

# **Uranium Report 2024**

Everything you need to know about uranium!



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### **Preface**

#### Dear Readers.

This issue of the Uranium Report 2024 marks the eighth year of this special report series, for which we have been criticized and ridiculed for many years. Early on, we wondered how we would charge all the electric cars and where the base load electricity would come from if we had more and more uncertain renewable electricity sources. Without CO<sub>a</sub>, only uranium and nuclear power can keep up. Worldwide, 63 nuclear power plants are currently being built, 92 are in the planning stage and 343 are in the long-term planning phase. Then there are the SMRs, the so-called Small Modular Reactors. Oracle has just decided to build a data center that requires 1 gigawatt of electricity. It will be powered by three SMRs! But the SMRs are not even included in all the demand calculations. Not only has the uranium price broken out to the upside, but it has also taken our first major target of US\$100 per pound. We see uranium prices rising well above US\$ 150 per pound in 2025 and can also imagine US\$ 200 per pound by 2028. Above all, the uranium ETF Sprott Physical Uranium Trust, but also other market participants and even companies such as UEC and URC ensured that the uranium spot market was literally swept clean. Then there are new vehicles such as the Uranium Managed Account of ZURI INVEST in Zurich. They are all buying up real physical stocks, thereby further tightening the market.

The USA is once again on the path to independence in uranium, as it was with oil a good 20 years ago. The US government is massively promoting its own industry and is already building up its own enrichment capacities. The mines are benefiting because they want to have uranium mining in the USA again. Almost all countries that already operate nuclear power are building new nuclear power plants. This is because they have realized that electric cars must actually be charged at affordable and predictable electricity prices. Otherwise, they will no longer be bought, no matter how much they are subsidized.

Small Modular Reactors (SMRs), as mentioned above, have a great future. This would allow more decentralized electricity to be produced and would not require so

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many new power grids to be built across the country. The USA already operates over 5,300 data centers. There will be many more and they are getting bigger and bigger. SMRs are the first choice as a power source.

Investors such as Buffett and Gates have long since recognized that solar and wind are not capable of providing base load as long as no adequately large storage facilities for electricity from renewable energy sources are created and have made the corresponding funds available for the research and construction of SMRs.

This report is intended to provide interested investors with an overview of the uranium industry and the real facts.

Of course, we also present some interesting companies in the sector with facts and figures. This should be seen as a suggestion and not as a recommendation to buy as there are very few listed companies left. Raw materials are the basis of our entire economic life. 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.

Swiss Resource Capital AG has set itself the task of providing interested people with comprehensive information about metals, commodities and various listed mining companies. On our website www. resource-capital.ch you will find more than 35 companies from various commodity sectors as well as lots of information and articles on the subject of commodities.



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 Rödel is Manager Newsletter, Threads & Special Reports at SRC AG. He has been active in the commodities sector for more than 17 years and accompanied several chief-editor positions, e.g. at Rohstoff-Spiegel, Rohstoff-Woche. Rohstoffraketen. the publications Wahrer Wohlstand and First Mover. He owns an enormous commodity expertise and a wide-spread network within the whole resource sector.

## Microsoft gives the go-ahead: A coming boom in nuclear power is unstoppable and uranium will benefit from it!

#### Al consumes vast amounts of energy, data centers need a stable, non-fluctuating power supply

Microsoft has done it: the company recently became the first major tech group to secure an exclusive twenty-year purchase agreement with a nuclear power plant. From 2028, the operator Constellation Energy will supply Microsoft with CO<sub>a</sub>-free energy from Unit 1 of its Three Mile Island nuclear power plant (now Crane Clean Energy Center), which was shut down in 2019, for at least 20 years. Microsoft is forced to purchase baseload-free electricity (see box for explanation) in large quantities as the company is currently building large data centers with high energy requirements. The ongoing boom in AI technology in particular requires unimaginable amounts of energy. Researchers have determined that a guery on ChatGPT requires around ten times as much energy as a simple Google search. As part of a study, the experts at Best Brokers calculated that ChatGPT had around 200 million users per week in August 2024. Assuming that each user asked the chatbot 15 questions during this period and that a query requires around 2.9 watt hours (Wh) of energy (by comparison: a simple Google search requires around 0.3 Wh), this results in around 428

### **Base load capability – briefly explained**

Base load capability is the ability of a power plant to provide a continuous, reliable supply of electrical energy. This includes nuclear power plants, coal-fired power plants, gas-fired power plants, oil-fired power plants and steam power plants fired with substitute fuels. Combined heat and power plants, biomass and biogas power plants can also be base load-capable under certain conditions, although fossil or renewable raw materials must also be burned. The only electricity generation from renewable energy that is base load-capable is hydro-electric power plants, although this often requires major intervention in nature.

Photovoltaic and wind power plants are not base load-capable due to their often highly fluctuating generation and thus feedin, at least not until adequate storage media are available. million gueries per day or around 1.2 million kWh of energy consumption. That's around 450 million kWh per year, which could be used to charge more than 6 million fully electric vehicles on average. However, not only queries, but also the training of AI requires vast amounts of energy. A look at the changeover from GPT-3 to GPT-4 shows this: preparing the much more complex version for operation consumed more than 62 million kWh, more than 48 times the amount of electricity required by the previous model. It can be assumed that this trend will continue as AI development progresses. And Chat-GPT is just one of many AI developments that are running in parallel. The US investment bank Goldman Sachs estimates that data centers will consume around eight percent of total US electricity demand by 2030, up from three percent currently. Amazon is already drawing electricity from a nuclear power plant in Pennsylvania and Oracle is working on a data center that will be powered by three small nuclear reactors (SMRs, see page 16 for an explanation).

The operation of data centers, as well as most other power guzzlers in daily life, requires stable, non-fluctuating or only slightly fluctuating energy, which is why solar and wind power plants are not very suitable for this. Nuclear power is stable and therefore base-load capable, which is why more and more tech companies will rely on baseload capable electricity from nuclear power plants.

#### Politicians see need for action (almost) everywhere to secure future energy generation from nuclear power – uranium is essential for this

Politicians have long since recognized the signs of the times and are pushing for the expansion of base load-capable energy generation using nuclear power almost worldwide. In the past 12 months, more than 40 nations have committed to building new nuclear power plants, extending operating times and tripling nuclear power capacities by 2050. However, large quantities of base-load-capable and  $CO_2$ -free energy can only be generated using nuclear power with uranium as the "fuel".

## Supply-demand gap continues to widen

Many (emerging) nuclear power nations such as China, India, Japan, the UK, France and the USA are working on restarting, extending the service life or building new nuclear reactors, and many other nations have returned to nuclear energy or want to have their first reactor on their own soil. In the future, a large number of smaller reactors – so-called "Small Modular Reactors", or SMRs for short, which can be manufactured modularly in factories and installed at almost any desired location – will play a major role and ensure an unprecedented increase in demand.

Uranium supply, on the other hand, has been lagging behind demand for years and is slow to expand significantly, as there are hardly any established mines and the commissioning of new mines can take many years. Many mines were closed at times be rest need a cases f All in a were st almost ket has produc Camec expect "sold o time, th probler ductior massiv produc Cumula shortfa ium oc 2024, pounds even c for 195 tant un cellent ors to Some ities ca

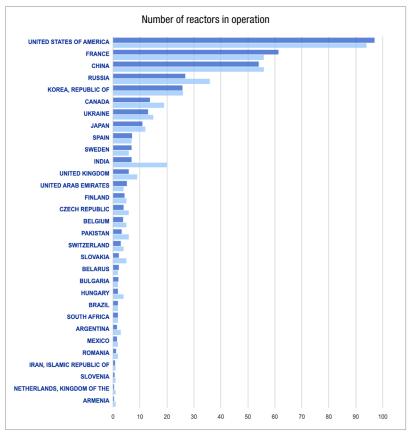


at times of low uranium prices and cannot be restarted within days. New mines even need a lead time of over 10 years in some cases for approval and construction.

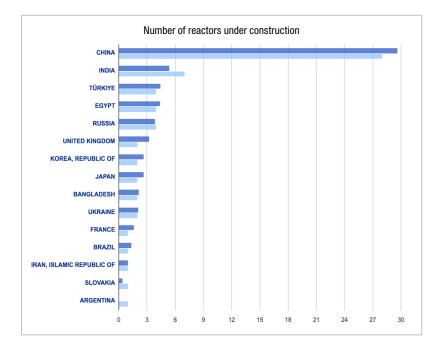
All in all, the utilities' warehouses, which were still well stocked a few years ago, are almost empty and the uranium spot market has dried up. The two largest uranium producers in the world, Kazatomprom and Cameco, have reported that their entire expected production has already been "sold out" by the end of 2025. At the same time, these majors in particular are having problems ramping up their uranium production as desired and have had to make massive downward adjustments to their production figures.

Cumulatively, there will be an estimated shortfall of 500 million pounds of triuranium octoxide ( $U_3O_8$ ) by 2030 alone. For 2024, a supply of around 155 million pounds of  $U_3O_8$  is expected, which will not even come close to meeting the demand for 195 million pounds of  $U_3O_8$ . This blatant undersupply of uranium opens up excellent opportunities for interested investors to participate in the uranium market. Some interesting investment opportunities can be found in this report.

> Uranium price development over the last 5 years (own presentation)



Overview of the currently running reactors (light blue) and the net electrical output (blue). Source: www.iaea.org/PRIS



#### The number of civilian nuclear reactors is rising again

The global reactor fleet for civilian use (reactors for military use, such as for powering nuclear submarines, are not included in this uranium report) continues to grow both in terms of the number of reactors and net electrical output.

Since the beginning of 2023, 9 new nuclear power reactors have been connected to the grid worldwide, including 2 in Europe (Belarus + Slovakia), 2 in China and 2 in the USA (Vogtle-3 and Vogtle-4). In addition, two Japanese reactors, Takahama-1 and Takahama-2, which had been offline for a long time, were reconnected to the grid. At the same time, construction began on six new reactors, including four in China and two in Egypt. At the end of September 2024, 32 nations were operating 415 reactors with a total net electrical output of around 373.7 gigawatts. 25 others were undergoing maintenance at that time - 21 of them in Japan alone - and could be reconnected to the grid in the future.

Emerging countries such as China, India, Turkey and several Arab nations are leading the way in terms of new construction, as they require more and more energy and have been focusing on massively expanding their nuclear power capacities for some time now. There are currently 62 additional nuclear reactors under construction with a total net electrical output of around 64.9 gigawatts - 28 of them in China alone, 7 in India and 4 each in Turkey, Russia and Egypt. Planning has already been completed for well over 100 more and more than 320 more are in the pipeline worldwide.

Overview of the reactors currently under construction (light blue) and the corresponding net electrical output (blue) per country Source: www.iaea.org/PRIS



### **Uranium: The most important facts & figures**

#### Economical nuclear fission chain reactions are only possible with uranium

Uranium is named after the planet Uranus and is a chemical element with the element symbol U and atomic number 92. Uranium is a metal whose isotopes are all radioactive. Uranium occurring naturally in minerals consists of around 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 naturally in solid form, but always in oxygen-containing minerals. There are 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 sedimentarv types. The highest uranium contents are achieved in unconformity-bound deposits with average uranium contents of 0.3 to 20 %. The highest grades are over 70% U<sub>2</sub>O<sub>2</sub>! According to the International Atomic Energy Agency (IAEA), the largest uranium ore reserves are located in the USA, Niger, Australia, Kazakhstan, Namibia, South Africa, Canada, Brazil, Russia, Ukraine and Uzbekistan.

### **Uranium mining**

other factors.

### **Conventional mining**

The majority of uranium is extracted by underground mining. The deposits are accessed via shafts, tunnels, ramps or spirals. Problems are often caused by the ingress of mine water and ventilation (technical measures to supply mines with fresh air). The exact mining method is selected according to the characteristics of the deposit. In particular, the shape of the ore

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

body and the distribution of uranium in it are decisive. In deep 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 extracted in open-pit mines. This enables the use of cost-effective large-scale technology. Modern open-pit mines can be a few meters to over 1,000 meters deep and several kilometers in diameter. Open-pit mining often produces large quantities of overburden. As in deep mining, large quantities of water may have to be lifted for open-pit mining, although ventilation is less of a problem.

#### **ISR** mining

In the ISR method, water and small amounts of CO<sub>a</sub> and oxygen are injected into the sandstone layers using so-called injection wells, the uranium is extracted and pumped back to the surface for further processing using so-called recovery wells. The entire process therefore takes place completely underground. The advantages of this process are therefore obvious: there is no need for major earthmoving as in open-pit operation, and there are no spoil heaps or drainage basins for heavy metals and cyanides. Only the wells are visible on the surface; the areas around the wells can continue to be farmed without any restrictions. The ISR process also makes low-grade deposits economically mineable and the capital costs for mine development are greatly reduced. Furthermore, the entire process can 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.



## **Demand 2024:** Around 195 million pounds U<sub>2</sub>O<sub>2</sub>

#### USA clearly backs nuclear power again

With 94 reactors, the USA has by far the largest active nuclear power plant fleet in the world. In 2023 and 2024, two new reactors. Vogtle-3 and Vogtle-4, were even connected to the grid for the first time in a long time. Strengthening and expanding its civilian nuclear power capacities is urgently needed for the USA, as the United States is still the country with the highest per capita energy consumption in the world. The USA therefore has no choice but to increase the number of its nuclear reactors in the coming years in order to guarantee a certain proportion of CO<sub>a</sub>-free base load. Accordingly, the expansion of the nuclear power plant fleet is also part of the "Green New Deal" initiated by President Biden, which is intended to lead the country towards CO. neutrality. Alongside the expansion of wind and solar energy, nuclear power is a top priority.

In recent years, more than 60 US nuclear reactors have applied to have their operating lives extended to at least 60 years. In addition, there are around 40 applications for the construction of new nuclear power plants. Around 20 reactors are currently in the concrete planning phase.

#### China aims to increase its nuclear power capacity sevenfold

China has been setting the pace in the construction of nuclear power plants for years. The Middle Kingdom operates 56 reactors with a total net electrical output of 54.15 gigawatts and has so far mainly used coal to generate electricity. Of these, 19 new reactors alone have been put into operation since the beginning of 2018.

The Chinese government is planning to build more than 80 new nuclear reactors over the next 15 years and over 250 new nuclear reactors by 2050. The aim is to increase the current net output from nuclear power more than sevenfold to up to 400 gigawatts! Initially, 110 reactors are to be connected to the grid by 2030, which means that the USA will have taken over as the current leader. Since April, China has caught up with France in terms of the number of reactors in operation (56 reactors each). A total of 28 nuclear reactors are currently under construction, 5 of which broke ground in the current year 2024 alone.

enerav.

### Russia wants to further strengthen nuclear power

Russia has also started a massive expansion of its nuclear power plants. The country currently operates 36 nuclear reactors with around 26.8 gigawatts. 4 plants are currently under construction. In addition, Russia is planning to build over 40 more nuclear power plants, which will increase the share of nuclear energy in the Russian energy mix from the current 15% to over 25%.

### Japan brings former reactors back online and also builds new ones

#### India sees high energy demand and speeds up reactor construction

India, now the most populous country in the world, is planning to expand its nuclear energy capacity by at least 70 gigawatts in view of its ever-increasing hunger for

A total of 20 mainly smaller Indian nuclear reactors (6.92 gigawatts) are currently in operation. In future, however, the country will increasingly rely on large reactors with more than 1,000 megawatts.

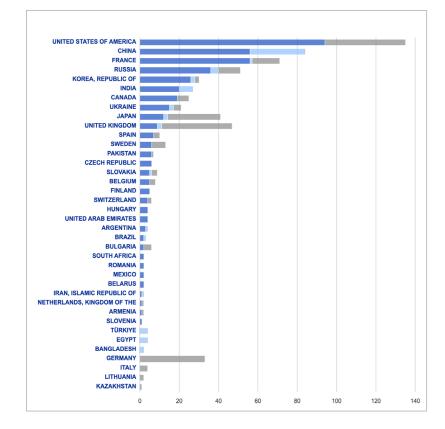
There are currently 7 nuclear reactors under construction in India, with a further 40 to follow by 2050.

Once the world's second-largest producer of nuclear power, Japan is once again operating 12 of its more than 50 reactors 13 years after Fukushima. These have undergone a strict safety protocol and are already running at full capacity again. A fur-

ther 21 reactors are currently in maintenance and inspection mode and could follow in the coming months and years. Japan has also returned to the ever-growing circle of nations that are building new reactors. Accordingly, 2 larger reactors are currently under construction again in the Land of the Rising Sun. Japan is also planning to extend the lifetimes of existing nuclear power plants to over 60 years. The aim is to generate around 25 percent of electricity from nuclear power by 2030. Before Fukushima, the proportion was 30 percent, whereas in 2020 it was only five percent.

#### Several other nations are working to increase global nuclear power capacity

In addition to the 32 nations that already have nuclear reactors on the grid, nuclear power plants are under construction in 15 countries. These include Argentina, Bangladesh, Slovakia, Egypt and Turkey. Other countries such as Jordan and Indonesia



are planning to build several reactors in the coming years. At last year's COP 28 climate conference in Dubai, the heads of state and government of 22 countries also agreed to triple nuclear power generation by 2050. At the nuclear summit held in Brussels in mid-March 2024, 32 countries also committed to accelerating the construction of new civilian nuclear reactors and extending the lifespan of existing plants. France, among others, wants to build up to 14 new nuclear reactors.

#### The biggest surge in demand in the future will come from smaller modular nuclear power plants (SMRs)

At the moment, only large reactors with rated outputs of well over 1,000 megawatts are used to generate electricity. However, a huge future growth market for uranium is currently emerging. These are so-called "Small Modular Reactors", or "SMRs" for short, i.e. small units that can be built modularly in a factory and transported to the subsequent site of use. The individual SMR units usually have an output of less than 400 megawatts and can be operated for 3 to 5 years without fuel reloading - in base load operation without interruption. Since the 1950s, countless aircraft carriers and submarines, which are reliably supplied with power by smaller reactors, have proven that this works. SMRs offer the advantage that they can be installed almost anywhere in the world, making them ideal for decentralized energy supply and particularly interesting for smaller grids, island states or remote locations such as mines and military bases. In the UK, Canada, Belgium and the USA, significant progress has already been made in terms of government financial support for these innovative, carbon-free energy sources.

Overview of the currently operating reactors (blue), the reactors currently shut down (gray) and the reactors under construction (light blue). (www.iaea.org/PRIS)

Microsoft founder Bill Gates, for example, is working on the development of such small reactors and is pushing for the construction of a corresponding plant in Wyoming to replace a coal-fired power plant there. Gates' company TerraPower is to have a sodium-cooled fast reactor with an output of 345 megawatts. Using molten salt storage technology, the plant's output can be increased to 500 MW for more than five and a half hours if required, thus supplying around 400,000 households.

An existing example of such a power plant is the Akademik Lomonosov, which Russia commissioned in 2019 as a floating power plant in northern Siberia to supply several mines and a settlement with a population of 4.000.

China commissioned two SMRs in 2021, each with a thermal capacity of 250 MW. Rolls-Royce has also long since entered the future billion-euro business of SMRs and has developed a pressurized water reactor with an electrical output of 470 MW. The individual parts of the reactor blocks are to be transported by truck and mass-produced. Approval in the UK is due to be granted shortly, and the first reactor will be connected to the grid in 2029.

Belgium has already earmarked 100 million euros in funding for research into the development of smaller modular nuclear reactors in 2021. Poland, Romania, Estonia, the Czech Republic. Sweden and the Netherlands have also released corresponding funding or started research work. The use of SMRs also appears particularly interesting for heavy container freighters, which currently run on expensive diesel oil.

France wants to become a future leading player in the field of SMRs. President Macron has pledged billions in state funding for this. The French start-up Naarea is already developing a molten salt reactor for this purpose, which is due to be completed between 2027 and 2028. Series production of many reactors with a capacity of around 40 megawatts could then follow from 2030.

contracts

The previous cycle of contract conclusions, which lasted from 2005 to 2012 and was dominated by the uranium price peaks of 2007 and 2010, led to plant operators agreeing to contracts with higher price levels and very long terms of around 8 to 10 years. The vast majority of these old contracts have long since expired, although many utilities have not yet found a replacement for these supply volumes and have instead made use of the once completely oversaturated spot market and stocks (especially in Japan). These sources have now all but dried up. At the same time, a large part of the expected reactor demand up to 2030 is not contractually secured.



