Uranium Report 2019

Everything you need to know about uranium!

SRC SWISS resource capital ag

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Preface

Dear Readers,

with this new edition of the Uranium Report 2019 we are already entering year 3 of this special report series. Uranium is a „hot potato“, but not many investors have recognized this yet and have not yet positioned themselves accordingly. However, without energy production from uranium, i.e. nuclear power plants, we will not only have a huge global problem in the stable basic energy supply, but also a real power supply problem in itself as a result of the electromobility revolution. It is not only the sluggish construction of the infrastructure for the many new electric vehicles that needs time and raw materials. The question is rather where does all the electricity come from and without pollutant emissions? For many years, nuclear power has been the only viable solution, since sun and wind cannot be relied upon and they can only be suppliers. In Germany in particular, this question arises all the more since nuclear power is shut down and coal-fired power is no longer opportune. Once again it is worth looking at China because here you can switch to solar, hydro, wind and above all nuclear power. China has understood that one suffocates from smog but also needs a reliable and cheap power supply. Nuclear power is the perfect solution. Especially in Europe one has the impression that the electricity comes from the socket anyway, so it is not a problem. Only hardly anyone thinks about how the electricity gets into the socket.
Our series of special reports started with lithium and silver, but these reports have since evolved into battery metal and precious metal reports. Closely connected to the battery metals (main components of lithium-ion batteries, the heart of every electric vehicle) is the base load-capable power supply (charge) of the batteries, and thus either the combustion of coal, gas or oil or the use of uranium as a fuel element in nuclear power plants. There are no other base-load-capable energy generation methods as long as no adequately large storage facilities have been created for electricity from renewable energy sources. This report is intended to give the reader an overview of the uranium industry and the real facts as well as the global energy supply from nuclear power. Petition 232 in the USA, due for decision in April 2019, is intended to revive domestic uranium production and reduce the USA‘s dependence on Kazakh and Russian uranium supplies. In 2018, top uranium producers significantly reduced their production to bring the uranium spot price back to a vital level for the vast majority of operations and to put pressure on energy companies to renegotiate their supply contracts, which are about to expire. The price already rose in 2018 by around 40% to around US$ 29 per pound, but this is far from enough to tackle new mines.
In addition, we conducted interviews with experts Scott Melbye and Dr. Christian Schärer on the uranium markets and future developments. Of course, we also present some interesting companies of the industry with facts and figures. This is to be understood as a suggestion and not as a buy recommendation since there are only very few listed companies at all. „There‘s really only one technology that we know of that supplies carbon-free power at the scale modern civilization requires, and that is nuclear power“ – Ken Caldeira of Stanford University‘s Department of Global Ecology.
Raw materials are the basis of our entire economic coexistence. Without raw materials there are no products, no technical innovations and no real economic life. We need a reliable and constant basic energy supply for our highly industrialized world.
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My team and I hope you enjoy reading the Uranium Special Report and that we can provide you with lots of new information, impressions and ideas. Only those who are well informed will be able to win and preserve their assets in these difficult times.

Yours, Jochen Staiger

Jochen Staiger is founder and CEO of Swiss Resource Capital AG, located in Herisau, Switzerland. As chief-editor and founder of the first two resource IP-TV-channels Commodity-TV and its German counterpart Rohstoff-TV, he reports about companies, experts, fund managers and various themes around the international mining business and the correspondent metals.

Tim Roedel is chief-editorial- and chief-communications-manager at SRC AG. He has been active in the commodity sector since 2007 and held several editor- and chief-editor-positions, e.g. at the publications Rohstoff-Spiegel, Rohstoff-Woche, Rohstoffraketen, Wahrer Wohlstand and First Mover. He owns an enormous commodity expertise and a wide-spread network within the whole resource sector.

Climate change and the electric revolution make it necessary to rethink the power supply. – Nuclear energy is the only base load-capable energy source that can manage the balancing act between an enormously increasing demand for electricity and clean energy generation!

Global energy demand has multiplied since the late 1980s. Nuclear power currently covers about 11.5% of the world's total energy needs. However, fossil fuels, such as coal and crude oil, are still burned primarily to generate energy. The increasing demand for a reduction in CO^2 emissions and the increasingly noticeable phenomenon of „global warming" are prompting energy-guzzling industrial nations and emerging economies in particular to increase their energy efficiency and improve their CO^2 budgets. The second important point is the electric revolution that is about to begin, which will not only allow us to move almost 100% electrically in a few years' time, but will also bring with it a huge, additional surge in demand for clean energy.
With the burning of coal and oil both cannot be achieved at the same time. The alternatives are renewable energies, which, however, require an enormous amount of time and money and, in addition, are not even close to base load-capable without a lack of larger electricity storage facilities, or nuclear power, which can provide a great deal of energy in a CO^2-neutral manner. Some countries have long recognised this possibility of fast and almost clean energy generation and are now pushing ahead with the construction of new nuclear power plants.

Base load capacity, what is that?

Base load capacity is the ability of a power plant to continuously and reliably supply electrical energy. These include nuclear power plants, coal-fired power plants, gas-fired power plants, oil-fired power plants and steam power plants fired with substitute fuels. Block-type thermal power stations, biomass and biogas power stations can also be base load-capable under certain conditions, but fossil or renewable raw materials must also be burned for this purpose. The only base-load-capable electricity generation from renewable energy is from hydroelectric power plants, but this often requires a major intervention in nature. Photovoltaic and wind power plants are not base load-capable due to their often strongly fluctuating generation and thus feeding into the grid.

Supply gap unavoidable in the future

Even now, however, only 75% of the world's uranium requirements can be met from producing mines. However, the number of nuclear reactors is likely to double again in the next 10 to 20 years. The previous main supplier of uranium – Russia's arsenal of nuclear weapons – has virtually ceased to exist. Then where would the uranium come from? Existing mines can be expanded, and new mines opened, but not at the current uranium spot price of around US$26 per pound. An enormous supply gap seems unavoidable – at least at the current market price. And this is exactly where investors should start now – with a strongly rising uranium spot price and an inevitable second uranium (stock) boom.

What's uranium?

One of only two elements where nuclear fission chain reactions are possible

Let's get to the element of uranium itself. Uranium is named after the planet Uranus and is a chemical element with the element symbol U and the atomic number 92. Uranium is a metal whose all isotopes are radioactive. Uranium naturally occurring in minerals consists of about 99.3 % of the isotope 238U and 0.7 % of 235U.

The uranium isotope 235U can be fissioned by thermal neutrons and is therefore the only known naturally occurring nuclide, apart from the extremely rare plutonium isotope 239Pu, with which nuclear fission chain reactions are possible. For this reason, it is used as a primary energy source in nuclear power plants and nuclear weapons.

Occurrence

Uranium does not occur dignified in nature, but always in minerals containing oxygen. There is a total of around 230 uranium minerals that can be of local economic importance.
There is a wide range of uranium deposits from magmatic hydrothermal to sedimentary types.
The highest uranium grades are achieved in unconformity-bound deposits with average uranium grades of 0.3 to 20 %. These are currently also the two largest uranium producers. The Earth's largest single uranium resource is Olympic Dam with a proven uranium content of over 2 million tonnes and an average uranium content of approximately 0.03%.
According to the International Atomic Energy Agency (IAEA), the largest uranium reserves are in the USA, Niger, Australia, Kazakhstan, Namibia, South Africa, Canada, Brazil, Russia, Ukraine and Uzbekistan.

Uranium extraction

There are basically two different methods of uranium extraction: Conventional conveying and recovery by means of in-situ leaching or in-situ recovery (ISR). The exact extraction method depends on the properties of the ore body, such as depth, shape, ore content, tectonics, type of host rock and other factors.

Conventional production

Most of the uranium is extracted in civil engineering. The deposits are accessed via shafts, tunnels, ramps or spirals. Problems are often caused by the ingress of mine water and by so-called ventilation (technical measures to supply mines with fresh air). The exact mining method is chosen according to the characteristics of the deposit. Above all, the shape of the ore bodies and the distribution of the uranium in them are decisive. In underground mining, an ore body can be mined in a targeted manner, resulting in much less overburden than in open pit mining.
Near-surface or very large ore bodies are preferably mined by open pit mining. This enables the use of cost-effective large-scale technology. Modern opencast mines can be a few metres to over 1,000 metres deep and can reach several kilometres in diameter. Open pit mining often produces large amounts of overburden. As in civil engineering, large quantities of water may have to be pumped for an opencast mine, but ventilation is less of a problem.

ISR production

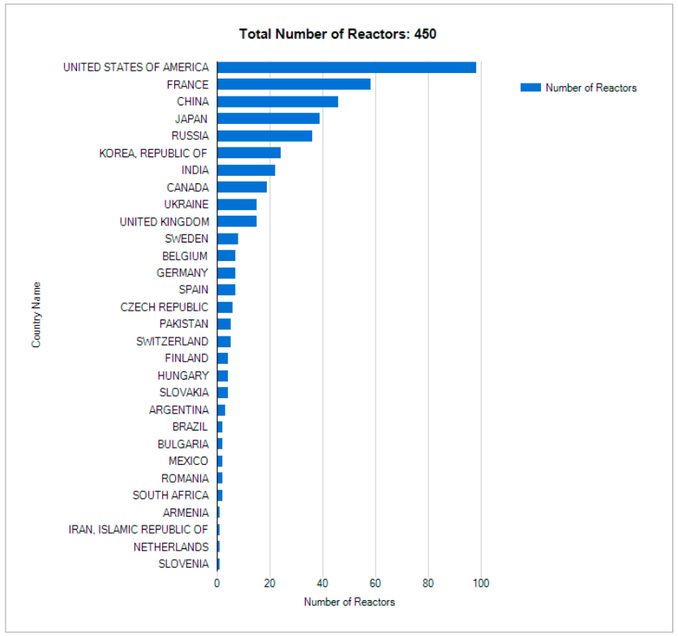
With the ISR method, water and small amounts of CO_2 and oxygen are injected into the sandstone layers with the aid of injection wells, uranium is dissolved out and pumped back to the surface for further processing with the aid of recovery wells. So, the whole process is completely underground. The advantages of this process are obvious: no large earth movements as in open-pit operation have to be carried out, no spoil heaps or discharge basins for heavy metals and cyanides are created. Only the wells are visible on the surface, the areas around the wells can continue to be farmed without restrictions. The ISR process also makes depots with low grades economically mineable, and the capital costs for mine development are greatly reduced. In addition, the entire process must be carried out with a minimum of manpower,

which also drastically reduces operating costs. According to a study by the World Nuclear Association, 25% of the uranium mined outside Kazakhstan recently came from ISR mines.

The Current Status of the Uranium Market

But what about today's uranium market? What is certain is that the last 40 years of lacking investments in the procurement structure – i.e. in the infrastructure of mines and processing plants – will most likely prove to be a stroke of luck for uranium investors in the future!
Despite the fact that, at the latest since the Chernobyl catastrophe and even more so after the events surrounding the nuclear facilities in the Japanese Fukushima Front, the number of nuclear facilities worldwide has already reached a record level. Just 30 countries currently (as of 01 March 2019) operate 450 reactors with a total net electrical output of around 399.4 gigawatts.

Overview of the reactors currently in operation in each country (Source: www.iaea.org/PRIS)



The USA is currently the leading nuclear power nation with 98 reactors in operation. However, emerging economies such as China and India are in particular need of more and more energy and have been focusing for some time now on massively expanding their nuclear power capacities. So, it is not surprising that 55 more nuclear reactors are currently under construction. Planning has already been completed for 132 more and 376 more are in the pipeline.

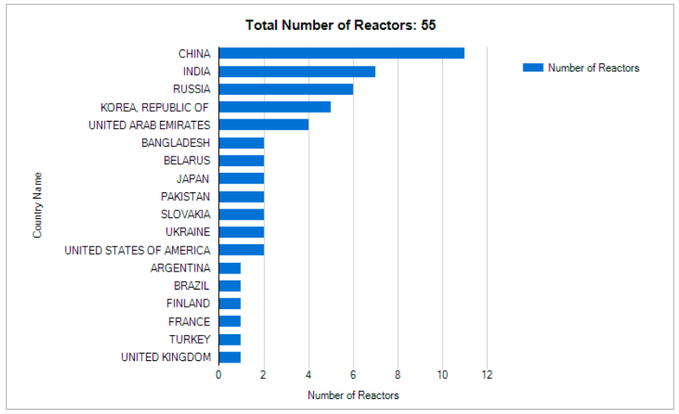
The demand situation

China is only at the beginning of the nuclear age

While many self-proclaimed experts had already predicted the end of the nuclear age, it is still in its infancy in the world's most populous country. The Middle Kingdom operates 46 reactors with a total net electrical capacity of 42.8 gigawatts, where coal has so far been used primarily to generate electricity. Of these, 7 new reactors alone have been put into operation since the beginning of 2018. The expansion of nuclear power in China is therefore enormous and is taking place at breathtaking speed! Nevertheless, more than two thirds of China's energy consumption are still generated by coal-fired power plants. And although China mines its own coal deposits on a large scale, it is one of the largest coal importers in the world alongside India. 30% of the coal mined worldwide is imported into these two countries alone. A certain dependence on these coal imports is obvious. And it is precisely this that the leadership of the People's Republic is trying to avoid. The obligation to establish climate-friendly and clean energy production facilities is becoming almost a minor matter.
The state-owned power plant manufacturer Power Construction Corporation of China (Beijing) predicted in autumn 2015 that its country would rise to become one of the world's largest nuclear power users after the Chinese government plans to build more than 80 new nuclear reactors in the next 15 years and more than 230 by 2050. According to information from China Power, the new five-year plan for the energy industry, scheduled for adoption by the National People's Congress in March 2016, envisages a more rapid expansion of nuclear capacity than previously: So far, the capacity should rise to 58 gigawatts in the next five years; now more than 90 gigawatts are under discussion. In the year 2005, only 40 gigawatts were planned until 2020. By 2030, 110 reactors should be connected to the grid. A total of 11 nuclear reactors are currently under construction. In drafts for the energy industry, US$ 75 billion are initially earmarked for nuclear expansion by 2020. In a further step, China's nuclear power generation is to be expanded to 120 to 160 gigawatts by 2030!
While in Germany, shortly after the events in Fukushima, the abolition of electricity generation from nuclear energy was sealed, China has decided exactly the opposite and is doing everything in its power to produce cheap electricity by means of a chain reaction. In view of an ever-increasing demand for energy – primarily as a result of rising prosperity – and a catastrophic carbon footprint, China's path seems logical.

India massively expands civil nuclear program

India is following a similar path. The world's second most populous state plans to expand its nuclear energy capacity by 70 gigawatts. By contrast, India's current total net electrical output of around 6.2 gigawatts seems downright ridiculous.
India, however, has overslept its entry into the nuclear energy market and is now desperately looking for exploitable deposits, but is also having to expand its overloaded power grid. A tenfold increase in nuclear energy capacities not only seems sensible, but also urgently necessary.



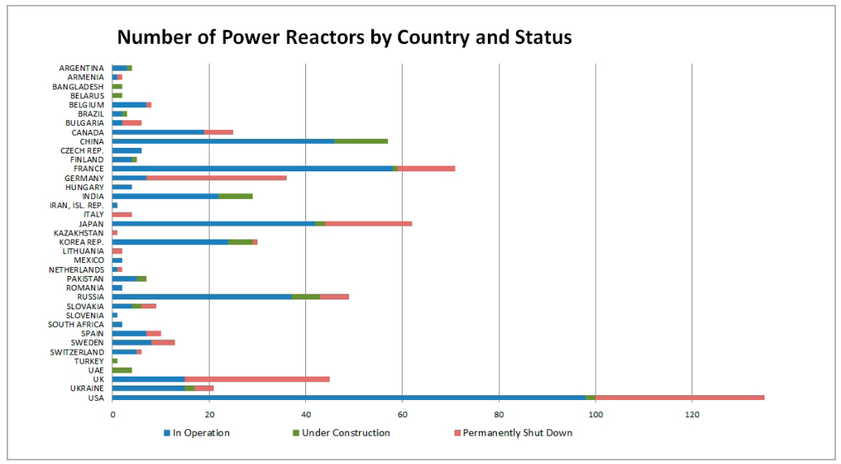
Overview of the reactors currently under construction in each country (Source: www.iaea.org/PRIS)

India itself has hardly any significant uranium deposits. An expansion of its own nuclear energy capacities by a factor of ten would at the same time mean a 10% increase in total nuclear power generation worldwide.
But where will the additional uranium come from? Currently, only a few of India's 22 nuclear reactors are operating at full capacity. While Japan, China, Russia and South Korea in particular have been able to secure uranium resources worldwide in recent years, India has completely missed this opportunity. Only recently have several purchase agreements been concluded with companies from the USA, Canada, Namibia, Kazakhstan, Russia, Great Britain and South Korea.
There are currently 7 nuclear reactors under construction in India, with another 42 to follow by 2050.

Russia and Brazil with increasing nuclear capacity

Russia and Brazil have also announced massive expansion of their nuclear power plants. Russia currently operates 36 nuclear reactors with about 27.3 gigawatts. 6 plants are in the construction phase. In addition, Russia plans to build 47 more nuclear power plants, which

Overview of the currently running reactors (blue), the currently shut down reactors (grey), the reactors under construction (green) and the permanently shut down reactors (red). China, India, South Korea, Russia, the United Arab Emirates and the USA, in particular, are currently working increasingly on expanding their reactor fleets.
(Source: www.iaea.org/PRIS)



will increase the share of nuclear energy in the Russian energy mix from the current 15% to over 20%. In a further step, Russia wants to increase this quota again to 25%.
Brazil currently operates only one nuclear power plant with two reactors. A third reactor is under construction. A further 4 reactors are planned by 2030.

Increasing global expansion of nuclear energy

In addition to the 30 nations that already have nuclear reactors on the grid, another 17 states are planning to install nuclear power plants. These include Egypt, the United Arab Emirates (four reactors under construction), Jordan, Turkey and Indonesia.

Energy collapse threatens the USA in particular

With 98 reactors, the USA has by far the largest nuclear power plant fleet in the world. Nevertheless, the USA is threatened with a collapse in its energy supply. The United States is still the country with the highest per capita consumption of electricity in the world. And the Americans‘ hunger for energy is growing. Many of the coal-fired power plants still dating from the 1950s and 1960s operate inefficiently and uneconomically. They need to be taken off the grid sooner rather than later. Electricity consumption, on the other hand, is rising continuously. So, the USA has no choice but to increase the number of nuclear reactors in the coming years. Of course, climate-friendly energy is also provided by photovoltaic systems, wind farms, hydroelectric power plants or geothermal energy, but these energy producers can only solve acute energy problems to a limited extent because they are very costly on the one hand and their performance fluctuates depending on the time of day and weather conditions on the other. What therefore remains as the only climate-friendly energy generation option is nuclear power. In view of the volume of additional electricity required in the next two to three decades, renewable energies can only serve as an admixture to the overall energy mix.
It is precisely for this reason that the Clean Energy Act of 2009, a programme to provide carbon-free energy, has already created a law to increase and promote energy generation using nuclear power. Both U.S. government parties have drawn up an $18.5 billion plan to double nuclear capacity by 2030. In early 2010, President Obama announced that the U.S. government will add $36 billion to the 2011 federal budget for state guarantees to build a new generation of nuclear reactors. This meant a threefold increase in the budget originally planned.
In recent years, an application has been made for more than 60 US nuclear reactors to extend their operating life to 60 years. In addition, there are 42 applications for the construction of new nuclear power plants. So far, however, only 4 plants are under construction, a further 14 are in the concrete planning phase.

