URANIUM OUTLOOK 2018

Higher Spot Prices and Much Higher Stock Prices Ahead

by Marin Katusa

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There's an old saying in the news business: *"If it bleeds, it leads."*

"If it bleeds, it leads" is a rule the media uses to decide what goes on the front page of newspapers and what kicks off the evening news. People are hardwired to pay attention to reports of shootings, natural disasters, wars, and anything else that causes bloodshed. It's rubbernecking from the comfort of your own home.

Ask any newsman and he'll tell you: The average Joe is 10 times more likely to watch a story about a 10-car pileup than he is to watch one about a medical breakthrough. The news business is just like any other business: It must cater to its customers. So the average Joe gets what he wants… and *if it bleeds, it leads.*

No recent event demonstrates this better than what followed Friday, March 11, 2011, when one of the biggest earthquakes in recorded history struck the east coast of Japan. The monster quake and the resulting tsunami killed more than 15,000 people and caused over $200 billion in damage.

In the weeks that followed, events at Japan's Fukushima I Nuclear Power Plant dominated global headlines. The earthquake and tsunami caused structural damage to the power plant, knocking out vital cooling systems. This caused reactor meltdowns, which released tremendous amounts of radioactive material. The name "Fukushima" is now etched in history alongside Chernobyl and Three Mile Island.

But one story went virtually unreported in the media: Fukushima I was not the closest nuclear power plant to the earthquake's epicenter. That distinction belongs to the Onagawa Nuclear Power Plant. Onagawa was 60 kilometers closer to the epicenter than Fukushima.

Although the nearby town of Onagawa was largely destroyed by the tsunami, all three of the plant's nuclear reactors withstood it without incident.

The Onagawa plant's 46-foot-tall seawall was large enough and strong enough to prevent extensive flooding. The construction of the Onagawa plant was solid enough to endure high levels of ground shaking. And the facility's staff was trained to handle problems.

Instead of evacuating the area like people did at Fukushima I, *Onagawa locals sought refuge at the nuclear power station.* It was the safest place around.

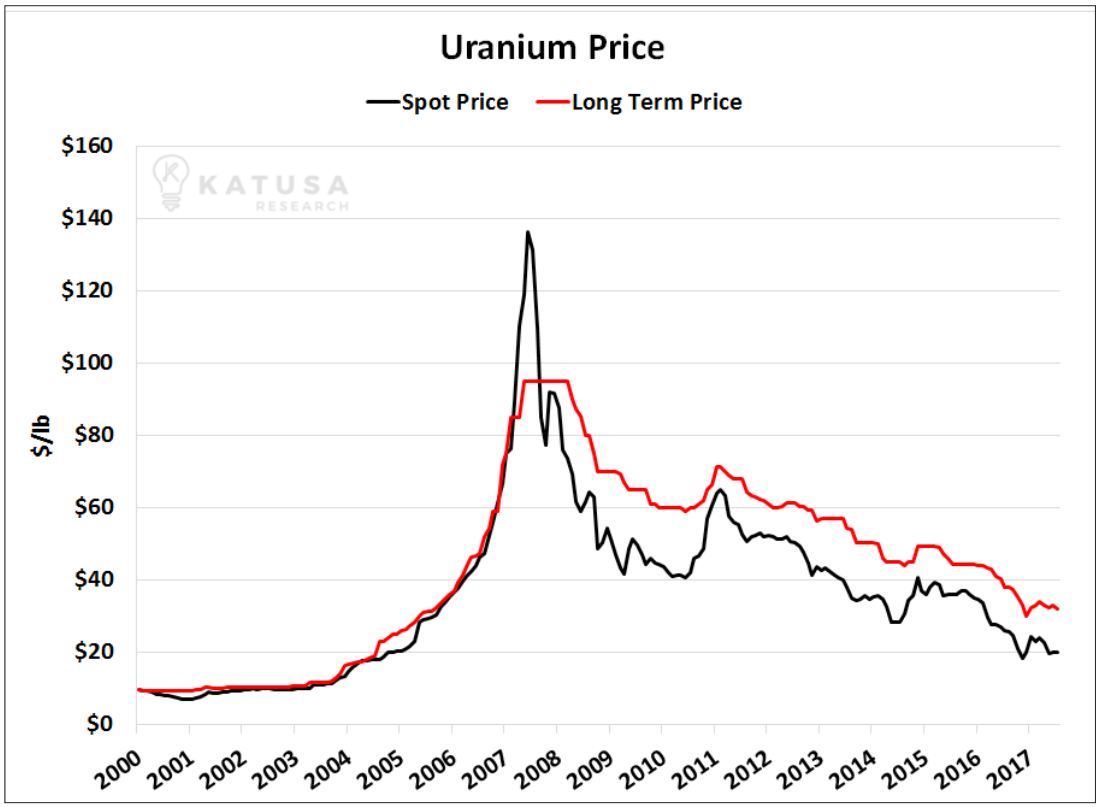
You probably didn't hear this story on the news. It wasn't sensational. But the fact remains that in 2011, a well-built nuclear power plant took a direct hit from one of the largest earthquakes in recorded history, without incident.