In the case of a commodity such as uranium, which is only lightly traded, this return to more "normal" long-term contracts is likely to exert enormous pressure on both long-term prices and spot prices. Since 2023, international plant operators have therefore been showing increasing signs of increased purchasing activity and the conclusion of new. long-term contracts.

### Nuclear power operators are once again seeking new long-term supply



Rolls-Royce wants to deliver its "Small Modular Reactors" by truck. (Rolls-Royce)

## **Supply 2024:** Around 155 million pounds $U_3O_8$

#### Uranium production is rising again, but the supply deficit remains

In 2022, around 130 million pounds of U<sub>2</sub>O<sub>2</sub> were extracted from mines worldwide. This was significantly less than in 2016, for example, when more than 160 million pounds of U<sub>2</sub>O<sub>2</sub> were produced. In 2023, global production was around 145 million pounds of U<sub>2</sub>O<sub>2</sub>. For 2024, leading experts expect around 155 million pounds of U<sub>2</sub>O<sub>2</sub> to be mined, around 40 million pounds less than will be demanded.

#### Kazakhstan is still the leader in uranium production, but production will decline in the near future and cannot be adequately replaced

Kazakhstan is the undisputed world leader in uranium production. The Central Asian country has multiplied its uranium production since the turn of the millennium. Uranium production in the former Soviet republic rose from 1,870 tons in 2000 to over 22,808 tons in 2019, the top year to date. As a result, Kazakhstan overtook the previous leader Canada in 2009 and is currently responsible for more than 40% of total global uranium production. In 2020, production fell to 19,477 tons due to production cuts caused by low prices and the effects of the coronavirus pandemic. Kazakhstan produced around 21,800 tons of uranium in 2021 and around 21,200 tons in 2022, Kazatomprom, the world's largest uranium producer, revised its production forecast for 2024 from 25,300 to 21,750 tons, mainly due to a shortage of the reguired sulphuric acid. Kazatomprom needs around 1.7 million tonnes of this per year, but faces strong competition from the agricultural sector, where more and more sulphuric acid is needed for fertilizer production. This has recently led to an increase in the price of sulphuric acid of around 30% within a year. However, Kazatomprom also has the problem that it will no longer be able to expand its current production from 2023 at the latest and even runs the risk of only producing around half of what it will produce in 2030 by 2040 (40 million pounds of U<sub>2</sub>O<sub>2</sub> instead of 80 million pounds).

#### Former producing nations struggled with weak uranium prices

The established uranium-producing nations of Australia, Canada, Russia and Niger were already struggling to expand their production before the coronavirus crisis. All four countries together produced just under 16,430 tons of uranium in 2021. In 2009, it was still 28,000 tons of uranium. Some mines were shut down due to the weak uranium spot price or a lack of further reserves.

#### US uranium production was dead as a doornail, but is slowly getting back on track

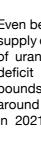
Although the USA remains the largest consumer of uranium in the world, the uranium industry has recently come to a virtual standstill. Since the 1980s, practically nothing has been invested in the development of new deposits and almost 95% of the uranium required has been obtained from disarmament programs. The US nuclear reactors consume around 21,000 tons of uranium annually. An increase in capacity would therefore also mean an increase in the amount of uranium required. The World Nuclear Association (WNA) estimates that around 35.000 tons of uranium will be needed annually in the USA alone by 2035. US uranium production reached its highest point to date in 1980, when around 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 to less than 100 tons of U.O. in 2022. As a direct result, much of the infrastructure and licensed production facilities were simply closed or completely dismantled. There are currently only a few mining licenses left in Texas. Arizona and Wyoming. Recently, however, several com-

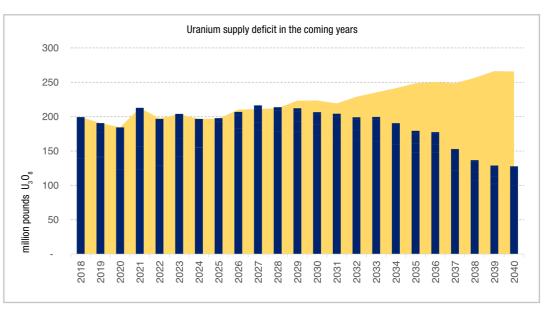
panies have been working on new licenses for their processing plants and have even put several operations back into operation. Overall, the USA has a production capacity of around 30 million pounds of U<sub>2</sub>O<sub>2</sub> per year, but only around half of this has a production license.

#### Production cuts from 2017 led to the stabilization of the uranium price

Although Kazakhstan is one of the nations that can currently mine uranium at the lowest cost, the country was no longer prepared to sell its uranium deposits at rock-bottom prices a few years ago. The state-owned company Kazatomprom announced at the beginning of 2017 that it would cut its own uranium production by at least 20%. In May 2018, Kazatomprom announced further production cuts.

However, Kazatomprom was not the only uranium producer to cut production in light of the weak uranium price. Uranium major Cameco also announced corresponding production cuts and closed its McArthur River mine and the facilities at Key Lake in January 2018, initially for an indefinite period. The Rabbit Lake mine was also closed, both of which are among the ten largest uranium mines in the world. McArthur River





was the mine with the second-highest uranium production and the highest grades worldwide. With the temporary closure, 10% of total global production was taken off the market in one fell swoop.

From 2017 to 2022, Kazatomprom ultimately reduced its uranium production by around 15% and Canada by around 45% on average, with around 50% of production coming to a standstill during the coronavirus pandemic. In addition, there were (temporary) closures of major uranium mines such as Moab Khotseng in South Africa, Husab and Rössing in Namibia, Ranger in Australia and Cominak in Niger, to name just the most important. The spot market, whose supply is mainly made up of uranium mined as a by-product in other mines, also recorded a decline in supply due to various mine closures.

#### Supply-demand gap continues to widen

Even before the coronavirus pandemic, the supply deficit was around 40 million pounds of uranium per year. In 2020, the supply deficit amounted to around 57 million pounds of U<sub>2</sub>O<sub>2</sub>, which corresponded to around a quarter of global annual demand. In 2021, the International Atomic Energy

> Uranium demand (yellow) will be significantly higher than uranium supply (blue) in the coming years. (own presentation)

Agency (IAEA) recorded a supply deficit of 50 million pounds of  $U_3O_8$ , 40 million pounds of  $U_3O_8$  in 2022 and around 45 million pounds in 2023. In the current year 2024, consumption at the current level of 415 nuclear reactors worldwide will be around 195 million pounds of  $U_3O_8$ , of which only around 155 million pounds are expected to be covered by global uranium production in the current year.

In the last five years, global production has therefore fallen short of global uranium consumption by around 230 million pounds cumulatively. An additional gap of more than 400 million pounds is expected by 2030.

# Deposits are stable – There is an acceptable range at higher uranium prices

At a market price of US\$ 80 per pound of uranium, experts estimate that around 1.28 million tons of uranium can be mined economically. Range with today's consumption: 18 years.

If the uranium price were US\$ 130 per pound, around 3.79 million tons of uranium could be mined economically. The known reserves would then last for around 54 years at current consumption levels.

### Summary: The existing supply deficit will be even higher in the future, as demand will increase faster than supply can be expanded through mining

## A future supply deficit is almost inevitable.

The IAEA estimates that the global demand for uranium will increase to up to 260 million pounds of U<sub>2</sub>O<sub>2</sub> per year in 2030 due to the construction of new nuclear power plants. In the past 5 years, there has already been a de facto supply shortfall of between 40 and 60 million pounds per year. In one of its most recent Nuclear Fuel Reports, the World Nuclear Association assumed an annual increase in demand of 3.1% until 2040. At the current level, this results in a cumulative supply gap of around 400 million pounds of U<sub>2</sub>O<sub>2</sub> by 2030 and around 1.14 billion pounds of U<sub>2</sub>O<sub>2</sub> by 2040. The main reason for this is that hardly any new mines with significant production will come on stream before 2030 and older mines are also running out of reserves. The approval of a new mine takes around 8 to 10 years on average, with the construction of the mine and corresponding facilities taking a further 2 to 3 years.

# High demand leads to less enriched material from the same initial quantity

Another challenge is a simple technical issue: Enrichment. At times of lower demand, the enrichment plants can run their centrifuges for longer and thus extract more enriched uranium from the supplied source material (underfeeding). At times of higher demand and scarce capacity, less time is available for enriching the feedstock. The vield is correspondingly lower (overfeeding). If the amount of enriched uranium is to be maintained, more of the starting material is required as input for the enrichment process. It can therefore be assumed that around 20 million pounds more uranium are currently required than during the underfeeding period due to the enrichment problem alone.

#### Uranium price must continue to rise in order to sustainably increase production

This makes it clear that the apparently cheapest and only base-load-capable CO<sub>2</sub>-free way of generating electricity can only continue to be used if the market price for uranium as a raw material continues to rise. Demand and supply also regulate the market price for uranium. However, if the market price does not permit economic extraction, it must and will inevitably rise. In the case of uranium, there is also the fact that demand will rise sharply due to the construction of several hundred new nuclear reactors and at the same time new mines cannot come online overnight, so that the market price benefits twice over. And thus, of course, also those investors who have recognized this trend early enough.

The unmet demand is expected to be over one billion pounds of  $U_aO_a$  in the next ten to 15 years. A large part of the expected reactor demand up to 2030 is currently not contractually secured, although some utilities have already concluded new supply contracts with Cameco, Orano and others. In the case of a commodity such as uranium, which is only lightly traded, this return to more "normal" long-term contracts is likely to exert enormous pressure on both long-term prices and spot prices. The fact is that the two largest uranium producers in the world. Cameco and Kazatomprom. are already sold out by the end of 2025 and will have problems maintaining, let alone expanding, their production from 2030 at the latest.



#### A high proportion of demand is currently unmet – large producers report "sold out"

#### The days of spot market purchases and well-stocked warehouses are over: the electric revolution is causing energy demand to skyrocket

Significant long-term contracts concluded between 2005 and 2011 expired at the beginning of the 2020s because utilities had benefited from falling (spot) prices in previous years due to a de facto oversupply on the market until 2017. It was not until 2019 that the market was brought back into balance after significant production cuts. Only a limited number of contracts were concluded by supply companies in 2020 and 2021. primarily due to the COVID-19 pandemic and high price fluctuations. Only since 2023, when both the spot market and inventories quickly dried up, have utilities seen increased activity again. A lack of investment, including mine closures and virtually zero new discoveries of significant deposits, is forecast to result in unmet demand of ~500 million pounds of U<sub>2</sub>O<sub>2</sub> from 2022 to 2030, forcing utilities to return to the market.

At the same time, the energy transition towards more and more electrification of road traffic, the creation of CO<sub>2</sub>-neutral energy and the establishment of more and more Al applications requires more and more baseload capable energy, which can only be provided to a small extent by wind and sun.

#### Special opportunity USA: The United States wants to reduce its dependence and is relying on uranium from its own mines

The USA is currently trying to become less dependent on the immensely high uranium imports, primarily from the successor states of the former Soviet Union. To this end, the US Congress has approved a budget that will provide US\$ 150 million annually over 10 years to create a strategic uranium reserve. This reserve is to come entirely from uranium from US mines. The Biden government even wants to increase this part to up

to US\$ 4.3 billion over the next 10 years. In addition, US\$ 500 million has been earmarked for the rapid development of uranium mines in the USA.

#### Uranium investors buy spot market empty and thus cause price increase

In addition, there are increasingly strong market players who have secured U<sub>2</sub>O<sub>2</sub> on the spot market at a low price, which mostly comes from mines where uranium is a by-product. In addition to Cameco, which has been acting as a uranium buyer itself for some time in order to service long-term, higher-priced supply contracts with corresponding uranium quantities at the spot price, the Sprott Physical Uranium Trust (SPUT), ZurInvest and Yellow Cake Plc. have also been able to buy up larger quantities of uranium. All these players have taken well over 100 million pounds of U<sub>2</sub>O<sub>2</sub> from the spot market since the beginning of 2021. Furthermore, uranium companies such as Uranium Energy, Uranium Royalty, Denison Mines and Boss Energy also bought physical uranium in order to be able to act flexibly and fulfill supply contracts in the event of an imminent start of production.

#### The best uranium stocks promise multiplier potential!

We have taken the current situation of a uranium (spot) price that is still too low plus the continuing massive supply deficit as an opportunity to provide you with a compact summary of promising uranium stocks. We are concentrating primarily on development companies with extremely promising proiects, as these offer a high takeover opportunity in addition to the actual appreciation due to a higher uranium (spot) price. The expert interviews, which provide additional information and investment ideas. should also be noted.

## Interview with Scott Melbye – **CEO of Uranium Royalty, Executive Vice President of** Uranium Energy and Ex-Advisor to the CEO of **Kazatomprom**

Mr. Melbye, nuclear power is experiencing a true rebirth. Many nations are planning to build new reactors to generate environmentally friendly, CO<sub>2</sub>-free energy. To what extent is nuclear energy CO<sub>2</sub>-free and how can nuclear energy contribute to improving the world's climate and energy supply?

As the global economy struggles with the triple challenge of securing energy supplies that are clean, economic and reliable, Nuclear Energy has a key role to play in addressing all of these, and as such, we have seen an unprecedented embrace of nuclear power for its abundant, affordable and carbon-free attributes. For the first time in the modern history of nuclear energy, we are seeing broad support for nuclear power from the political Right and Left, the investment community, and both environmentalists and industrialists. Whether one values the clean energy benefits of this leading green-energy technology, or prioritizes the reliability and affordability of 24/7, baseload power, nuclear energy delivers on all accounts. It is as carbon-free and safe as wind and solar yet runs ~95% of the time versus ~30% for intermittent renewables. Moreover, its energy-dense uranium fuel serves as a price hedge against volatile fuel costs compared to fossil-fired generation. It is not surprising then that from 2014 the world has seen 69 large, modern nuclear power plants connected to the global electric grid and 67 more now under construction. The September 2023 edition of the World Nuclear Association (WNA) Uranium Supply and Demand Report projected a 75% increase in nuclear generation by 2040 (138% in the high case which is incidentally where the industry appears to be trending towards). If this expected doubling of nuclear energy was not enough, the COP 28 Climate Change Conference in Dubai witnessed world leaders from 25 countries pledge to triple nuclear energy generation by 2050. Over 150 nuclear industry companies present in Dubai responded with their own pledge to support this goal in their investments and commercial activities. Subsequent nuclear industry conferences in 2024 have increasingly focused on executing the necessary private and public sector steps to make this a reality. One such example was the declaration of 14 major global banks (including Goldman Sachs, Citibank, BNP Paribas, Barclays, Morgan Stanley and Rothchild & Co) at NYC's Climate Week events to support this expansion of nuclear power with the massive financial lift required to achieve this ambitious goal.

Much of the increases in global electricity demand in the past couple decades has come from the industrialization of the emerging markets expanding their economies to achieve a standard of living long enjoyed by the developed world. More recently however, we are again seeing surging energy demand from the world's largest and most advanced economies due to the increased electrification of homes and businesses in a modern and hightech society (including greening of industrial operations away from fossil fuels, electric vehicles and cloud computing data centers). No where has this become more evident than in the tech industry where all the world's exponentially exploding volume of data is stored in massive, temperature-controlled server farm facilities. Moreover, a typical AI data search can consume 10X the computing power of a Google inquiry. Companies like Microsoft, Amazon, Google and Or-

#### Much has been reported lately about the increased demand for electricity created by the proliferation of data centers, particularly with recent advances in Artificial Intelligence (AI) computing. How has nuclear power become such a big part of this conversation?



Scott Melbve is a 37-vear 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<sub>2</sub>O<sub>2</sub>. 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, was 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.



Three Mile Island Nuclear Power Plant (Constellation Energy CC BY-SA 4.0)

> acle realize that the AI revolution, reshaping their companies into multi-trillion-dollar market caps, can only come to a crashing halt with inadequate and unreliable power supplies. It is in this context that the world's largest and fastest growing tech companies have turned to nuclear power for abundant, resilient and carbon free electricity supplies. The latter being important to the achievement of their net zero climate commitments. For example, Microsoft just announced a deal struck with Constellation Energy to reopen the shuttered Three Mile Island nuclear plant to secure a dedicated twenty-year supply of reliable carbon free energy to power their data center needs in Pennsylvania. Similarly. Amazon has contracted with Talon Energy's Susquehanna Nuclear Power Plant, also in Pennsylvania, to secure "behind the meter" clean energy supply for their computing needs at an adjacent facility. Google CEO, Sundar Pichai, has expressed their desire to utilize nuclear to power their energy-hungry data centers as have Oracle and OpenAl's Sam Altman. The latter pointing to banks of new nuclear reactors, like the Oklo small modular technology he supports, powering 5 GWe server farms. Utility companies are rushing to meet the challenges of a suddenly growing electricity markets after years of stagnation. That is certainly the

case for Dominion Generation in the U.S. Commonwealth of Virginia where data centers springing up outside the nation's capital are expected to consume as much as 26% of the region's electricity. Nationwide it is expected that this data center growth will soon consume as much as 10% of America's energy supplies.

#### To what extent will these massive energy demands shape the reactor landscape over the next two decades and will we see small modular reactors experience growing acceptance, deployment and market share?

Large traditional, nuclear reactors continue to fuel these robust growth rates in nuclear generation. This comes from both new builds in countries that seek to add substantial, sources of baseload electric power to their grids, and from the uprating and extension of existing units in the established nuclear markets. In addition, there are currently plans for an additional 87 mostly large reactors and another 344 proposed. Furthermore, we are now seeing very exciting developments in the deployment of small modular, or advanced, reactors (SMR's). These are not the 1500-megawatt massive power stations that we have become accustomed to, but

rather smaller 50-300-megawatt units that can be constructed in a factory with lower up-front capital, shipped on site and built in a scalable, modular manner. Once these innovative plants can get past the first-build hurdles in the latter half of this decade, they promise to be safe, affordable, clean and flexible energy sources. They can adapt well to large grids already burdened with substantial intermittent renewable sources and present viable alternatives to retiring coal fired power plants. They can also serve as a main source of power to remote communities, or for uses in industrial or mining applications. Whether it is GE Hitachi in Canada, Westinghouse or Rolls Royce in the United Kingdom, or X-Energy, TerraPower or Nu-Scale in the United States, these SMR's and advanced designs are receiving substantial commercial interest that is being boosted by strong government support in terms of their initial deployment. In the U.S. State of Wyoming, Bill Gates broke ground this summer on his TerraPower, Natrium reactor, constructed on the site of a retiring coal-fired power station (Warren Buffett's Pacific Corp. utility being the buver). Not only can this advanced reactor make a clean energy transition, but it can also connect into existing grid infrastructure, and jobs can be preserved in the impacted fossil fuel sector. On the Texas Gulf Coast, X-Energy has partnered with Dow Chemical to power their massive petrochemical facilities with 24/7, carbon-free nuclear power. Central Europe is proving to be a promising market for this technology as these countries are facing a number of energy challenges. While historically dependent on coal-fired power generation, they are being pushed towards lower carbon alternatives by the European Commission. At the same time, they want to avoid the dangerous reliance on Russian natural gas. Large western reactors and SMR's are proving to be the desired fit under those constraints and challenges. For example, in Poland, the large copper producer, KGHM, has partnered with NuScale to have their scalable SMR's supply carbon-free electricity to

Uranium prices recently broke through the \$100 per pound level, a more than doubling of the price in just over 12 months. Even despite a more recent brief drop below \$80 per pound, this is up significantly from the bear cycle lows of \$17.70 per pound in November 2016. What is behind this bull market move in uranium prices?