Long-term supply contracts expire shortly

The previous cycle of contracts, dominated by the peak uranium prices in 2007 and 2010, has led plant operators to enter into contracts with higher price levels and very long terms of around 8 to 10 years. On the one hand, these old contracts expire, but on the other hand, the plant operators have not yet taken care of a replacement for these delivery quantities. The forward transactions of the plant operators are therefore strongly declining, and thus the quantities required are also increasing, for which there is no contractual obligation yet, but which must be contractually secured in the future. Uncovered demand is expected to be just under one billion pounds U_3O_8 over the next 10 years. At the same time, more than 75% of the reactor requirements to be expected are not contractually secured until 2025. With a commodity as little traded as uranium, this return to more „normal“ long-term contracts is likely to put enormous pressure on both long-term and spot prices. As a result, international plant operators are now increasingly seeing signs of increased buying activity.

Summary

It is a fact that 450 reactors are currently connected to the grid and that at least 376 more should be added by 2040. 55 plants are already under construction, a further 132 are in the concrete planning phase. Even if half of the old reactors were to be taken off the grid by then, 550 to 600 reactors would be active by 2040.
Furthermore, about 90% of all long-term supply contracts between uranium producers and energy generating companies expire by the end of 2020, which is likely to bring the established nuclear power nations such as the USA into trouble.

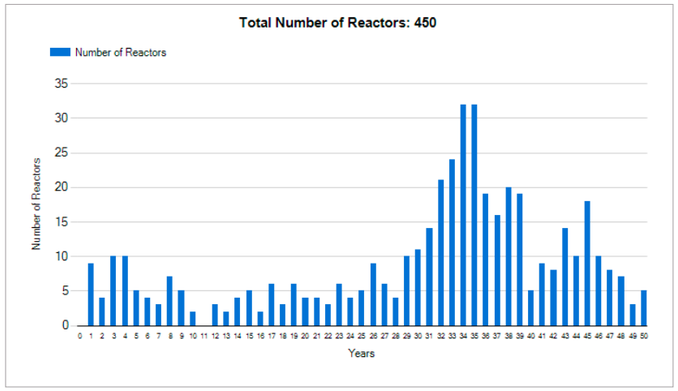
The supply situation

Established producers are running out of air

The established uranium producing nations Australia, Canada, Russia and Niger have problems further expanding their production. All four countries together produced just under 25,364 tonnes of uranium in 2017. In 2009, it was 28,000 tons of uranium. Australia is facing recurring problems at BHP Billiton‘s Olympic Dam Mine, by far the most productive uranium mine in the country. In Canada, the start of production at Cameco‘s McArthur River Mine had to be postponed umpteen times, as large quantities of groundwater penetrated again and again. In Niger, mine openings that were also planned had to be postponed.

US uranium production down to earth

The situation in the USA is even more threatening. Although the Obama administration decided in 2010 on a US$54 billion program to promote the nuclear power industry, it is far from clear where the uranium needed to operate the reactors will come from. The uranium industry in the USA is only a shadow of days gone by. Over the last 40 years, virtually nothing has been invested in the development of new deposits and nearly 95% of the uranium



Overview of the age of the currently running reactors. Many will (have to) be replaced by more powerful ones in the coming years.
(Source: www.iaea.org/PRIS)

required has been extracted from disarmament programmes. US nuclear reactors already consume about 18,000 tons of uranium annually. Accordingly, an increase in capacity would entail an increase in the quantity of uranium required. The World Nuclear Association (WNA) estimates that in 2035 in the USA alone about 40,000 tons of uranium will be needed annually. Even at the heydays of US uranium production in the 1960s and 1970s, it would not have been possible to produce such a quantity from one's own facilities. U.S. uranium production peaked in 1980, when some 29,000 tons of uranium were extracted from the ground. After the end of the Cold War, disarmed nuclear weapons became the most important source of uranium for the US. This led to a decline in American uranium production from 23,400 to less than 1,000 tons of uranium per year. As a direct consequence, most of the infrastructure and approved production facilities were simply closed or completely dismantled. Currently, there are only a few mines left in Texas, Arizona and Wyoming.

Kazakhstan – the new uranium superpower

While almost all established uranium producers have difficulties rebuilding or expanding their uranium production, one region has now moved past all other countries to the top of uranium production: Central Asia. Kazakhstan, in particular, has been able to multiply its uranium production there in the last ten years. Uranium production in the former Soviet Republic increased from 1,870 tonnes in 2000 to over 24,575 tonnes in 2016. In 2009, Kazakhstan also overtook Canada, the previous leader, and is now responsible for almost 40% of the world's uranium production.

Massive production cuts have already been initiated

But although Kazakhstan is one of the nations that can currently mine uranium at the lowest cost, the country is no longer prepared to squander its uranium reserves at the lowest possible prices. In early 2017, the state-owned Kazatomprom Group announced that it would cut its uranium production by at least 20% in 2017. In May 2018 Kazatomprom announced further production cuts. This would remove about 5,000 tons of uranium per year from the market.
However, Kazatomprom is not the only uranium producer who is relying on production cuts in view of the weak uranium price. Uranium major Cameco also announced corresponding production cuts and closed its McArthur River mine and Key Lake facilities indefinitely in January 2018. The Rabbit Lake mine has also been closed, both of which are among the ten largest uranium mines in the world. McArthur River is the second largest uranium mine in the world. With the temporary closure, 10% of the entire world production was taken off the market at a stroke. In addition, Cameco has for some time been acting as a uranium buyer itself in order to serve long-term, higher endowed supply contracts with corresponding quantities of uranium at the spot price.

Supply gap inevitable

Despite the massive expansion of production in Kazakhstan in recent years, there will be a large supply gap in the uranium sector in the foreseeable future. Such a thing already exists de facto. Up to now, however, this could always be compensated with uranium-capable material from atomic scrap or from Japanese stocks. But the nuclear power industry is already consuming more uranium than is currently being produced. At the current level of 450 nuclear reactors worldwide, consumption is about 182 million pounds of U_3O_8, of which only about 135 million pounds are covered by global uranium production. The International Atomic Energy Agency (IAEA) estimates that global uranium demand will rise to 300 million pounds of U_3O_8 by 2030 as a result of the construction of new nuclear power plants.

Summary

The supply side is currently undergoing upheaval in the uranium sector. Secondary supply from Russia's disarmed nuclear stocks is becoming less and less important. Whereas in 2006 37% of demand was covered by disarmed nuclear weapons, the figure is now just 4%. At the same time, however, the number of nuclear reactors will rise sharply. The established uranium producers will not be able to completely cover this equally volatile increase in demand – at least not at the current uranium spot price of US$ 26 per pound of U_3O_8. So where will the more uranium we need in the future come from?
Increased production can only be achieved through a higher uranium price and the associated large investments in the expansion of existing and new mines.
The basic problem, however, remains the relatively low uranium spot price, which does

Important events around the uranium market of the last 15 years.
(Source: Laramide Resources)

1. Early 2000s: Major mine disruptions following U_3O_8 price at all-time low
2. Mid to late 2000s: Utility Contracting
3. March 2011: Fukushima
4. Late 2016-2017: Kazatomprom cuts
5. Nov. 2017: Cameco announces production suspension for Jan. 2018, removing 1.2Mlbs per month
6. Dec. 2017: Kazatomprom cuts supply by 20%.
7. May 2018: Kazakh announcement of possible future cuts.
8. Ongoing: U.S. government continues to announce further support for nuclear power industry in United States.
9. July 2018: New uranium investment fund Yellow Cake launches IPO.
10. Ongoing in 2018: Reactor restarts are continuing in Japan.

not allow producers to access deposits that are more difficult to access and therefore more costly to extract.

At a market price of US$ 40 per pound of uranium, experts estimate that nearly 715,000 tonnes of economically recoverable uranium will be produced.

With an annual consumption of about 70,000 tons of uranium, these deposits would only last for 10 years if the market price for them remained constant at least US$ 40 during this period and demand also remained constant. However, this will inevitably increase.
If the market price for uranium were to rise, justifying production costs of US$80 per pound of uranium, it would be possible to economically mine approximately 1.28 million tonnes of uranium.

If the uranium price were US$130 per pound, approximately 3.8 million tonnes of uranium could be economically extracted. The known reserves would then last for about 54 years at current consumption.

Conclusion

The doubling of demand is almost matched by no expansion of supply!

However, the uranium spot price is currently as far away from the US$130 per pound mark as the current demand will soon be from future demand. According to a very conservative estimate by the International Atomic Energy Agency (IAEA), this will double in the coming years. In 10 to 15 years one could therefore confidently halve the above-mentioned ranges.
The whole thing shows that the still – apparently most favourable – method of electricity generation can only be used if the market price for the original product uranium rises again. Demand and supply also regulate the market price of uranium. However, if the market price no longer permits economic support, it must and will inevitably increase. In the case of uranium, demand will also rise sharply as a result of the construction of several hundred new nuclear reactors, so that the market price will virtually double. And of course, also those investors who have recognized this trend in good time.

High proportion of requirements not covered to date

Uncovered demand is expected to be around one billion pounds of U_3O_8 over the next ten years. More than 75% of the expected reactor demand will not be covered by a contract by 2025. With a commodity as little traded as uranium, this return to more „normal“ long-term contracts is likely to put enormous pressure on both long-term and spot prices. As a result, international plant operators are already increasingly seeing signs of increased buying activity.

Petition to strengthen US uranium production could be the turning point!

A hitherto underestimated but highly interesting aspect with regard to a turnaround in the uranium spot price could be an initiative from the USA. In January 2018, the only two remaining US uranium producers, Ur-Energy and Energy Fuels, filed a petition with the U.S. Department of Commerce to highlight the relevance of U.S. uranium production in terms of potential security concerns and increasing dependence of the energy industry on uranium imports.
The two companies argued that imports from successor countries of the former Soviet Union (namely Russia, Kazakhstan and Uzbekistan) now account for 40% of US demand for uranium, while only 5% of demand is produced in the US itself. The dependence, both of the US energy industry (after all, 20% of the electricity consumed in the USA is generated from nuclear power plants) and of the military, on these nations has increased alarmingly as a result.
With their petition, the two producers want both the Ministry of Commerce and President Trump to work out a clear assessment of the import dependence of the USA on Russia, Kazakhstan and Uzbekistan and to promote the US‘s own uranium industry.
In July 2018, the U.S. Department of Commerce initiated an investigation into the impact of uranium imports on U.S. national security. A decision can be expected within 360 days.
Should Trump actually follow the proposal of the two producers, then a spot price of its own could be formed in the USA which would be so high that the US producers would be able to support it economically. This would certainly also mean that the actual uranium spot price would follow, and the entire sector would gain momentum again.

Uranium ETFs Boost Spot Price

Within the past 12 months, an upward movement in the spot price could already be observed. This is partly due to several strong buyers, who are now securing U_3O_8 on the spot market at a low price, most of which comes from mines where uranium is produced as a by-product. In addition to Cameco, which now acts as a buyer, Uranium Participation Corp. and Yellow Cake Plc. were also able to purchase larger quantities of uranium. Yellow Cake also has a contract with Kazatomprom under which it will purchase uranium for US$170 million. This takes immense pressure off the uranium spot price and also puts pressure on utilities to extend their expiring contracts.

The best uranium stocks promise multiplication potential!

We have taken the current situation of a uranium spot price that is far too low and does not reflect reality, plus the massive supply deficit to be expected in the future, as an opportunity to give you a compact summary of promising uranium shares. We are concentrating above all on development companies with extremely promising projects, as these offer not only the actual upgrading through a higher uranium spot price but also a high takeover opportunity in this context. At the end of 2015, the merger (de facto takeover) of Fission Uranium with (by) Denison Mines failed due to the vote of the Fission shareholders. The example shows that investors are currently assuming that there will be far better takeover and merger opportunities in the future. Precisely because the uranium sector currently shows such an undervaluation, which must first be resolved.

Interview with Dr. Christian Schärer –
Manager of the Uranium Resources Fund and Partner of Incrementum AG

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Dr. Christian Schärer is a partner in Incrementum AG and responsible for special mandates.

During the course of his study he was looking for strategic success factors of successful business models. A topic that fascinates him until today and inspires him when selecting promising investment opportunities.

Dr. Schärer studied business administration at the Universität Zürich and he received his PhD extra-occupational at the Bankeninstitut Zürich for an analytical survey of the investment strategy of Swiss pension funds in the real estate sector. Since 1991 he has gained comprehensive financial market knowledge in several roles as investment adviser, broker and portfolio manager.

Since summer 2004 Dr. Schärer's focus as an entrepreneur, adviser and portfolio manager is on several investment themes with material asset character. He brings his practice-oriented financial market knowledge as board member to companies.

Dr. Schärer, you are Manager of the Uranium Resources Fund (ISIN LI0122468528) of LLB Fundservices AG in Liechtenstein. What strategy do you pursue and what does the fund specifically reflect?

The fund invests primarily in companies involved in the development and mining of uranium deposits. The fund therefore holds the majority of shares in mining companies in its portfolio. We are thus explicitly limiting ourselves to the first part of the uranium value chain. The investment objective is to take maximum advantage of the emerging supply gap in the uranium market. This supply gap is the result of a shear movement of supply and demand in the uranium market. While supply is stagnating due to falling uranium prices for years, demand is growing steadily and with high visibility at around 3% per annum. So far, the supply shortfall has been covered by existing stocks and secondary sources. But that will no longer be enough in the foreseeable future...

Especially in German-speaking countries, nuclear power is controversial, and politicians have initiated the phase-out of nuclear energy. Nevertheless, you are confident that the uranium market is bottoming out from a cyclical perspective. They expect demand to grow by 3% p.a. in the coming years. What makes you so confident?

It is important to distinguish between the situation in Germany or Switzerland on the one hand and the global perspective on the other. Unlike Germany, emerging economies in Eastern Europe or Asia are relying on the expansion of nuclear energy. There are currently 448 reactors connected to the grid worldwide. That's a historic record. According to the International Atomic Energy Agency (IAEA), 57 reactors are under construction worldwide. A good half of them in China (20), Russia (8) and India (5).
With the construction of new nuclear power plants, CO_2 emissions and air pollution as well as dependence on the import of fossil fuels are to be reduced. In addition, nuclear energy supplies the baseload in the electricity grids, which are under constant pressure due to the rapidly growing demand. Despite the events at Fukushima and the nuclear phase-out in German-speaking countries, this will lead to an increase in nuclear power production capacity from 390 GW (2016) to 580 GW in 2030. The forecast growth in demand of 3% p.a. is to be seen against this background.

The uranium price has been under constant pressure since 2011. What are the main reasons for this price collapse and how do you assess the current state of the market?

The uranium price moves in multi-year cycles. The price movement between the lower and upper turning point is enormous. The price of uranium in the bull market rose from US$ 3 to US$ 43 in the 1970s, only to fall by around 70% to US$ 8 by 2001. As part of the next cycle, the price then rose to a good US$ 130 by 2007. It goes without saying that such price movements entail both enormous profit opportunities and considerable risks.
Following the Fukushima reactor accident in 2011, prices on the uranium spot market fell from US$75 per pound to a temporary low of around US$18. For a good two years now, the uranium market has been in a volatile phase of bottoming out and the spot price has recovered to its current level of around US$ 26. This price development has put producers under enormous pressure. Essentially, three reasons seem to me to be responsible for the fall in prices. Firstly, the sale of uranium from the stocks of Japanese nuclear power plant operators who can no longer connect to the grid after the reactor disaster in Fukushima. Secondly, the sale of uranium producers with liquidity bottlenecks and of producers who extract uranium only as a by-product and are therefore not price-sensitive. And thirdly, the reluctance of buyers, who are not under stress due to falling prices and still significant inventories.

At the price level reached, however, we now see the uranium market at an interesting milestone. The bear market seems to be closed. In addition to the good demand already mentioned, we see reduced supply and increasing price discipline on the part of producers as catalysts for a significant recovery in uranium prices.

You mentioned that the fall in uranium prices is putting massive pressure on producers. How have companies come to terms with these low uranium prices and why do they now expect a turn for the better?

The fall in prices on the uranium market is a huge challenge for producers. In this environment, profitable production is almost unthinkable. Accordingly, costs are consistently reduced. Production plans are adjusted to the low prices and loss-making mines are even closed. The available capital is allocated in a very disciplined manner. Accordingly, development and expansion projects are redimensioned or cancelled. It is noteworthy that individual producers have meanwhile switched over to buying uranium on the spot market and thus fulfilling the long-term delivery commitments they have entered into. The current spot price is obviously well below their own production costs! The advantage for these producers is that the unproduced uranium remains in the ground and can later be sold on the market at higher prices.
With their behaviour, the producers are reducing their supply and thus preparing the ground for a medium-term price turnaround on the uranium market when the stagnating supply is no longer able to satisfy the steadily growing demand from China and India against the background of depleted inventories. In other words, there is a growing supply gap on the uranium market in the foreseeable future and this will be closed by rising uranium prices. We assume that uranium prices will have to recover permanently in the direction of US$ 70 in order to stimulate the necessary expansion of production capacities...

To come back to your question: we expect that a turn for the better can materialize already this year. In this time window, for many European and American nuclear power advertisers, a procurement or storage cycle is coming to an end. They will have to come to the market to replenish their stocks. As of today, a good third of the requirements for the year 2021 are probably not yet contractually secured. This impulse should become the catalyst for a sustainable turnaround. In addition, the spot market should no longer be as liquid as in the two previous years, as the two largest uranium producers (Kazatomprom and Cameco) will continue to adhere to their significantly reduced production plans in the current year. Normally, market participants anticipate such a turnaround in fundamental data with a lead of a few months. The ongoing consolidation after the first significant price increase should be seen against this background. ... We are also noticing a growing interest on the part of financial investors in the uranium market. So, the London-listed „Yellow Cake Plc." Last year, around US$ 200 million was collected from investors who are to invest primarily in physical uranium.

Is such a fund, which is focused on a single commodity, not too specialised and therefore too risky?

An investment in the fund is a focused bet on the emerging supply gap in the uranium market. An investor with a medium-term investment horizon has an attractive return potential, which is, however, also risky. The fund is therefore suitable as a supplementary component in a diversified portfolio and not as a basic investment. The Uranium Resources Fund holds between 25 and 30 positions in the portfolio. This diversification makes sense against the background of the current state of the uranium market.