The story of Onagawa is an important chapter in the story of nuclear power. It shows how the right people and processes can make nuclear power very safe… and it shows that used the right way, nuclear power is the ultimate form of clean energy.

Yet in the years that followed Fukushima, nuclear energy fell out of favor. News of the biggest nuclear disaster since Chernobyl sparked protests around the world. Japan shut down its nuclear program, which accounted for about 12% of global reactors. Germany vowed to phase out its nuclear power industry by 2022. Italy halted future nuclear power plans.

The backlash dealt a huge blow to the nuclear power industry. Since uranium is the fuel used in power nuclear plants, it was dealt a huge blow as well.

Before the earthquake, uranium traded for over $70 per pound. After the quake, Japan dumped its substantial aboveground uranium supplies onto the market. This dumping, paired with reduced demand, sent uranium into a bear market that has taken prices down more than 70% to around $20 per pound.



The $20 per pound range is a crisis price for the uranium industry. Anything under $30 per pound will prevent any new mines from being built.

Prices are now so low that most uranium mines are losing money on every pound they sell at spot pricing. All U.S. uranium mines are losing money at current prices.

Uranium spot pricing is below levels set during the 2008 financial crisis. *"There has never been a worse time"* than now for the uranium industry, a uranium miner CEO recently told Reuters.

Statements like this scare most investors away from a market. But bargain hunting contrarian investors know these statements often mark the point of maximum pessimism… and signal major investment opportunities.

Investment legends like Warren Buffett and Sir John Templeton built their fortunes and reputations on buying assets when it seemed like "things couldn't get any worse." After all, when things can't get any worse, they can only get better.

I believe we are at such an inflection point in the uranium sector. Taking a position in high-quality uranium stocks right now stands a very good chance of working out well for investors. In fact, a solid case can be made that higher uranium prices are not a matter of "if," but a matter of "when."

That's why I'm making this sector one of the biggest bets of my career.

Nuclear Power 101

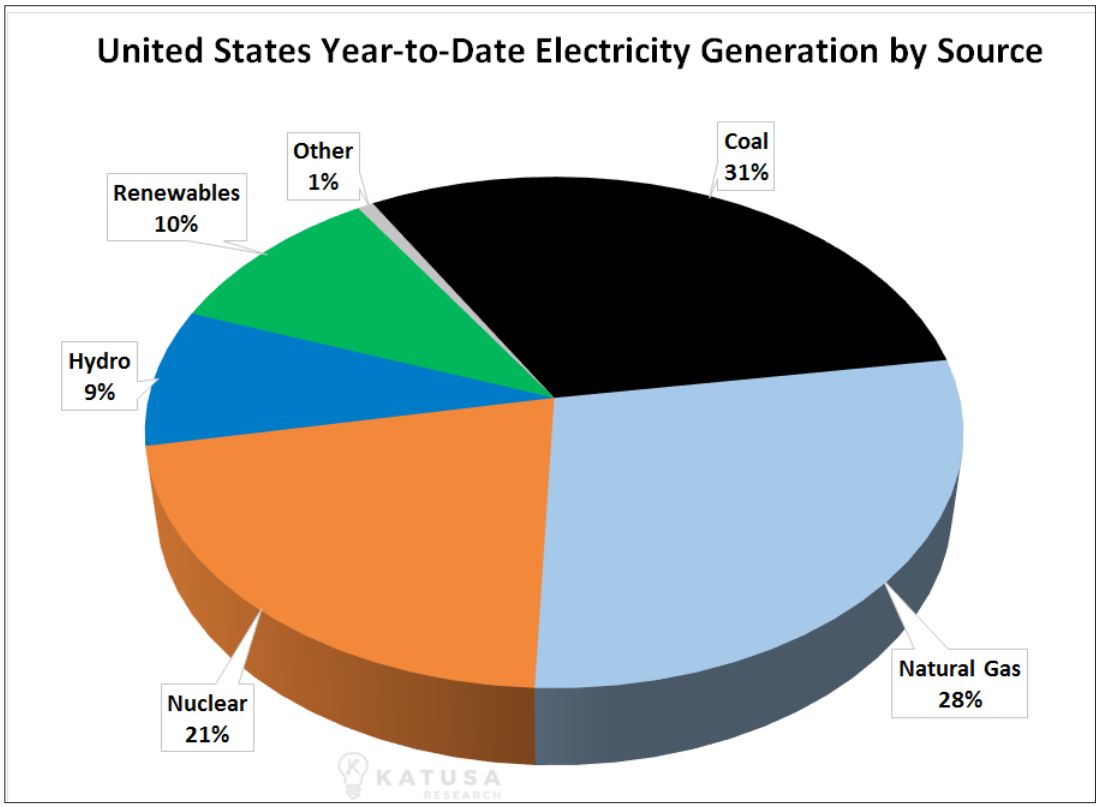
The average citizen's knowledge of nuclear power comes from disaster movies or soundbites about accidents like Fukushima and Chernobyl. It's easy to paint nuclear energy as the boogeyman.