Uranium prices have indeed been on a dramatic recovery which can be attributed to a number of basic supply and demand fundamentals, in combination with a mix of global mega-trends and geopolitical developments. This confluence of factors has created a very real supply-squeeze in the period 2025-27 where new supplies are desperately needed while existing mines are fully committed under contract. and new mines (only beginning to be incentivized) will be slow to materialize. To make matters more extreme, we now have the demand bar being raised again with robust growth in nuclear generation.

produce "green copper" in their energy-intensive industry. The Polish Ministry of Climate and Environment has also already given the green light to twin Westinghouse AP-1000 reactors with a capacity of 3750 Mwe, and other reactor projects are in the proposed and planning stage. Analytics firm Wood Mackenzie has concluded that the worldwide pipeline demand for small modular reactors has expanded by two thirds since 2021, amounting to about 22,000 megawatts of additional new nuclear capacity added to the global grid in the coming years.

We have been talking about the rebalancing of supply and demand factors for some time, and recent events have only accelerated that development. Following a period of uranium over-supply brought on by the impacts of Fukushima, global uranium producers began to take steps to rationalize their production plans around the time long term contract hedges were beginning to roll out of supplier portfolios.

Despite falling prices throughout the decade, global production had increased and peaked in 2016. From 2017 onward, however, we finally saw supplier discipline translate into reduced production levels and the shut-in of mines around the world. In fact, over the past 9 years, global production has lagged global uranium consumption by over 460 million pounds. This has had the impact of drawing down global secondary supplies to help bring the market into balance. Some producers, like Cameco, not only shut-in production, but entered the market as buyers to backfill their substantial long term contract commitments.

A couple of major developments also came along to throw gasoline on the fire. The COVID-19 pandemic, for one, impacted roughly 50% of global uranium production at its peak, yet fortunately spared the nuclear power plant, uranium-consumers who operated reliably as essential services throughout this time. As such, uranium demand was unimpacted while major mining operations, like those in Kazakhstan and Cigar Lake in Saskatchewan, Canada, saw their output decreased, even beyond the discretionary mine cutbacks. Additionally, on the production side, the uranium market is experiencing the endof-mine-life of several key operations. This includes the Ranger mine in Australia (which ceased operations in 2021), the Akdala mine in Kazakhstan, and the Cominak mine in Niger. Additionally, the decade of low uranium prices did very little to incentivize the pipeline of new projects or encourage the restart of idled mines. This will dramatically impact the production response in this emerging supply squeeze as mines are not permitted, licensed or developed overnight, and in fact, can take 6-10 years to accomplish (with no guarantee of success). Market observers should also not ignore the impacts of global inflation on the price thresholds of mine restarts and development. There may be a general misperception of the level at which uranium prices will incentivize new mines.

We have also witnessed the vulnerability of the fuel cycle to geopolitical events (beyond Russia/Ukraine). The sub-Saharan African nation of Niger has seen its democratically elected President deposed by a military coup. This major uranium jurisdiction has been supplying a quarter of European needs for many years, particularly into former colonial power, France. French diplomatic relations have been severed and their sizeable military presence expelled. In addition, the U.S. military been forced from its rather substantial base commitment there and replaced by the Russian mercenary, Wagner Group. With border closures affecting inbound supplies and outbound uranium exports, this not only impacts existing uranium mines, but also those currently under development. One mine there continues to be developed under the approval of the Military government, but is still seeking U.S. Development Bank financing, failing which, the operations could, out of financial necessity, fall under the control of Russia or China.

#### Should we be concerned by the recent spot price pullback and is there something in the fundamentals that we are missina?

While it was frustrating earlier in the year to see the uranium equities off their 52week highs in the face of such positive fundamentals, the short answer is no. In fact, despite typical "summer doldrums" of market trading volumes we have seen resilient support of the spot price anytime it attempted to fall below \$80 per pound (and now more recently trading back up). Uranium equities, having also experienced a meteoric rise, also went through a healthy consolidation to form a new base from which the next rally will build upon. Weaker hands have been shaken out and stronger holders coming back in which might explain the uranium sector share price increases in recent weeks. We really can't lose sight of the broader fundamentals which point to a 356-million-pound cumulative supply gap through

In the last 9 years, global production has fallen short of global uranium consumption by over 460 million pounds. As a result, global secondary supplies have been reduced in order to balance the market.

2034 which climbs to 1.27 billion pounds by 2040 (according to UxC Consulting). The long-term uranium investor should view these dips as an excellent opportunity in which to buy their favorite uranium companies "at discount prices".

#### With this sort of production/consumption gap prevailing for so long, have we finally made a dent towards drawing down the over-hang of global inventories?

Yes, most definitely, and more than just a dent. Most market observers agree that the era of excess inventory and secondary supplies has come to a close. These voluntary and involuntary reductions in global mine production allowed the market to fully draw down the over-hang of inventories. The excess uranium supply which built up from the effects of Fukushima and, frankly, overproduction throughout the first half of the decade has effectively been removed from the market. This has been dramatically accelerated through the purchasing activities of non-traditional uranium buyers. Such category of buyers would include producers, like Cameco, backfilling contract commitments from the open market and smaller producers like UEC, Boss and Denison, establishing lowcost inventories at near the bottom of the cycle. There have also been speculative buvers including Uranium Rovalty Corp., Yellow Cake Plc., Sprott Physical Uranium Trust (SPUT), ZurInvest, who are accumulating holdings of physical uranium on behalf of their shareholders seeking price

exposure to uranium. Similarly, we have seen hedge funds make direct purchases of spot uranium in which they hold to realize capital appreciation of the asset. Collectively, these categories of buyers have had a profound impact on the rebalancing of the uranium market, having purchased over 100 million pounds in the past two years. SPUT has been the major player in all this, now holding 64 million pounds of warehoused uranium on behalf of investors, and as a closed-end fund, have no intention, need, or mandate, to sell back into the market. While I am reluctant to describe these developments as "catalysts", preferring to reserve that term for the major underlying supply and demand fundamentals, I would clearly describe these events as the major tipping point in the market re-balancing. The rather thinly traded and inefficient uranium market was already heading from over to under-supply from both traditional supply and demand trends, however, the magnitude of spot buying appears to have accelerated the market recovery forward by a couple vears. The significance being, the market has now transitioned from being inventory-driven, to one reliant on the cost and timing of production from new and restarted mines. Many market observers, both suppliers and consumers see this translating into a classic supply squeeze in the 2025-27-time frame as demand and purchasing have returned to robust levels at the same time inventories have been depleted and new mine production cannot respond quickly enough.

Given Russia's role as a maior global nuclear fuel cycle supplier, and the invasion of Ukraine going on close to almost three years, how has their isolation and sanctioning impacted the uranium market?

If the supply and demand rebalancing, COVID-19 impacts, and non-traditional uranium buying was not enough, the invasion of sovereign Ukraine by Russia is proving to permanently reshape the uranium market in a number of ways going forward. The Rosatom uranium enrichment complex represents 45% of global installed capacity, and closely aligned Kazakhstan is the worlds largest uranium producer. In the United States for example. 20-25% of the enriched uranium comes from Russia and close to 50% of natural uranium supplies are sourced from Russia, Kazakhstan, and Uzbekistan. The American purchases of Russian (Rosatom) fuel amount to roughly US\$1.0 billion in hard currency per year towards Putin's war efforts. Western Europe has similar levels of reliance. We would be correct in pointing out the risk management folly of putting that much over reliance on supply from a geopolitically problematic supply source. However, the reality faced today is not whether to move away from Russian fuel reliance, but how guickly can this be achieved without harm to the nuclear power plant consumers. While the Russian Ban is now in place in the U.S., hardship waivers are available to utilities, and middleman Centrus, which potentially extends the reliance until the end of 2027. Having said that, Putin threatened a retaliatory Russian embargo of strategic commodity exports like titanium, nickel and uranium in response to Western sanctions and their support of Ukraine's military, heightening the probability of a sudden disruption of Western markets. Some companies, like Vattenfall in Sweden, made the ethical and moral decision to stop Russian purchases in the early days of the invasion. Central European utilities face a more daunting task in refueling their Russian designed VVER reactors with western fuel but are committing to do so

by switching to Western manufacturers, like Westinghouse. Most of these countries, are fully committed to the transition given the first-hand perspective of Russia's carnage and the exodus of refugees. From a supply and demand perspective, its prudent to assume a permanent shift away from Russian uranium fuel reliance. While this may have dramatic impact on uranium prices in the near term, it is a signal of a strategic shift towards more geopolitically stable suppliers that are not under the influence of Russia or China. The United States Congress recognized this vulnerability and passed both the Nuclear Fuel Security Act into law in December 2023 as part of the broader National Defense Authorization Act. and later in 2024, unanimously passed the Russian Uranium Ban. These closely linked bills, signed into law by President Biden, serve to revitalize the American nuclear fuel cycle by expanding the Strategic Uranium Reserve, with US\$3.4 billion in funding, to boost U.S. produced uranium, conversion, and enrichment services (both low-enriched and higher assays).

One country at a crossroads of these geopolitical developments, is Kazakhstan, the world's largest uranium producer. While they do not fall under Russian sanctions, the export of their uranium to the West through the Port of St. Petersburg has grown increasingly difficult. Great efforts have been spent trying to develop an alternative logistic route through the Caspian Sea, through Armenia and Azerbaijan to a Turkish Black Sea port. While proven feasible, it brings its own unique complexities and increased costs. It can also be reasonably speculated that a globally sanctioned Russia will exert its influence in the region to retain more of these supplies for their own use. The outbreak of a full-blown war in the Armenian Azerbaijani province of Nagorno-Karabakh, further complicated the transportation of sensitive uranium shipments, although this conflict has at least officially ended. Kazakhstan also shares a geographic border with China, the world's fastest growing From a supply and demand perspective, its prudent to assume a permanent shift away from Russian uranium fuel reliance. While this may have dramatic impact on uranium prices in the near term, it is a signal of a strategic shift towards more geopolitically stable suppliers that are not under the influence of Russia or China.

nuclear market. Both of these countries already have significant uranium production assets in Kazakhstan and that footprint is being aggressively expanded. Russia's Rosatom/Uranium One have acguired the largest new mine in Kazakhstan. Budenovskove, through a controversial sole-source transaction blessed by the Astana sovereign wealth fund, Samruk-Kazyna. Russia now controls over 50% of Kazakh uranium production. These moves bring on even greater strategic significance given Moscow's increasing global isolation. China will not be outdone and are rapidly consolidating the other half of Kazakh uranium production. This is evidenced by increased direct ownership in Kazakh joint ventures, like the substantial Ortalyk mine, huge recently announced export contracts, and the global trading hub established in Alashankou, a rail port of entry into China, which will all ensure more uranium being directed towards Beijing, and much less to the UK, Europe, North America (and Russia). In addition to the foregoing. Kazatomprom has reported supply chain challenges, particularly in the key input of sulphuric acid needed for their In-Situ Recovery mining process. Some very significant misses to produc-

tion guidance, and reduced forecasts, have rattled the uranium market in recent months.

The Russian invasion of Ukraine will impact society and fuel markets in many ways for years to come. Perhaps the most lasting impact on global energy will be the renewed and keen awareness towards energy independence and security. Energy Ministers from around the world are reassessing how their energy is produced and from where it is coming from. No longer will it be acceptable to outsource strategic energy supplies (and other critical minerals, goods and services) to countries that do not have shared values and interests. Multinational cooperation will still exist, but a much greater emphasis will be placed on domestic control of strategic resources. Nuclear energy has a very important role to play in this societal shift. Nowhere has this become more evident than with the failed energy policies of Germany over the past 15

#### How has this Russia/Ukraine conflict impacted nuclear power in global national energy policies?



years. The Merkel approach of "Energiewende" promised abundant clean and affordable electricity though billions of Euros invested in green energy renewables, and a very deliberate and unequivocal phase out of nuclear energy. The result has been quite the opposite. Germany has instead "succeeded" in achieving electricity prices over 100% higher than neighboring nuclear France, while making very little progress in its carbon reduction goals, losing their largest source of carbon-free energy (nuclear) and instead increasing reliance on dirty lignite coal. Another, troubling result of this policy was the overwhelming reliance on Russian natural gas and the ethical conflicts it created early in the Ukraine crisis. Germany's manufacturing and export economy building high quality and world-class technologically advanced products can hardly afford a competitive energy disadvantage in the midst of the broader economic downturn. Still, the nuclear phase-out has prevailed, but conversations are emerging on whether a rethink of this failed policy could be on the horizon, especially with announced restart of closed reactors in the United States, and a new generation of advanced and small modular reactors.

In Europe alone, we are seeing the reversal of phaseouts of nuclear power in countries like Belgium, the Netherlands, and Sweden, and a renewed commitment to nuclear energy like we are seeing in the United Kingdom and France. The Swedish Parliament dramatically changed course in their energy policy, calling for a 10-fold increase in their nuclear generating capacity. On a broader perspective, the European Commission's taxonomy debate conclusions ultimately yielded to the pronuclear member arguments and deemed nuclear energy a green and sustainable energy source for the Community's energy needs (albeit with conditions). Nowhere is this more abundantly clear than in Central Europe where the threat of Russian aggression and energy weaponization is not a new concept. Countries such as Poland. Romania, Czech Republic, Slovenia, and Slovakia are not only placing increased value on their existing fleet (switching fabricated fuel suppliers from Russia's Rosatom to Westinghouse) but are engaging in new build of large western reactor designs and fully embracing the benefits of small modular and advanced reactors. Put simply, the EU (and society at-large) is encouraging their shift away from the current heavy reliance on coal, and Russian das is not an option. Renewables can contribute

up to point but cannot be a baseload 24/7 source of uninterruptable electricity.

#### What does this all mean for uranium investors?

As we have been saving for some time, the market fundamentals have been ripe for a significant and sustained recovery in uranium prices. We are now seeing this come together in a very big way, assisted by the mega-trend towards decarbonization, renewed energy growth, and supply shocks that have been brought on by a global pandemic, and geopolitical situations. We should remember the last bull market in uranium began from a place of verv weak uranium demand. little to no investment in uranium exploration and development, and flat uranium prices below global costs of production. The resumption of new reactor builds in the nuclear renaissance, combined with supply shocks at major production centers (floods and fires in Canada and Australia), resulted in a period of uranium prices trading in the \$70 to \$137 per pound range. I can't help but draw the comparisons to today where even stronger, broad-based support of nuclear energy has emerged

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Early investors in this cycle are now being rewarded for their patience and foresight. and new investors are finding the nuclear energy and uranium story to be an extremely compelling sector in which to focus their capital for growth in the coming years. Given that we have only recently emerged from a period where the name of the game for uranium producers was to simply "leave it in the ground", to one of needed uranium expansion and growth, we are still in the very early stages of this cvcle. Investors will be wise to focus on the companies that have positioned themselves through an extremely challenging time of survival to be ready to seize on these significant opportunities going forward. Indeed, very exciting times for uranium as the promise of clean, reliable, safe and resilient nuclear energy becomes more widely appreciated in a lower-carbon world.

along with supply shocks and uranium speculation in historic proportions.

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



Dr. Christian Schärer is a partner at Incrementum AG, responsible for special mandates. During his studies he started to search for the strategic success factors of successful business models. A topic that still fascinates him today and inspires him in the selection of promising investment opportunities. He studied business administration at the University of Zurich and earned his doctorate while working at the Banking Institute Zurich with an analytical study on the investment strategy of Swiss pension funds in the real estate sector. He has acquired comprehensive financial market knowledge in various functions as investment advisor, broker and portfolio manager. Since the summer of 2004. Schärer has been focusing on various investment themes with a tangible asset character as an entrepreneur. consultant and portfolio manager. He also brings his practice-oriented financial market knowledge to companies as a member of the board of directors. He is married and father of a son. In his free time, he enjoys cooking for friends and family, hiking in the Ticino mountains or reading the biography of a fascinating personality.

Mr. Schärer, at the beginning of the year, the uranium spot price rose to over US\$ 100 per pound. A correction then set in. The price currently stands at around USD 80 per pound. In your opinion, what is the explanation for this setback and what are the consequences for uranium companies?

The price increase to just over USD 100 per pound helped the uranium sector to attract some attention. This is unusual for a sector that is still perceived by the investment community as an absolute niche market. This is despite its undisputed economic importance. Uranium supplies the fuel for nuclear power plants and these cover around 11% of global electricity demand. This is low-CO<sub>o</sub> produced, secure and permanently available (7 x 24) base load, which is made available to the electricity grids at competitive costs and contributes significantly to their stabilization.

This price increase at the turn of the year was dynamic on the uranium spot market. The price doubled in six months, reaching the USD 100 per pound mark. This dynamic is not unusual in a historical context. After bottoming out in 2018, the spot price recovered in several spurts and completed the bottoming-out phase in 2021. The sharp rises were consolidated in each case as part of longer sideways movements.

This appears to be the case again this time. After reaching the USD 100 mark, the uranium spot price has entered a phase of consolidation or correction and is currently trading at around USD 80 per pound. However, the perceived volatility of the price trend is increasing. This is due to the low market liquidity on the uranium spot market. This in turn is a consequence of the supply gap that has existed on the uranium market for some time. The demand for uranium is greater than mine production. So far, this deficit has been covered by the reduction of available stocks and by supply from secondary sources. As a consequence of this supply/demand constellation, however, there will be a significant re-

duction in available inventories over time, leading to reduced liquidity on the uranium spot market. Against this backdrop, we expect the increased volatility of uranium (spot) prices to accompany us over the next few guarters. Investors' nerves will be strained accordingly. The good news, however, is that this volatility plays both ways.

The most recent correction was triggered by the interplay of various influencing factors. For example, the rapid rise in the second half of the previous year aroused some speculative interest and momentum-driven funds were attracted accordingly. These positions were closed out again over the past few weeks under the impression of falling prices. These investors are also often guided in their trading activities by the development of the uranium spot price. This is despite the fact that, from an economic point of view, the contract prices fixed in long-term supply agreements are more relevant. However, these price indications are only available on a monthly basis and usually do not receive adequate attention in day-to-day business. Fortunately, the long-term fixed contact prices reached a new multi-vear high of USD 80 per pound at the end of August, signaling that the market environment remains attractive.

From a fundamental perspective, the low transaction volumes compared to the previous vear also caused some uncertainty. This was largely due to the reluctance of American power plant operators. Their reticence can be explained by the US ban on Russian uranium imports that has been in force since mid-August. Its influence on the market cannot yet be clearly assessed. In particular because it provides for an exemption in justified cases. The US Department of Energy can allow imports in individual cases if the power plant operator is unable to procure the required uranium by other means or if "US national interests" need to be protected. So far, however, it has remained unclear how restrictively this exemption is handled by the Ministry. These unclear framework conditions have weighed on buying interest and, in our opinion, are largely responsible for the low trading volumes. However, we assume that this is only a temporary negative factor. As soon as the uncertainty regarding the handling of the law has been clarified, suppliers are likely to make the necessary purchases to cover their requirements. Postponed is not canceled...Despite these negative factors, we believe that our investment hypothesis remains intact. This is based on the expectation that the existing supply gap on the uranium market will be closed via rising prices. Higher uranium prices provide the incentive to bring production that has been shut down for economic reasons back onto the market and to commission new mining capacity. Higher uranium prices are an essential prerequisite for the market to return to a new equilibrium.

Even at the current price level, a large proportion of the advanced uranium projects are likely to have realistic economic prospects. However, further conditions must be met for successful realization. Mathematicians would note that a uranium price of a good USD 80 per pound is necessary. but not sufficient.

From the perspective of the uranium mine operator or project developer, the prospect of price continuity is also relevant in addition to reaching a certain price level. Due to the complex planning and approval processes, many years pass before a uranium mining project can be successfully realized. A time horizon of 10 years or more is the rule rather than the exception. In addition, a mine should ideally have a comparable time perspective with regard to the production period. Accordingly, it is not the one-off achievement of the USD 100 mark that is relevant, but a realistic prospect of sustained high prices for the coming years. This perspective opens up if the supplier (mine operator) can conclude long-term purchase agreements with the buyers (power plant operators) at sustainably attractive conditions. We can take this opportunity to point out the long-term nature of

In this context, the most recent price trend can be viewed positively. While the spot price is often a good (short-term) sentiment indicator for the situation on the uranium market, the scope and conditions under which long-term supply agreements are concluded signal the sustainability of the observed price movement. In this respect, the development in 2023 has set the signals to green. Last year, the contract volumes of long-term supply agreements reached the replacement rate of 1 for the first time in a good 10 years. This means that a volume was agreed on a contractual basis that roughly corresponded to the year's uranium consumption. The agreed prices have also been fixed much more constructively for suppliers. However, it must be noted that the agreed conditions are not transparent due to confidentiality clauses in the contracts. The contracts cover far more than agreed quantities. prices and delivery dates. Accordingly, they can only be comprehensively assessed on the basis of anecdotal reports from the contracting parties. However, it is clear that the uranium market has changed from a buyer's to a seller's market over the last few quarters. The improved prospects for mine operators should significantly stimulate the recommissioning or realization of new projects. Nevertheless, it cannot be expected that uranium production will be stimulated in the short term by higher prices. Reaching a

this business. Mines and power plants are built with the prospect of a long operating life. This explains the importance of the long-term perspective when making investment decisions, both on the supply and demand side.

promising price level may stimulate investment decisions, but there is no significant price sensitivity with regard to the realization time of these projects. The time reauired from the time of the investment decision cannot be significantly reduced with money. Rather, the time dimension is determined by the scope and complexity of the approval and planning processes.