What advice would you give to investors interested in investing in the uranium sector?

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The supply gap outlined above, and the associated potential of rising uranium prices are still only foreseeable. The exact timing of the expected turnaround in the uranium market remains uncertain despite the good outlook. If, contrary to expectations, the current phase of bottom formation continues for a longer period of time, the air for some uranium producers quickly becomes thin. Their balance sheets are emaciated after the ongoing price collapse and the cost reduction potentials have already been largely exhausted. The environment also remains challenging for the developers of new uranium projects, as their projects only become economically viable and thus feasible with rising uranium prices. Accordingly, it is difficult to find investors to finance the next stages of the project. Whoever bets everything on one card in this constellation is playing high – possibly even too high. The use of a fund that invests diversified within the theme seems reasonable to me. We also recommend a staggered structure of positions.

What selection criteria do you apply when selecting fund values?

We have launched the fund with confidence three weeks before the Fukushima nuclear accident due to the positive medium-term prospects outlined above. These events have postponed the supposedly positive starting position by 6 to 7 years. This was due to the decommissioning of the Japanese reactor fleet, which comprises a good 10% of all reactors in operation worldwide, and the associated uncertainty about the future prospects for the civilian use of nuclear power. Against this backdrop, we have become quite humble, although we remain convinced of the potential of the uranium market. Our ultimate goal is to still be in the game when the uranium market turns up.

Our portfolio is therefore based on three pillars. The core of the portfolio consists of 4 solid underlying investments. First, there are holdings in Uranium Participation (U CN), a Canadian investment company that invests its funds in physical uranium, and in the aforementioned Yellow Cake Plc (YCA LN). If our view is correct, the supply gap in the uranium market will be closed by a rising uranium price. Uranium Participation and Yellow Cake will thus be the first and most immediate beneficiaries of such a development. In addition, we always hold significant positions in the industry leaders Cameco (CCO CN) and Kazatomprom (KAP LI). Both companies have a broad portfolio of world class assets. Despite the challenging environment, both companies are (free) cash flow positive and pay a decent dividend.

When prices begin to rise, the producers who can place significant uranium production on the market benefit. Only those who produce can deliver. To be on the safe side, we rely on companies that have low production costs on the one hand and a good order book on the other. In this context, it is important to note that only a relatively small amount of annual uranium production is traded on the spot market. The major part of the uranium production is handled under long-term supply contracts at a (forward) price agreed in advance. We therefore rely on companies that have sold a significant portion of their production in the past on a forward basis and thus at a price well above today‘s spot prices. This eases the current strain of suffering somewhat. Examples of companies in this category include Ur-Energy (URE CN) and Energy Fuels (EFR CN).

Thirdly, we also use Explorer and Developer to drive world-class development and mining projects forward. These are particularly interesting if they will be able to start their production in the time window of the expected supply gap. You will then be able to benefit from attractive sales prices. In addition, these assets should have the necessary size to qualify as takeover targets. We assume that a wave of consolidation will take place on the uranium market following the price turnaround and that sectoral mining companies will also want to position themselves in the uranium business. This would make sense not least because of the low economic sensitivity and the comparatively high visibility of uranium production.

What are your biggest single positions at the moment and why?

In addition to the two standard values Uranium Participation, Yellow Cake, Cameco and Kazatomprom mentioned above, titles such as Uranium Energy (UEC US), Berkeley Energia (BKY LN), NexGen Energy (NXE CN), Energy Fuels (EFR CN), Fission Uranium (FCU CN) or Laramide Resources (LAM CN) fit very well into our „booty scheme“ for various reasons.

Do you have other, possibly smaller, uranium companies in mind that could become interesting in the coming months?

Not an easy question. One consequence of the bear market is the disappearance of many companies. While at the peak of the last bull market around 500 companies with a uranium focus were listed, the universe today is still likely to comprise a good 40 to 50 investable uranium-related stocks. Nevertheless, there are some attractive investment opportunities. If I had to name my favorite for the coming weeks, it would be the Canadian company Denison Mines (DML CN).

The uranium exploration company owns a portfolio of interests in world-class exploration and development projects in the Athabasca Basin of Saskatchewan, Canada. Of particular interest is the „Wheeler River“ exploration project, which is probably home to the world‘s highest quality uranium deposit, the „Phoenix“. Denison recently published the results of her Pre-Feasibility Study (PFS) on her flagship project. The study shows a significant change from the preliminary studies published last year, as it not only moves the Phoenix high-grade deposit to the forefront of the mining schedule, but now also includes in-situ recovery (ISR) as a production method for the Phoenix deposit. The new design dramatically improves the profitability of the project: the NPV 8% of the „Wheeler River“ project increases on a pre-tax basis by 275% to around US$ 1.3 bn. Remember: The current market capitalization of the company is around US$ 320 m. A difference that leaves room for further price increases.

Interview with Scott Melbye

Executive Vice President of Uranium Energy, Commercial V.P. of Uranium Participation Corp. and Ex-Advisor to the CEO of Kazatomprom

Scott Melbye is a 33-year veteran of the nuclear energy industry having held leadership positions in major uranium mining companies as well as industry-wide organizations. Through to June 2014, Melbye was Executive Vice President, Marketing, for Uranium One, responsible for global uranium sales activities. Prior to this, Melbye spent 22 years with the Cameco Group of companies, both in the Saskatoon head office and with their U.S. subsidiaries. He had last served as President of Cameco Inc., the subsidiary responsible for marketing and trading activities with annual sales exceeding 30 million pounds U_3O_8. Melbye was formerly the Chair of the Board of Governors of the World Nuclear Fuel Market and President of the Uranium Producers of America. He also currently serves as Executive Vice President of Uranium Energy and VP-Commercial for Uranium Participation Corporation and was Advisor to the CEO of Kazatomprom, the world's largest uranium producer in Kazakhstan. Melbye received a Bachelor of Science in Business Administration with specialization in International Business from Arizona State University in 1984.

Mr. Melbye, you are considered one of the most respected uranium experts in the world. Can you give us a brief overview of your career to date?

Thank you. I have been fortunate to spend the past 35 years in the nuclear energy and uranium industries. Straight out of university at Arizona State in 1984, I joined uranium brokerage and trading company, Nukem, in White Plains, New York. With that initial industry experience, I returned to Phoenix, Arizona to become the uranium fuel buyer for the Palo Verde Nuclear Power Station where I established their procurement strategy for the brand new 3-reactor unit station. Subsequently, this took me to Saskatoon, Saskatchewan where I joined Cameco and spent the next 22 years in increasing marketing and sales leadership positions. I concluded my time there serving as President of Cameco's global marketing subsidiary where we achieved annual sales exceeding 30 million pounds U_3O_8 per year and established customer relationships with just about every nuclear power generator around the world. In 2011, I joined Uranium One who had become a majority-owned subsidiary of the Russian nuclear energy company, Rosatom. In my role as V.P. of Marketing, I was able to expand customer relationships in exciting emerging markets of China and the United Arab Emirates, among others. As a top tier uranium producer with substantial operations in Kazakhstan, this also allowed me to expand close relationships within JV partner Kazatomprom. In 2014, I was very fortunate to join Uranium Energy Corp. in my current role as Executive Vice President, focusing on the marketing, corporate development, and investor relations activities of this emerging American producer. Also, during this time and up until last year, I served as an advisor to the CEO of Kazatomprom assisting with their corporate transformation process helping establish their marketing and sales strategies. In addition, I handled the commercial activities of Uranium Participation Corp. the publicly traded company that buys and warehouses uranium as a speculative vehicle for investors. In addition to my UEC role, I serve as the Chairman of the Board of Uranium Royalty Corp., a newly founded company to provide investor exposure to the uranium price through a portfolio of royalty, streaming and physical uranium holdings. URC is presently the largest shareholder of Yellow Cake plc (London-AIM).

Since mid-2015 we saw significant volatility in the uranium spot-price. It went from 40 to 18 and back to 29 and now resides around 26 US$. So, have we already seen the bottom?

Over the preceding seven years, the uranium market suffered a steep and prolonged downturn that took the price from US$70 per pound U_3O_8 in early 2011 (pre-Fukushima), to a low of US$17.75 in November 2016. I am very pleased to report, however, that the price has risen almost 50% to reside presently at US$26.25 per pound. While the market recovery has had some false starts off the back of positive fundamental news recently, it appears this rally, while still frustratingly volatile, is sustainable and has "legs under it". As would be expected in any prolonged, commodity bear-market, we are now finally seeing the uranium fundamentals re-balancing in a more accelerated fashion. So, in answer to your question, yes, I firmly believe that the market has seen the bottom and turned the corner.

Over the past 24 months, several of the leading uranium producers – notably Cameco and Kazatomprom – have announced significant production cuts. What has been achieved, how high are these production cuts and when will this have a significant effect on the uranium spot price?

At the heart of this market re-balancing are indeed the substantial cuts to global uranium production that have finally materialized. These cuts are the result of a prolonged, depressed spot market which has been at levels substantially below global production costs. Up until the past couple of years, long term legacy contracts signed in the previous bull-market kept many producers insulated from the weak market conditions. However, at this point those higher-priced hedges have simply expired, providing the primary catalyst for these production decisions. As a result, global production peaked in 2016 at 162 million pounds U_3O_8 and fell to about 137 million pounds in 2018. For context, 2019 global demand, as estimated by UxC Consulting, is pegged at about 194 million pounds U_3O_8, leaving a substantial gap between production and consumption. While these conditions have impacted mine output in every global uranium district, including Kazakhstan, Africa, Australia and the United States, the most substantial cuts have occurred in the Athabasca Basin of Saskatchewan, Canada. In Q4 2017, Canadian producer, Cameco, and their French partner, Orano, announced that they would suspend production at their world-class McArthur River and Key Lake operations due to the depressed uranium price. In July, they further announced that these operations, the world's largest (18-21 million pounds of annual capacity), would remain in indefinite care and maintenance until such time the uranium price recovers to levels which produce adequate, and justifiable, returns (speculation is long term prices exceeding $50 per pound). Furthermore, as Cameco continues to have a large contract book in place, they will in-turn enter the market to purchase between 7 and 9 million pounds U_3O_8 (and likely more) through the end of 2019. This procurement initiative is underway and should result in a clearing of the most aggressively priced supplies from the market, at just the point when electric utility companies were preparing to re-enter the market to replace their expiring long-term uranium contacts.

Adding to the production narrative has been the recent constraint, and market discipline, shown by the world's largest producing country, Kazakhstan, and their state-owned, uranium company, Kazatomprom. Kazakhstan presently represents 40% of global production, and their announced cuts to production demonstrate that even the world's lower cost producers have been compelled to alter course in the face of unsustainable market prices. For 2018 to 2020 they announced a 20% reduction from "planned levels", producing about 56.6 million pounds last year, representing a real 7% cut from 2017 levels. Kazatomprom's recent IPO has also compelled this more market-rational approach, and investors will watch closely to see if they continue in a disciplined manner. In addition to these cuts, Kazatomprom also recently entered into an agreement with the new London AIM-listed company, Yellow Cake plc, to consume their uncommitted production volumes and sequester them from the spot market in a pure-commodity holding investment (8.44 million pounds of U_3O_8 taken off the market last year).

As the incentive price for existing and new production is at a level substantially above current price levels, we should continue to experience further cuts to global production, which hastens the draw-down of secondary supplies and inventories.

What or who is (still) putting pressure on the uranium spot price at the moment and when will this come to an end?

Obviously if the current gap between global production and consumption amounts to about 57 million pounds in 2019 alone, we are continuing to see a very substantial contribution by inventories and secondary supplies. However, at the same time, we are also experiencing a tremendous drawdown of these supplies as a result. The ongoing global production cuts accelerate this depletion, especially in terms of finite inventories. One significant source of secondary supply has been the excess uranium volumes generated by the so-called underfeeding of uranium enrichment centrifuges (the stage in the nuclear fuel cycle that concentrates the U-235 isotope to

sustain the fission process in a reactor). The relative market prices of uranium and enrichment (the ratio of which is known as tails assay) has an impact on how much of these inputs are used in the fuel manufacturing process. However, a significant driver in the generation of these excess under-feeding uranium supplies is the under-utilized capacities of the centrifuges themselves. This condition was created by the enrichment demand-destruction occurring in the years following Fukushima. It has been well reported that this secondary source globally has been supplying approximately 20 million pounds of U_3O_8 annually (equivalent to a McArthur River mine). The good news however, is that this significant overhang on the market has likely peaked in its contribution to global supply, and should decrease in the coming years. This is largely due to the prices of enrichment services (known as separative work units, or "SWU") have fallen to historic lows. This has discouraged some new additional SWU capacity to be built, and caused older, first-generation centrifuges to be shut down. This rationalization, coupled with increased demand from new reactors and those re-entering service (Japanese restarts for example) will cause more of this reduced capacity to be dedicated to uranium enrichment, leaving less for underfeeding.

Uranium supply contracts between producers and energy companies are usually concluded over several years. What is the current status of this practice and when will the next major contracts expire? What consequences does this have for the development of the uranium spot price?

The uranium market has experienced a significant gap in uranium contract procurement which originated from the abnormally high level, and long durations, of contracts signed in the previous bull market 2005-2010. While these old contracts have been dropping off from utilities portfolios, they have been content to stay on the contracting sidelines, preferring instead to contract short-term to take advantage of the historically low-price levels in the spot and carry-trade (2-3 year) markets. This complacency has caused their amount of uncommitted uranium requirements to rise substantially in the coming years. This will be a significant catalyst for uranium market prices in the coming months/years as more normal levels of contracting will occur at the same time the rebalancing of fundamentals will reduce available supplies and present fewer alternatives for utilities in the next cycle. This current low level of market activity, made worse by Section 232 uncertainties in the United States, may also be a major reason that the price rise has struggled to break through the $29 level (see 232 discussion below).

What is the current demand situation like? Who could be the driving force behind the resurgence of the uranium price in the future?

While the supply-side market fundamentals have certainly turned positive, so has demand. In this regard, the global nuclear energy industry is finally emerging from a post-Fukushima environment which saw the shutdown of some existing capacity and cancellation of other new developments. Despite this setback, the global nuclear industry has seen the best growth rates, as measured by new units connected to the grid, that has been experienced in the past 25 years. Thirty-six reactors have started up and entered commercial service in just the last 4 years. At present, the global fleet is comprised of 448 operable reactors in 30 different countries, with 57 units currently under construction with approximately 50% of those to be completed within the next few years. Another 148 reactors are on-order or actively planned. As a consequence, 2018 saw nuclear electricity generation (and uranium consumption) finally recovering to exceed pre-Fukushima levels (a significant milestone).

Even challenges to this growth have seen positive developments in recent months. Japan has restarted 9 of their reactors, and on their way to re-establishing nuclear energy for 20-22% of their stated contribution goal of total national energy supplies. Furthermore, a number of countries that have contemplated reducing their reliance on nuclear energy have reversed, or deferred, any action as opposition was too great and/or lack of viable alternatives presently exist for baseload, non-carbon emitting electricity. The countries of France, South Korea and Taiwan being prime examples. Even the United States, that had a number of reactors in a vulnerable economic position due to poorly structured power markets, have seen four U.S. states, namely New York, New Jersey, Connecticut and Illinois pass legislation to preserve their installed nuclear capacity. Two additional states, Ohio and Pennsylvania are contemplating similar steps and are being encouraged by the Trump Administration to preserve this critical energy infrastructure.

A meaningful driver behind these developments has been the 180-degree embrace of nuclear energy by many in the climate change community in the past 24 months (reversing anti-nuclear positions). The recent realization in Poland that 24 years of COP climate meetings have failed to produce meaningful reductions in global carbon emissions has caused a rethink about massive cuts to carbon emissions that are possible through 24/7 base-load nuclear energy. If Germany's massive commitment to green energy (minus nuclear) has failed to show results, what hope is there for the emerging markets with rapidly demand for electricity? Nuclear can, and will, be a major part of the solution, along side intermittent renewables, in a synergistic fashion.

In the USA, two uranium producers have submitted a petition to the Trump Administration with the aim of producing a large proportion of the uranium demanded in the USA in the USA as well. What is the current status of this project, how are the prospects of success to be assessed and what influence could this have on the uranium price?

In January this year two U.S. uranium producers filed a Section 232 Petition requesting the U.S. Department of Commerce to investigate the national security implications arising from an overdependence on foreign uranium imports. This section of trade law, focusing on the nation's industrial ability to respond to security threats, stems from the Trade Act of 1962 and differs from other provisions of trade law dealing with anti-competitive trade practices such as undercutting of fair market prices, and product dumping by importers. The petition was accepted by the Trump Administration in July, triggering a 270-day investigation process which will conclude with findings and a recommended remedy (if any) no later than April 2019. The President will then have a 90-day period to make a decision on what remedies, if any, he deems appropriate. While this was the same provision in trade law that President Trump invoked to establish tariffs on foreign steel and aluminum, a case could be made that uranium is more strategic to national security given its dual role as U.S. Navy reactor fuel. These 108 reactors in 81 submarines and aircraft carriers must run on 100% domestically produced uranium given international treaties on military applications for uranium. Since leading global production in 1980 with output of over 40 million pounds of uranium, the U.S. uranium industry supplied less than 2% of America's 50-million-pound annual requirement for electricity generating reactors in 2018. Those reactors supply 20% of U.S. electricity and 56% of the nation's carbon-free energy. By comparison, roughly 40% of the uranium loaded into U.S. reactors is currently sourced by Russia, Kazakhstan or Uzbekistan. Ultimate remedies (if any) are entirely up to the U.S. Department of Commerce and the President, but the petitioners have proposed a 25% quota for domestically produced uranium, and a 100% buy-American uranium requirement for government electricity generators, like the Tennessee Valley Authority. This

The Hobson production facility is fully licensed. (Source: UEC)

would result in a 15 million pound per year requirement for U.S. origin uranium which is achievable over a several year ramp up, and of course, higher incentive prices that would require a U.S. origin price premium over current levels. Given the high level of attention being paid to this process by the United States Defense Department, and the growing high proportion of foreign imports, it is likely that a determination of national security risk will be made. The President's chosen remedy, and ultimate effectiveness, in stimulating U.S. uranium production will remain to be seen, but the outcome will be determined very shortly (by July). While this is a big issue between U.S. nuclear generators, the Defense Department, and domestic fuel cycle companies, that could result in a premium price for U.S. origin uranium, it should not cause too much disruption to the global market as a buy-American requirement would only impact roughly 8% of global requirements and does not change the dynamics of the substantial rebalancing of the uranium market which is underway.

Let's come to uranium supply. Do you see major new mines starting production in the next five to eight years? What does the pipeline look like and what price will most companies need to advance development, and bring their projects into production?