The reality is that nuclear energy has provided – and continues to provide – the world with stupendous amounts of clean, safe, emission-free electric power. Coal, which is also used to generate electricity, has killed far, far more people than uranium.

The average citizen also doesn't know the vital role that nuclear power plays in the American economy. America gets 21% of its electricity from nuclear power.

Nuclear power provides electricity for about 23 million homes, or about twice the number of homes in California. Without nuclear power, the lights would go off for one in five Americans.

Below is a breakdown of the major types of energy produced in the United States. You can see that nuclear is one of the top three.



Nuclear energy is responsible for about 10% of global electricity production. If the world wants to both cut carbon emissions and keep the lights on, nuclear energy's share of production has to grow.

Nuclear energy provides "base load" power. Base load power is consistent, dependable power. It's always there and it's always on. It is the foundation of a healthy electric power grid. Base load power is in contrast to power derived from solar or wind, which can fail to produce power during the night (in the case of solar) and during periods of calm (in the case of wind).

There are over a dozen radioactive elements, but uranium is far and away the best fuel for nuclear reactors. It offers the best combination of supply, ease of use, and ease of disposal.

Naturally occurring uranium is not concentrated enough to be useful in today's nuclear power plants and weapons. It must be "enriched," which takes place through various processes. The most common enrichment process is with "centrifuges," a term you've probably heard a TV talking head mention when talking about Iran's nuclear program.

The energy content of uranium is approximately three million times greater than that of fossil fuels. To put this in perspective, realize that one-tenth of an ounce of uranium contains the equivalent energy of 6,613,868 pounds of coal. If you're a country with little fossil fuel resources like South Korea or Japan and you want safe, secure energy to keep your economy running, nothing beats uranium.

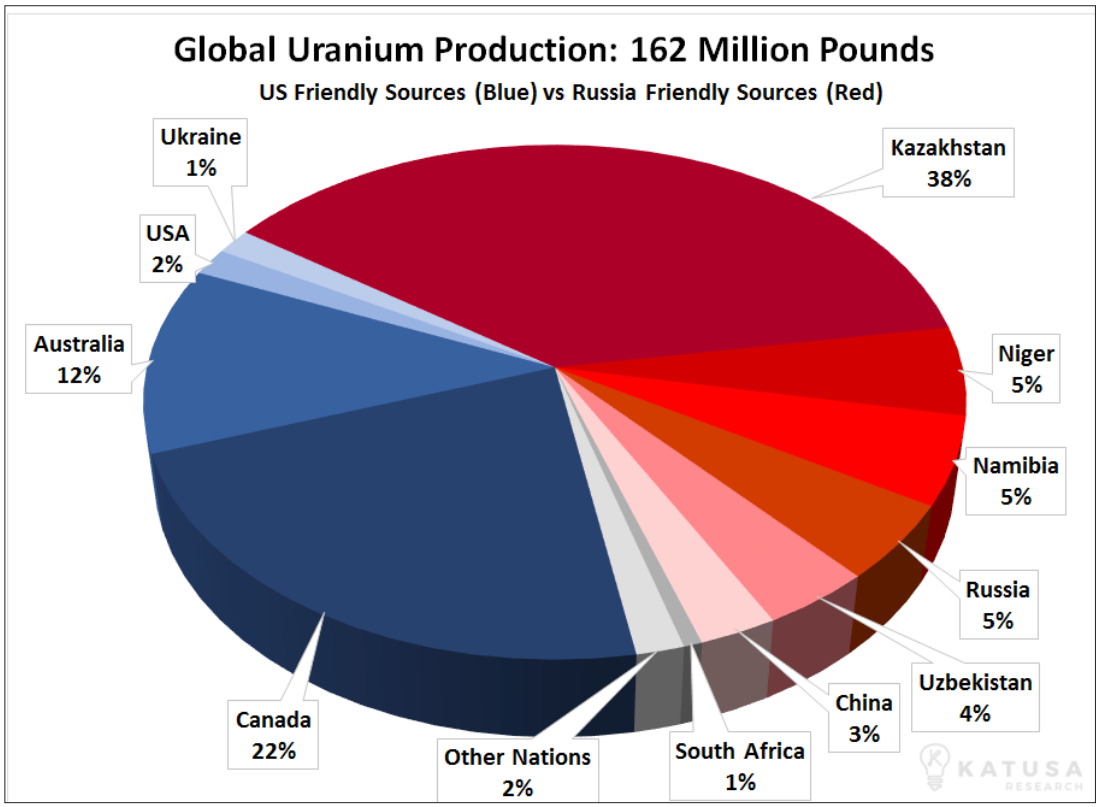
A Clear Path to Much Greater Uranium Demand