Which nations are now clearly ahead in the development of uranium projects and where are the bottlenecks?

Kazakhstan is the world's most important uranium producer. Together with its joint venture partners, the state-controlled Kazatomprom accounts for around 42% of global uranium production. Other important producers are Canada (15%), Namibia (11%), Australia (9%) and Uzbekistan (7%). It is important to realize that the major producers are not also major consumers. The largest reactor fleets are operated by the USA (93 reactors), France (56), China (55), Russia (37), Japan (33) and South Korea (26). This results in interesting trade relations and dependencies. Against the backdrop of the Ukraine war and the emerging bloc formation (Russia/China vs. Western industrialized countries), these also appear in a new light. The new hot topic is the security of uranium supplies.

This results in three noteworthy developments: 1. Kazakhstan is under observation. 2. the USA wants to significantly reduce its dependence on imports and stimulate its own uranium production. 3. Africa is becoming a playing field for global players. So far, Kazakhstan has managed the balancing act between East and West surprisingly well. Despite its proximity to Russia, the country has managed to avoid sanctions from the West with some diplomatic skill. However, the geopolitical situation presents the country with major logistical challenges. For example, it is no longer possible to ship uranium to Western customers via the previously most important export route via the port of St. Petersburg. The alternative delivery via the Caspian Sea, Azerbaijan and Georgia is logistically complex and uncharted political territory due to the lack of regulations. Deliveries to what is now the most important customer (China) and Russia are correspondingly easier. These two major powers are also increasing their political influence on the government of the country, Kazatomprom's most important shareholder. It is therefore to be expected that Kazakh uranium production will increasingly head east in the future. Despite the existing supply contracts, this is not an encouraging prospect for Western power plant operators. This situation could come to a head if Kazatomprom fails to achieve its ambitious production expansion targets in the coming years.

In Kazakhstan, citizens have voted on the construction of the first nuclear power plant. Around 70 percent voted "yes".(swissresourcecapital)



Against the backdrop of geopolitical changes, the USA has become increasingly aware of its own dependence on imports. With the world's largest reactor fleet, the country covers around 20% of its electricity requirements from nuclear power plants. There is no longer any significant domestic production, although the country was once a major uranium producer. In the meantime, however, a strong bipartisan consensus has been established in Washington to address this dependency quickly and in a targeted manner with various measures. A strategic uranium reserve is being established and domestic uranium and fuel production is being stimulated with various support measures. US mine production has a good chance of making a comeback in the coming years. Another beneficiary of US efforts is Canada. Large deposits with a high uranium content are located here ("Athabasca Basin" / Saskatchewan). The appetite of its neighbor and the prospect of further increases in uranium prices are stimulating exploration and the advancement of already established mining projects.

The prospects for European consumers are even less clear. Although there are also uranium deposits in Europe, their exploration and extraction is usually not permitted for political reasons (Sweden, Spain). France in particular is finding it difficult in the new geopolitical constellation. Until now, it has covered a not insignificant part of its uranium requirements in Niger. This source dried up after last year's coup due to resentment from the colonial era. The new government has imposed an export ban on production from the French mines. The French are therefore actively seeking new mining rights in Uzbekistan and Mongolia.

The African continent has come more into focus in the current environment. Its uranium deposits are not firmly assigned to either of the two geopolitical blocs and there are numerous deposits that are being developed and mined by companies from China, Russia, Canada or Australia. How-

ever, because these uranium deposits are usually characterized by a rather low uranium content, many of these projects require high uranium prices in order to be economically viable. Accordingly, the rising uranium price is stimulating fantasies in this regard and driving activity. Important deposits are located in Namibia in particular. These are already being mined with Chinese support ("Roessing" / "Hussab"). There are also activities by Lotus Resources in Malawi. The "Kayelekera" mine is scheduled to go into production at the end of 2025. The other important producer on the continent is Niger, which has already been mentioned. Global Atomic is developing "Dasa", a major greenfield project here, which could ao into production from the end of 2025 with a planned annual production of 5 million pounds. However, these plans should still be treated with caution due to the political conditions under the new rulers.

To summarize, there is a fairly well-funded pipeline of promising uranium projects in the hotspots of Kazakhstan, the USA, Canada, Namibia, Niger and Mongolia. With a uranium price of USD 80 to 100, these can be realized. But it will take time before these projects can make a significant contribution to global uranium production. The price sensitivity of the uranium market is obviously also low in terms of supply. At around 7 million pounds, these "newcomers" are likely to account for only a marginal share of global uranium production in the current year. In the following year, this contribution is likely to double to around 15 million pounds. In the short term, a significant increase in uranium supply can only be realized in the Kazakh mines. Kazatomprom plans to increase production in the coming years. However, the market is increasingly critical of the market leader's ambitious plans following last year's missed production targets and the confusing communication surrounding the adjusted production plans for this and next vear.



What is the current situation regarding the development of nuclear power outside of Germany, which is resistant to consultation? Who is currently driving the development of its nuclear power fleet in particular?

Against the backdrop of the global climate debate, governments around the world are looking for answers to the question of what their country's optimal energy mix should look like in the future. Geopolitical concerns, economic interests, national egoisms and the laws of nature (physics) all need to be taken into account. This is an extremely complex issue, because ultimately politicians must ensure that the energy and electricity supply for their national economies is clean, safe and affordable.

According to the goals of the Paris Climate Agreement, the energy supply should be based less on fossil fuels in the future. It is undisputed that the targeted electrification of industry and mobility will lead to a disproportionate increase in demand for electricity. Accordingly, alternative energies (wind, solar, hydropower) are to be greatly expanded.

In recent years, a great deal of time and commitment has been devoted to defining globally binding climate targets that are as ambitious as possible. Ideological and moral arguments have often played a major role in these discussions. This has changed considerably against the backdrop of the war in Ukraine and the resulting energy crisis. Questions about the availability and costs of energy supply are suddenly at the center of the political debate. Dependence on fossil fuel imports from Russia should be reduced as quickly as possible and energy supplies secured for the coming winters. The time for concrete energy policy implementation has therefore arrived. In this context, the limiting factors of time and money are beginning to take effect. Accordingly, realpolitik is increasingly taking the reins in the search for practicable energy policy compromises. The time of the energy policy pragmatists seems to be dawning...

All of these political approaches are based on the realization that the unavoidable fluctuations in the production of alternative energy sources must be balanced out in order to maintain a stable electricity grid at all times. This will continue to require reliable electricity generation from non-fossil sources that is available around the clock, seven days a week. Because nuclear power is produced with low CO<sub>2</sub> emissions, many governments see nuclear power plants as a possible solution for providing this base load in the electricity grid. Against this background, alternative energy sources and nuclear power can enter into a "green" symbiosis. In terms of energy policy, we do not see "alternative" versus "nuclear", but rather "low CO<sub>o</sub>" versus "fossil".

Thanks to this green stamp, nuclear power plants will probably also benefit from economic stimulus programs and state subsidies in the future. A notable example of this is the "Inflation Reduction Act" in the USA. It also makes it easier to tap into investor funds. For Europe, the USA and Japan, we expect that this will make it easier to modernize existing nuclear power plants with the aim of extending their operating life. However, we do not expect numerous new projects for the construction of current-generation reactors. Japan is a special case in this context. In the coming vears, the country will bring many of the reactors that were shut down after the Fukushima reactor accident back online. We see more potential for new reactor concepts that are safer, more flexible and cheaper than the current generation of nuclear power plants. The research funds required for this can now be mobilized more easily in the context described.

While the established industrialized countries are aiming to extend the operating life of existing nuclear power plants in the short and medium term, the focus in the emerging economies in the Middle East and Asia is on the accelerated expansion of reactor fleets. China is particularly ambitious

While the established industrialized countries are aiming to extend the operating life of existing nuclear power plants in the short and medium term the focus in the emerging economies in the Middle East and Asia is on the accelerated expansion of reactor fleets.

in this regard. The country plans to build around 150 new reactors over the next 15 vears! More than the rest of the world has built in total over the past 35 years. India is also pursuing very ambitious growth targets for the nuclear industry. Are these plans realistic? Only time will tell. The example of the United Arab Emirates is encouraging in this respect. There, under Korean project management, ambitious construction projects for new reactors have been successfully completed and commissioned on schedule and within budget.

Overall, the prospects for nuclear energy have brightened considerably in the last two years. Visibility has improved significantly, particularly for power plant operators in western industrialized countries. Against the backdrop of political support and increased acceptance by the general public, planning security for operators has increased significantly. This will also be reflected in storage. More nuclear fuel will be stored again in order to safeguard the future operation of nuclear power plants. With the start of this new storage cycle, the opportunity/risk profile for the uranium sector will improve sustainably.

Where have China and Russia on the one hand and the "West" on the other sourced their raw uranium and processed uranium to date and to what extent could this change in the future? Will we really see a division of the uranium sector into "West" and "East" in the coming years?

The operation of nuclear power plants requires an extensive infrastructure to ensure the supply of fuel. The mining of uranium ores, the extraction of uranium from the ores, the conversion and enrichment as well as the production of fuel elements must be taken care of. Anyone who wants to understand the behavior of the players on the uranium market must have the entire value chain (fuel cycle) in mind and be aware that we are dealing with a very longterm business.

Security of supply is a key issue for the operators of nuclear power plants. One of the reasons for this is the cost structure of these power plants. In contrast to fossil-fuel power plants, capital costs are the dominant factor in the total cost calculation for electricity production in the case of a nuclear power plant. With a share in the high single-digit percentage range, fuel costs (uranium) are of subordinate importance. Accordingly, the industry is usually not very sensitive to rising uranium prices. However, if an operator invests billions in the construction of a nuclear power plant, it also wants to operate it around the clock, seven days a week. A possible bottleneck in the fuel supply must be prevented accordingly. The war in Ukraine has significantly changed the perception of Western governments and power plant operators. This raises questions about possible dependencies and the reliability of contractual partners. Russia is not only a uranium producer, but with "Rosatom" also a major player in the conversion and enrichment of uranium as well as in fuel production. The





Uranium, a coveted raw material for a low-CO future.(adobestock)

country holds significant market shares in these areas. However, because around 70% of the global reactor fleet is located in Western industrialized countries, but these only hold around half of the capacities in conversion, enrichment and fuel production, there is a strong dependency on Russia from a Western perspective.

Accordingly, western power plant operators are currently focused on securing some of this scarce capacity in the western world on a contractual basis. The price trend observed in this area of the fuel cycle clearly shows how tight the downstream market currently is. From a Western perspective, this situation can only be alleviated by creating new capacities within its own sphere of influence. However, these investments in the billions will only be made if they are sustainable for the operators. State investment guarantees and longterm supply contracts are the answer to this question.

Against the background outlined above, we expect massive structural shifts in the uranium market in the medium term: on the one hand, Western power plant operators will seek to diversify their sources of supply and conclude long-term supply contracts with suppliers from politically reliable jurisdictions. A willingness to self-sanction can already be observed today. Western power plant operators are doing their best to avoid purchasing enriched uranium and nuclear fuels from Russian sources. This is leading to a geopolitically driven division of

the uranium market (bifurcation), which will also be reflected at the mine production level. Accordingly, we expect that a larger share of Kazakhstan's uranium production will find its way to China and Russia in the future. The growing involvement of these two major powers is already reflected in numerous joint ventures for uranium production and in extensive long-term supply agreements. On the other hand, Western consumers will mainly want to cover their requirements from mines in Canada, Australia and the USA.

In addition, power plant operators will also address the issue of strategic security of supply with more extensive stockpiling. As the quarterly reports of the Canadian uranium producer "Cameco" have already shown, power plant operators are showing an increased willingness to stockpile uranium. This should mark the start of a new stockpiling cycle on the demand side. In our opinion, this is the central piece in the mosaic of a multi-year and sustainable uranium bull market.

The structural deficits in the fuel cycle described above are likely to keep the uranium market busy for years to come. This initial situation differs significantly from that at the start of the last major uranium bull market (2004-2010). Despite this promising starting position, it should be noted once again at this point that the adjustment processes in this long-term business are slow and take time.

#### What is your personal outlook for the uranium sector at the moment?

My positive medium to long-term view of the uranium market is reflected in the investment strategy of the uranium resources fund (ISIN LI0224072749) that I manage. The strategy is based on the investment hypothesis described above: the supply deficit on the uranium market will be closed over the next three to five years by a higher uranium price. This will provide the incentive to commission new production capaci-

ties and thus bring the uranium market into a new equilibrium. In view of the growing supply gap and the further improvement in the fundamental data, there are good prospects for a continuation of the bull market. However, temporary setbacks and high volatility remain a characteristic of this tight market. This has once again been clearly demonstrated in recent weeks. We intend to consistently exploit the profit opportunities that present themselves while accepting controlled risks!

Against this backdrop, our portfolio rests on four pillars. As the first pillar, we maintain a strategic liquidity ratio of up to 5% in a normal market environment. This ensures our ability to act at all times. This allows us to take advantage of attractive entry points that regularly open up due to the volatile performance of many uranium stocks.

With the second pillar, we want to participate directly in an improvement in the uranium spot price. The core of the portfolio consists of two investment companies and an actively managed certificate that have invested their funds primarily in physical uranium.

The third pillar focuses on the shares of uranium producers and on the group of



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"standby" producers with approved and realized projects that are not yet in production. In the current environment, those who can place significant uranium production on the market in the foreseeable future stand to benefit. These producers contribute to the stability of the portfolio with their extensive order book of long-term supply

As part of the fourth pillar, we focus on explorers and project developers who are advancing development and mining projects at a world-class level. These are particularly interesting if they can significantly advance their projects in the time window of the expected supply gap (late stage development). They will then be able to benefit from a correspondingly attractive performance of their projects. In addition, these assets should have the necessary size to qualify as takeover targets. We assume that a wave of consolidation will take place in the sector over the course of this uranium bull market and that mining companies from outside the sector may also want to position themselves in the uranium business. This would make sense, not least because of the low sensitivity to the economy and the comparatively high visibility of uranium demand.

> Performance of the Uranium Resources Fund in Euro (www.incrementum.li)

## **IsoEnergy** Start of production planned for 2025

IsoEnergy is a Canadian mining development company specializing in the development of uranium deposits in the USA, Canada and Australia. Its focus is on the Athabasca Basin and the US state of Utah, where it has already had spectacular drilling successes that are among the highest-grade in the world. The company also owns several former mines in the USA, the first of which is scheduled to be put back into operation as early as 2025.

#### Larocque East

IsoEnergy's Canadian flagship project is called Larocque East and consists of 39 mineral claims totaling 19,699 hectares. Larocque East is located 35 kilometers northwest of Orano Canada's McClean Lake uranium mine and mill and is almost immediately adjacent to the northern end of IsoEnergy's Geiger uranium project. The project area covers a 15-kilometer northeast extension of the Larocque Lake conductor system, which hosts several deposits.

#### Larocque East – Hurricane Zone

The so-called Hurricane Zone, which is located in the southern part of the project site, only about 330 meters below the earth's surface and runs flat, is home to one of the highest-grade uranium deposits on the planet. The absolute breakthrough was achieved by the IsoEnergy team with the 2020 drilling program, which revealed some of the most spectacular uranium grades achieved to date in the Athabasca Basin. Among other things, 24.0% U<sub>2</sub>O<sub>2</sub>, 2.7% nickel and 0.5% cobalt over 1.5 meters were encountered. Another drill hole returned 33.9% U<sub>2</sub>O<sub>2</sub> over 8.5 meters, including 5.0 meters of 57.1% U<sub>2</sub>O<sub>2</sub> and 2.0 meters of 62.8% U<sub>2</sub>O<sub>2</sub>. A third yielded 19.6% U<sub>2</sub>O<sub>2</sub> over 8.5 meters, including a 2.5-meter section with 63.6% U<sub>2</sub>O<sub>2</sub> and 1.5 meters with an incredible 76.7% U.O. Finally, in March and April 2020, another 20.5% U<sub>2</sub>O<sub>2</sub> over 4.0 meters was reported, including 1.5 meters with 53.8% U<sub>2</sub>O<sub>2</sub>, 0.5 meters with 64.9% U<sub>2</sub>O<sub>2</sub> and 2.5 meters with 67.2% U<sub>2</sub>O<sub>2</sub>.

It is important to note that some of the world-class drill holes mentioned are up to 100 meters apart. The very high-grade mineralization has widths and thicknesses similar to those found in large deposits - up to 12 metres thick and 125 metres wide. In 2022. IsoEnergy published an initial resource estimate for Larocque East. According to this, the project hosts at least 48.6 million pounds of U<sub>2</sub>O<sub>2</sub> in the measured and indicated categories, with an average grade of 34.5% U<sub>2</sub>O<sub>2</sub>. The Company is currently working on a 27 diamond drill hole exploration program to follow up on positive alteration results and initial drill testing of new targets. In addition, 2024 has successfully completed ambient noise tomography on an additional 20 square kilometers that make up the remaining eastern portion of the property that was previously uncovered. The surveys identified six additional highly prospective target areas on strike from the Hurricane deposit to the east.

#### Tonv M + Daneros + Rim + Sage Plain – recommissioning planned for 2025

IsoEnergy owns several past-producing mines in the USA. Tony M is a large, fully developed and permitted underground mine that was last operated in 2008 and has approximately 8.8 million pounds of U<sub>2</sub>O<sub>2</sub> (high grades averaging 0.27%). Tony M is located approximately 200 kilometers from Energy Fuels White Mesa Mill - which opens up the possibility of toll milling and has high exploration potential. In August 2024, IsoEnergy opened underground access to the Tony M uranium mine with the goal of restarting uranium production operations in 2025. Tomcat Mining carried out the rehabilitation of the underground workings, which included stripping, installation of support and ventilation systems.

Furthermore, SRK Consulting Limited and Call & Nicholas, Inc. have been engaged to work on the design and implementation of the aeration plans and ground control plans. Upon completion of the rehabilitation and mapping programs, the Company intends to conduct a technical and economic study to determine production rates, operating and capital costs.

The Daneros Mine, a fully developed and permitted underground mine that was last in production in 2013 and is located approximately 113 kilometers from the White Mesa Mill, only hosts approximately 200,000 pounds of U<sub>2</sub>O<sub>2</sub>, but has a disproportionately higher resource potential. There is potential for additional resources, as demonstrated by the historical mineral resources at Lark and Royal.

The third mine, Rim, a fully developed and permitted underground mine that last operated in 2009, has 0.4 million pounds of  $U_0O_1$  and 3.5 million pounds of  $V_0O_2$  and is located 100 road miles from the White Mesa Mill.

The company also owns the Sage Plain project, which is only about 87 kilometers from the White Mesa Mill and contains around 800,000 pounds of U<sub>2</sub>O<sub>2</sub> and 6.7 million pounds of  $V_0O_{\rm c}$ .

In May 2024, the company launched an extensive exploration program on all four mining projects. This tested multiple surface geophysical methods (including seismic and electrical methods) to identify individual drill targets without the need for extensive grid drilling, which was the predominant method used in previous exploration programs.