This development should be startling to the nuclear generating companies, and probably explains the current, and very strategic appetite for Chinese investment in producing countries like Namibia in Southern Africa. Beyond the large Chinese Husab mine there, we see very little in terms of new mine development. From a producer's viewpoint this is not surprising, given the seven-year period of challenging price conditions we have experienced. The incentive price for meaningful new uranium production (new developments or mine expansions) to come to the market is estimated by BMO, in their March 2017 uranium market outlook, to be higher than US$60 per pound U_3O_8. This, and the prolonged licensing and permitting process required to bring on new production (as much as 10 years or more for a major conventional mine/mill complex), make for an interesting situation as the uranium market is already moving into a near term supply deficit amidst higher contracting volumes. In coming years, this need for new production becomes acute, and while decent resources and potential developments exist globally to meet this need for new production, no one has been incentivized by the recent unsustainable market price conditions.

Just to give the readers some numbers: How much uranium does a new reactor need for the first load and how much does it need for further loads?

Great question and something that adds to near term uranium requirements due to the 57 reactors currently under construction. A reactor under steady-state operation refuels only once every 12 – 24 months depending on their optimal fuel management and operating strategy. At these periodic refueling outages, approximately one-third of the reactor core is replaced with fresh fuel and the remaining fuel assemblies are shuffled to new locations in the core. The oldest fuel that has been in the reactor for several years is retired to spent fuel storage for ultimate disposal (or is reprocessed into new fuel).
In the case of a new reactor in its first operating cycle, the entire reactor core needs to be loaded with fresh fuel. This creates what is known as the "initial core effect". The first core fueling requires about 1.5 times the uranium required in a typical reload (the reason it is not 3 times more has to do with lower U-235 enrichment levels in the first cycle). Taken collectively across all of the new reactor start-ups, the bump in global requirements is substantial, not to mention that these requirements tend to be procured earlier than subsequent reloads.
To put this into actual numbers, a new Westinghouse AP-1000 reactor (like those being built in Georgia) require about 1.65 million pounds for an initial core, with a reload requiring around 1.1 million pounds. This can, of course, vary based on operating cycle-length and tails assay (depending on the relative prices of uranium and enrichment).

In summary: What are your expectations for the uranium sector in the next two years?

A seven-year bear market in uranium is long by any commodity standards, but, as we know from the laws of economics, the cure for low prices is usually prolonged low prices. The supply destruction that was delayed by the high level of hedged contracts at higher prices, is finally occurring in a very big way as that protection falls off. The two largest uranium producing countries, Kazakhstan and Canada, seem to be in agreement that something needed to be done to help this market re-balance more rapidly than the status quo was providing, and have cut back production from some of the world's largest and most competitive mines. This rebalancing of market fundamentals is accelerated by producer purchasing required to backfill existing sales commitments from lost production, and investors throwing gasoline on the fire, buying and removing uranium from the open market for speculative investment purposes (collectively a 60 million-pound reduction in annual spot supplies today). The next shoe to drop will be the resumed utility procurement cycle which is emerging just as the uranium supplies begin to tighten and new mines have not been sufficiently incentivized. As a result, the outlook for the uranium industry looks as positive as it has been in many years, and the investment thesis could not be any stronger. We have already begun to see the early signs of recovery in the sector, but we are truly in the early stages as much better days are yet to come.

Appia Energy

One of the most successful geologists on the planet meets top-class uranium and rare earth element deposits

Appia Energy is a Canadian commodity development company specializing in uranium and rare earths. Appia Energy is pursuing a two-pronged strategy: on the one hand, it is exploring high-grade uranium deposits in the Athabasca Basin and, on the other, it is developing the Elliot Lake Uranium and Rare Earth Project in Ontario. The company relies on James Sykes, one of the world's most successful geologists, who has been instrumental in the discovery of well over 450 million pounds of U_3O_8 during his career to date.

Athabasca Basin Uranium and Rare Earth Projects

In the Athabasca Basin region, Appia Energy owns several high-caliber license areas. All of these projects have geophysical and geological similarities with known high-grade uranium occurrences.

Alces Lake

Alces Lake is located northwest of the Athabasca Basin, not far from Uranium City. It covers 1,518 hectares and hosts uranium, rare earth elements, titanium and thorium. Alces Lake is 100% owned by Appia Energy.
Exploration activities to date have included sampling where up to 49% by weight (wt%) of TREO (total rare earth oxide) has been found. In 2016, VTEM, radiometric and magnetic surveys were also conducted to identify a variety of advanced targets with similar characteristics to high-grade rare earth deposits. The trenches on Alces Lake host the highest-grade Rare-Earth traces in Saskatchewan and are comparable to those of the world class Steenkampskraal deposit in South Africa.
In 2017, the company launched a field program to study the high-grade radioactive areas discovered in 2016. In the course of this, several radioactive outcrops were discovered, which had up to 50,000 counts per second (cps). In addition, geochemical investigations in a total of 5 zones revealed samples with up to 49.64 wt% of rare earth oxides.
At the beginning of 2018, mineralogical studies showed that the samples in question contained a particularly high proportion of so-called „critical" rare earth elements such as neodymium (8.91%) and praseodymium (2.54%), i.e. demand intensive or scarce rare earth elements.
In June 2018, the Company commenced an extensive exploration and drilling program aimed primarily at exploring the 5 near surface high grade zones of visible mineralization. This exploration campaign quickly led to the discovery of three additional zones of high radioactivity (up to 30,000 cps) and visible monazite, a major source of rare earth minerals as found in the rich Bayan Obo ore mines in China and Mountain Pass in California, Van Rhynsdorp and Naboomspruit in South Africa.
During the remainder of 2018, Appia Energy was able to sample several zones with high grade TREO grades. The best result was achieved in the so-called Ivan Zone with 22.35wt% over 6.21 meters.

Alces Lake Extension: Oldman Property

Based on the positive sample results, the Company decided in September 2018 to drastically expand the Alces Lake Project. A total of 15 claims totalling 12,816 hectares have been staked, virtually surrounding the Alces Lake Project. The new property was staked along geological and geophysical continuity with Alces Lake's high grade critical rare earth metals. In particular, the Oldman Property hosts the monazite deposit of the Oldman River, located 6.6 kilometers southwest of the Alces Lake monazite-rich outcrop. This was discovered in 1955 and shares numerous geological similarities with Alces Lake outcrops, i.e. up to 20% visible surface monazite.

Loranger

Loranger is located in the southeast of the Athabasca area, slightly outside the actual Athabasca basin. The Cigar Lake Mine is about 60 kilometers away, the McLean Lake Mill about 40 kilometers and the Rabbit Lake Mill only about 28 kilometers. The approximately 33,400-hectare project area has both a highway connection (over a 20-kilometer-long Ice Road) and direct access to a high-voltage line. In addition to uranium, traces of rare earths, thorium and molybdenum can also be found on Loranger. Appia Energy owns 100% of Loranger.
In 2017 Appia Energy published sensational drilling results. Thus, the company encountered 72.9 meters with 0.012 wt% U_3O_8. 150 metres away 26.4 metres could be detected with 0.014 wt%. 600 metres southwest along strike, a 56.85-metre-long interval of 0.012 wt% U_3O_8 and 425 metres further to 10.3 metres of 0.016 wt% U_3O_8 was encountered.
A total of 3 radiometric manifestations with significant radioactivity were found. At the end of February 2019, the Company commenced new drilling on Loranger.

Eastside Property

Eastside Property is a group of contiguous claims with a total area of 4,933 hectares. Eastside is located about 50 kilometers east of Loranger and 85 kilometers east of Camecos Rabbit Lake Mill, in the eastern part of the Athabasca Basin. Historical sampling has encountered uranium values of up to 7,575ppm. In 2017, Appia Energy identified several radiometric anomalies. Assays in 1976 and 1978 yielded uranium concentrations averaging 360 parts per million (ppm) of uranium, with the highest grades being 6,650 and 7,575 ppm respectively. Eastside has traces of molybdenum, copper and platinum group metals in addition to uranium.

North Wollaston Property

In December 2017, Appia Energy acquired an approximately 11,300-hectare license area located 30 kilometers northeast of Cameco's Rabbit Lake facility and the Eagle Point Mines and on the same geological trend as these major projects. North Wollaston hosts at least 4 uranium deposits where historical exploration campaigns have identified up to 0.495wt% U_3O_8 and traces of molybdenum and rare earth elements.

Elliot Lake

The Elliot Lake Project is located approximately three kilometers north of the city of Elliot Lake in northern Ontario. 60 kilometers southwest is Blind River, where Cameco operates the world's largest uranium refinery. The short distance to the nearest city means that virtually the entire infrastructure is already in place. The total project comprises 101 claims in which Appia Energy holds 100%.
A total of 362 million pounds of U_3O_8 were mined from 13 underground mines within the Elliot Lake Mining Camp from 1955 to 1996, with an average grade of 0.106 wt%.
Elliot Lake nevertheless still has a significant resource of 8.0 million pounds U_3O_8 and 47.7 million pounds TREE (total rare earth elements) in the indicated category and 47.7 million pounds U_3O_8 and 133.2 million pounds TREE in the inferred category. Historical resource estimates suggest that Elliot Lake could host more than 200 million pounds of U_3O_8.
The project is currently on standby and should be reactivated quickly in the event of higher uranium and rare-earth prices.

Appia Energy relies on top uranium geologists

Appia Energy owns James Sykes, one of the best geologists in the world.
Sykes was part of the Denison Mines explora-

tion team that set targets for the discovery of the Phoenix and Gryphon mega-projects. At Hathor Exploration he developed the 3D geological model of the Roughrider West deposit, which led to the discovery of the East and Far East deposits.
At NexGen, he was instrumental in the discovery of the Arrow deposit and the high-grade A2 subzone. Sykes has thus been one of the main discoverers of well over 450 million pounds of U_3O_8 in his career to date!

Summary: Appia Energy has the potential for a second NexGen

Sykes now wants to repeat these successes at Appia Energy, where he finds an almost ideal operating environment. Several Appia projects have almost identical geological conditions to NexGen‘s mega-project Arrow.

The main focus is undoubtedly on Alces Lake, from where several spectacular results have recently been reported. There one could have actually hit a real bull‘s eye, which indicates the unusually large extension of Alces Lake around the project. The trump card is the Elliot Lake project, where it is only a matter of time before it can be put back into operation. After all, it already possesses one of the largest uranium resources in the world. Appia Energy therefore has a great chance of scoring a real direct hit in the Athabasca Basin and, given the high resource, also offers an equally high leverage on the uranium price, which MUST simply rise in the future. A large number of exploration results are expected in the coming months. A financing of around CA$ 1.4 million concluded in January gives the company sufficient financial leeway.


Anastasios (Tom) Drivas, CEO

Exclusive interview with Anastasios (Tom) Drivas, CEO of Appia Energy

What have you and your company achieved in the past 12 months?

To start, we have raised ~CAD$2.5 M in new capital for our exploration projects.
We completed an exploration program on the high-grade critical REE+U Alces Lake property where we significantly increased the amount of mineralization observed in select areas by exposing 7 surface REE+U zones. Diamond drilling confirmed the depth extension of the surface zones and identified 3 new near-surface zones. The REE+U zones we’ve discovered at Alces Lake rank as some of the highest-grade REE deposits in the world with average grades ranging from 8.868 to 31.800 wt% TREO, enriched with strategic metals (Nd, Pr, Dy) used for permanent magnets in electric vehicles, wind power, and National Defense applications.
We‘ve also staked a large land-package encompassing our Alces property which includes multiple historic visible REE occurrences and uranium veins at surface. In short, we’ve only scratched the surface at Alces and there’s far more exploration potential to discover additional REE+U zones.

What are the most important catalysts for the next 6 to 12 months?

We will begin diamond drilling our Loranger property in March, exploring for Athabasca high-grade uranium. We are very excited to be working on the Loranger property again.

We will continue uranium exploration with an airborne geophysical survey over the North Wollaston property in May or June.
With respect to Alces Lake, we’re anticipating the results in March from a study investigating the potential REE concentrations from heavy mineral sands discovered along the shores of Alces Lake. We’ve also planned a follow-up diamond drilling program starting in June on the Alces Lake property with minimum 3,000 m core drilling pursuing resource estimation(s) of the REE+U zones, continued reconnaissance diamond drilling, and additional prospecting of the Alces Lake property. Following our summer results, we plan to start bench-scale metallurgical studies for the Alces Lake REEs+U.

How do you see the current situation of the market for uranium?

Uranium was the best performing metal in 2018. Global nuclear fuel demand continues to grow as there are more than 300 new reactors proposed for construction by 2030.

The supply-side looks imbalanced as global production output was reduced in 2018 compared with 2017; mining operations reduced production or closed indefinitely because utility contracts have not been renewed and it’s been more cost-effective for those suppliers to purchase uranium on the open market at currently low spot prices. The spot price remains at levels that are not sustainable for continued operations or to even restart operations in care-and-maintenance.
Unless the spot price increases, long-term supply looks even more imbalanced as there are no new large-scale uranium mines that can come into production at the current market prices or are scheduled for production within the next 7 years which creates a looming shortfall of supply.
The current supply-demand market fundamentals are looking reminiscent of the 2004-2007 uranium bull market.

Appia Energy Corp.

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FRA: A0I
TSX-V: API

Outstanding shares: 64.0 million
Options/warrants: 22.7 million
Fully diluted: 86.7 million

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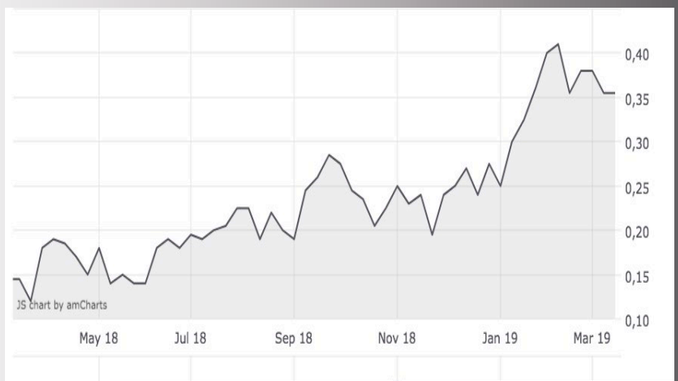


Denison Mines

Best Uranium Project on the Planet with the most Cost-Effective Production

David D. Cates, CEO

Denison Mines is a Canadian uranium development company. The Company's major assets include the Wheeler River project, which is the largest undeveloped uranium project in the eastern Athabasca Basin and which, according to the latest pre-feasibility study, can be exploited using the low-cost In-Situ Recovery (ISR) method, and part of the McClean Lake Uranium Mill, a fully licensed processing facility with excess licensed capacity.

Wheeler River – Location, Infrastructure, Ownership, Resources

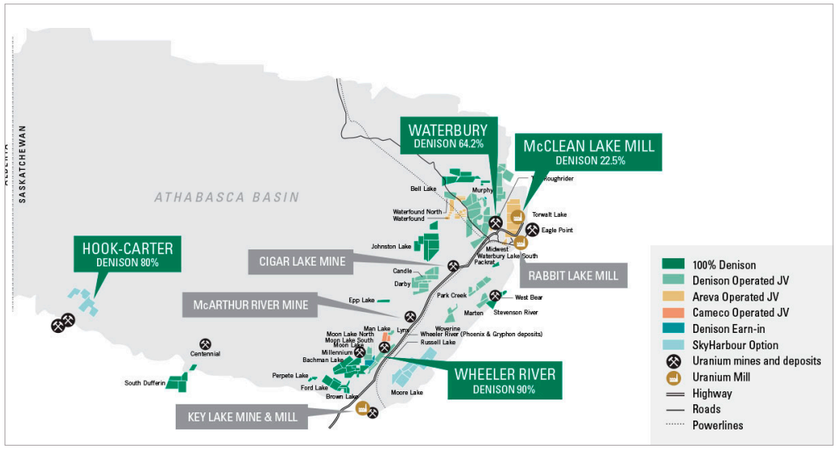
Denison Mines' flagship project, Wheeler River, is located in the southeast of the Athabasca Basin, between the McArthur River Mine of Cameco and the Key Lake Processing Plant. Denison holds 90%, with a Japanese consortium, JCU (Canada) Exploration Limited, owning 10% of the project.
In January 2018, Denison Mines released a new resource estimate for Wheeler River. Accordingly, the project is estimated at 1.81 million tonnes of rock with an average of 3.3% U_3O_8 in the indicated category, equivalent to 132.1 million pounds U_3O_8. In addition, there are 166,000 tons with an average of 19.1% U_3O_8 from the Phoenix subproject, which makes Phoenix the world's highest-grade undeveloped uranium deposit. In addition, Wheeler River is estimated to contain an additional 3.3 million pounds of U_3O_8 as inferred resources.

Wheeler River Deposits

Wheeler River hosts two separate deposits, the Phoenix deposit and the Gryphon deposit. The two deposits are located in the northern part of the property and are about 3 kilometres apart.

Wheeler River – Phoenix

The larger and higher-grade of the two deposits is Phoenix, which is estimated at indicated resources of 70.2 million pounds U_3O_8 at an average grade of 19.1% U_3O_8. Based on the recently completed Pre-Feasibility Study (PFS) for the project, Phoenix is expected to be the first In-Situ Recovery (ISR) uranium mine in the Athabasca Basin, combining the benefits of the world's most cost-effective uranium mining method and the world's highest-grade uranium deposit. Phoenix's geological location is unique compared to most other uranium deposits in the Athabasca Basin because it is located in permeable sandstone and is therefore accessible to ISR mining. As a high-quality ISR operation, the Company estimates the operating costs for Phoenix production at only US$3.33/lb U_3O_8 – the lowest of all publicly announced uranium mining activities currently in production or planned.



Denison Mines holds high-caliber uranium licenses (green), particularly in the eastern part of the Athabasca Basin. (Source: Denison Mines)

Camp on the Wheeler River Project (Source: Denison Mines)

Wheeler River – Gryphon

Gryphon was discovered in 2014 and is estimated at 61.9 million pounds U_3O_8 at an average grade of 1.7% U_3O_8. Based on the recently completed PFS for the project, Gryphon is planned to be mined via a shaft access with Gryphon ore processing to be completed at the 22.5% Denison owned McClean Lake uranium mill. Operating costs will also be well below the current uranium price, with the Company estimating cash costs at US$11.70/lb U_3O_8 and annual average production at 7.6 million pounds U_3O_8.

Wheeler River – Pre-Feasibility Study

On September 24, 2018, Denison released the results of a PFS for Wheeler River, improving confidence in the Company's economic evaluation of the project from a preliminary economic evaluation completed in early 2016 (2016 PEA). The PFS represents a sensational change in project economics – mainly driven by the choice of the low-cost ISR mining method – for the Phoenix deposit and an increase in the assumed production rate for the Gryphon deposit. Following completion of the PFS, the Company now estimates that Wheeler River has probable reserves of 109.4 million pounds of U_3O_8 or 1.4 million tonnes at an average grade of 3.5%. Project production is estimated at an average of 7.8 million pounds U_3O_8 per year over a 14-year mine life, resulting in a pre-tax net present value (NPV) of CA$1.31 billion (8% discount rate), 38.7% profitability (IRR) and initial capital of only CA$322.5 million. The base case present value assumes that Phoenix production will be sold at an estimated spot price starting at ~US$29/lb U_3O_8 in the year of first production and up to US$45/lb U_3O_8, and that Gryphon production will be sold under a long-term contract at a fixed price of US$50/lb U_3O_8. At the same price as assumed for the PEA 2016, a fixed uranium price of US$44/lb U_3O_8, the PFS Plan gives a pre-tax present value of CA$1.41 billion, approximately 2.75 times the present value estimated in the PEA 2016.