The case for investing in any natural resource always starts with supply and demand. When we talk about the supply and demand of uranium, we talk in terms of pounds. Uranium is an especially unique market because there is primary production (which comes from mine production) and secondary production (which is uranium from decommissioned nuclear warheads and other sources such as reprocessing tails).

In 2015, 86% of uranium supply came from mines and 14% came from decommissioned nuclear warheads and other secondary uranium production sources.

As a result, a uranium investor must not only analyze mine production like he would in the copper or silver market; he must analyze nuclear warhead inventories as well. On the mine supply side, the central Asian country of Kazakhstan (yes, where Borat is from) is currently responsible for 38% of global mining production. Canada is a distant second (22%) and Australia is a distant third (12%). A handful of countries produce modest, but meaningful, amounts of uranium, but Kazakhstan production dominates the mined uranium market.

Below is a pie chart that shows global uranium production. Red represents Russian-friendly nations and blue represents U.S.-friendly nations.



All of Kazakhstan's uranium production comes from ISR (In-Situ Recovery). ISR is the cheapest way to produce uranium. This is because ISR involves no digging, hauling, or crushing of rock.

There are no conventional open pit mines or underground mines. You don't need big dump trucks or mining shovels for ISR production.

ISR pumps the equivalent of soda water into porous rock that holds elevated uranium concentrates. The water becomes "impregnated" with uranium and is then pumped out of the rock.

An ISR operation is more like a water processing facility than a mine. Below is a picture taken from the EPA which depicts ISR mining.

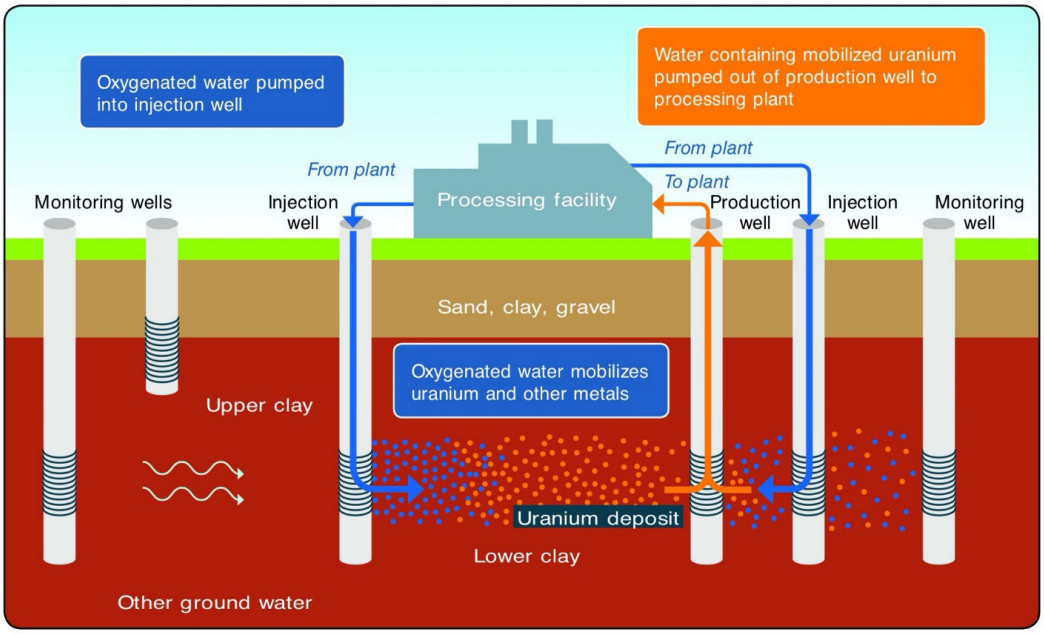


Figure 1: ISR Extraction Process for Uranium

United States Environmental Protection Agency | Office of Radiation and Indoor Air (6608T) EPA-402-F-13-051 | October 2014

It's important to keep in mind that ISR production is similar to oil and gas production. It produces a lot when the well is first tapped, and then production declines. As the production declines, new wells are drilled to offset the production decline rates.