#### Planned takeover of Anfield offers own production facility very close to Tony M

In early October 2024, IsoEnergy announced that it plans to acquire Anfield Energy. Anfield owns 100% of the Shootaring Canyon Mill in southeastern Utah, USA, one of only three licensed, permitted and built conventional uranium mills in the US, as well as a portfolio of conventional uranium and vanadium projects in Utah. Colorado. New Mexico and Arizona. Big advantage: The mill is only about 7 kilometers away from Tony M. An application has been submitted to the State of Utah to restart the Shootaring Canyon Mill to increase

throughput from 750 tpd to 1,000stpd and expand the licensed annual production capacity from 1 million to 3 million pounds of U<sub>2</sub>O<sub>2</sub>. Existing toll milling agreements with Energy Fuels at the White Mesa Mill provide additional processing flexibility for the current IsoEnergy mines.

#### **Joint Venture with Purepoint Uranium**

IsoEnergy recently announced that it has entered into an agreement with Purepoint Uranium in connection with the formation of a joint venture for the exploration and development of a portfolio of uranium properties in the Athabasca Basin in northern Saskatchewan. Both companies will contribute assets from their respective portfolios to the joint venture, which will consist of 10 projects totaling more than 98,000 hectares in the eastern part of the Athabasca Basin. Specifically, the Joint Venture will include IsoEnergy's Geiger, Thorburn Lake, Full Moon, Edge, Collins Bay Extension, North Thorburn, 2Z Lake and Madison projects and Purepoint's Turnor Lake and Red Willow projects. IsoEnergy will initially hold a 60% interest in the Joint Venture, with Purepoint holding a 40% interest. Either party may adjust this split to 50/50 through the exercise of mutual exclusive put/call options within six months. Purepoint will be the operator during the exploration phase of the joint venture properties. With the transition to the pre-development phase. IsoEnergy will assume operational control of the joint venture properties.

### Coles Hill – Virginia/USA



Coles Hill is considered the largest known undeveloped uranium resource in the U.S. with 132.9 million pounds of U<sub>2</sub>O<sub>2</sub> in historical indicated resources and 30.4 million pounds of U<sub>2</sub>O<sub>2</sub> in historical inferred resources. The project covers approximately 3.000 acres and hosts two deposits. Coles Hill North and South. The mechanism of uranium deposition at Coles Hill is similar to that in the Athabasca Basin, as evidenced by the presence of the alteration minerals



hematite, epidote and chlorite. The depositional mechanism in the Athabasca Basin has produced high-grade uranium mineralization that may also occur in the untested deeper parts of the Coles Hill deposit.

#### Matoush – Quebec/Canada

The Matoush project has historical Indicated Mineral Resources of 12.329 million pounds of U<sub>2</sub>O<sub>2</sub> and Inferred Mineral Resources of 16.44 million pounds of U<sub>2</sub>O<sub>2</sub>. It is at an advanced stage, with an updated Preliminary Economic Assessment of the property released in April 2010, which proposed access via a down-dip ramp and mining using long-hole methods followed by cemented rock fill. Matoush has good exploration potential as many of the zones of mineralization within the historic mineral resources are open along strike and at depth.

#### Geiger + Hawk - Eastern Athabasca Basin

In addition to Larocque East, IsoEnergy owns a whole series of other top projects in the Athabasca Basin, of which Geiger and Hawk stand out in particular.

Located south of Larocque East, Geiger has several mineralized intercepts, including high-grade basement mineralization with up to 2.74%  $U_3O_8$  over 1.2 metres. The project has high potential for a fully undrilled 4-kilometer-long conductor on the east side of the property.

Hawk covers approximately 6,000 hectares and is located 37 kilometers west of Larocque East. The results of last year's winter program have increased the likelihood that Hawk may host a large uranium deposit. Several drill holes intersected several graphitic fault zones in the basement.

#### Summary: Resumption of funding will be a game changer

The experienced and successful management team around CEO Phil Williams has created a uranium player in IsoEnergy that has two very hot irons in the fire. Larocque East is one of the world's highest-grade uranium projects, which will be further upgraded and expanded in the current drilling program. At the same time, the company owns Tony M, a former mine that is to be put back into operation as early as 2025. An absolute game changer that will ensure increased news flow. The company was able to generate CA\$ 23 million in fresh capital in February 2024, with the financing being far oversubscribed. In July 2024, IsoEnergy also received a listing from the Toronto Stock Exchange to switch from the TSX Venture Exchange, which generated further attention for the company.



Philip Williams, CEO

## **Exclusive interview with Philip Williams**, **CEO of IsoEnergy**

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

In the past 12 months IsoEnergy has taken significant steps to advance its portfolio since the merger with Consolidated Uranium Inc. in December 2023. This includes:

• Completed 9,660 meters of drilling at Larocque East, home to the world's highest-grade indicated uranium re-

source, the Hurricane Deposit, which contains 48.6 Mlbs U<sub>2</sub>O<sub>2</sub> at an average grade of 34.5% U<sub>2</sub>O<sub>2</sub>. The Company pioneered the use of Ambient Noise Tomography (ANT) surveys in the uranium sector, successfully identifying six new high-priority drill targets along strike of Hurricane.

Reopened the underground workings and initiated a comprehensive work program at the Tony M Mine in Utah, located in the world's top-ranked mining jurisdiction. Rehabilitation efforts are underway, with a detailed economic and technical study planned in preparation for a production decision by 2025.

- Streamlined operations by enhancing its focus on core iurisdictions in Canada, the US, and Australia, while strategically divesting Argentinian assets to Jaguar Mining in exchange for shares. The Company's equity portfolio, which includes stakes in NexGen Energy Ltd., Premier American Uranium Inc., and Atha Energy Corp., is now valued at approximately C\$31.0 million.
- Maintained a strong financial position, with cash reserves of approximately \$50 million, ensuring continued growth and operational flexibility.

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

Key catalysts heading into 2025 include potential new discoveries in the eastern extension of the Larocque East Project and an anticipated production decision at the Tony M Mine. IsoEnergy is well-positioned to become one of the select uranium companies that combines a strong focus on exploration and discovery with near-term production potential.

Additionally, with a demonstrated history of accretive M&A, we intend to continue to evaluate opportunities across all stages.

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

The uranium market is experiencing a resurgence, driven by growing demand and constrained supply. Several key factors are shaping this dynamic landscape:

1. Nuclear power is increasingly recognized as a reliable source of low-carbon energy, essential for meeting global decarbonization goals.

Contact:

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2. Countries are re-evaluating their nuclear power strategies, with a renewed emphasis on energy security and the need for stable, domestic energy sources.

3. Uranium supply remains constrained, further exacerbated by the lengthy lead times required to bring new mines online, limiting the ability to quickly meet rising demand.

4. The shift to a contract-driven market is creating additional pressure on supply, as utilities look to secure long-term agreements, tightening available spot market supplies.

IsoEnergy is exceptionally well-positioned to capitalize on this momentum, with a portfolio uniquely equipped to meet both near-term production potential and longterm demand growth in the evolving uranium market.



- info@isoenergy.ca
- www.isoenergy.ca

## Laramide Resources High uranium grades and a large resource base on three continents

Laramide Resources is a Canadian mining company specializing in the exploration and development of uranium deposits in Australia, the USA and Kazakhstan. The company's portfolio includes world-class uranium projects in areas of historical production or superior aeologic prospectivity. Each asset has been carefully selected for size and production potential, and all are considered late-stage projects with low technical risk. The company's shares are listed on both the TSX in Toronto and the ASX in Sydney, giving the company increased exposure on both continents. Laramide Resources already has a large resource base of approximately 117 million pounds of U<sub>2</sub>O<sub>2</sub>.

#### Crownpoint-Churchrock – Location and infrastructure

Laramide Resources owns extensive properties in the westernmost part of the Grants uranium mining district. The Crownpoint-Churchrock project is one of the largest and highest-grade undeveloped insitu recovery (ISR) uranium deposits in the United States. It has two separate ISR-accessible uranium deposits, Crownpoint and Churchrock, which are combined under a single Nuclear Regulatory Commission (NRC) license. The Church Rock deposit is located 12 miles northeast of Gallup, New Mexico. The Crownpoint site is located 25 miles northeast of the Churchrock site near the town of Crownpoint.

The Churchrock Uranium Project consists of eight sections of land totaling approximately 4,680 acres. The properties are accessible via New Mexico State Highway 566, which traverses the project, and locally via dirt roads.

Crownpoint consists of portions of three tracts of land totaling approximately 615 acres. The properties are accessible from the City of Crownpoint via West Route 9, which traverses the project, and locally via dirt roads.

Infrastructure is available within the project for future exploration and mine develop-

ment, with a paved access road to the project and a dirt access road on site. Power lines and natural gas pipelines that could be used for mining are located near and around the project area.

#### Crownpoint-Churchrock – Large resource base

Inferred Mineral Resources at Churchrock, which are split across a total of 7 sectors, total 33.9 million tons at an average grade of 0.08%  $eU_3O_8$ , representing 50.8 million pounds of  $U_3O_8$  metal content. Crownpoint has inferred mineral resources totaling 4.2 million tonnes at an average grade of 0.106%  $eU_3O_8$ , representing 8.9 million pounds of  $U_3O_8$ , of which Laramide controls 2.5 million tonnes at an average grade of 0.102%  $eU_3O_8$ , representing 5.1 million pounds of  $U_3O_8$ . While Churchrock is an in-situ recovery project, Crownpoint is a conventional project.

#### Crownpoint-Churchrock – Very good PEA

At the beginning of 2024, Laramide Resources was able to announce a preliminary economic assessment (PEA) for Churchrock. The economic evaluation of the base case resulted in an after-tax internal rate of return (IRR) of a very strong 56% and an after-tax net present value (NPV) of US\$239 million using an 8% discount rate and a uranium price of (only) US\$75. The economic assessment reflects the development of a stable 3,000 gpm (gallons per minute) in-situ recovery operation, which includes the Churchrock satellite facilities, the Crownpoint CPP (Central Processing Plant) and associated wellfields near Churchrock. The PEA assumes recovery of approximately 68% of the uranium resources in the production area. After an initial capital cost of only US\$47.5 million to develop the first wellfield and associated process infrastructure, subsequent wellfields will be developed sequentially at an estimated cost of US\$122.5 million in the PEA. During the mine life of 31 years, a total of 31.2 million pounds of U<sub>2</sub>O<sub>2</sub> will be extracted. The all-in-sustaining cost (AISC) is estimated at US\$ 34.83 per pound. Additional potential exists through accelerated development of the resource bevond the linear case of 1 million pounds/ year described in the PEA, as the existing license allows for a capacity of 3 million pounds/year in the planned central processing plant. There is also potential for improved recovery (the PEA assumes a recovery of 68% of the resource in the production area) or expansion of the current resource through infill and exploration drillina.

#### Further US projects – possibility of rapid commissioning

In addition to Crownpoint-Churchrock, Laramide Resources has two other hard rock projects in the USA.

The La Jara Mesa project is also located in New Mexico, only about 40 miles southeast of Crownpoint. La Jara Mesa has a NI43-101 compliant resource of 10.5 million pounds of  $U_3O_8$ . The final operating permits have already been issued.

The La Sal project contains approximately 2.7 million pounds of  $U_3O_8$  historic resources and is located in Utah, approximately 60 kilometers northeast of the White Mesa Mill. A toll milling agreement has already been signed with its operator, Energy Fuels, to process the rock from La Sal at the White Mesa Mill. A rapid reopening of the former mining site is therefore possible.

#### Westmoreland – Location and resource

Laramide Resources' flagship project in Australia is called Westmoreland and is located in Queensland, directly on the border with the Northern Territory. It consists of 3 contiguous licenses covering a total of 548.5 square kilometers. 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 the 10 largest uranium projects in Australia. These resources all lie within a 7-kilometer trend. It is important to note that 80% of these resources are located within a depth of only 50 meters, which is why Westmoreland could be exploited by surface mining.

#### Westmoreland – Economic PEA

Laramide Resources published an initial PEA for Westmoreland in 2016. According to this, it would be possible to process the rock using conventional acid leaching and solvent extraction. The initial capital costs for the construction of the mine and processing facilities amount to US\$ 268 million plus a US\$ 49 million buffer. This would allow the construction of a processing plant with an annual capacity of 2 million tons, capable of producing up to 4 million pounds of U<sub>2</sub>O<sub>2</sub> per year. Further costs over the estimated 13-year mine life are approximately US\$58 million. Operating cash costs were estimated at US\$21 per pound of U<sub>2</sub>O<sub>2</sub> for the first 5 years and





The Crownpoint-Churchrock project is one of the largest and highest-grade undeveloped in-situ recovery (ISR) uranium deposits in the US (Laramide Resources),



## **Exclusive interview with Marc Henderson**, **CEO of Laramide Resources**

US\$23.20 per pound of U<sub>2</sub>O<sub>2</sub> for the entire mine life. The 10% discounted net present value (NPV) based on a uranium price of US\$65 per pound is US\$400 million after tax. Profitability was calculated at a very good 35.8% after tax.

According to internal company estimates. around 3.5 million pounds of U<sub>2</sub>O<sub>2</sub> could be recovered per year. Metallurgical tests have confirmed a recovery rate of up to 97% with relatively low acid consumption.

#### Westmoreland – Considerable exploration potential

The resources mentioned all originate from the three deposits Redtree. Huarabagoo and Junnagunna. However, there are several other deposits that are currently being investigated by means of an extensive drilling program.

For example, Long Pocket, where a very shallow (depth less than 50 meters) resource has been encountered. Recent drilling has encountered 8 meters of 0.158% U<sub>2</sub>O<sub>2</sub>, including 4 meters of 0.31% U<sub>2</sub>O<sub>2</sub>. Laramide Resources will publish an initial resource estimate here in early 2025, with an initial estimate of 3 to 5 million pounds of U<sub>2</sub>O<sub>2</sub>.

At Huarabagoo, the first hole intersected 5 mineralized zones with a peak gamma probe response of 6.922 cps at a depth of 42-43 metres. Individual peaks were as high as 13,350 cps. The hole was subsequently deepened from a planned 80 meters to a depth of 110.7 meters as the gamma peak persisted at the base. Management assumes that the resource at Harabagoo can be expanded.

Another target area is Amphitheatre. There, 4.0 meters of 0.52% U<sub>2</sub>O<sub>2</sub> including 1.0 meter of 1.00% U<sub>2</sub>O<sub>2</sub> were recently intersected. An apparent mafic vein system was successfully intersected approximately 190 metres downhole, and this vein is considered to be the main contributor to the mineralization.

#### Chu-Sarysu

Laramide Resources has an option to acquire Aral Resources, a Kazakh company with 17 granted mineral licenses and a further 5 licenses pending approval. The 22 applications for subsoil exploitation licenses covering approximately 6,000 square kilometers comprising the Chu-Sarysu project are located in the prolific Suzak district of southern Kazakhstan, very close to some of Kazataprom's largest uranium deposits and operating mines such as Inkai, Budenovskoye and Muyunkum-Tortkuduk. Laramide will conduct and fund an exploration program to discover a viable uranium resource.

#### Summary: Increased news flow expected due to drilling campaign and licensing

Laramide Resources has a diversified portfolio of large, high-quality uranium projects in the United States and Australia (and more recently Kazakhstan). The company benefits from low-tech and low-cost production opportunities through surface mining and ISR mining. The combined Churchrock and Crownpoint projects in particular offer the possibility of a very rapid start to production, which puts Laramide Resources in a top position in the event of an expected renewed uranium boom. Only a final government permit for remediation and restoration measures is still required, and the corresponding licenses are in the process of being issued. In Australia, the consolidation of an entire uranium district has been successfully completed and the company has now set about developing the licenses there itself by means of extensive drilling work. Accordingly, many corresponding results can be expected in the coming months. The long-term oriented and supportive main shareholders make Laramide Resources a top pick in the uranium sector.

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

It's been a busy year for us, and we are active across pretty much our entire existing portfolio; in addition, we recently announced a large greenfield acquisition in Kazakhstan which adds another key leg to the story.

The highlights for the year would probably start with the PEA we delivered in January, 2024 on our Churchrock ISR project in New Mexico, which showcased that asset as one of the largest and highest quality uranium development assets in the USA. Final permitting on this project is now in process.

In Australia, the focus is on resource growth at our Westmoreland asset in Queensland, Australia and there is currently a large-scale program (> 100 drill holes) targeting both expansion of known deposits as well as identifying potential satellite deposits. That program has gone well thus far with most of the data yet to be publicly released. That project is contemplated as a typical open cut operation and benefits from other factors including very favorable metallurgy and the shallow depth of the mineralization.

All of this progress takes place against a back-drop of very favorable macro conditions for the nuclear and uranium mining industries and involves a continuing effort to expand and strengthen our team to prepare for the expected growth ahead.

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

The most material catalyst in prospect would be for the State government in Queensland to welcome the development of uranium mining. The incumbent government has historically been opposed but attitudes towards nuclear have shifted dramatically and Microsoft recently announcing they will restart Three Mile Island to solely power their data centers may mark a watershed moment in the ongoing bull market for uranium.

We believe we are in the relatively early innings of a prolonged period of growth and prosperity for nuclear power as it increasingly becomes part of the conversation about how we power the future - particularly if we put an appropriate premium on clean power. Even though the U market has moved a lot in the last 24 months, the projected supply deficit has really not narrowed at all and many new mines will be required along with increasing amounts of greenfield exploration activity. The thing to remember when considering the investment merits of this sector is that these new plants being coming into focus - like for example Hinkley Point in the UK (which is the largest construction project in Europe) - will need fuel for 60 years or more. That is a lot of uranium!

Contact:



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



Marc Henderson, CEO



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### Premier American Uranium

Several formerly producing projects in high-profile uranium districts in the USA

> Premier American Uranium is a Canadian mining company focused on the consolidation, exploration and development of uranium projects in the United States. One of the company's key strengths is its extensive land holdings in three major uranium-producing regions in the United States: The Grants Mineral Belt in New Mexico, the Great Divide Basin in Wyoming and the Uravan Mineral Belt in Colorado. With a rich history of past production and both current and historic uranium mineral resources, Premier American Uranium has work programs underway to expand its portfolio. With the support of Sachem Cove Partners, IsoEnergy Ltd, Mega Uranium Ltd. and other corporate and institutional investors, as well as a highly experienced team in the U.S. uranium space, Premier American Uranium's market positioning represents a compelling opportunity to participate in the current upward trend in the uranium sector.

#### Cebolleta – Location and infrastructure

Cebolleta is an advanced uranium exploration project located on the eastern edge of the Grants Mineral Belt, approximately 100 kilometers west of Albuquerque, and approximately 16 kilometers north of the city of Laguna. The property consists of 2,718 hectares of private mineral rights and approximately 2,307 hectares of surface rights. The project is located in a region where uranium has been mined since the 1950s and is close to the necessary infrastructure and resources. Approximately 100 million pounds of uranium have been extracted from the adjacent historic Paguate and Jackpile mines. Cebolleta itself was the site of several former open pit and underground mines (1950s to 1980s) with a historical production of 3.8 million pounds of U<sub>2</sub>O<sub>2</sub>.

#### Cebolleta resource and resource potential

Cebolleta hosts several deposits classified as sandstone uranium deposits, with eight deposits occurring as a series of tabular bodies within the Jackpile Sandstone Member of the Upper Jurassic Morrison Formation within the boundaries of the property. These deposits are part of a broad and extensive area of uranium mineralization, including the Jackpile-Paguate deposit, which is located on the southern boundary of the property and was one of the largest concentrations of uranium mineralization in the United States. The L-Bar deposit area encompasses five distinct deposits, including Areas I, II, III, IV and V. The historic JJ#1 mine is located in the northwest corner of the Area II deposit area. In addition to the L-Bar deposits, there are three other deposits in the St. Anthony area of the property.

In June 2024, Premier American Uranium published a resource estimate. According to this, the project has a total indicated mineral resource of 18.6 million pounds of eU<sub>2</sub>O<sub>2</sub> and a total inferred mineral resource of 4.9 million pounds of  $eU_0O_0$ .

Eight relatively shallow sandstone uranium deposits have been located in a mix of underground and open pit scenarios at depths ranging from 60 to 213 metres. with the Willie P area not included in the current estimate but known to be mineralized as it was the subject of previous underground mining. The mineralized horizons of the Jackpile Sandstone remain open and extend beyond the limits of the existing drill grid, providing excellent targets. Several other known mineralized zones exist but have not yet been extensively drilled. It is important to note that the main host rock of the Westwater Canvon Member in the Grants Mineral Belt hosts more than 400 million pounds of U<sub>0</sub>O<sub>2</sub> but remains largely unexplored at Cebolleta. Exploration drilling by United Nuclear approximately 5 kilometers east

of the mines in the Cebolleta and St. Anthony area indicates large exploration potential below the known mineralization at Cebolleta.