McClean is one of the most modern uranium processing plants in the world. (Source. Denison Mines)

Wheeler River – Current plans and schedule

According to PFS, the next steps for the Wheeler River project are to initiate the permitting and environmental assessment process, complete a final feasibility study prior to planned construction in the early 2020s, and begin production from the Phoenix plant as early as mid 2024. The Denison Mines and JCU Consortium will provide $10.3 million in 2019 for corresponding development activities. The main focus is on the initiation of the environmental assessment process and ISR test runs. For this purpose, a pilot test facility is to be installed and corresponding metallurgical tests carried out. The Company will also conduct one or more drilling campaigns on the Wheeler River project in 2019.

Wheeler River – Exploration and Development Potential

Although Wheeler River is already the largest undeveloped uranium project in the infrastructure-rich eastern part of the Athabasca Basin, exploration activities on the property have focused on the Phoenix and Gryphon deposits for nearly a decade. As the PFS results illustrate the strong economic value of Phoenix and Gryphon at their current resource sizes, the focus in the future will be on developing the permitting and engineering work for the commencement of construction and exploring possible satellite deposits on the relatively unexplored remainder of the property – with the potential to add additional ISR-capable deposits that would serve as satellites for the Phoenix processing facility.

Other important projects

Including Wheeler River, Denison has interests in approximately 320,000 hectares of land in the Athabasca Basin region, as evidenced by numerous highly prospective exploration projects.
These include the Waterbury Project (Denison: approximately 65%), which hosts an estimated indicated resource of 12.8 million pounds U_3O_8 with an average grade of 2.0% U_3O_8. Denison recently discovered the Huskie Zone approximately 1 kilometer north of the J Zone deposit.
Adjacent to Waterbury is the Midwest Project (25.17% owned by Denison). According to the latest March 2018 estimate, Midwest hosts over 50 million pounds of U_3O_8 in the indicated category and over 18 million pounds of U_3O_8 in the inferred category in the Midwest Main and Midwest deposits.

Denison Mines

Summary: Future uranium producer with almost inexhaustible development potential!

Denison Mines is well prepared for a rising uranium price. Wheeler River is the largest undeveloped uranium project in the eastern Athabasca Basin, and the Phoenix operation is estimated to have the lowest operating cost per pound of any uranium mining project in the world. Wheeler River has the advantage of a nearby infrastructure, high uranium values and large quantities. Overall, Denison has positioned itself as the first new uranium producer in Canada at a time when the uranium market is showing first signs of long-term improvement. With the comparatively low cost of capital required to build Phoenix operations, Denison can also avoid significant dilution of existing shareholders, which is challenging for most companies in countries without an existing infrastructure. In addition to Wheeler River, Denison holds a large and prospective exploration portfolio in the Athabasca Basin and generates internal cash flows from a management contract with Uranium Participation Corp. and an environmental services company based in Elliot Lake. With the dramatic change brought by the recent PFS result, Denison has become one of the most exciting companies in the sector and uranium investors should watch for progress on the Wheeler River project as there are likely to be many future catalysts.

Denison Mines Corp.

ISIN: CA2483561072
WKN: A0LFYS
FRA: IUQ
TSX: DML
NYSE: DNN

Outstanding shares: 584.2 million
Options: 17.3 million
Warrants: 1.7 million
Fully diluted: 603.2 million

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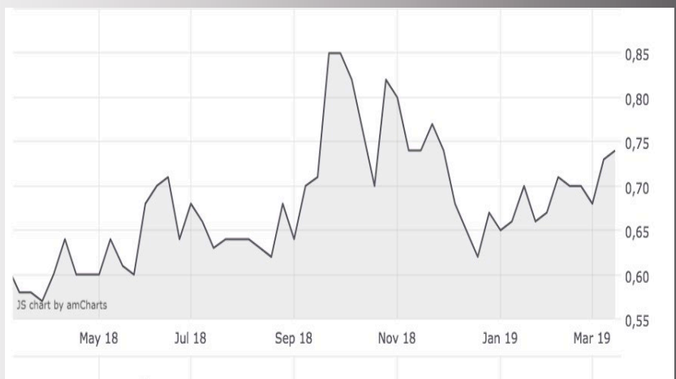

Energy Fuels

Mega production capacities for the next uranium rebound plus vanadium as second lucrative main pillar

Energy Fuels is one of only three uranium producers in the US and could produce and sell up to 11.5 million pounds of U_3O_8 per year if the price of uranium rises again. This results in an almost gigantic leverage on the uranium spot price! In addition, the company was able to resume its own vanadium production in January 2019 due to the sharp rise in prices.

Nichols Ranch ISR Project

One of currently two producing uranium projects is called Nichols Ranch and is located in the US state of Wyoming. Nichols Ranch is an in-situ-recovery-(ISR)-project and could be won by the fusion with Uranerz Energy. At Nichols Ranch, more than 1 million pounds of U_3O_8 have been mined and processed at the central licensed 2 million pounds of U_3O_8 per year facility since the start of operations. In addition, Nichols Ranch offers other wellfields that can be exploited in the future. Nichols Ranch is regarded as the central piece of the puzzle for a whole series of other (potential) satellite projects. The Jane Dough and Hank projects, which are only a short distance away, have at least another 30 wellfields with corresponding additional resources, which can be connected relatively easily and cost-effectively to the existing pipeline system. Jane Dough currently has resources of approximately 3.9 million pounds U_3O_8, Hank has 1.7 million pounds U_3O_8. Both projects have already been fully approved for future mining.

Alta Mesa ISR plant

The Alta Mesa ISR system is located in the southeast of Texas and is currently in standby mode. Alta Mesa produced a total of 4.6 million pounds of U_3O_8 from 2005 to 2013 and has a fully licensed processing capacity of 1.5 million pounds of U_3O_8 per year. The associated license area has approximately 20.4 million pounds of U_3O_8 resources. The approximately 200,000 acres license area continues to have high exploration potential which could further extend the estimated 15-year mine life. To this end, Energy Fuels plans to launch a 200-hole drilling program in 2019 to expand existing resources accordingly.

Focus on vanadium

In addition to its uranium business, Energy Fuels has for some time focused on restarting its vanadium cycle in its White Mesa Mill.
In January 2019, Energy Fuels resumed production of vanadium pentoxide (V_2O_5) in its White Mesa Mill. The initial focus is on the exploitation of existing sedimentation basins. In February 2019, the company was able to announce that commercial vanadium production had resumed with a production rate of up to 200,000 pounds per month. Starting in the second quarter of 2019, this figure is expected to rise to up to 225,000 pounds per month. Energy Fuels has also been supplying vanadium to customers in the metallurgical industry since February 2019. In addition, it is checked whether this is also suitable for the battery metal sector.

White Mesa Mill

The White Mesa Mill is located in the southeast of Utah and is currently the only operational and running conventional uranium processing facility in the USA! It has a fully licensed annual processing capacity of 8 million pounds U_3O_8. The White Mesa Mill has several special features. Firstly, it accommodates a separate process circuit, with the help of which such material can be processed cost-effectively. In addition, White Mesa has an additional process loop for processing vanadium and has had significant vanadium production in the past. However, the greatest advantage of the White Mesa Mill is certainly its unique location. It is located centrally between several mines with the highest uranium grades in the USA. In addition to the possibility of feeding the plant from these mines, a clean-up program is being developed with the US government that could also generate significant amounts of uranium. Last but not least, Energy Fuels processes uraniferous rock in the White Mesa Mill for a third party on a toll milling basis.
After the renovation and upgrade of the existing facilities, vanadium processing was resumed. It is estimated that over 4 million pounds of V_2O_5 with contents between 1.4 and 2.0g/L are stored in ponds.

Canyon Mine

One of these high-grade uranium mines, which will (again) feed the White Mesa Mill with uranium-bearing rock in the future, belongs to Energy Fuels itself. This is the fully approved and currently standby Canyon uranium and copper mine in northern Arizona, which has the highest uranium grades of any conventional uranium mine in the USA! The superficial infrastructure and the production shaft have already been completed. It is estimated that Canyon would be among the conventional uranium mines with the lowest mining costs in the world. The actual processing of the extracted rock would take place in the White Mesa Mill about 300 kilometres away.
In August 2017, Energy Fuels released a new, expanded resource estimate for the Canyon Mine. Accordingly, the Upper, Main and Juniper zones contain approximately 2.6 million pounds of U_3O_8 with average grades between 0.20 and 0.89% and approximately 12.5 million pounds of copper with average grades between 5.70 and 9.29%.

Further approved top projects

In addition to the major projects already mentioned, Energy Fuels has a number of additional projects that have already been fully approved for mining.
The La Sal Complex is located approximately 100 kilometers northeast of the White Mesa Mill and consists of the two mines La Sal and Pandora, which were already in production until 2012. Both mines together have approximately 4.5 million pounds of U_3O_8 and 23.4 million pounds of vanadium. Since the price of vanadium has also risen sharply recently, the commissioning of La Sal could also reactivate the vanadium cycle in the White Mesa Mill. Energy Fuels is planning an extensive surface and underground drilling program there in 2019 to expand existing resources.
The Whirlwind Mine is located approximately 120 kilometres northeast of the White Mesa Mill and has approximately 3.0 million pounds of U_3O_8 and 10.1 million pounds of vanadium.
The Tony Mine is located approximately 200 kilometers west of the White Mesa Mill and has approximately 10.9 million pounds of U_3O_8.

Petition to strengthen US uranium production

In January 2018, the only two remaining US uranium producers, Ur-Energy and Energy Fuels, filed a petition with the U.S. Department of Commerce to highlight the relevance of U.S. uranium production in terms of potential security concerns and increasing dependence of the energy industry on uranium imports.
The two companies argued that imports from successor countries of the former Soviet Union (namely Russia, Kazakhstan and Uzbekistan) now account for 40% of US demand for uranium, while only 5% of demand is produced in the US itself. The dependence, both of the US energy industry (after all, 20% of the electricity consumed in the USA is generated from nuclear power plants) and of the military, on these nations has increased alarmingly as a result.
With their petition, the two producers want both the Ministry of Commerce and President Trump to work out a clear assessment of the import dependency of the USA on Russia, Kazakhstan and Uzbekistan and to promote the USA's own uranium industry.

In July 2018, the U.S. Department of Commerce initiated an investigation into the impact of uranium imports on U.S. national security. A decision can be expected within 360 days.

Summary: The ability to quickly commission multiple mines offers a big leverage on the uranium price!

Energy Fuels is the second largest uranium producer in the USA after Cameco and has production capacity of over 11 million pounds of U_3O_8 per year! The company owns several low-cost mines at the same time and could significantly restart production from a uranium price of around US$ 40. In addition, there are several of own processing plants, which can produce more cheaply with increasing utilization. These are very flexible with regard to increasing production and can also extract other raw materials such as vanadium and copper. Energy Fuels thus not only has a significantly high leverage on the uranium spot price, but also a unique variability. Another advantage: Energy Fuels currently produces both conventionally and by ISR mining. With a total of 130 million pounds of U_3O_8 resources, Energy Fuels is one of the top three companies with the largest uranium resources in the United States.

Mark S. Chalmers, CEO

Exclusive interview with Mark S. Chalmers, CEO of Energy Fuels

What have you and your company achieved in the past 12 months?

The past 12 months have been extraordinarily for Energy Fuels. In early 2018, we filed a petition with the Trump Administration asking them to investigate the high – and increasing – levels of uranium imports into the U.S., and the effect of those imports on U.S. national security. The Administraton commenced the investigation in July. We are asking for the imposition of a quota that limits imports of uranium into the U.S., with the goal of reviving our domestic industry. We are using the same law that the President used to place tariffs on steel and aluminum. Whatever one thinks about those tariffs, uranium is intimately tied U.S. national security. We believe uranium is exactly the situation Section 232 was designed to address. Uranium provides the fuel for U.S. Navy aircraft carriers and submarines; and of course, uranium is the backbone of the nuclear deterrent. In 2019, the U.S. will be more than 99% dependent on imports of uranium, with decreasing quantities coming from allies like Canada and Australia, and increasing amounts coming into the country from mines controlled by geopolitical rivals like Russia, China, and Kazakhstan. This is unacceptable. We believe we have made an extremely compelling case for some level of support for our industry. We look forward to the Administration completing the investigation in April 2019, and hopefully the President acts to protect national security soon thereafter.
In the meantime, we are keeping our uranium production at low levels and not making any sales; simply because we believe our uranium will be worth more in the future than it is today. We are also shifting some of our short-term focus over to vanadium production, because prices for vanadium have risen so dramatically over the past year. We believe this has the potential to provide significant cashflow for the Company for so long as vanadium prices stay strong. But, make no mistake about it. Energy Fuels is, first and foremost, a uranium mining company.

What are the most important catalysts for the next 6 to 12 months?

On uranium, the most important catalyst for Energy Fuels will be the outcome of the Section 232 investigation in April. Again, we believe we have made an extremely compelling case to the Administration. We have asked for an import quota that reserves 25% of the U.S. nuclear market for U.S. domestically-produced uranium which means U.S. uranium production will have to rise to about 11-12 million pounds of U_3O_8 per year. To achieve those levels of production, prices for U.S. uranium would have to rise; to roughly the $60 to $70 per pound range, which is where we believe the price for uranium would be globally without state-ownership and subsidies provided to nuclear industries in Russia, China, and Kazakhstan. Energy Fuels would be fulfilling a major proportion of that new U.S. demand.

How do you see the current situation on the market for uranium?

Global uranium markets are in an interesting spot right now. I hate to keep going back to Section 232; but global markets have paused somewhat pending the outcome of the investigation. U.S. utilities are unsure whether they will have to fulfill a greater proportion of their needs through domestically produced uranium. A decision on Section 232 will remove considerable uncertainty from the market. We continue to believe that, with or without Section 232, global markets are in the process of rebalancing, mainly through major production cuts. We will know more about where uranium markets stand once we get resolution on the Section 232 issue.

Energy Fuels Inc.

ISIN: CA2926717083
WKN: A1W757
FRA: VO51
TSX: EFR
NYSE: UUUU

Shares outstanding: 89.0 million
Options: 2.3 million
Warrants: 6.7 million
Restrictured: 1.6 million
Convertible debt: 5.3 million
Fully diluted: 104.9 million

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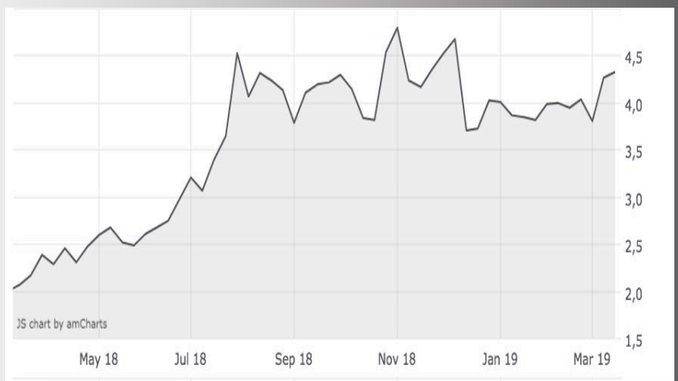

Fission Uranium

One of the Best Uranium Projects in the World Shortly Before the Pre-Feasibility Study

Fission Uranium is a Canadian uranium development company that has made one of the largest uranium discoveries of all time in recent years! The Patterson Lake South Project is not only one of the largest uranium projects in the world, but also one of the highest-grade projects. As one of very few uranium projects, it could be brought into production in the foreseeable future. The company is currently on the verge of a pre-feasibility study.

Patterson Lake South – Location, Discovery and Infrastructure

The Patterson Lake South (PLS) Project is located in the western part of the Athabasca Basin, just outside the (current) basin boundary. It is important to note that all uranium extraction takes place in the eastern part of the basin – Key Lake, Rabbit Lake, MacArthur River and Cigar Lake. The western part of the Athabasca Basin is heavily underexplored. About 80 kilometres north of PLS lies the former Cluff Lake Mine, which was operated by AREVA until 2000. Fission Uranium President, COO and Chief Geologist Ross McElroy worked for AREVA, which discovered the Shea Creek deposit, located just a few kilometres north of PLS, which hosts a resource of over 100 million pounds of U_3O_8. This discovery was reason enough for McElroy to believe in the potential of the western part of the basin.

While most deposits in the Athabasca Basin are so-called „unconformity deposits“ (sediment), there are also a few so-called „basement hosted“ deposits that typically run flat below the surface because they have eroded over time. This means concretely for the Athabasca Basin that in former times it was bigger than today. Accordingly, McElroy investigated where the basin had its original outer edge. After carrying out a radiometric study which revealed a very large range of radioactive radiation, one came across boulders containing up to 10% U_3O_8 as extremely high-grade material. During the last ice age, the material available there was distributed over several kilometres by glacier migration. Fission Uranium then tracked the ice to the source of the uranium. All this led to the first discovery in November 2012, when the very first drill hole hit the PLS deposit. The interesting thing is that the surface course is only 50 metres. All of these findings led to an extensive drilling program in 2013, during which a one-kilometer long mineralization called Triple R, with particularly high uranium concentrations well in excess of 20%, was discovered under a shallow lake. PLS is located directly on the road that connects Saskatoon to the old Cluff Lake Mine, drastically reducing the cost and ultimately the risk to the project.

Patterson Lake South – Resource and Feasibility Study

In February 2018, Fission Uranium released its most recent resource estimate to date for Patterson Lake South, with 87.76 million pounds of U_3O_8 in the indicated category and 52.85 million pounds of U_3O_8 in the inferred category. Nearly 63 million pounds of U_3O_8 were derived from the high grade R780E zone with average grades of 18.39% U_3O_8 (indicated) and 20.85% U_3O_8 (inferred), respectively. In September 2015, Fission Uranium published a Preliminary Economic Assessment (PEA) which clearly demonstrates that the deposit is economically mineable. The mine design was based on surface mining as the top portion of the resource is only 50 metres below surface. This open pit model extends to a depth of 200 metres, with further underground scenarios. Profitability (IRR) is around 40% after tax. The project requires capital costs of approximately CA$ 1.1 billion. Despite these relatively high capital costs, the repayment period is only one and a half years. Based on the resource estimate from 2015, the mine life is about 12 to 15 years. Since the initial resource estimate, the Company has continued to drill along the main trend and has been able to extend it to more than 3 kilometres through several newly discovered zones.

Of particular importance were drill results only published in the summer of 2017, which among other things produced a composite mineralization of more than 61 meters with more than 10,000 cps.