Kazakhstan is producing a lot of uranium now, but it is just starting to experience production declines. The current price of uranium does not warrant drilling new wells in Kazakhstan. It has the lowest cost of uranium production in the world, but drilling new wells is not economic at $20 per pound uranium. To bring on new production in Kazakhstan, $35-$40 per pound uranium is required.

And logically expected, Kazakhstan just announced that it plans on reducing its uranium production by 10%. When the world's largest producer of uranium announces a 10% reduction in output, speculators must pay attention.

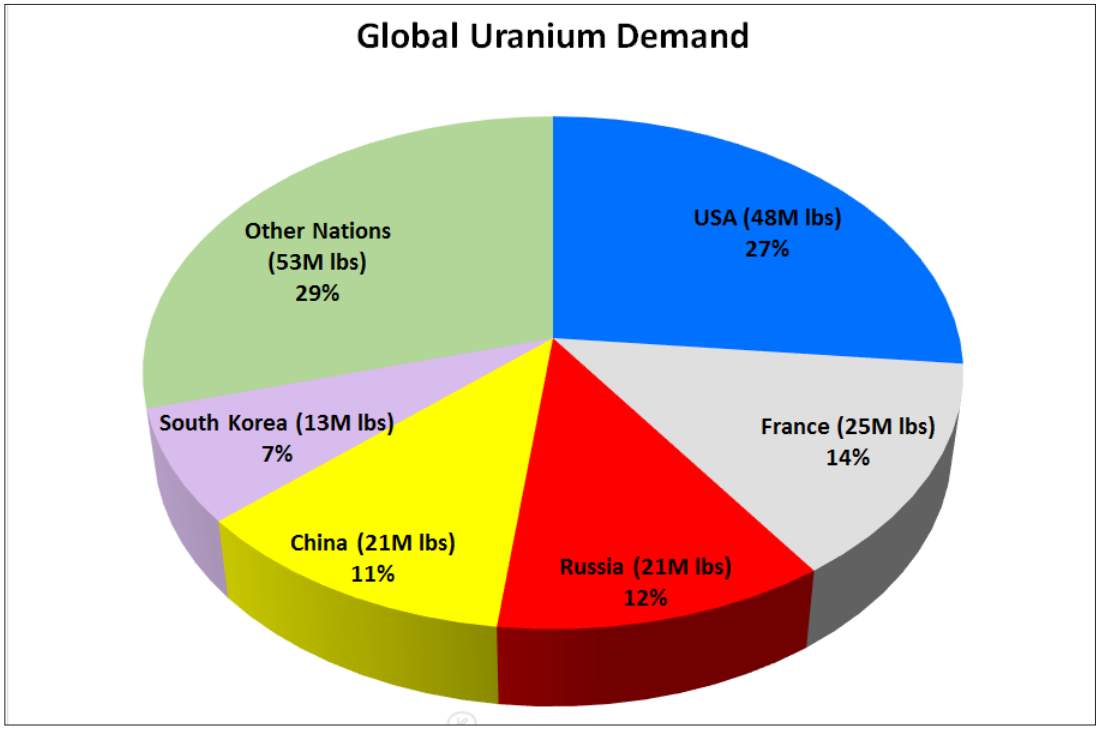
For two decades, secondary uranium supply actually came from nuclear weapons. The decommissioned nuclear warhead market is dominated by Russia and the U.S.

At the end of the Cold War, Russia and the United States agreed to reduce their nuclear weapon stockpiles and use their uranium for nuclear power production. As part of the agreement – nicknamed "Megatons to Megawatts" – the United States agreed to buy 500 metric tons of warhead grade uranium from Russia. This program lasted from 1993 to 2013.

After selling a portion of its inventory, Russia is estimated to hold 134 million pounds of uranium. The U.S. is estimated to hold 260 million pounds of uranium.

Uranium Demand

The "Big 5" consumers of uranium are: United States (27%), France (14%), Russia (12%), China (12%) and South Korea (7%). The Big 5 consume 123 million pounds of the total global uranium consumption of 175 million pounds per year. Together, these five make up around 71% of global demand. Below is a pie chart which depicts the world's demand for uranium by country.