The Piedra Lumbre site on the eastern edge of the project offers further potential. There, historic drilling encountered uranium mineralization in Westwater Canvon sandstones, 300 feet below the Jackpile Sandstone. The extent of mineralization at Piedra Lumbre is largely untested and provides the opportunity to identify new greenfield mineralized areas.

The company is currently developing programs aimed at unlocking growth potential while preparing for preliminary economic and technical studies for the Cebolleta project.

#### Cyclone -Location and infrastructure

The Cyclone project consists of approximately 25,500 acres of mineral rights (1.061 claims totaling 21.220 acres and 7 state leases totaling 4,280 acres) in the western and southwestern portions of the Great Divide Basin in Wyoming. Due to its location, it has good potential for the discovery of uranium deposits that would be amenable to in-situ recovery (ISR) methods as it is only about 25 kilometers from the Sweetwater Uranium Mill and close to Ur-Energy Inc.'s Lost Creek ISR uranium mine and other former uranium mines.

#### Cyclone - Geology and historical drilling successes

Uranium occurrences in the basin are hosted in roll-front deposits of the Battle Spring Formation, with widespread alteration of host sandstones and numerous roll-front uranium occurrences associated with altered rocks. Previous exploration work on the project includes approximately 80 holes drilled between 2007 and 2008.

### Cyclone – resource potential and own drilling successes

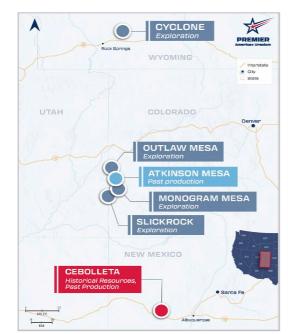


The mineralization has typical grades and widths of uranium deposits found elsewhere in the Great Divide Basin. Intercepts from exploration on the Rim target (North Claim Block) include drill hole UT-8, which intersected 8.0 feet averaging 0.092% eU<sub>2</sub>O<sub>2</sub> and 5.5 feet averaging 0.121% eU<sub>0</sub>O<sub>0</sub>, and drill hole UT-44, which intersected 7.5 feet averaging 0.081% eU<sub>2</sub>O<sub>2</sub> and 5.5 feet averaging 0.104% eU<sub>2</sub>O<sub>2</sub>, respectively.

Sufficient historical exploration data is available for the North and East claim blocks to define an exploration target ranging from 6.5 million short tons averaging 0.06% U<sub>2</sub>O<sub>2</sub> (7.9 million pounds U<sub>2</sub>O<sub>2</sub>) to 10.5 million short tons averaging 0.06% U<sub>2</sub>O<sub>2</sub> (12.6 million pounds U<sub>2</sub>O<sub>2</sub>). An initial exploration drilling program is currently underway. This involves 71 RC drill holes with a total length of 49,700 feet, which will be drilled into 2025. 37 holes are in the Cyclone Rim zone and are being drilled to an average depth of 500 feet, with mineralization occurring at a depth of approximately 400 feet. An additional 34 holes at the Osborne Draw target are planned for 2025 at an average depth of 800 feet where mineralization occurs at a depth of approximately 700 feet.

At the Cyclone Rim target, initial drill holes have already returned significant mineralized intercepts including 6.5 feet grading 0.066% eU<sub>2</sub>O<sub>2</sub>, 8.5 feet grading 0.028% eU\_O\_ and 6.0 feet grading 0.033% eU\_O\_. The drill holes are located approximately 10 to 75 feet from the historical drill hole collars and confirm the presence of uranium mineralization at depths and locations consistent with those suggested by the limited historical drilling in 2007-2008. In total, Premier American Uranium has US\$2.3 million in total budget for the Cyclone project into 2025.





Premier American Uranium Portfolio in the United States (Premier American Uranium)

#### Monogram Mesa

The past-producing Monogram Mesa project covers approximately 7,431 acres and includes 361 mining claims. The property includes several historic mines on the northeast and west (Bull Canyon) sides of Monogram Mesa, Numerous mineralized zones are exposed in the historic underground mines in the project area. The property is strategically located near a paved highway, with mine roads and power lines crossing the property. An exploration drilling program is planned to delineate the mineralization. In addition, a possible acquisition of surrounding properties to consolidate the area is being considered.

#### **Atkinson Mesa**

The past-producing Atkinson Mesa project covers 5,863 acres, including 128 unpatented vein mining claims and 4 U.S. Department of Energy uranium mining leases. The project also includes approximately 2,702 acres of unpatented vein mining rights and 18 patented mining rights covering 360 acres. Several past producing mines are located on the prop-

erty, including the significant King Solomon Mine Complex, a large underground mine that was one of the most significant uranium producers in the entire Uravan Mineral Belt. The Company is currently working to obtain historical drilling and mine production data. Conducting a drill program to confirm historical drill results and definition of the extent of mineralization in the central and northern parts of the properties is also planned.

#### **Outlaw Mesa / Slick Rock**

The former producing Outlaw Mesa and Slick Rock projects are located at the northern and southern ends of the Uravan Mineral Belt, respectively. Outlaw Mesa covers 5,759 acres and Slick Rock covers 1,226 acres. Both projects contain historic production from several mines, including the well-known Spud Patch mines in the Slick Rock area and the Calamity Mesa mines in the Outlaw Mesa-Calamity Mesa area. All leases contain uranium and vanadium mineralization. New 10-year leases were signed with the US Department of Energy in January 2020, Currently working on data review and drill targeting.

#### Summary: Several exploration campaigns on potentially high-profile licenses

Premier American Uranium is clearly focused on the emerging US uranium sector and holds claims in several of the country's most prospective uranium districts. All projects have historical production. The company's first exploration campaigns have already yielded encouraging results, although so far it has only scratched the surface. Further results are expected in the coming weeks and months. The company has strong partners (53% of all shares are in the hands of the 5 largest shareholders, all of whom are related to the financial or commodities sector) who can provide further funding. A first direct hit is only a matter of time.

## **Exclusive interview with Colin Healey**, **CEO of Premier American Uranium**

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

We began trading on December 1st, 2023, founded on a US-focussed "acquire, explore, develop" proven consolidation strateav. executed by our predecessors. Consolidated Uranium (acquired by IsoEnergy, ISO-T) and Mega Uranium (MGA-T). Over the last 12-months, PUR has executed on this strategy on each front with the following:

- Completed the acquisition of American Future Fuel (AMPS-CSE) in June 2024.
- Completed an NI 43-101 Mineral Resource Estimate on our Cebolleta project (NM) which outlined 23.5 Mlb U<sub>2</sub>O<sub>2</sub> (24% increase over historic resource. 80% Indicated/20% Inferred)
- Commenced inaugural drilling on our Cyclone ISR uranium project in Wyoming this summer, which confirmed the presence of significant uranium grades and thicknesses.

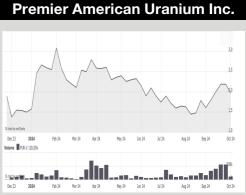
#### What are the most important catalysts for the next 6 to 12 months?

During the remainder of 2024, we plan to deliver final results from our successful drilling program at Cyclone, Wyoming, while continuing to advance permitting efforts for additional exploration drilling at our Cebolleta project in New Mexico. On the M&A front, we anticipate evaluating a pipeline of prioritized opportunities that we expect to keep us active in 2025.

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

We continue to see the backdrop for uranium and civil nuclear energy as incredibly bullish, supported by immediate, mid-term and long-term overwhelmingly positive fundamentals. The market is currently significantly undersupplied while major producers face hurdles to production ramp-up and new sources of production remain insufficient to current the supply deficit in the near-term. Looking ahead, with 67 reactors under construction globally and another 431





ISIN: **FRA:** B05

Contact:



reactors planned or proposed, complimented by a commitment from 22 countries, including those operating the largest reactor fleet globally, to triple nuclear power generation by 2050, we see the demand for uranium and new uranium mines on an accelerating upward trajectory which will be met with higher uranium prices to incentivise the necessary production.

- CA74048R1091 WKN: A3ET9P
- TSX-V: PUR

Fully diluted: 58.3 million

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Colin Healey, CEO

Inaugural drilling at Cyclone ISR Uranium Project, Wyoming (Premier American Uranium)

### **Purepoint Uranium** First direct hits to be confirmed shortly

Purepoint Uranium is a Canadian mining exploration and development company focused on the development of high-caliber uranium projects in Canada's Athabasca Basin. The company takes an aggressive, systematic approach to identifying key proiects with solid indicators and historical significance in the Basin. Purepoint Uranium has several projects of its own that it is actively exploring and is also working with two of the world's largest uranium producers, Cameco Corporation and Orano Resources Canada. Purepoint Uranium is currently working on several exploration campaigns to confirm significant recent discoveries.

#### Main activities in the eastern part of the Athabasca Basin

Purepoint Uranium currently holds 10 projects in the east of Canada's Athabasca Basin. In addition, there are two further projects in the southwest of the basin, including the current flagship Hook Lake proiect.

#### Hook Lake

Located in the Patterson Uranium District, the Hook Lake project is jointly owned by Cameco Corporation (39.5%), Orano Canada Inc. (39.5%) and Purepoint Uranium (21%), with Purepoint Uranium being the operator of Hook Lake and receiving a 10% management fee. The project consists of nine claims totaling 28,598 hectares, including the high-grade Spitfire discovery, which has already returned world-class uranium grades of 53.3% U<sub>2</sub>O<sub>2</sub> over 1.3 metres, within a 10-metre interval of 10.3% U<sub>2</sub>O<sub>2</sub>. Three prospective structural corridors have been defined at Hook Lake, with each corridor consisting of multiple electromagnetic conductors confirmed by drilling and sourced from prospective graphitic shear zones. Patterson is one of these structural corridors that extends along the southwestern margin of the Athabasca Basin for at least 50 kilometers and hosts NexGen's Arrow deposit and Purepoint Uranium's Spitfire discovery, among others. During 2023, Purepoint Uranium drilled in one of the most interesting areas of Hook Lake, the Carter Corridor. This involved 2.710 meters of diamond drilling in six holes. Drill hole CRT23-05 returned a peak radioactivity of 8,850 counts per second (cps) with three intercepts of anomalous radioactivity over 34.8 meters, including 0.9 meters of 3,950 cps and 2.2 meters of 1,660 cps. The Company also intersected 0.08% O3O8 over 0.4 meters. Drill hole CRT23-06, a 100-meter extension of CRT23-05 to the south, returned a peak radioactivity of 3,225 cps in an anomalous radioactive zone averaging 1.745 cps over 3.1 meters. A 2019 airborne gravity survey funded by the Targeted Geoscience Initiative provided results indicating that uranium deposits may form near gravity highs. In February 2024, a drill program of approximately 2,500 metres of diamond drilling commenced in five holes testing the Carter Corridor, CRT24-10, the northernmost hole of the program, intersected a 13-metre-wide zone of altered brecciation and shear that returned 0.29% U.O. over 0.9 metres (at a true vertical depth of 375 metres), including 0.68% U<sub>2</sub>O<sub>2</sub> over 0.3 metres. All of the 2024 drill holes had anomalous radioactivity, and the results showed that the extensive 20-kilometer-long conductive structural zone known as the Carter Corridor remains highly prospective for an economic uranium discovery.

Fission Uranium's Triple R deposit,

#### **Red Willow**

In addition to Hook Lake, Purepoint Uranium is currently investigating a second potentially high-caliber uranium project for corresponding deposits. This is called Red Willow, comprises 22 claims totaling approximately 40,000 hectares, is 100% owned by the company and is located in the extreme northeast of the Athabasca Basin, 10 kilometers northeast of Orano's JEB Mine and east of Cameco's Eagle Point Mine. The detailed airborne VTEM

survey conducted by Purepoint Uranium at Red Willow returned magnetic results that provide an excellent basis for interpretation of the structures, while electromagnetic results outlined over 70 kilometers of conductors, most of which represent favorable graphitic lithology. A total of twenty-one conductive zones were identified as priority exploration targets, of which only seven were drilled in the first pass. Purepoint Uranium ultimately identified 8 areas at Red Willow that could host potential uranium deposits. As part of the 2022 winter drilling program, 1.2 kilometers of uranium mineralization was intersected in the Osprey zone. Near-surface uranium intercepts of up to 0.47% U<sub>2</sub>O<sub>2</sub> were intersected. The best hole to date was drilled in 2019 and contained 0.19% U\_O\_ over 4.0 meters and 3.03% U<sub>2</sub>O<sub>2</sub> over 0.1 meters. In 2023, the Red Willow project drilled 3,854 meters of diamond drilling in 15 holes in the Osprey, Geneva and Radon Lake zones.



Tabbernor

The Tabbernor Project has been staked along three major trends of the Tabbernor Fault System, a deep-seated, 1,500-kilometer-long crustal shear system that runs north through the Athabasca Basin. The system hosts over 80 historic mines and gold deposits and also intersects the basin's mine trend and is associated with eight of the basin's largest uranium discoveries. The Tabbernor project consists of 31 claims totaling 70,598 hectares. The original block of three north-south trending claim groups (23 claims) covering the Tabbernor structures has now been supplemented by a further 8 claims covering a strong east-northeast trending belt of conductive rocks. Purepoint completed a 2,667 line-kilometer MobileMT airborne geophysical survey in 2023 focused on the 50-kilometer graphitic corridor that intersects the project. In addition, a detailed ground geochemical survey was completed covering approximately 2.5 kilometers of the electromagnetic conductor within a prospective area. The company then

tures within the project area. Turnor Lake Purepoint Uranium's 100% owned Turnor Lake project consists of four claims totaling 9.705 hectares in the eastern portion of the Athabasca Basin. The company has defined four distinct exploration areas there - the Serin conductor, the Laysan zone, the Turnor Lake zone and the Turaco zone. The Serin conductor lies within the La Rocque corridor, which hosts Orano's Alligator project (3.8% U<sub>2</sub>O<sub>2</sub> over 10.5 meters). Cameco's La Rocque deposit (29.9% U<sub>2</sub>O<sub>2</sub> over 7.0 meters) and IsoEnergy's Hurricane zone, which returned 38.8% U<sub>2</sub>O<sub>2</sub> over 7.5 meters, among others. The Laysan zone hosts, among others, the historic drill



staked an additional 8.865 hectares on the eastern boundaries of the project. During the summer months of 2024, Purepoint Uranium commenced a comprehensive airborne gravity gradiometer, gravity and magnetic survey on the Tabbernor project, covering 7,549 line kilometers and targeting the extensive Tabbernor Fault System. The aim was to provide high-resolution data to better define drilling targets and understand the complex geological struc-

The Athabasca Basin is one of the richest uranium deposits in the world (Purepoint Uranium)

hole OD-1, which returned 0.06% U<sub>2</sub>O<sub>2</sub> over 3.4 meters. The Turnor Lake Zone is a target associated with numerous highgrade showings to the south, including 2.7% U<sub>2</sub>O<sub>2</sub> over 1.2 meters at Orano's property. Extensive geophysical programs have enabled Purepoint Uranium to outline approximately 34 kilometers of conductor across the Turnor Lake project.

In the second guarter of 2024, Purepoint Uranium commenced a helicopter-borne diamond drilling program at Turnor Lake. Work also commenced to review and integrate historical geophysical survey data, including ground TEM, gravity and DC resistivity surveys, and compare these with the aeology of the current drill results. The use of state-of-the-art 3D modeling and analysis methods to improve the accuracy of potential deposit locations was also established. The focus of this work was on locating good electromagnetic conductors that represent fault-controlled graphitic/ pelitic zones and identifying fault zones and other structures that could control the location of uranium deposits.

#### Russell South

The 100% owned Russell Lake project covers 13,320 hectares in a geologically favorable area as it is located near the southern edge of the Athabasca Basin, which has relatively shallow drill targets and nearby uranium deposits. The project is adjacent to Cameco's Key Lake project, where the Key Lake mine produced over 200 million pounds of uranium at an average grade of 2.3% U<sub>2</sub>O<sub>2</sub> between 1983 and 1997. In addition, the project is adjacent to the west and south to Skyharbour Resources Ltd.'s Moore Lake project with its high-grade Maverick zone and Rio Tinto's Russell Lake project.

Five target areas have been identified on the project. In the third guarter of 2024, the company announced the completion of two advanced geophysical surveys, with final interpretations still pending.

#### Joint Venture with IsoEnergy

Purepoint Uranium recently announced that it has entered into an agreement with IsoEnergy in connection with the formation of a joint venture to explore and develop a portfolio of uranium properties in the Athabasca Basin in northern Saskatchewan. Both companies will contribute assets from their respective portfolios to the joint venture, which will consist of 10 projects totaling more than 98,000 hectares in the eastern part of the Athabasca Basin. Specifically, the Joint Venture will include IsoEnergy's Geiger, Thorburn Lake, Full Moon, Edge, Collins Bay Extension, North Thorburn, 2Z Lake and Madison projects and Purepoint's Turnor Lake and Red Willow projects. IsoEnergy will initially hold a 60% interest in the Joint Venture, with Purepoint holding a 40% interest. Either party may adjust this split to 50/50 through the exercise of mutual exclusive put/call options within six months. Purepoint will be the operator during the exploration phase of the joint venture properties. With the transition to the pre-development phase, IsoEnergy will assume operational control of the joint venture properties.

#### Summary: High news flow ensures steady share price performance

Purepoint Uranium has assembled a unique portfolio of uranium projects in the Athabasca Basin during a largely prevailing downturn in the uranium sector over the past 20 years and is now working to reveal the potential of these selected projects. To this end, the company not only has two strong partners in Cameco and Orano, who are also assuming part of the management costs, but has also launched several fully funded drilling campaigns for 2024 to pursue potentially high-caliber exploration results and make significant discoveries. As a result. an increased newsflow in the form of drill results and interpretations of the airborne studies can be expected in the coming months, which will draw further attention to Purepoint Uranium.

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

Over the past 12 months, we have remained focused on advancing our high-potential portfolio in the Athabasca Basin. While exploration results have been more targeted, we've been positioning the company for significant developments, including strengthening relationships with key partners and preparing for exciting growth opportunities. Our projects remain strategically positioned, and we continue to benefit from the rise in uranium prices, which we believe will support our long-term exploration goals.



The Turnor Lake project is 100% owned by Purepoint Uranium (Purepoint Uranium)

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

The most important catalysts for the next 6 to 12 months include advancing key partnerships, unlocking new value from our strategic portfolio in the Athabasca Basin, and the continued rise in uranium prices driving renewed interest in exploration. As

The uranium market is in a transitional phase, with rising prices, tight supply, and growing demand. Major catalysts in the form of M&A. production restarts, permitting milestones, and long-term contracting will define the market in the next 6-12 months. However, challenges related to geopolitical risk, financing, and delayed production timelines will continue to weigh on equities until further clarity is achieved.

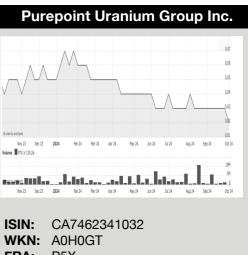
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Contact:



market conditions improve and significant industry transactions unfold, we expect to be well-positioned for growth. Ongoing exploration work and targeted developments across our projects will also play a critical role in shaping our future trajectory.

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



Fully diluted: 690.8 million.

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Chris Frostad, CEO

## **Skyharbour Resources** Many exploration developments thanks to financially strong partners

Skyharbour Resources is a uranium development company that has acquired 29 world-class exploration projects at attractive valuations totaling over 587,000 hectares across the Athabasca Basin. In addition to several of its own development proiects, the Company is focused on its prospect generation model to advance and fund exploration on its other projects in the Basin and has brought on board several partners (Orano Canada, Azincourt Energy, Valor Resources, Basin Uranium, Tisdale Clean Energy, Medaro Mining, North Shore Uranium) who are consistently reporting new exploration results. In total, Skyharbour has signed earn-in option agreements with partners for potentially up to CA\$33 million in partner-funded exploration expenditures, up to CA\$26 million in share issuances and up to CA\$19 million in cash payments to Skyharbour.