In January 2018, the company was able to score another sensational hit. The Triple R deposit, approximately 120 metres west of the high grade R780E zone, intersected 108 metres of continuous mineralization averaging 8.46% U_3O_8. This included an 8.5-metre-long intercept with a sensational 27.66% U_3O_8, one of the highest uranium grades ever recorded worldwide. Other high-profile intercepts including 8.0 metres at 22.28% U_3O_8, 4 metres at 21.93% U_3O_8, 1.5 metres at 22.36% U_3O_8, 15.5 metres at 23.89% U_3O_8 and 5.5 metres at 26.03% U_3O_8 completed the 2018 top drilling season. All these sections were included in much longer sections.

Economic efficiency improvements through zones on land

Additional mineralisation zones R840W and R1515W are of particular importance as these are located on land and no dyke has to be built for their exploitation. Fission Uranium could begin with a conventional surface mine on land without having any influence from water. This would generate a significant cash flow and pay for the second phase. The surface course of this land zone is the perfect material for the construction of the required dyke. You use material that has to be moved anyway, but you can also use a second advantage: The resulting residual rock could be deposited directly in the initial pit. This should greatly improve profitability, although the all-in costs in the PEA were estimated at only US$16.60 per pound anyway, making PLS the most cost-effective uranium mine on the planet. Furthermore, it looks as if there are further mineralisation zones on land.

The company was able to report several world-class drilling results during the 2017 and 2018 drilling campaigns. The R1515W zone has been reported to include 3.12% U_3O_8 over 8.5 metres within 1.24% U_3O_8 over 27.5 metres and 5.15% U_3O_8 over 2.0 metres within 1.71% U_3O_8 over 9.0 metres. In addition, radioactive anomalies of more than 10,000cps over several meters were detected. To illustrate, this high-grade zone is 2.3 kilometers from the Triple R deposit!

It is interesting to note that significant uranium grades were also reported from a zone 120 metres to the west. This suggests that the mineralized zones are continuing further west and thus ashore.

In the R1545W zone, further significant uranium grades have been identified over a total length of 95 metres. Including 35.0 metres with 1.80% U_3O_8 and 4.5 metres with 5.27% U_3O_8.

In addition, several further drill sections with more than 10,000 cps radioactivity each were discovered in the range of 1530W and 1560W. The best section showed a radioactivity of partly more than 65,500 cps over 9.5 and 14.5 meters respectively. In addition, on Line 1560W, the Company encountered 5 metres of 7.14% U_3O_8, among others, and on Line 1530W, 1 metre of 16.35% U_3O_8, among others.

Plans for the coming months

The Company‘s objective for the coming months is to further expand the currently known mineralized trend to the west and east. In addition, a pre-feasibility study is in progress and the completion of a bankable feasibility study is planned by 2020. Several field studies are currently underway. In addition, an extensive drilling campaign was launched in February 2019 in preparation for the feasibility study. Among other things, the extent to which the planned dike can be built will be investigated. In addition, the existing resource is to be expanded.

Fission URANIUM CORP.

Summary:
With big steps towards the feasibility status

Fission Uranium will continue to focus on the development of PLS and thus on the exploration of the project. In particular, the western part of the known mineralization trend is likely to have a greater focus, as this will have a positive influence on the profitability of the project. Fission Uranium has one of the best uranium projects in the world with mega potential, sufficient cash to develop it, the best partner from China and an absolutely success-oriented management that will take Patterson Lake South to an unprecedented dimension in the coming months. The forthcoming pre-feasibility study and the subsequent feasibility study will eliminate much of the existing residual risk to the project. The Company is becoming an increasingly serious acquisition candidate for major (uranium) companies looking for easy-to-mine, high-grade uranium resources as close to the surface as possible.

Dev Randhawa, CEO

Exclusive interview with Dev Randhawa, CEO of Fission Uranium

What have you and your company achieved in the past 12 months?

For the past twelve months Fission Uranium has been focusing primarily on the prefeasibility study (PFS) for the Patterson Lake South project. Field work consisted of geotechnical drilling and analysis, an advanced metallurgical study and resource drilling designed to convert important parts of the R780E zone from inferred into indicated classification for use in the PFS resource model. We have also advanced baseline environmental work and increased engagement with our impacted stakeholders, such as first nations and nearby communities. Our summer program fieldwork was completed in September 2018. Our goal is to release the prefeasibility in Q1 2019.

What are the most important catalysts for the next 6 to 12 months for uranium and Fission?

The continued global growth in electrical usage along with the realization of the necessity of clean energy will continue to be important drivers for continued growth in nuclear generated electricity. Social acceptance of nuclear energy should continue to grow as we see a push from countries to support cleaner energy initiatives. Nuclear power is the only large-scale viable alternative for mass energy as a replacement for fossil fuels. Nuclear power is scalable, it can meet baseload requirements, and most of all it is clean energy.

For Fission, I think our company's share price will to a large extent be tied to the overall sentiment of the uranium market as a whole. We do need to see continued upward improvement in the price of the commodity in order to attract investors back to the sector. In addition, it is important for us to complete our PFS report and continue to move the project forward. The next step towards advancing the project is to undertake a feasibility study, which we have started with this winter program.

How do you see the current situation on the market for uranium?

We need to see better overall market conditions before things materially change. As stated, the price of uranium needs to continue to increase. We all know about the demand picture, with the global build-out of reactors, with the China build-out the most obvious example. We are seeing a lot of new reactor builds due to higher electricity demand and forthcoming electricity demand growth, especially in China. More countries are endorsing clean energy initiatives and nuclear power is a big part of that, especially because of its zero-carbon footprint.

On the supply side, there has been a concerted effort by major producers to curtail supply. The prolonged period of low uranium prices that we are currently in has flushed out weaker players and now only the strong companies remain standing. In the past 18 months we have witnessed the major low cost producers such as Cameco and Kazatomprom, reducing supply to the market because frankly their operations are not profitable at current uranium prices. These two factors of increased demand and decreased supply will continue to put upward pressure on the price of the commodity.

With one of the best undeveloped uranium projects, Fission continues to forge ahead, developing our Triple R deposit to prefeasibility amid this prolonged bear market in uranium. We have been cognizant about market conditions and as such have been cost conscious balancing work that needs to be done while curtailing exploration costs.

ISIN: CA33812R1091
WKN: A1T87E
FRA: 2FU
TSX: FCU

Shares outstanding: 486.0 million
Options: 30.4 million
Fully diluted: 516.4 million

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GoviEx Uranium

Mega Resource Available, Several Projects in Feasibility Phase

GoviEx Uranium is a Canadian mining development company focused on the exploration and development of uranium projects in Africa. To date, the company has been able to demonstrate resources of over 200 million pounds of U_3O_8. GoviEx already holds valid mine licenses for the two most advanced projects. The Company's current objective is to reduce estimated production costs while developing the most advanced Madaouela project in parallel with the rising uranium spot price towards production by 2021. The second major Mutanga project could follow in 2023.

Madaouela – Location, Infrastructure, Resource

Madaouela, 100% owned by GoviEx, is located in the north of Niger, only about 10 kilometres from Arlit and the Cominak and Somair mines in which AREVA is involved. Cominak's mine has been in operation since 1978 and is considered the world's largest underground uranium mine. GoviEx profits from the quite well-developed infrastructure, which offers roads all year round, sufficient groundwater as well as a good energy supply. Madaouela has reserves of 60.54 million pounds U_3O_8. Resources total approximately 138 million pounds of U_3O_8. In January 2016, GoviEx received the final mine permit for Madaouela 1, i.e. for one of six license areas (consisting of Madaouela 1 to 4, as well as Eral and Anou Melle).

Madaouela – Deposits

The currently most important deposit is called Marianne-Marilyn and is located within the Madaouela 1 concession. This is a so-called sandstone deposit that lies at very shallow depths of about 30 to 120 meters. The second major deposit is called MSNE and is located about four kilometres to the south. Third one named Maryvonne right in the middle. A fourth mining area called Miriam is located in the very south of the Madaouela 1 concession. In contrast to the first three reservoirs, Miriam can be exploited by means of open pit operation. In addition, some of this deposit possesses up to 1% U_3O_8 and thus contributes to an immense cost reduction of the entire planned production activities.

Madaouela – Pre-Feasibility and Feasibility Study

A pre-feasibility study in 2015 proved that mining can be economically realized. Based on a long-term uranium price of US$ 70, this resulted in a profitability (IRR) of 21.9% and a net present value (NPV) of US$ 340 million discounted at 8%. Initial capital costs were estimated at US$ 359 million and cash generated from operations at US$ 24.49 per pound U_3O_8. It was based on an annual production of 2.69 million pounds U_3O_8 over a total mine life of 21 years. A study carried out in April 2018 concludes that capital and production costs can be reduced with the aid of a membrane separation system. In September 2018, GoviEx appointed SRK Consulting and SGS Bateman as consultants for the completion of a feasibility study for Madaouela. Among other things, negotiations with the Niger government to include Miriam's nearly 6 million pound U_3O_8 in the existing mine permit for Madaouela are being pursued. In addition, it will be examined to what extent Contractor Mining can reduce the capital costs of the project and to what extent the company's own hybrid solar plant would have a positive effect on the energy costs of a mine. A letter of intent has already been signed for a feasibility study with a leading Canadian manufacturer on a 20-megawatt plant.

Madaouela – Exploration potential

Madaouela is likely to have far more resources than known to date. Although more than 600,000 metres have already been drilled, Anou Melle, for example, offers a high „Blue Sky potential" as this licence area lies on the same geological structure as Cominak and Somair.

Madaouela – Development strategy

GoviEx is currently working on a four-stage development strategy for Madaouela. The first pillar is credit financing, including the involvement of several international export credit agencies. The second pillar consists of project optimisation and the completion of detailed engineering work. The third point is the conclusion of corresponding long-term purchase agreements. Fourthly, the company is working in parallel on self-financing through the issue of shares.

Great interest in project financing

In September 2017, GoviEx announced that several export credit agencies and banks had signaled to the company that they would provide US$ 220 million in credit financing for the construction of the mine. A bankable feasibility study for Madaouela, long-term supply contracts with creditworthy energy suppliers and corresponding credit insurance are prerequisites.

Mutanga – Location, Resource, Infrastructure

Mutanga, 100% owned by GoviEx, is located about 200 kilometers south of the Zambian capital Lusaka, directly north of Lake Kariba. The project currently has 49.2 million pounds of U_3O_8 divided between the three discovered deposits Mutanga, Dibwe and Dibwe East. GoviEx already owns a 25-year mining license for three of the five concessions, which allows mining via open pit mining and heap leaching.

Mutanga – Positive assessment of profitability

In November 2017, GoviEx was able to present a first economic evaluation (PEA) for Mutanga. This is based on production over 11 years, with an annual average output of 2.6 million pounds U_3O_8. The initial cost of capital was estimated at only US$ 123 million. Operating cash costs are approximately US$ 31.10 per pound U_3O_8, and absolute costs over the life of the mine are approximately US$ 37.90 per pound U_3O_8. Based on a long-term uranium price of US$58 per pound of U_3O_8, this results in an IRR of 25%.

Mutanga – Exploration potential

Mineralization starts directly at surface and is open on strike. Although the resource already appears high, not all areas of the concessions have yet been screened for possible uranium occurrences. In particular, the respective endpoints, i.e. the areas close to the western and eastern borders of the license areas, offer high potential for further significant uranium deposits.
New VTEM surveys have identified a high exploration potential, particularly in the northeastern area of Dibwe East.

Chirundu and Kiraba Valley – Potentially high-profile expansion opportunities for Mutanga

This northeastern area is adjacent to the two Chirundu and Kiraba Valley concessions acquired by GoviEx from African Energy Resources in 2017. Chirundu consists of two sub-projects, Njame and Gwabe, which together have resources of 11.2 million pounds U_3O_8.

Falea

Falea, 100% owned by GoviEx, is located in West African Mali, approximately 80 kilometers from AREVA's Saraya East uranium deposit. It consists of the three exploration licenses Bala, Madini and Falea. To date, a resource base of 30.8 million pounds U_3O_8, 63 million pounds copper and 21 million ounces silver has been identified. Translated, this represents a total resource of 38.1 million pounds U_3O_8.
It is important to note that so far only 5% of the total 225 square kilometres of licensed

space have been examined for corresponding deposits. In addition, the majority of known deposits could not yet be completely delineated.
Falea offers high potential for the establishment of an underground mine.

Summary: Funding for Madaouela would change everything!

With a resource base of over 200 million pounds of U_3O_8, GoviEx is undoubtedly one of the heavyweights of the uranium industry. The largest project by far, Madaouela, is virtually ready for production. The multiparty interest to provide a US$220 million credit line to build the mine is a milestone in the company's history and should make it easier for management to drive the project forward and negotiate purchase agreements. In addition, the second major project, Mutanga, was also able to demonstrate the possibility of economic support. What is still missing is a reasonable uranium price, which would move GoviEx to undreamt-of price levels precisely because of this large number of resources. Another plus point: In contrast to many other African countries, Niger and Zambia are considered politically stable. Mining companies are not put in the way, as the above example of Cominak, whose mine has been in operation since the 1970s, shows. In addition, GoviEx has a highly experienced and successful management team and strong major shareholders who should ensure that GoviEx becomes a true success story. In 2018, the Company generated over US$ 34 million in fresh funds through financing and the redemption of warrants. This enabled, among other things, an existing loan to be repaid, so that the company is now debt-free.
In addition, GoviEx will receive US$ 3 million in repayments from a loan granted in the first half of 2019.

Daniel Major, CEO

Exklusives Interview mit Daniel Major, CEO von GoviEx

What have you and your company achieved in the past 12 months?

From a corporate finance perspective, in 2018 GoviEx successfully resolved, at a substantial discount, the 6-year-old Toshiba B Bond that removed not only a leveraged loan from the balance sheet but also the related loan security.
Responding to an expected improvement in uranium price GoviEx appointed SRK Consulting (UK) Ltd ("SRK") and SGS Bateman (Pty) Ltd ("SGS") as the consultants for the completion of a feasibility study for the Madaouela Project. SRK and SGS have considerable experience in uranium and African project development. Together, our teams are focused on options that have the potential to improve the feasibility of the Madaouela Project including:

- Negotiations with the Government of Niger to include in the Madaouela Mining Permit the mineral resources associated with the Miriam deposit situated on Agaliouk Exploration Permit, which includes 5.96 million pounds (Mlb) U_3O_8 in the Measured and Indicated categories.
- Analysis of contractor mining operations vs owner operator mining (as currently forecast in the current pre-feasibility study), which has the potential to significantly reduce up front capital costs.
- The Madaouela Project process design to potentially reduce operating and capital costs.
- Potential of stand-alone solar hybrid power supply to reduce power supply risks and reduce power costs.

What are the most important catalysts for the next 6 to 12 months?

With the supply constraint in the uranium market, the expected resolution of Section 232 in the USA and Cameco's requirement to purchase uranium in the market to meet its contractual needs, while the McArthur River mine remains closed, we forecast the uranium price to rise over the next period.
GoviEx's strategic focus is therefore on advancing the Madaouela project through feasibility study with a primary target of reducing the operating and capital costs presented in the pre-feasibility. The team is continuing its discussions with the export credit agencies and debt providers, as well as potential offtakers.

How do you see the current situation on the market for uranium?

Global nuclear energy generation has returned to the levels last seen in 2011. The rate of global reactor construction is now at the highest level in the past 25 years. With the announcement recently of six new power reactor construction starts in China and the restart of nuclear reactors in Japan, we should expect the level of nuclear energy generation to continue its rise.
The supply constraint shouldered by the major uranium producers, combined with the increase in uranium inventories shifting to investment funds, has resulted in the supply of the yellow metal being in a deficit with forecasts now indicating that the uranium price will continue to rise through 2019.

ISIN: CA3837981057
WKN: A12BL3
FRA: 7GU
TSX-V: GXU

Shares outstanding: 402.1 million
Options/warrants: 197.3 million
Fully diluted: 599.4 million

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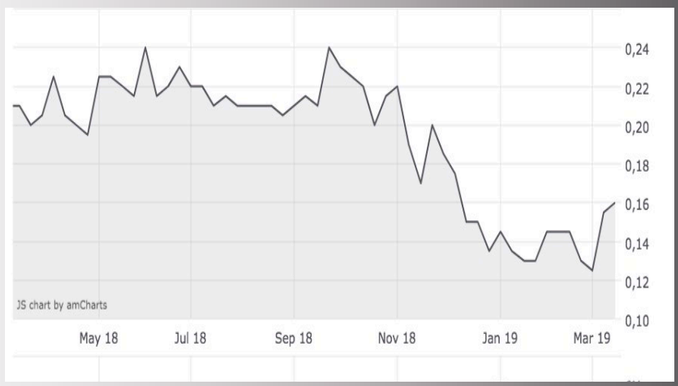
GoviEx Uranium



Laramide Resources

High uranium grades and a large resource base on two continents

Laramide Resources Ltd.

Laramide Resources is a Canadian mining company focused on the exploration and development of uranium deposits in Australia and the United States. The Company's shares are listed on both the TSX in Toronto and the ASX in Sydney, which gives the Company increased visibility on both continents. Laramide Resources already has a large resource base.

Westmoreland Uranium Project – Location, Resource and Infrastructure

Laramide Resources' flagship project in Australia is called Westmoreland and is located in Queensland, directly on the border to the Northern Territory. These are 3 contiguous licences covering a total of 548.5 square kilometres. The Westmoreland uranium project already has a very large resource base of 36.0 million pounds of U_3O_8 in the indicated category and a further 15.9 million pounds of U_3O_8 in the inferred category, making it one of Australia's 10 largest uranium projects. These resources are all within a 7-kilometre trend. It is important to note that 80% of these resources are located within a depth of only 50 metres, which is why Westmoreland would be exploitable by surface mining.

Westmoreland uranium project – feasibility study

In 2016 Laramide Resources published a Preliminary Economic Assessment (PEA) for Westmoreland.
Accordingly, the processing of the rock by conventional acid leaching and solvent extraction would be possible.
The initial capital costs for the construction of the mine and the processing facilities thus amount to US$ 268 million plus US$ 49 million in buffer. This would allow the construction of a processing plant with an annual capacity of 2 million tonnes, capable of producing up to 4 million pounds of U_3O_8 per year.
The additional costs during the 13-year estimated mine life are approximately US$ 58 million.
Operating cash costs were estimated at US$ 21 per pound U_3O_8 for the first 5 years and US$ 23.20 per pound U_3O_8 for the entire mine life. The net present value (NPV) discounted at 10% is US$400 million after tax. Profitability was calculated at a very good 35.8% after tax.
According to internal company estimates, this would generate about 3.5 million pounds U_3O_8 per year. Metallurgical tests have confirmed a recovery rate of up to 97% and that at relatively low acidity levels. The current mine life is approximately 13 years and the project has a much higher exploration potential, which could extend the mine life to well over 15 years.