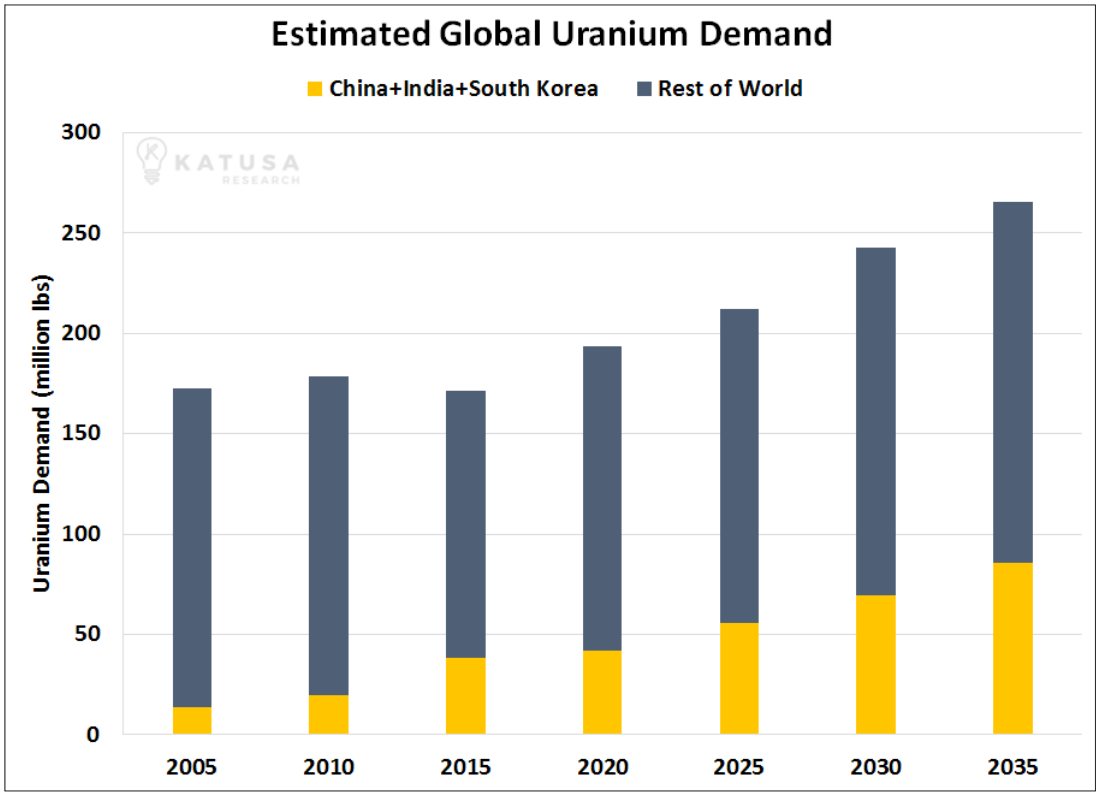


Japan's disaster made the global nuclear industry stumble, but it didn't knock it down. Although a few countries, like Germany and Italy, are moving away from nuclear energy, much of the world is moving towards it. If you're a country without significant fossil fuel resources and you want large amounts of safe, secure energy to power your economy, nothing beats uranium.

Giant energy consumer China currently has 21 nuclear reactors under construction. Russia has 7 reactors under construction. India has 5. The United States has 2 currently under construction.

Also, Japan has stated that it plans to get two-thirds of its nuclear reactors back online in the next four years. This means that soon, approximately 14 million pounds of uranium will be needed to meet the Japanese demand alone.

Growing Asian demand and steady demand from massive current consumers (the United States and France) means that uranium demand will grow from 168 million pounds per year in 2015 to 265 million pounds per year by 2035, a growth of 58% in 20 years. Below is a chart that shows recent uranium demand and projected future growth:



As much as any natural resource, uranium has a clear path to much greater demand over the next 15 years. However, that demand will not be satisfied with spot prices under $20 per pound. It costs the mining industry more than that to get it out of the ground.

Either the price of uranium will go up, or the lights will go out.

The Cure for Low Prices…

Seasoned resource investors know that one of the ultimate signs of a market bottom is when the current market price of a resource is lower than an industry's lowest cost of production.

When this situation occurs, either the price of the resource goes up or the producers go out of business and the world goes without the resource. In the case of energy resources, the world always chooses to keep the cars running and the lights on.

That's why the saying goes, "The cure for low prices is low prices."