#### Moore Lake – Top drilling results and current drilling program

The Moore Lake project is located approximately 15 kilometers east of Denison Mines' Wheeler River development project and midway between the Key Lake Mill and the McArthur River Mine. The high-grade Moore Lake project consists of 12 contiguous claims totaling 35,705 hectares. Skyharbour Resources has already demonstrated high-grade uranium mineralization, with notable new discoveries in the Main and Maverick East zones. Drilling program highlights included 20.8% U<sub>2</sub>O<sub>2</sub> over 1.5 metres within a 5.9 metre interval of 6.0% U<sub>2</sub>O<sub>2</sub>, 5.6% U<sub>2</sub>O<sub>2</sub> over 1.8 metres within a 10.7 metre interval of 1.4% U<sub>2</sub>O<sub>2</sub>, 2.25% U<sub>0</sub>O<sub>0</sub> over 3.0 metres and 4.17% U<sub>0</sub>O<sub>0</sub> over 4.5 metres including 9.12% U<sub>2</sub>O<sub>2</sub> over 1.4 metres at the Maverick East Zone. In February 2024, Skyharbour commenced a 3,094-metre drill program which included infill and extensional drilling in the highgrade Maverick Corridor as well as drilling to test several regional targets including the Grid Nineteen target area. A highlight of this program was drill hole ML24-08, which intersected 5.0 metres of 4.61% U<sub>2</sub>O<sub>2</sub> from a relatively shallow downhole depth of

265.5 metres to 270.5 metres, including 10.19% U<sub>2</sub>O<sub>2</sub> over 1.0 metre in the Main Maverick Zone. In September 2024, Skyharbour commenced its summer drill program comprising 2,500 metres in seven to nine drill holes.

#### Preston – Joint venture with Orano Canada

In March 2021. Orano obtained a 51% interest in Preston (western part) and formed a joint venture together with Skyharbour Resources and Dixie Gold. Preston covers a total area of 50,000 hectares and is currently being explored for high-grade targets. To this end, Orano and Skyharbour commenced an extensive exploration program in April 2024, which included a ground electromagnetic (ML-TEM) survey, a gravity survey and a ground spatiotemporal geochemical hydrocarbon sampling program.

#### East Preston – Option agreement with Azincourt Energy

The East Preston project comprises the eastern part of the Preston project and covers an area of approximately 20.000 hectares. Azincourt conducted an extensive drilling program in 2023, which included approximately 3,000 metres of drilling in 13 diamond drill holes. This drilling has confirmed that the identified geophysical conductors comprise structurally disturbed zones that host accumulations of graphite. sulphides and carbonates. Azincourt's 2024 winter drill program consisted of 1,086 metres of drilling in four diamond drill holes. The priority of the 2024 drill program was to follow up on the clay alteration zone and elevated uranium identified in the winter of 2023, focusing on the transition area between the K and H zones. Analysis of the results showed several intervals of anomalous uranium enrichment within the clay alteration zones along the K and H target zones. The highest uranium result for 2024 was returned in drill hole EP0058 with 16 ppm uranium over 1.91 meters, including up to 21.9 ppm uranium over 0.51 meters.

#### Hook Lake – Joint Venture with Valor Resources

The Hook Lake project is located 60 kilometers east of the Key Lake uranium mine and covers approximately 26,000 hectares. The joint venture partner Valor Resources encountered 9.2% U<sub>2</sub>O<sub>2</sub>, 499g/t Ag, 5.05% TREO (rare earth oxides), 14.4% Pb, 57.4% U<sub>2</sub>O<sub>2</sub>, 507 g/t Ag, 3.68% TREO, 14.5% Pb and 46.1% U<sub>2</sub>O<sub>2</sub>, 435 g/t Ag, 2.88% TREO, 8.8% Pb in float and rock chip samples. Three of the drill holes in the S zone showed elevated radioactivity and associated alteration of varying widths. One drill hole intersected a zone of elevated radioactivity and alteration at a depth of 104.3 to 108.0 meters. After analyzing further data, a total of 11 new targets were identified. For the highest priority targets, more detailed work was proposed in the form of radon surveys and lake sediment sampling.

#### Yurchison - Option agreement with Medaro Mining

The 55,934-hectare Yurchison Project was optioned to Medaro Mining Corp. in November 2021. Historical trenching near old trenches returned significant uranium (between 0.09% and 0.30% U<sub>2</sub>O<sub>2</sub>) and molybdenum mineralization (between 2,500 ppm and 6,400 ppm Mo). Two historical drill holes below the trenches returned strongly anomalous molybdenum values of up to 3.750 ppm and anomalous uranium values of up to 240 ppm. The property has high discovery potential for uranium mineralization in bedrock as well as copper, zinc and molybdenum mineralization.

#### **Russell Lake**

Russell Lake comprises a total of 26 claims covering 73,294 hectares and is an exploration property where numerous prospective targets and several high-grade uranium occurrences and drill hole intercepts have been identified. The property is centrally located between Cameco's Key Lake mill to the south and the McArthur River Mine to the north. Russell Lake is also

### Mann Lake – Option agreement with **Basin Uranium**

The Mann Lake project is adjacent to the joint venture project of the same name between Cameco, Denison and Orano. It is strategically located approximately 25 kilometers southwest of Cameco's McArthur River Mine and 15 kilometers northeast of Cameco's Millennium uranium deposit. In April 2022, partner Basin Uranium launched an initial exploration campaign at Mann Lake, which included 3,000 meters of drilling. Among other things, the company encountered 323 ppm U<sub>2</sub>O<sub>2</sub> over 0.5 meters. Significant traces of rare earth elements were also encountered, including a peak value of 5,028 ppm over 0.5 metres within a broader 50 metre interval of anomalous mineralization.

### South Falcon – Option agreement with North Shore Uranium

The South Falcon project consists of eleven mineral claims covering approximately 42,908 hectares located approximately 50 kilometers east of the Key Lake mine. The historic uranium mineralization discovered at South Falcon is shallow and hosted in a variety of geological settings, including



only about 5 kilometers from Denison Mines Phoenix Project. In February 2024, Skyharbour commenced a 5,000-metre drill program focused on the Fork and Grayling East targets within the broader Grayling target area as well as the M-Zone Extension target. During the first phase. the best intercept of uranium mineralization on the property was discovered in drill hole RSL24-02, which returned a 2.5-metrewide interval of 0.721% U<sub>2</sub>O<sub>2</sub> at a relatively shallow depth of 338.1 metres, including 2.99% U<sub>2</sub>O<sub>2</sub> over 0.5 metres at 339.6 metres just above the unconformity in the sandstone. This high-grade intercept is a new discovery on the recently identified Fork target, which has seen very limited exploration in the past due to a lack of reliable geophysical data and drill targets impacted by nearby power lines.



classic Athabasca-style basement mineralization associated with well-developed EM conductors. Up to 0.492% U<sub>2</sub>O<sub>2</sub> and 1,300 ppm lead have been found in outcrop samples at the EWA target. North Shore Uranium has collected multiple samples from two of the first three uranium prospects and has encountered anomalous uranium values in excess of 300 ppm U<sub>2</sub>O<sub>2</sub> and up to a maximum of 572 ppm U<sub>0</sub>O<sub>2</sub>. Based on extensive geological and geophysical datasets, North Shore is now prioritizing uranium exploration targets on the two properties in preparation for future field work, including potential drill programs.

#### South Falcon East – Option agreement with Tisdale Clean Energy

The South Falcon East project covers approximately 12,464 hectares and is located 18 kilometers outside the Athabasca Basin, approximately 55 kilometers east of the Key Lake mine. The Fraser Lakes B zone alone at the southern end of the property hosts at least 6,960,681 pounds of U<sub>2</sub>O<sub>2</sub> and 5,339,219 pounds of ThO2. In March 2024. Tisdale commenced a drilling campaign that initially included up to 1,500 meters of drilling. In phase one, 442 meters were drilled in the first two holes. Hole SF-

0059 was drilled to a depth of 221 metres and intersected multiple zones of mineralization over 13.5 metres, confirming the presence of mineralization in the vicinity of historic drill hole FP-15-05. Hole SF-0059 intersected 0.02% eU<sub>2</sub>O<sub>2</sub> over 5.6 meters, including 0.07% eU<sub>2</sub>O<sub>2</sub> over 1.1 meters and 0.03% eU<sub>2</sub>O<sub>2</sub> over 4.1 meters.

#### Summary: Increased news flow due to countless exploration campaigns boost share price performance

Skyharbour Resources, with its worldclass portfolio of high-grade uranium projects in the Athabasca Basin, is very well positioned to further capitalize on a rising uranium price. The Company continues to advance its high-caliber Moore Lake uranium project as more partner companies take on the exploration and development of the other projects, finance, make cash and share payments, and create newsflow and value. The company received CA\$6.37 million in fresh funds through a financing in December 2023 and is therefore excellently financed. Furthermore, the company naturally participates in the success of its partners through corresponding share packages received for the transfer of projects. Most recently, a share package in Cosa Resources was added.



Jordan Trimble, CEO

**Exclusive interview with Jordan Trimble**, **CEO of Skyharbour Resources** 

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

Skyharbour has been very active with several key developments including the completion of a large winter drill program at the Russell Lake Project with Rio Tinto as a project partner. A new discovery was made at the Fork Target which had very little historical exploration and drilling. Russell Lake is a 73.000-ha advanced-stage exploration property strategically located between the

McArthur River Mine, the Key Lake Mill and Denison's Wheeler River Project. The discovery of multi-percent, high-grade, sandstone-hosted uranium mineralization at a new target is a major breakthrough in the discovery process at Russell, which will be followed up with additional drilling commencina soon.

Adjacent to Russell Lake is Skyharbour's 100% owned Moore Lake Project which is host to high-grade mineralization including 21% U<sub>2</sub>O<sub>2</sub> over 1.5m in previous drilling. The

Company completed a winter drill program in conjunction with the drilling at Russell and continued to delineate new areas of high-grade uranium mineralization at the Main Maverick Zone.

Skyharbour added to its property portfolio in the Athabasca through additional staking throughout the year, bolstering the prospect generator side of the business. Skyharbour now has 29 projects covering over 580,000 ha of land, making the company the third largest mineral tenure holder in the region.

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

An important catalyst for Skyharbour includes additional drilling programs at both Russell and Moore Lake, which will include a combined 7-8,000m of drilling to follow up on the recently completed winter drilling. Skyharbour is also planning to issue a NI 43-101 Mineral Resource Estimate at the Moore Lake Project.

The Company has several partner companies that will be carrying out field and drill programs shortly as part of its robust prospect generator business. Skyharbour has now signed 7 option agreements at 7 projects that total to over \$80 million in cash in combined project consideration consisting of exploration funding, cash and share payments from partners. The company will continue to execute on its prospect generator model by acquiring projects at attractive valuations and bringing in partner companies to advance these secondary proiects.

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

The uranium market is expected to continue its upward trajectory in 2025, with strong tailwinds potentially pushing prices higher. The supply side continues to face pressure from geopolitical tensions, supply chain disruptions, and challenges in ramping up production from key uranium pro2025.

ISIN: WKN: FRA:

Contact:



jects. The recent ban on Russian uranium imports to the US, combined with utilities actively seeking to lock in new long-term contracts ahead of the expiration of existing agreements, heightens the urgency in an already tight market.

On the demand side, the global sentiment toward nuclear energy is becoming more favorable as governments recognize its crucial role in achieving decarbonization goals. The life extensions of existing nuclear reactors, coupled with plans for new builds and the development of small modular reactors (SMRs), are driving demand growth. Countries worldwide are focusing on nuclear energy as a solution for providing reliable, clean baseload power, essential for meeting ambitious carbon reduction targets. With these dynamics at play, uranium's strong fundamentals are likely to continue supporting higher prices and increased investment activity in the sector throughout



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### **Uranium Energy**

Return to the circle of uranium producers completed expansion to over 10 million pounds of annual production possible

> Uranium Energy Corp is a uranium mining and exploration company based in the USA. In South Texas and Wyoming, Uranium Energy owns three hub-and-spoke operations, one of which in Wyoming has been producing uranium again since Auaust 2024.

> In addition, the company controls a pipeline of high-grade uranium projects in Canada, the USA and Paraguay and one of the highest grade and largest undeveloped ferrotitanium deposits in the world, located in Paraguay.

> The company generated revenues of US\$163.95 million in fiscal year 2023 from the sale of 3,150,000 pounds of uranium reserves on the spot market and achieved a gross profit of US\$49.60 million. The company should be able to increase this slightly in the future with its own production.

#### Hub-and-spoke operation in Wvoming – Back in operation since August 2024

Two of the hub-and-spoke operations are located in the US state of Wyoming. The Irigaray processing facility is located approximately 45 miles from the main Reno Creek project and currently has a licensed capacity of 2.5 million pounds of U<sub>2</sub>O<sub>2</sub> per vear, with a license amendment currently under regulatory review expected to increase capacity to 4.0 million pounds per year. The Irigaray facility is the central hub of four fully permitted ISR projects (spokes) in Wyoming's Powder River Basin, including the Christensen Ranch. Uranium mined at Christensen Ranch will be processed at the Irigaray CPP, located approximately 15 miles northwest of Christensen Ranch. Reno Creek has a large NI 43-101 resource of 26 million pounds of U<sub>2</sub>O<sub>2</sub> in the M&I category. A 2014 pre-feasibility study confirmed that Reno Creek is a highly economic project with low capital and operating costs. In addition, the project has much higher exploration potential.

The Christensen Ranch project, which can be combined with the Reno Creek project, restarted operations in Wyoming on August 6, 2024. This and the other newly acquired projects host approximately 37.6 million pounds of U<sub>2</sub>O<sub>2</sub> in historically estimated measured and indicated resources and 4.3 million pounds of U<sub>2</sub>O<sub>2</sub> in historically estimated inferred resources with significant growth potential.

The first delivery of yellowcake is expected to take place in November or December 2024, while the ramp-up phase until full production capacity is reached will last until 2025.

#### Hub-and-spoke operation in Texas -On hold

Uranium Energy owns several other uranium projects and a processing plant in South Texas. The Palangana In-situ Recovery (ISR) project is fully licensed and has a measured and indicated resource of 1.1 million pounds and an inferred resource of 1.2 million pounds of U<sub>2</sub>O<sub>2</sub>. Historically, the cash cost of production has been less than US\$22 per pound of uranium.

The Goliad ISR project is also fully licensed for production and, like Palangana, is located near the Hobson processing plant in South Texas. It has a NI 43-101 compliant resource of 5.5 million pounds of measured and indicated U<sub>2</sub>O<sub>2</sub> and 1.5 million pounds in the inferred category.

UEC's largest ISR project in South Texas is Burke Hollow and covers approximately 20,000 acres. Burke Hollow has a measured and indicated resource of 6.155 million pounds of U<sub>2</sub>O<sub>2</sub> and an additional 4.883 million pounds in the inferred category and is located approximately 50 miles from Hobson, Since 2019, Uranium Energy has conducted several drilling campaigns at Burke Hollow, which included delineation drilling and the installation of monitoring wells to further advance the project towards uranium recovery.

The Hobson production facility in South Texas is a fully licensed processing plant with a capacity of 4 million pounds of U<sub>2</sub>O<sub>2</sub> per vear. The facility has been completely renovated and is state of the art. Hobson serves as the hub in the company's huband-spoke strategy, processing uranium from the various low-cost ISR mines in South Texas.

Most recently, Uranium Energy Corp has been aggressively advancing exploration and delineation work at its Burke Hollow and Palangana ISR projects, which are slated for further near-term development in preparation for uranium extraction. In total, Uranium Energy has around 23 million pounds of U<sub>2</sub>O<sub>2</sub> in Texas.

#### Hub-and-spoke operation in Wyoming 2 – Latest acquisition from Rio Tinto

Uranium Energy recently announced that it has entered into an agreement with Rio Tinto America Inc. to acquire 100% of Rio Tinto's Wyoming assets, consisting of the fully owned and fully licensed Sweetwater Plant and a portfolio of uranium mining projects with approximately 175 million pounds of historical resources. The purchase price payable on closing of the transaction is US\$175 million, subject to customary working capital adjustments, and will be funded from Uranium Energy's available liquidity. This will provide Uranium Energy with a third U.S. hub-and-spoke production platform with a significant asset base with high replacement value and significant time and cost savings compared to building and licensing a new processing facility. Further, the Company receives significant and accretive resource growth with the addition of approximately 175 million pounds of historic uranium resources. The transaction represents an increasingly rare opportunity to acquire licensed assets and permitted uranium mining resource properties from a world-leading mining company. These assets significantly enhance and accelerate the Company's production capabilities in the Great Divide Basin. The Sweetwater facility, a 4.1 million pound per year processing plant with a capacity of 3,000 tons per day, can also be adapted to recover uranium from loaded resins generated at ISR operations. This provides UEC with production flexibility for both ISR and conventional mining. Finally, an extensive land package, geological data and exploration opportunities are obtained.

### Canadian projects

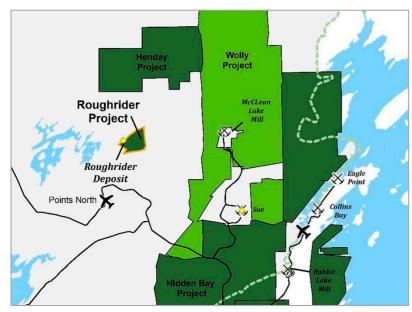
Uranium Energy's Canadian portfolio consists of over 30 uranium projects covering key areas in the producing east and developing west of the prolific Athabasca Basin.

### Roughrider - The next gamechanger in the making



The largest Canadian project by far is called Roughrider. It has 27.8 million pounds of U<sub>2</sub>O<sub>2</sub> in 389,000 tons grading 3.25% U<sub>2</sub>O<sub>2</sub> in the indicated category and 36.0 million pounds of U<sub>2</sub>O<sub>2</sub> in 359,000 tons grading 4.55% U<sub>2</sub>O<sub>2</sub> in the inferred category. There are more than 20 uranium deposits within 100 kilometers of Roughrider. five current and past producing mines and two uranium mills, providing excellent infrastructure for future development. Previous owner Rio Tinto has already completed extensive pre-production and environmental baseline work, which has provided a solid foundation and significant value for the completion of upcoming technical reports, moving the project efficiently towards a production decision. In January 2024, Uranium Energy announced the discovery of new high-grade vein-hosted mineralization grading 6.29% eU<sub>2</sub>O<sub>2</sub> over 2.9 metres west of the East Zone deposit. Later in the year, Uranium Energy encountered additional high-grade uranium intercepts, including





Uranium Energy intersects 11.4% eU<sub>2</sub>O<sub>2</sub> over 2.4 meters at the Roughrider North discovery, 850 meters northeast of the Roughrider deposit (Uranium Energy)

12.7% eU<sub>2</sub>O<sub>2</sub> over 7.2 meters and 11.4% eU<sub>2</sub>O<sub>2</sub> over 2.4 meters, 850 meters northeast of the Roughrider deposit. The northern exploration corridor is largely untested, which is why Uranium Energy developed priority drill targets along the trend using an ANT survey. The Company continues to advance the project in parallel by working on an economic study for the project, updating the environmental assessment baseline and conducting an aggressive drilling campaign.

Six of the other 30 Canadian projects are at an advanced resource stage and are already involved in strong joint venture partnerships with established uranium mining companies. These project interests include a 49.1% interest in Shea Creek, currently one of the largest undeveloped deposits in the Athabasca Basin, which hosts 67.57 million pounds of U<sub>2</sub>O<sub>2</sub> in indicated resources and 28.06 million pounds of U<sub>2</sub>O<sub>2</sub> in inferred resources. Furthermore, a 100% interest in Horseshoe-Raven, an open pit project located only 4 kilometers from Cameco's Rabbit Lake Mill with 37.43 million pounds of U<sub>2</sub>O<sub>2</sub> in Indicated Resources. As well as an 82.8% interest in Christie Lake, a resource-stage asset in the Athabasca Basin that hosts 20.4 million pounds of U<sub>2</sub>O<sub>2</sub> inferred resources and recently re-

ported 68.7% eU<sub>2</sub>O<sub>2</sub> over 2.1 meters, 23.2% eU<sub>3</sub>O<sub>8</sub> over 3.4 meters and 15.94 eU<sub>2</sub>O<sub>2</sub> over 7.0 meters.