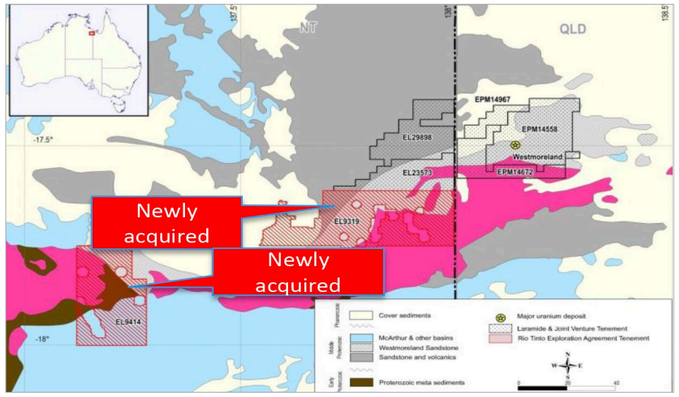
Westmoreland uranium project – expansion potential

Murphy Uranium Project

In July 2018, the Company acquired an approximately 683 square kilometre area of Rio Tinto in the immediate vicinity, divided into two licenses, and is now the 100% owner. Laramide only has to pay AU$ 450,000, either in cash or shares, to Rio Tinto. In return, Rio Tinto retains a pre-emptive right and a net smelter royalty of 2%. In addition, if Laramide were able to identify and develop a measured/indicated resource with an in-situ value of more than US$1 billion, the project would be incorporated into a joint venture in which Rio Tinto would hold a 51% interest. In addition, the major would have to pay twice as much to Laramide as Laramide would have spent on exploration and development costs until then. In the final analysis, this means that Laramide will finally be able to step on the gas on the project itself.

Lagoon Creek Uranium Project

In September 2018, Laramide received a further licence area of about 190 square kilometres. This project, called Lagoon Creek, is located directly west of Westmoreland and connects Westmoreland with the eastern of the two former Rio Tinto licenses. Laramide only had to pay AU$ 125,000 in cash. Should a NI 43-101 compliant resource be identified at Lagoon Creek, an additional AU$0.05 per pound will be payable. This allowed Laramide to successfully complete the consolidation of the Northern Territory property.



Laramide Resources' flagship project in Australia is called Westmoreland and is located in Queensland, directly on the border to the Northern Territory.
(Source: Laramide Resources)

Churchrock und Crownpoint – Akquisition

In January 2017, Laramide Resources acquired the two in situ recovery (ISR) projects Churchrock and Crownpoint in New Mexico.

Church Rock

Churchrock consists of 7 sections, including the Mancos and Strathmore deposits. Over US$100 million has been invested in exploration of the area in the past.
This confirmed a resource of approximately 50.82 million pounds of U_3O_8 in the inferred category for Churchrock in October 2017.
A feasibility study carried out in 2012 showed that Section 8 could be exploited using low-cost ISR mining. The cost of capital for an initial production of one million pounds U_3O_8 per year was estimated at US$ 35 million, the operating cost at approximately US$ 20 to 23 per pound U_3O_8. The profitability (IRR) would be around 22% at a uranium price of US$65 per pound of U_3O_8.
Within 6 years, you could gain 6.5 million pounds of U_3O_8.
Section 8 and section 17 to the south, within which the old Churchrock Mine is located, also form the starting point in case of a production. Most licenses and approvals are already available for this purpose.
To the west of Section 8 are Sections 7, 12 and 13, within which the Mancos deposit is located.
Northeast of Churchrock (Section 8) is Section 4, which contains the Strathmore deposit.

Crownpoint

Crownpoint is about 25 miles northeast of Churchrock. For this project, Laramide Resources was able to release a Canadian NI43-101 compliant estimate in December 2018 for a total of 8.8 million pounds of U_3O_8, of which the Company can claim approximately 5 million pounds.
Although no feasibility study has been prepared for Crownpoint to date, Laramide Resources already holds the majority of the required production permits.

Churchrock and Crownpoint – Development Plan

Laramide Resources is currently working to complete the mine permits for Section 8 and continue to complete the mine permits for Section 17, with the aim of conducting a pre-feasibility study for Section 8, including consideration and evaluation of potential expansion opportunities including the Mancos and Strathmore deposits.

According to the current status, a satellite system is to be built in the area of sections 8 and 17. A central processing facility with an annual capacity of 3 million pounds U_3O_8 will then be built at Crownpoint.

Further projects

In addition to the ISR projects mentioned above, Laramide Resources has two other hard rock projects in the USA.
The La Jara Mesa Project is also located in New Mexico, just 40 miles southeast of Crownpoint. La Jara Mesa has a NI43-101 compliant resource of 10.4 million pounds of U_3O_8. The final operating permits have already been issued.
The La Sal project is located in Utah, approximately 100 kilometers northeast of the White Mesa Mill. A toll milling agreement has already been signed with its operator Energy Fuels to process the La Sal rock in the White Mesa Mill.
Both projects offer great exploration and expansion potential.

Summary: Diversified developer with huge resource base in the USA

Laramide Resources has a diversified portfolio of large, high-quality uranium projects in the United States and Australia. The company benefits from technically less demanding and at the same time low-cost production possibilities by means of surface mining or ISR mining.
In particular, the newly acquired Churchrock and Crownpoint projects offer the potential for a fairly rapid start of production, putting Laramide Resources in a top position in the event of an expected new uranium boom. The Petition 232 discussion in the USA could provide additional momentum. In Australia, the consolidation of an entire uranium district was successfully completed and the development of the licenses there has now been started. Accordingly, many corresponding results can be expected in the coming months. Laramide Resources' long-term and supportive major shareholders make it a top pick in the uranium sector.

Marc Henderson, CEO

Exclusive interview with Marc Henderson, CEO of Laramide Resources

What have you and your company achieved in the past 12 months?

With the completion of the resource at Crownpoint in the Fall of 2018, we further enhanced our Churchrock Project in New Mexico as one of the more prominent and potentially attractive ISR development assets in the USA. This is timely given the imminent potential for US government action to ensure US utilities take into account the importance of security of supply issues throughout the entire fuel cycle; a decision on the so called 232 trade application is due in mid April 2019. We also did a major acquisition in Australia in 2018 by converting our joint venture interest with Rio Tinto on the Murphy tenement in the Northern Territory into an outright ownership interest with a back-in provision to Rio on a world class exploration discovery.

What are the most important catalysts for the next 6 to 12 months?

The uranium industry is somewhat unique in that both the most senior producers and the earliest greenfield explorers need the macro catalyst of the uranium price – both the spot and term market prices – to signal better days ahead. After a long bear market, even some of the better assets in the uranium production industry are shut-in and require material price recovery. Fortunately, there is cause for optimism on that front as increasing demand and significant supplier discipline suggest a more balanced market is upon us. On the company level, our most important catalyst is to advance the permit process for Churchrock in the State of New Mexico in order to take advantage of the better uranium price that is expected to emerge later in 2019. Commencement of the first meaningful on ground exploration effort (including drilling) on the Murphy tenement is also a high priority.

How do you see the current situation on the market for uranium?

Improvement seems inevitable but evidence of a return to long term contracting by utilities will also be important to re-establishing confidence in the sector.

ISIN: CA51669T1012
WKN: 157084
FRA: L4R
TSX: LAM
ASX: LAM

Shares outstanding: 130.0 million
Options/warrants: 32.8 million
Fully diluted: 162.8 million

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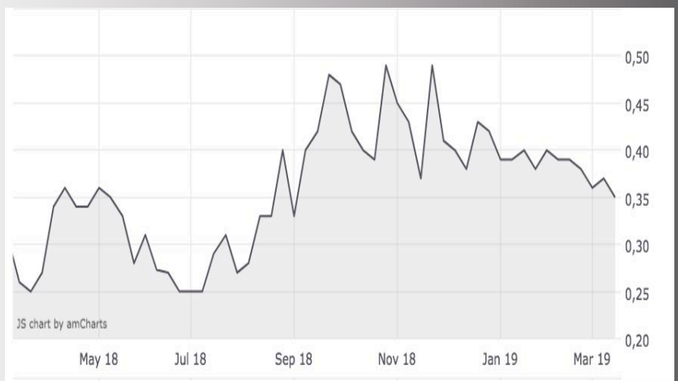
Laramide Resources Ltd.



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Skyharbour Resources

World-class uranium project plus two high-profile development partners

Skyharbour Resources is a Canadian uranium and thorium development company focused on exploration projects in the Athabasca Basin. In the wider Athabasca Basin area, the Company holds the majority interest in five projects covering a total area of 230,000 hectares.

Moore Lake Uranium Project – Location and Deal

Skyharbour Resources' current flagship project is called Moore Lake and is located in the southeast of the Athabasca Basin, only about 10 kilometers southeast of Denison Mines' Wheeler River mega-project and quite central between the Key Lake Mill and the McArthur River Mine. Skyharbour Resources acquired the Moore Lake Project from Denison Mines in July 2016, which consists of 12 contiguous claims totaling 35,705 hectares.
To acquire 100% of Moore Lake, Skyharbour Resources had to cede 18 million of its own shares to Denison Mines, making Dension the largest single shareholder in Skyharbour. In addition, CA$500,000 in cash payments and CA$3.5 million in exploration expenses were due to earn a 100% interest in Moore Lake. This was achieved in August 2018, well ahead of schedule. All in all, an absolute bargain price considering that more than 35 million CA$ have already been invested in exploration on Moore Lake to date. These flowed into more than 370 drill holes with a total length of over 135,000 metres.

Moore Lake Uranium Project – Exploration Successes

Following the completion of the Denison Mines acquisition deal, Skyharbour commenced an initial 3,500 metre drill program in February 2017. High radioactivity and uranium mineralization were encountered in three of the first five holes. The first drill hole in the Main Maverick Zone intersected 20.8% U_3O_8 over 1.5 metres within a 5.9-metre-long intercept of 6.0% U_3O_8 at a depth of 262 metres and up. The fourth well also returned 5.6% eU_3O_8 over 1.8 metres within a 10.7-metre-long intercept with 1.4% eU_3O_8 from a depth of 267 metres. During 2017, Skyharbour Resources was finally able to report further significant drilling successes. For example, 2.25% U_3O_8 over 3.0 metres was encountered in the Main Maverick Zone and 1.79% U_3O_8 over 11.5 metres in the area of a new discovery called the Maverick East Zone, including 4.17% U_3O_8 over 4.5 metres and 9.12% U_3O_8 over 1.4 metres.
In 2018, the series of sensational drill results continued and included 3.11% U_3O_8 over 1.8 metres and 1.33% U_3O_8 over 7.8 metres.
In addition, the Company is currently working to consolidate historical, airborne and ground-based electromagnetic and magnetic surveys, gravity and seismic studies, geochemical programs, mapping, sediment sampling and data from a total of 370 drill holes into a modern database that will better identify and delineate prioritized targets.
In February 2019, a new diamond drill program of at least 3,000 metres commenced to confirm previous drilling successes.

Preston Uranium Project – Location and Exploration Work

The Preston uranium project is located to the southwest, just outside the Athabasca Basin in the Patterson Lake region. It borders in the north on Fission 3.0s and Nexgens project areas, among others. The approximately 121,000-hectare Preston Project, in which Skyharbour Resources holds a 50% interest (the remaining 50% is owned by Partner Clean Commodities Corp.), is located near the high-profile discovery of Nexgen (Arrow) and Fission Uranium (Patterson Lake South).
To date, the two partners have invested approximately 4.7 million CA$ in exploring the huge license areas. 15 areas with similar indicators to Patterson Lake South and Arrow have been identified. A large number of other drilling targets also provide a high exploration potential.

Preston Uranium Project – Option Agreement with Orano/ AREVA

In March 2017, Skyharbour Resources entered into an option agreement with Orano (formerly AREVA) in conjunction with its partner Clean Commodities Corp. Accordingly, Orano can earn a 70% interest in part of the Preston Uranium Project, which is approximately 49,600 hectares in the western portion of the total project, by investing 7.3 million CA$ in exploration of the project over 6 years and making a further 700,000 CA$ in cash payments. For 2019, Orano announced an exploration budget of $2.2 million for Preston, including a 3,600-metre drill program started in February 2019.

Preston Uranium Project – Option Agreement with Azincourt Uranium

Also, in March 2017, Skyharbour Resources signed a second option agreement with Azincourt Uranium Inc for the East Preston Uranium Project. This is located in the eastern part of the Preston overall project and covers an area of around 25,300 hectares. Azincourt Uranium may acquire a 70% interest in the East Preston Uranium Project by pre-depositing 4.5 million treasury shares to Skyharbour Resources and its partner Clean Commodities Corp. and making cash payments totaling one million CA$ over three years and investing a further 2.5 million CA$ in the exploration and development of the project area.
At the beginning of 2018, Azincourt was able to identify several important targets for further exploratory studies by means of geophysical gravity studies. In addition, a helicopter-assisted VTEM study was conducted. The Company is also currently carrying out an extensive drilling program.

Further top projects

In addition to Moore Lake and Preston, Skyharbour Resources also owns other top projects.
Including the Falcon Point uranium & thorium project. This covers 79,000 hectares and is located approximately 55 kilometers east of the Key Lake Mine. In 2015 Skyharbour Resources was able to release a NI43-101 resource of 6.96 million pounds U_3O_8 and 5.34 million pounds ThO2 for Falcon Point. The project has geological and geochemical similarities with some of the best projects in the Athabasca Basin such as Eagle Point, Millennium, P-Patch and Roughrider. Up to 68% U_3O_8 was detected in recent sampling in the northern area of the licence area.
Another top project is Mann Lake which is directly adjacent to the joint venture project of the same name of Cameco, Denison and Orano. Mann Lake is strategically located approximately 25 kilometers southwest of Cameco's McArthur River Mine and 15 kilometers northeast of Cameco's Millennium uranium deposit. A 2014 Cameco drill campaign encountered 2.31% eU_3O_8 over 5.1 metres including a 0.4-metre-long intercept of 10.92% eU_3O_8 over 2.31% eU_3O_8 in 2014.

Coming Catalysts

Skyharbour Resources and its partners are expecting several significant developments in the coming months. Skyharbour Resources is itself carrying out a winter drilling program to, among other things, confirm its previous drilling successes. Orano started a 3,600-metre diamond drill program. Azincourt has already identified several drill targets that are currently being drilled through geophysical studies. Skyharbour Resources plans to find additional partners for its projects as part of its Prospect Generator Model in order to drive them forward and generate additional funds for the development of the Moore Lake flagship project.

SKYHARBOUR
RESOURCES LTD.

Summary: Top projects, strong partners and a good business model

Skyharbour excels above all through its top projects, its strong partners and its good business model. The Moore Lake flagship project stands alone anyway. Top grades and a tremendous exploration potential in the immediate vicinity of some of the world's best uranium deposits on the globe: there should be some top news to expect! Two top development partners could be won for the giant Preston project. Not only will these companies bear the sole exploration costs over the coming years and thus rapidly develop Preston, but they will also be paying a substantial amount of cash to further develop Moore Lake. Skyharbour Resources' Prospect Generator business model is already paying off. With the largest single shareholder Denison Mines, whose CEO David Cates also sits on the board of Skyharbour Resources, they also have a technical development partner at their side. This makes Skyharbour Resources one of the top picks in the uranium sector for years to come, with the potential for several direct hits.

Jordan Trimble, CEO

Exclusive interview with Jordan Trimble, CEO of Skyharbour Resources

What have you and your company achieved in the past 12 months?

In the Spring 2018 Skyharbour completed a 3,400 metre, 9-hole drill program. 5 of the 9 holes were drilled on regional grids testing geophysical targets and as a follow up to previous drilling, while the remaining four holes were drilled on the high grade Maverick structural corridor. Of note, drill hole ML18-08 intersected high-grade uranium mineralization within the Main Maverick Zone consisting of 5.39% U_3O_8 over 1.0 metre.
In the Fall of 2018 SYH completed another diamond drilling program of 3,800 metres in eight drill holes. Highlights of this drill campaign included hole ML18-14 which returned 0.56% U_3O_8 over 15.2 metres from 264.5 metres to 279.7 metres downhole including. Most of this 15.2 metre mineralized intercept is hosted in the basement rock illustrating the strong discovery potential below the unconformity at the Maverick Zone.
The company was successful in raising capital in 2018 with $3.2 million in private placement financings and generating $450,000 in warrant exercise proceeds. The company also completed its requirements to earn-in a 100% interest at the Flagship Moore project.

What are the most important catalysts for the next 6 to 12 months?

Skyharbour has commenced a 3,000m winter drilling program at its flagship Moore Project and is planning additional exploration over the course of the upcoming year. The high-grade Moore Uranium Project will provide steady news flow over coming months supplemented by news from partner funded projects and exploration programs.
Orano Canada Inc. (previously AREVA) has announced its 2019 winter diamond drilling program consisting of 11 to 15 drill holes for a total of approximately 3,600 metres on Skyharbour's Preston Project. The estimated cost of the 2019 exploration and drilling programs is $2,200,000. Another partner company, Azincourt Energy, has plans to commence drilling at Skyharbour's East Preston project which will provide additional news flow and discovery potential for the benefit of Skyharbour's shareholders.

How do you see the current situation on the market for uranium?

After a prolonged bear market in uranium, the market has turned the corner. The start of the recovery has been driven by several major supply-side developments: the world's largest producer, Kazatomprom, curtailing production as well as Cameco announcing the suspension of production at the world's largest uranium mine McArthur River. Furthermore, Cameco has been buying material in the spot market recently to meet their contracts which has helped drive the price higher and should continue to do so into 2019.
With long-term supply contracts expiring, production cuts, demand growth in the developing world, and new funds / holding companies buying physical uranium, the supply/demand landscape has changed with a forecasted supply deficit for 2019. Uranium pricing has moved higher over the past 12 months to reflect this, currently near US$28/pound, but still well below the average global cost of production.

ISIN: CA8308166096
WKN: A2AJ7J
FRA: SC1P
TSX-V: SYH

Outstanding shares: 63.9 million
Options/warrants: 32.5 million
Fully diluted: 96.4 million

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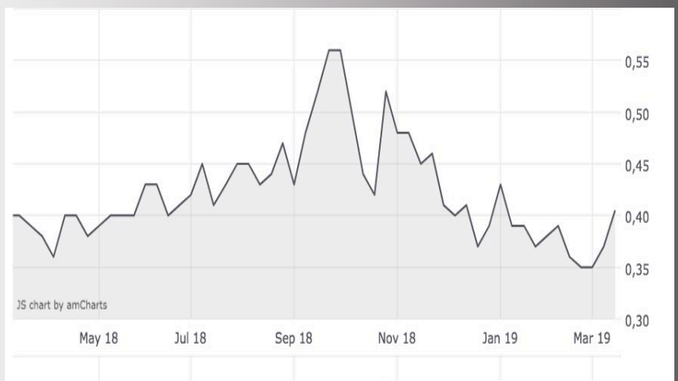
Skyharbour Resources Ltd.