In the case of uranium, the average production cost of North America's conventional uranium mining industry is about $60 per pound. This is an "all-in" cost that takes into account the cost of capital, labor, equipment, fuel, and insurance. The highest-grade uranium project in the world, the McArthur River project in Canada, needs about $30-35 uranium to break even. Kazakhstan's ISR projects need $25-$30 uranium to be economic.

Uranium is sold in two ways. One is through the spot market, where an end user can buy uranium whenever it wants. The other is through the long-term contract market, where end users enters into agreements with producers to buy set amounts of uranium over set periods of time.

In mid-2017, the spot price of uranium traded below $20 per pound. At the same time, the long-term contract price was about $32.50 per pound. Historically, the majority of sales have been in the long-term market, but that has changed since Fukushima.

Because of the flood of Japanese stockpiles, the spot market became more active. But that is now starting to change. This anomaly appears to have started to reverse, which is good news for the price of uranium. Both prices are well below the industry's average cost of production.

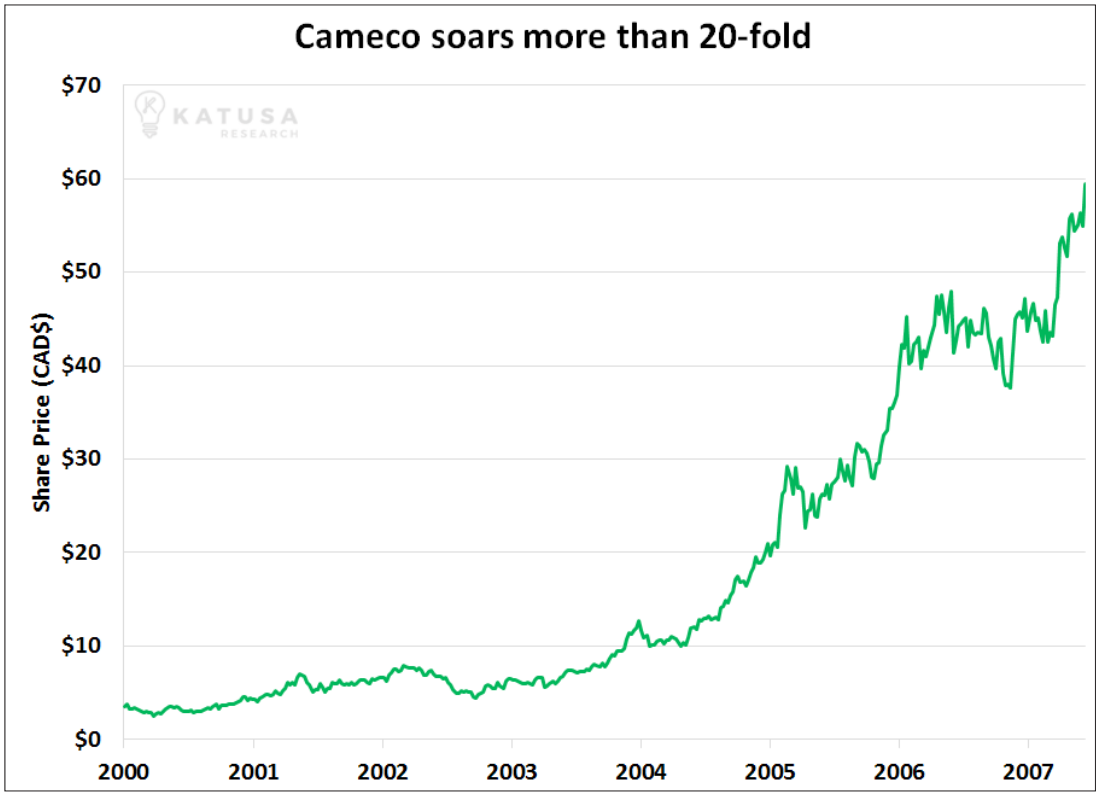
Eventually, the laws of capitalism will exert themselves. The price of uranium must rise, or companies will stop producing it and the lights will go off.

People will choose lights.

A transition from bear market to bull market won't happen overnight. In all likelihood, a significant price increase won't happen in the next 12 months. There is still supply overhang to work through. But demand is surging. Supplies are starting to curtail. We're seeing this happen already in Kazakhstan. And the industry's production costs are much higher than current prices.

This is a combination of factors that will send uranium prices 50%-100% higher within three years. Since natural resource stocks are leveraged to commodity prices, deeply depressed uranium stocks could climb five-fold during that time.

You might think these projections sound outlandish, but they are actually very conservative. Just 12 years ago, the price of uranium started on a climb that took it from $12 per pound to $137 per pound (a 1,041% rise) in just three years. Many uranium stocks climbed more than 3,000% during the rally. The world's largest publicly traded uranium miner, Cameco, increased in value 20-fold. Some smaller, more speculative uranium stocks climbed more than 100-fold.



