supply if you assume somebody intends to sell it and that is an open question in this market as to where you will find that.

A large share of the pounds penciled in for the early and middle 2030s comes from mines that are currently slide decks and drill intercepts, not permitted, not financed, not built, right as large legacy mine assets are starting to deplete, with Kazatomprom very much included in that conversation as well. Development timelines already moved from 8-15 years out to 10-20 and rising, so if you wanted to replace one of the large legacy assets rolling off, you should have started 3 years ago, good luck. Some fuel experts expect Kazakh supply to roll off faster than modeled, secondary supply is down to maybe 15 million pounds a year, and the mobile pool that absorbed the strain through this cycle is a shadow of what it was. A sector veteran I spoke with puts the incentive price some distance above the high \$90s the buy side assumes is plenty, and neither of us sees adequate supply without firm triple digits for longer than people expect. You know what that does to equities. Moving on, BHP sent the M&A representative onto the conference floor, and the land staking, according to one very plugged in contact, was something of a minor diversion. They are after something bigger and they can see where the puck is going, so I expect a great deal more from them. Hyperscalers are the other balance sheet arriving, price insensitive and ruthless about protecting assets they need powered for decades, already in frequent discussions with enrichers and expected to work down the fuel cycle the same way utilities have, ending at physical material. Maybe they will buy a mine, these guys don't mess around, as one hallway conversation put it.

SUMMARY

KHNP came with an enrichment tender for 800,000 SWU a year, enough to feed a fourth of the Korean fleet and probably a bit more, which works out to somewhere between 26 and 31 million pounds of equivalent depending on your assumptions, and not many can respond to something that size. Korea went from phasing nuclear out to building more, facing 25-30 GW of demand growth from data centers and chip fabs with 79% public support behind new plants. That's not the only building demand as the US RFI asks for roughly 4 million pounds a year of unobligated material into the early 2040s, call it 40 million over a decade, against domestic production of 2.1 million pounds last year. Doubling national output and handing over the increment puts the government in competition with its own utilities.

Rolls Royce and GE-Vernova both described demand they cannot satisfy, with GE guessing at 10 units and 3GW by 2035 and perhaps quadruple that by 2040, and Rolls Royce targeting a first reactor around 2035 with 9 behind it. The constraint is capital rather than demand, and when the Dutch prime minister flies over to get in line you get a sense of the queue. Most of the rollout lands in the 2030s, but the fuel preparation starts now. SPUT holds 81.7 million pounds and has never sold or lent one, and no, those pounds are not being handed to utilities to fill gaps. The 9 million pound cap governs what the trust may buy, the discount to NAV governs whether it buys at all, and units closed at a discount roughly 9 days in 10 over the past year and a half. The 7 million bought this year came almost entirely out of an early window when spot was flirting with \$100. Sprott puts the sale question to institutional audiences and the nods start arriving around \$150, and any buyer credible enough to want that stockpile would move spot simply by bidding for it. Urenco's New Mexico expansion adds 2.1 million SWU with first production in 2032 and Orano's Oak Ridge facility targets deliveries in the early 2030s, so the enrichment pressure valve opens exactly as uncovered uranium requirements go vertical.

India has contracted 2 to 3 times its own published 9-year requirement inside a single year, before Uzbekistan, before Australia, before Russia's lifetime commitment at Kudankulam. Cameco's 9-year deal covers nearly 22 million pounds delivering 2027 through 2035, and the Kazatomprom contract carries a headline above \$4 billion with volume kept confidential, implying 40-50 million pounds against current pricing, though that derivation is mine so treat it as large but soft. A country producing under 1 million pounds of its own is building a strategic reserve out of the Chinese playbook, and whether they reach 100 GWe by 2047 or half of it by 2040, the trajectory runs toward roughly 45 million pounds a year, bought from somebody. All in all, another massively informative conference and I remain very optimistic.

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