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Uranium Energy

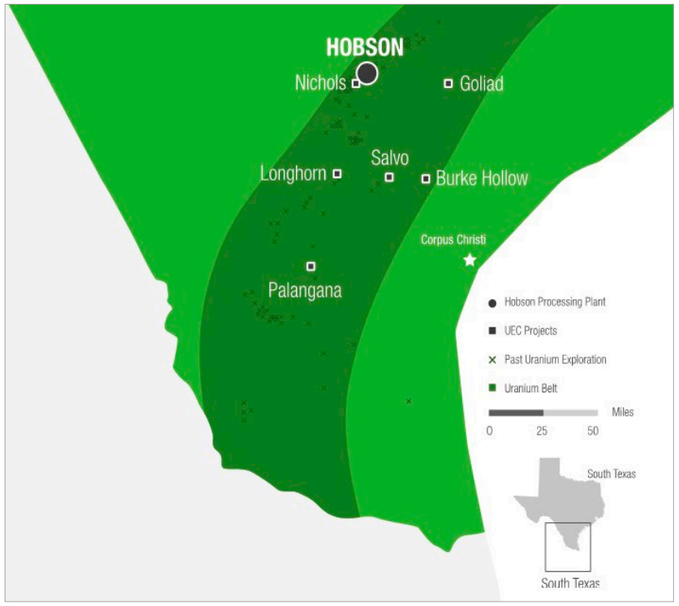
Well positioned with several approved ISR mines and a central processing facility in the USA

Uranium Energy is a former U.S. uranium producer that, in addition to the formerly producing Palangana Mine, will also be able to mine on the Goliad Project and the Burke Hollow Project in the future. Additional resources are provided by the (North) Reno Creek Project and the Alto Paraná Titan Project.

Palangana project is always ready

The Palangana ISR project is fully licensed and received final production approval in 2010. Production commenced in December 2010 but was halted for the time being in July 2014 due to the uranium price trend. The Palangana Project has a resource of 3.3 million pounds of U_3O_8. The company's internal cost of capital is expected to be around US$10 million in order to put Palangana back into operation within just 6 months. According to the Company, production cash costs are less than US$ 22 per pound of uranium.

The Hobson plant is strategically located between the individual uranium deposits. (Source Uranium Energy)



Goliad project fully approved

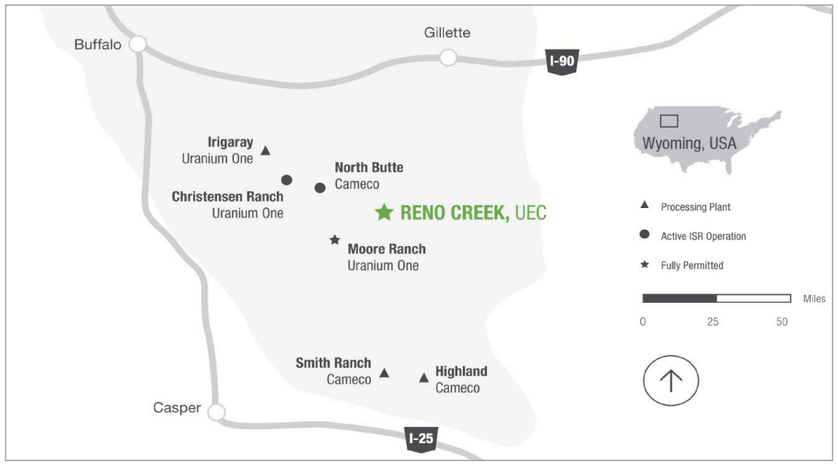
The second advanced ISR project, Goliad, has already held a final production license since December 2012. The Goliad Project, which like Palangana is located near the Hobson Processing Plant, is the largest ISR uranium project in Texas. It has a NI43-101 compliant resource of nearly 7 million pounds U308, of which 5.5 million pounds are already in the Measured and Indicated category and the remaining 1.5 million pounds in the Inferred category. The Goliad Project offers further potential as the mineralization is open on all sides.

Burke Hollow Project

The third Top ISR project, called Burke Hollow, was licensed for radioactive material in February 2019, the last of the four major uranium mining permits. Burke Hollow has a current November 2017 resource of 7.09 million pounds U_3O_8 and is located approximately 54 kilometres from Hobson. A total of five independent uranium trends have been identified on the license area, with less than half of the license area being tested for corresponding uranium occurrences. During a 2017 drill campaign, several mineralized trends were discovered and extended to a length of over 4.5 miles. A remarkable success when you consider that Burke Hollow was initially an absolute grass root project. The company assumes that this resource can be further expanded. Uranium Energy is currently conducting a drilling campaign on Burke Hollow consisting of 20 delineation holes and the installation of approximately 120 monitor holes to prepare for the development of the project's first production area.

Hobson production plant is the trump card up your sleeve!

The Hobson production facility is a fully licensed production facility that was originally able



Reno Creek is located in the midst of important uranium deposits. (Source Uranium Energy)

to produce one million pounds of yellow cake of uranium powder per year. The plant was completely renovated in 2008 and is state of the art. Production was doubled again with a second larger vacuum dryer, so that the fully licensed Hobson production facility now has a processing capacity of two million pounds of U_3O_8 per year.

Reno Creek Project

In May 2017, Uranium Energy announced the acquisition of Reno Creek Holdings Inc., 100% of its fully uranium production approved Reno Creek ISR uranium project in Wyoming.
Uranium Energy can start building ISR fields and a central processing plant there almost immediately and can produce and process up to 2 million pounds of U_3O_8 per year!
Reno Creek holds a large NI43-101 resource of 26 million pounds of U_3O_8 in the Measured and Indicated category. Added to this is a further 1.49 million pounds of U_3O_8 in the inferred category. A pre-feasibility study from 2014 confirms that Reno Creek is highly profitable with low capital and operating costs.
In total, Uranium Energy paid less than US$25 million for the Reno Creek Project plus the now fully integrated Reno Creek North Project, which was acquired in November 2017, for a fully licensed ISR project with a resource of approximately 27.5 million pounds U_3O_8 and a much higher exploration potential! And that despite the fact that all previous owners have already spent more than US$ 60 million on the exploration and development of the project!
Uranium Energy is already working on a new, optimized pre-feasibility study that will take full account of the recently announced resource estimate.

Alto Paraná Titanium Project

In July 2017, Uranium Energy acquired more than 70,000 hectares of land in Paraguay by the aquisition of CIC Resources, including the Alto Parana titanium project and its pilot plant. To date, CIC Resources and former joint venture partner Tronox have invested approximately $25 million in the project.
The Alto Parana Titan Project is an advanced exploration project in eastern Paraguay within the Alto Parana Department approximately 100 kilometres north of Ciudad del Este. The property covers an area of 70,498 hectares with five mining permits. The work carried out to date on the project included an exten-

sive programme of digging pits and auger bores, the development of a small test mine, the construction of a pilot plant to evaluate the planned ore dressing workflow diagram, laboratory-scale smelting tests, the production of approximately 110 tonnes of concentrate for extensive smelting tests and related technical work, marketing work and logistical and environmental work.
In September 2017, Uranium Energy published its own resource estimate for Alto Paraná. The total inferred resource has been estimated at 4.94 billion tonnes at 7.41% titanium oxide („TiO2“) and 23.6% iron oxide („Fe2O3“) with a minimum ore content of 6% TiO2, making Alto Paranà one of the largest known and highest grade ferro-titanium deposits in the world.
Uranium Energy plans to turn the project into money in 2019. After all, the titanium market will show a supply deficit from 2020, which, in the case of Alto Paraná, is likely to arouse the desire of large majors.

Diabase Project

In February 2018, Uranium Energy acquired the Diabase project located on the southern edge of the uranium district in the Athabasca Basin. The project comprises 21,949 hectares of land and overlies a highly prospective regional corridor less than 75 kilometres from Cameco‘s Key Lake mill. For the acquisition, Uranium Energy paid a total of only approximately US$500,000, a bargain price considering that more than US$20 million has been invested in the exploration of the property in the past, including diamond drilling, geophysical measurements and surface sampling to a total of more than 21,000 metres.

More potential top projects in the pipeline!

In addition to the listed projects, Uranium Energy holds a majority stake in a number of other potential top projects.
For example, the Anderson Project in Arizona, which has 29 million pounds of U_3O_8, and for which a positive economic study has already been prepared, based on a US$65 uranium price and a strong 63% pre-tax IRR.
The Slick Rock Project in Colorado has 15.7 million pounds of U_3O_8 plus 69.6 million pounds of vanadium and a 33% pre-tax IRR.
Uranium Energy has two promising projects in Paraguay. Yuty has resources of 11.1 million pounds U_3O_8, Oviedo has an exploration target of 23 to 56 million pounds U_3O_8.

Summary: Strong Project Pipeline, High Leverage on Uranium Price

In contrast to about five years ago, when Uranium Energy was already producing uranium once, in the future it will be possible to exploit four projects simultaneously instead of one (Palangana) and thus to utilize Hobson‘s own processing plant accordingly. Together with the newly acquired Reno Creek project (including Reno Creek North), which is also fully licensed, the Company now has more than 100 million pounds of U308 plus vanadium and the ability to produce 4 million pounds of U_3O_8 per year instead of the current 2 million pounds of U_3O_8.
As an icing on the cake, they were also able to secure a very advanced titanium project for a small amount of money, which offers additional potential for the future.
Uranium Energy combines all the expected benefits of an upcoming supply shortfall in the uranium market, a cost-effective mining method, centrally located processing facilities and a uranium-friendly environment. In October 2018, the Company was able to execute a financing initially planned at US$ 10 million, but increased to US$ 20 million due to high demand, which now gives the Company considerable scope for further development and acquisition plans.

UEC
Uranium Energy Corp

Exclusive interview with Amir Adnani, CEO of Uranium Energy


Amir Adnani, CEO

What have you and your company achieved in the past 12 months?

This past year has been quite active for UEC where we worked toward, and achieved, a number of key objectives. And, 2019 is lining up to be one of the most eventful years in UEC’s 14-year history. Much of our activities continue to focus on growing our resource base, de-risking and advancing our projects toward production in anticipation of the uranium market recovering to healthy levels.
Recently, we completed the final major permitting stage for our Burke Hollow Project through the receipt of the Radioactive Materials License from the Texas Commission on Environmental Quality. This was the culmination of a six-year permitting process, clearing the path for development drilling of the initial production wellfield in 2019. The Company has engaged drilling and heavy equipment contractors who commenced activities at the beginning of March. The drilling plan includes approximately 20 holes to delineate several lightly-drilled areas for optimum monitor well ring design and installation of 120 monitor wells upon completion of the delineation holes. In 2013, UEC discovered uranium ore trends at the Burke Hollow Project, one of the only new discoveries in the U.S. over the past decade. Resources at the project have increased with every drilling campaign, resulting in the identification of a major uranium orebody which extends over 5 miles along its trend length. To date, a 2.4-mile long mineralized trend has been defined, which will constitute the initial Production Area at Burke Hollow. The Burke Hollow Project will be developed as part of the Company’s hub-and-spoke strategy, designed for low-cost in-situ recovery (“ISR”) of uranium with final processing to occur at our nearby and fully permitted Hobson Plant.
In 2018, UEC completed the consolidation of the Reno Creek and North Reno Creek deposits by updating the mineral resources into a combined NI 43-101 Resource Report. The Report estimates a Measured and Indicated (“M&I”) mineral resource of 26 million pounds of uranium (“U_3O_8”) at a weighted average grade of 0.041% U_3O_8 contained within 32 million tons, and an Inferred mineral resource of 1.49 million pounds U_3O_8 at a weighted average grade of 0.039% U_3O_8 contained within 1.92 million tons. The Company completed the acquisition of the North Reno Creek project in May 2018, and since that time has been focused on updating resources, consolidating permits, merging databases and locating all Project related information into a newly opened office in Glenrock, Wyoming, near the Project.
UEC has also initiated an independent Preliminary Feasibility Study (“PFS”) for the Reno Creek ISR project in order to expedite upcoming construction in advancing the project toward production. The study will be accomplished in accordance with National Instrument 43-101 (“NI 43-101”) and its related guidelines and will be based on the recently updated NI 43-101 Resource Report announced in our January 2019 press release. UEC’s Reno Creek now represents the largest permitted, pre-construction ISR project in the U.S.
On the Corporate Development front in 2018, UEC was instrumental in the launch of Uranium Royalty Corp (“URC”) and is the largest shareholder, owning ~34% of this company. URC is the largest investor and a strategic partner of Yellow Cake PLC listed in London. URC is working toward an IPO in 2019 and is seeking to emulate, with uranium, the very successful royalty and streaming business model that has emerged in the base and precious metals sectors.

The fully licensed Hobson production facility has a processing capacity of two million pounds of U_3O_8 per year. (Source Uranium Energy)

In terms of strengthening our balance sheet, UEC completed a successful $20 million financing in October and restructured its corporate debt to push out principal repayments to 2022. As such, the Company's cash balances are healthy and sufficient to carry out the aforementioned development activities.

What are the most important catalysts for the next 6 to 12 months?

The fundamental improvements in the global uranium market appear likely to continue, following last year's increase in the spot price to $29/lb. Additionally, the U.S. Department of Commerce (DOC) has launched a Section 232 investigation into America's over-dependence on foreign uranium as a national security matter. A final decision to enact U.S. quotas or other possible remedies is expected by mid-2019. This could be significant for the Company by accelerating demand for U.S. mined uranium. The potential for quotas would require a meaningful portion of U.S. demand to be supplied by domestic production, which could yield a premium for U.S. mined uranium. UEC is well positioned to fill the need with a U.S. portfolio of fully permitted In-Situ-Recovery (ISR) projects. The total U.S. project pipeline contains over 49 million pounds of NI-43101 Measured and Indicated resources and over 43 million pounds of Inferred resources.

The DOC action was initiated as a result of the extreme U.S. dependency on imported uranium, with 2019 projected to show U.S. production at less than 1% of the nation's reactor requirements. The investigation is expected to result in a decision from the U.S. Government by mid-2019. While the outcome is uncertain, we remain optimistic. The extreme level of imports clearly put U.S. energy and national security at risk with over 40% of our nation's requirements coming from Former Soviet Union countries, including Russia, Kazakhstan and Uzbekistan. Nuclear energy provides 20% of U.S. electricity supplies, and our long-term defense programs (naval reactors, tritium production and micro-reactors) require a secure source of U.S. origin uranium.

UEC remains actively engaged in industry discussions regarding the investigation and we will continue our efforts on Capitol Hill to revitalize the industry. We meet regularly with bipartisan members of Congress, Committees, the White House and various government agencies to discuss matters relating to the U.S. uranium industry. Several members of our senior management team are involved with this effort, including our Chairman, Spencer Abraham, former Secretary of Energy in the George W. Bush Administration.

How do you see the current situation on the market for uranium?

Fundamentals in the uranium market are continuing to improve as we have reported over the last two years. One of the primary drivers has been the market price remaining below most producer's production costs. While prices have strengthened, this disequilibrium persists and is likely to continue being a strong driver supporting much higher prices. A direct result of this factor has been significant production cuts, resulting in more than 30 million pounds of annual production removed from the market since 2016.

In 2018, spot uranium prices rose about 20% year over year and more than 40% from last April. Record transaction volume of more than 88 million pounds was reported in the spot market, almost 60% percent greater than the previous record established in 2011. Producer buying has tripled since 2017 and the investment community has re-entered the market, taking large blocks of material out of circulation, enhancing the already bullish supply-demand picture.

Global nuclear energy generation in 2018 returned to pre-Fukushima levels. Meanwhile, long-term contracting by utilities remained suppressed, reaching a six-year low in 2018. This adds to the tightening demand coil that should be released as older term contracts roll out of supplier and utility portfolios and inventory is drawn down. All these factors coupled with growing global demand bodes well for continued rebalancing and price appreciation in the uranium markets.

It is in the context of this positive outlook, that we are prioritizing the advancement of our fully permitted Reno Creek ISR Project in Wyoming and development drilling at our Burke Hollow ISR Project in South Texas. Currently, UEC has a potential U.S. production profile of 4 million pounds per year from our environmentally friendly ISR projects. Reno Creek is permitted at 2 million pounds per year and our Hobson processing facility, the hub of our South Texas operations, has a capacity of 2 million pounds per year.

Uranium Energy Corp.

ISIN: US9168961038
WKN: A0JDRR
FRA: U6Z
NYSE: UEC

Outstanding shares: 177.5 million
Options: 14.7 million
Warrants: 33.1 million
Fully diluted: 225.3 million

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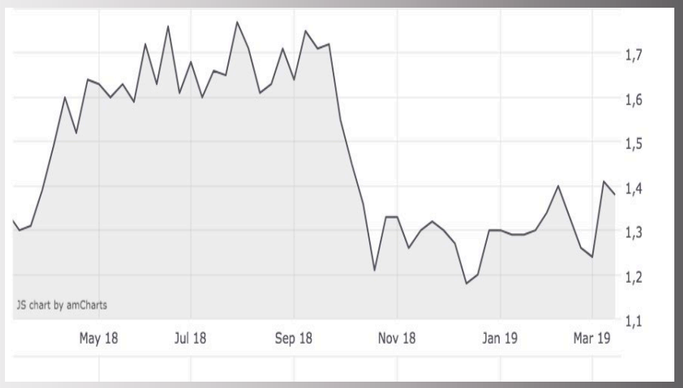

Overview of **SRC's communication programs**

Social Media Network

Access to over **60.000 followers and likers**! •

Traditional IR-Services

That's where we are present!

- Professional **roadshows in Europe & Switzerland**
- **Write-ups** through our editors & third party authors
- Translation and dissemination via IRW-Press: **news releases, presentations, websites, factsheets**
- **Ringler Research GmbH** (GER) – fully licensed research, dissemination via **Bloomberg, Reuters, Factset, 250 institutions**

World wide Resource TV-Channels

Commodity-TV & Rohstoff-TV – more than **2 Mio views** p.a. •

YouTube Channel – more than **1.1 Mio views** p.a. •

Partnership with Dukascopy-TV – worldwide **+20 Mio views** p.a. •

THE EXCLUSIVE MEDIA & COMMODITY CORPORATION

Swiss Resource Capital AG & Commodity-TV Fairs and Events

- **Deutsche Rohstoffnacht** – INVEST Stuttgart
- **Edelmetallmesse,** Munich
- **Precious Metals Summit,** Zurich ... and more

Interference & Clipping Marketing

- Access to more than 100 Mio people
- Editorial dissemination via +400 online portals

Editorial and Live Marketing in German speaking Europe:

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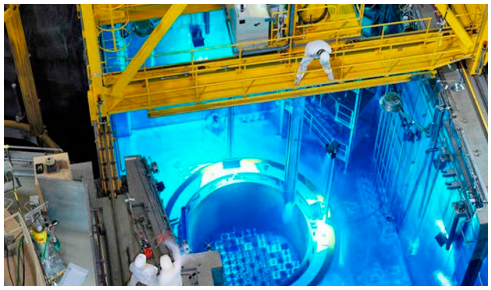

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