Uranium enjoyed that stupendous bull market because supply was constrained, demand was healthy, and because fund managers were speculating that the end of the U.S./Russia uranium deal would further constrain supply. That's the situation we have now as well.

The choice of paying higher uranium prices or watching the lights go off will be put to America in a unique way. That's because the U.S. has painted itself into a very dangerous corner… one few people know about and even fewer people talk about.

A Huge Part of the Trump/Russia Story Nobody Is Talking About

To many U.S. citizens, Russian President Vladimir Putin is a Hollywood villain. He's a former KGB officer. He meddles in presidential elections. People who speak out against him tend to disappear.

That's why most Americans would be astonished and angry to learn how U.S. political leaders have put America in a vulnerable situation… one dependent on Russian uranium to keep its lights on.

Remember that as I noted, the U.S. generates 21% of its electricity from nuclear power. It consumes nearly 50 million pounds of uranium each year. Yet it gets just 11% of its supply from domestic U.S. uranium mines.

The U.S. gets a little uranium from its rapidly declining stockpile of decommissioned nuclear warheads, a little from Canada, and a little from Australia.

But the U.S. gets the bulk of its uranium (more than 50%) from unfriendly, Russia-influenced sources.

This is a dangerous position for the United States. Over the past decade, Russia and the United States have gotten into a variety of low-level disagreements. If a disagreement were to escalate, Vladimir Putin could easily "play the uranium card" and cut off Russian uranium supplies to the United States. Putin could also exert influence over Kazakhstan and block its uranium shipments to the U.S. This would cause an American power crisis.

The U.S. cannot rely on big producers like Canada and Australia for uranium imports. Neither country can supply enough uranium to fulfil American demand. More importantly, both Canada and Australia have signed long-term agreements with India and China. This means there is even less uranium available for U.S. imports.

Even if the U.S. could import sufficient amounts of uranium from friendly countries, raw, physical uranium is of no use to nuclear power producers. It must be refined, or "enriched," to a specific grade to be of use. This refinement process is extremely expensive, extremely difficult, and extremely time consuming. In the uranium market, enrichment capacity is even more important than raw, physical uranium supply.

Russia controls over 50% of the world's uranium enrichment capacity. The enrichment facilities in the U.S. and in countries friendly to the U.S. are operating at virtually full capacity.

A trillion pounds of uranium could magically appear in the U.S., but it couldn't be used to produce power because the U.S. doesn't possess or have access to the needed enrichment facilities. Building this capacity would take more than 10 years. The U.S. cannot simply "flip a switch" and get its electricity from other power sources like dirty coal, solar, wind, or natural gas. It does not have the infrastructure to do so. Building it would take a decade.

The U.S. has painted itself into a corner. It must have nuclear energy or the lights will go out.

This mishandling of America's energy supply has given Russian President Vladimir Putin a ridiculous amount of leverage over America. Just imagine if the U.S. depended on Russia for more than 50% of its crude oil needs. *People would be marching in the streets of Washington, D.C.*

The U.S. has just one possible path forward in the short term if it wants to keep the lights on for the equivalent of two Californias. It will have to pay tens of billions of

dollars to secure enriched uranium from Russian-controlled sources… at prices much higher than the current spot price or long-term price.
As for the long-term, the U.S. must encourage a massive expansion in domestic mine supply and enrichment capacity. This includes "fast tracking" the permitting process for new mines and enrichment facilities.

Over the past ten years, the U.S. has made amazing advancements in domestic oil production by encouraging shale oil projects. It needs to do the same with uranium. It's in the best interest of U.S. national security to take these steps. (If you happen to know anyone with any say in the appropriate U.S. government agencies, please forward this report to them.)

Again, American citizens would be protesting in the streets if they were heavily dependent on Russian-controlled oil to power their cars. They should be equally concerned about being so dependent on Russian-controlled uranium for a good portion of their electricity needs.

In summary…

Climate change is the number one worry for many people around the world. However, those people also people want reliable, reasonably priced electricity to power their modern way of life.

Nuclear energy provides stupendous amounts of secure, always on, always there, base load power. And as amazing stories like what happened at Onagawa show us, nuclear power can be very safe.

I expect more and more people to realize what is going on… which will be very rewarding for contrarians who take positions in deeply depressed uranium stocks.

These stocks have been obliterated over the past five years. The industry is in crisis. But the worse a situation is, the greater the upside when things turn around. That's why I'm making uranium one of my biggest bets of 2017.

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