#### Further potential top projects in the pipeline

In addition to the projects listed above, Uranium Energy has a number of other outstanding projects. For example, the Anderson Project in Arizona, which hosts at least 32 million pounds of U<sub>2</sub>O<sub>2</sub> and could have an average production of more than one million pounds per year, with a total production of 16 million pounds of uranium over a 14-year mine life and a direct operating cost of \$30.68 per contained pound of U<sub>o</sub>O<sub>o</sub>.

Uranium Energy also has two prospective ISR uranium projects in Paraguay with geology very similar to South Texas. The Yuty project has resources of 11.1 million lbs. U<sub>2</sub>O<sub>2</sub>. The Oviedo project has an exploration target of 23 to 56 million pounds of U<sub>2</sub>O<sub>2</sub> under NI 43-101 criteria.

#### Summary: Own production will catapult Uranium Energy into higher valuation categories

Uranium Energy has three fully licensed, low-cost ISR hub-and-spoke operations in South Texas and Wyoming with a current capacity of more than 10 million pounds of U<sub>2</sub>O<sub>2</sub> per year, which will be rapidly expanded. With its low-cost ISR projects in Texas and Wyoming, Uranium Energy is ideally positioned to satisfy the U.S. hunger for uranium. Uranium Energy has been a uranium producer again since August 2024 and will therefore benefit directly from high or rising uranium prices. In addition, it owns the third largest uranium resource base in the Athabasca Basin after Cameco and Orano, which means an excellent project pipeline. Steady drilling success at Roughrider and an expected positive cash flow in the near future should soon catapult Uranium Energy into higher valuation categories.

## **Exclusive interview with Amir Adnani**, President, CEO and founder of **Uranium Energy**

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

UEC continues to show unparalleled growth with expansion of projects, resources, and production platforms. We restarted production at our Wyoming Christensen Ranch ISR mine and Irigarav Central Processing Plant ("CPP"). We accelerated activities towards a restart at our South Texas operations with development plans for the construction of a satellite facility to serve the Hobson CPP. We also advanced Roughrider and Burke Hollow, logging resource expansions at both projects. Our accretive acquisition of Rio Tinto's fully-licensed Sweetwater Plant and a portfolio of Wyoming uranium projects containing 175 million pounds of historical resources is a highly successful achievement. The acquisition unlocks tremendous value and synergies for the Company, creating a third hub and spoke ISR production platform. Excluding those Rio Tinto historical resources, UEC's attributable resources now total 230.0 million pounds U<sub>2</sub>O<sub>2</sub> in the Measured and Indicated Categories and 102.7 million pounds U<sub>2</sub>O<sub>2</sub> in the Inferred category across all its projects within UEC's pure-play uranium business. As the demand side pressure increases, UEC remains 100% unhedged. Our balance sheet is debt free with approximately \$331.5 million in cash, equity holdings and inventory at market prices on July 31, 2024, providing the financial strength to rapidly expand and develop our U.S. ISR production platforms and Canadian assets.

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

Looking ahead, the continued advancement of our production projects is a key near term focal point for us as we ramp up our production operations in Wyoming and development plans in South Texas. In the next couple months, UEC plans to issue a PEA on the Roughrider Project that will highlight all development aspects of this world class, high grade. Saskatchewan asset. In addition, we are looking to further our drilling

Global demand for nuclear energy and uranium is surging, with fundamentals favoring more appreciation in the spot, mid-term and long-term uranium markets. The structural gap between uranium production and market demand in 2024 and 2025 is forecasted to exceed 58 million pounds. For context, annual U.S. reactor requirements are around 45 million pounds and likely to grow further with big tech companies like Microsoft, Google Amazon and Oracle all announcing pursuit of new or the restart of nuclear facilities to service the power demand needed for AI and data center growth. Also, U.S. and European Union Russian uranium bans and Russia's recent signaling of future export restrictions, emphasize the need for reliable domestic supply chains to meet Western nuclear fuel supply requirements.



Contact:



campaigns, expand our resources and project base in the stable and secure jurisdictions of Canada and the United States.

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

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Amir Adnani, CEO

## **Uranium Royalty** First pure uranium royalty company with several high-caliber companies

Uranium Royalty Corp. is a Canadian company focused on strategic investments in uranium interests, including royalties, streams, debt and equity in uranium companies, as well as physical uranium businesses. This makes Uranium Royalty the first company to apply the successful rovalty and streaming business model exclusively to the uranium sector. The portfolio includes interests in more than 20 development, advanced-stage, permitted and producing uranium projects in multiple jurisdictions. The portfolio also includes a large inventory of physical uranium as well as cash and tradable securities that could be monetized immediately if additional highcalibre royalty opportunities arise.

### **Athabasca Basin Royalties**

Uranium Royalty holds 5 prospective royalties in the Athabasca Basin.

#### **McArthur River**

The McArthur River Mine is considered the highest-grade uranium mine in the world and is currently owned by Cameco. Mc-Arthur River has 380 million pounds of U<sub>2</sub>O<sub>2</sub> in reserves and produced around 13.5 million pounds of U<sub>2</sub>O<sub>2</sub> in 2023. 18 million pounds of U<sub>2</sub>O<sub>2</sub> are expected to be produced in 2024. Uranium Royalty holds a 1% gross overriding royalty on a 9% interest. These payments are to be made in the form of physical uranium.

#### Cigar Lake/Waterbury/Dawn Lake

Cigar Lake has a license to produce 18 million pounds of U<sub>2</sub>O<sub>2</sub> per year and reserves of approximately 208 million pounds of U<sub>2</sub>O<sub>2</sub>. Cigar Lake's total production in 2023 was 15.1 million pounds of U<sub>2</sub>O<sub>2</sub>. Uranium Royalty holds a 20% Net Present Interest on a 3.75% interest.

In addition, an option was secured to earn a 20% net profit interest on a 7.5% share of the total uranium production from the Dawn Lake project area. The royalty rate will be

adjusted to 10% in the future once the production of 200 million pounds from the combined license areas of the Dawn Lake and Waterbury/Cigar projects is reached.

#### Roughrider

Roughrider is an advanced underground deposit owned by Uranium Energy. It has approximately 63.8 million pounds of U<sub>2</sub>O<sub>2</sub> resources. Uranium Royalty holds a 1.97% net smelter royalty on Roughrider.

#### **Russell Lake**

Russell Lake is an exploration project being developed by Skyharbour Resources and Rio Tinto. Russell Lake covers approximately 72,000 hectares of license area on highly prospective ground. Uranium Royalty holds a 1.9766% net smelter royalty on Russell Lake.

#### Dawn Lake

Dawn Lake is operated by Cameco. The project area is located approximately between the McClean Lake mill and the Cigar Lake mine. Cameco reported estimated resources of 18.9 million pounds for the Tamarack deposit located in the Dawn Lake project area. Uranium Royalty has a 10% to 20% sliding royalty on a 7.5% share of the total uranium production from the Dawn Lake project area.

### **US-ISR** royalties

In the USA, Uranium Royalty holds several royalties on ISR projects

#### **Reno Creek**

Reno Creek is owned by Uranium Energy and is located in Wyoming. The project is fully permitted, has resources of 27.5 million pounds of U<sub>2</sub>O<sub>2</sub> and is ready for construction. Uranium Royalty holds a 0.5% net present interest in Reno Creek.



### Churchrock

Churchrock is located in New Mexico and is owned by Laramide Resources. Uranium Royalty holds a 4% net smelter royalty on Churchrock. In 2024, a gross royalty of 6% of the mine price was also acquired to cover the reasonable and actual costs of transporting the mineral to the final point of sale. The royalty covers the 10 patented mining claims in Section 8 (640 acres) that comprise the New Mexico Mineral Survey 2220 on the Churchrock project. Churchrock has inferred resources of approximately 50.8 million pounds of  $U_0O_0$ , of which 10.22 million pounds of  $U_0O_0$ are located in Section 8.

#### **Dewey-Burdock**

Dewey-Burdock is located in South Dakota and is being developed by enCore Energy's subsidiary Azarga Uranium. The most recent PEA estimates an after-tax NPV at an 8% discount of US\$147.5 million at a constant price of US\$55 per pound. Dewev-Burdock has approximately 17 million pounds of U<sub>2</sub>O<sub>2</sub>. Uranium Royalty holds a 30% net present interest in Dewey-Burdock and a 2-4% sliding scale royalty on portions of the Dewey-Burdock project.

#### Lance

Lance is located in Wyoming and is operated by Peninsula Energy. The project hosts over 58 million pounds of U<sub>2</sub>O<sub>2</sub>. Uranium Royalty's 5% gross revenue royalty covers a portion of the Kendrick and Barber properties. A positive feasibility study for Lance was presented in August 2022.

In addition to the royalties on ISR projects, Uranium Royalty holds further royalties on conventional projects in the USA.

#### Anderson

Anderson is located in Arizona and is owned by Uranium Energy. The project, in which Uranium Royalty holds a 1% net smelter royalty, hosts 32 million pounds of U<sub>2</sub>O<sub>2</sub> resources. A preliminary economic assessment indicated an after-tax NPV (discounted at 10%) of US\$101.1 million at a fixed uranium price of US\$65 per pound. Average life of mine operating costs were estimated at US\$30.68 per contained pound.

### Slick-Rock

per pound.

### Workman Creek

Workman Creek is located in Arizona and is owned by Uranium Energy. The property has extensive historical data consisting of 400 exploration and development drill



#### Churchrock is one of the largest and highest-grade undeveloped ISR uranium projects in the United States (Uranium Royalty/ Laramide Resources)

### US royalties conventional projects

Slick-Rock is located in Colorado and will be developed by Anfield Energy in the future. The project, in which Uranium Royalty holds a 1% net smelter royalty, hosts approximately 11.6 million pounds of U<sub>2</sub>O<sub>2</sub> resources. A preliminary economic assessment resulted in an after-tax NPV (discounted at 10%) of US\$31.9 million using a model with a fixed uranium price of US\$60



holes, geologic mapping, regional and detailed geochemical, petrographic, mineralogical-paragenetic and metallurgical studies. To date, 5.54 million pounds of resources have been proven. Uranium Royalty holds a 1% net smelter royalty.

#### Roca Honda

Roca Honda is owned by Energy Fuels and is located in New Mexico. Uranium Royalty holds a 4% gross revenue royalty. The Section 17 area has a partially developed vertical mine shaft and haul road. Energy Fuels plans to incorporate the Section 17 area covered by the royalty into the Company's permitting efforts. An economic feasibility study determined a potential production of 2.7 million pounds of U<sub>2</sub>O<sub>2</sub> over a mine life of 9 years.

### **Further US royalties**

In addition, Uranium Royalty has a 2% gross royalty on portions of the San Rafael project located in Utah and operated by Western Uranium & Vanadium. In addition, a 2-4% sliding scale gross royalty on portions of the Whirlwind Project, located in Colorado and Utah and operated by Energy Fuels, and a 1% gross royalty (applicable to uranium and vanadium sales) on portions of the Energy Queen Project, located in Utah and also operated by Energy Fuels.

#### Langer Heinrich

Langer Heinrich is a producing uranium mine in Namibia and hosts approximately 128 million pounds of U<sub>2</sub>O<sub>2</sub> resources. Uranium Royalty receives AU\$0.12 in production royalties for every kilogram of U<sub>2</sub>O<sub>2</sub> produced.

#### **Michelin**

Michelin is an advanced uranium project in the Canadian province of Labrador. The operator Paladin Energy acquired Michelin in 2011 for CA\$ 260.9 million. Michelin is a low technical risk project located in a prime uranium district. The project hosts approximately 127.7 million pounds of U<sub>2</sub>O<sub>2</sub> resources. Uranium Royalty holds a 2% gross revenue royalty on Michelin.

#### Investment in Yellow Cake plc and physical uranium purchases

In addition to the aforementioned interests in uranium projects, Uranium Royalty also owns 7.5 million shares in Yellow Cake plc. Currently, Uranium Royalty has approximately 2.7 million pounds of physical uranium in stock or under contract for delivery at an average purchase price of US\$57.54 per pound. Uranium Royalty will continue to receive future royalty payments from McArthur River in the form of physical uranium.

#### Summary: Royalty payments pick up + More firepower for additional investments

Uranium Royalty is a company that has positioned itself early for the coming uranium boom and has secured several high-caliber royalties. In particular, corresponding payments from McArthur River in the form of physical uranium would have additional leverage in the event of a rising uranium price. With this second pillar "physical uranium", the company will be able to benefit immediately from rising uranium prices, which has already happened in recent months. All in all, more and more royalty projects are likely to come online in the coming years and thus ensure a positive cash flow for Uranium Royalty. In total, Uranium Royalty Corp. held approximately US\$329 million in cash, marketable securities and physical uranium inventories as of July 24, 2024. Furthermore, the company announced in August 2024 that it intends to generate up to US\$ 39 million in additional funds through the issue of new shares. This will make it possible to realize further high-profile royalty opportunities in the future.

## **Exclusive interview with Scott Melbye**, President, CEO of Uranium Royalty

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

The strengthening of the uranium market continues to have a positive impact on Uranium Royalty's portfolio of royalty assets (currently 22 interests in 19 projects). Mc-Arthur River is planning 2024 production of 18 million pounds which last year paid out around \$1 million in physical uranium deliveries to URC's account at Cameco. Cigar Lake is also expecting 18 million pounds of production in 2024, and Net Profit Interest payments are expected within 3 years. Announcement of Cigar Lake Phase Two plans will extend URC's royalty interests into the mid 2030's. URC's fixed royalty on Langer Heinrich has resumed with the successful restart of this Paladin mine in Namibia. and Peninsula's Lance Project is expecting start-up of operations around the end of the year.

URC's physical uranium inventory continues to appreciate with rising spot prices and currently sits at 2.7 million pounds and an average cost of around US\$60 per pound. Current value at \$82.50 per pound amounts to US\$222.75 million. Cumulative sales over recent years have generated US\$41.4 million with gross profits of US\$11.2 million.

Two new royalty acquisitions were completed for an increased 10% royalty interest exposure on Laramide's Churchrock project. and a .375% NSR interest was acquired on Berkeley Energia's Salamanca project in Spain. A robust pipeline of new business opportunities is being pursued in the U.S., Canada, Australia and Africa.

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

The continued advancement of projects throughout the portfolio will be supported by ongoing strengthening in uranium prices. These bullish conditions also drive the need for new production which creates a heathy pipeline of new project developments need-

ing royalty and stream financing. News flow around new royalty portfolio additions provide for analyst re-rating opportunities.

ISIN: WKN: FRA: TSX:

Contact:



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

The fundamentals of uranium supply and demand, strengthened by turbulent geopolitics, the green energy transition, and electricity demands of our modern technological society, have perhaps never created more positive conditions. Spot prices will continue to rise as a result. The prolonged bear market provided very little in terms of exploration discoveries and new project developments. The long-awaited exhaustion of excess inventories over-hanging the market now creates a structural deficit that can only be closed with new mine production which has not been incentivized until very recently (long lead times remain).



Fully diluted: 136.7 million

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Scott Melbye, CEO

### **Zuri Invest**

Investing in physical uranium with the Zuri-Invest Actively Managed Certificate ("AMC") on Physical Uranium

> Investors who want to add physical uranium to their portfolio now also have the opportunity to participate directly in rising uranium prices. Zuri-Invest AG from Switzerland offers the Physical Uranium Actively Managed Certificate (AMC) for this purpose.

#### Direct opportunity for cost-effective participation in the development of the uranium price

The Physical Uranium AMC invests in physical natural uranium concentrates in the form of U<sub>2</sub>O<sub>2</sub> (or "yellowcake"). Yellowcake is produced by processing uranium-rich ore after it has been mined, but before it is enriched or processed into fuel. The uranium is stored in a government-regulated storage facility in Canada managed by Cameco Corp., which is listed on the Toronto Stock Exchange.

The investment objective is to provide direct exposure to physical uranium in the form of natural uranium concentrates, also known as U<sub>2</sub>O<sub>2</sub> or yellowcake, at minimal cost. As the uranium market is highly regulated with significant barriers to entry for most participants, the physical uranium is acquired and held by the SPV on behalf of

the actively managed certificate in a leading uranium deposit. The investment structure thereby provides investment exposure to physical uranium without the cost and operational complexity of direct ownership. within the cost-effective structure of an actively managed certificate (AMC for short).

#### Entry and exit possible at any time + Settlement via renowned uranium traders

The structure holds physical uranium and is committed to investing all investment proceeds in the purchase of uranium as soon as possible and as soon as sufficient cash is available in the market to purchase a standard lot size (100,000 pounds of U<sub>2</sub>O<sub>2</sub>). Trade orders in the secondary market are accepted and processed on a best-effort basis, with a bid-ask spread of 1% under normal market conditions. All settlement is handled by internationally renowned uranium trader Curzon Uranium, one of the world's leading innovators at the center of the global nuclear renaissance, which has already traded more than US\$1 billion of physical uranium since its inception in 2017. If an investor wishes to exit and there is insufficient liquidity in the secondary market,

What is an AMC?

An AMC is a security that can be managed on a discretionary basis and enables the active management of a selected investment strategy. With an assigned International Securities Identification Number (ISIN), it is accessible to gualified, institutional and professional investors through their bank. AMCs offer ongoing cost benefits through their efficient management and cost-effective structure. AMCs differ from fund or trust structures, which generally have high minimum investment amounts, investment strateqv restrictions, high management fees and unfavorable tax treatment. As an innovation, the above-mentioned structure also allows any tangible assets to be securitized, whereby the highest standards are applied, for example with regard to independent valuation and compliance with the investment strategy by several parties.

the structure sells physical uranium to redeem the AMCs and charges a redemption fee. Liquidity is limited by the underlying market for physical uranium. The net asset value is calculated daily based on the current cash balance and the valuation of the physical uranium component. The physical uranium component is valued based on the TradeTech Daily U<sub>2</sub>O<sub>2</sub> Spot Price Indicator published by independent reporter TradeTech on Bloomberg.

### Attractive alternative to traditional. riskier investment methods

The Physical Uranium AMC provides low cost and direct access to investing in the uranium market. Currently, the investment mechanisms available are listed investments, including mining company shares, uranium mining share ETFs, a physical uranium ETF and a specialist physical uranium investment company. The Physical Uranium AMC is the first offering to take advantage of the low-cost and transparent

Zuri-Invest has also recently started working with Elementum Metals. Elementum Metals offers interested investors an ETC (Exchange Traded Commodity) that is based on the AMC and is an evolution of it. The product allows institutional investors from other continents to invest large amounts and view their direct allocation via a password-protected page.

### Physical Uranium (AMC).

Product domicile:
Product type:
Product currency:
Nominal value:
Minimum drawing size:
ISIN number:
Management fee:
Administration fee:
Strategy manager:
Strategy consultant:
Payment authority:
Distributer:
Daily publication of net inventory:
Daily publication of net inventory.
ISIN no. Elementum Metals Physical Uranium ET

ISIN no. Elementum Metals Physical Uranium I	ΞT
Listing Vienna:	
Minimum drawing size:	

structure of an AMC without the currency, equity, mining production or operational risk implications of the other mechanisms. The benefits are reflected primarily in a net asset value (NAV) that closely tracks the spot price, whereas similar products regularly trade at a discount.

#### **Cooperation with the Physical Uran**ium ETC from Elementum Metals

#### Further information at:

www.zuri-invest.ch www.elementummetals.com

- ..... Switzerland
- ...... Actively managed certificate
- ..... US\$
- ..... 1 unit
- ..... 100 units
- ..... CH1214916533
- ..... 0.45%
- ..... 0.3%
- ...... Zuri-Invest AG, Zurich
- ..... Curzon Uranium Ltd.
- ..... Incore Bank
- ..... Cameco Corp.
- ..... Bloombera
- C: XS2855417601
- ..... PURN.VIE
- ...... 10,000 pounds of uranium

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## **Exclusive interview with Patrick Michaels**, **Chairman of Zuri-Invest**

What is the current uranium supply situation worldwide and what will it look like in the next 5 years?

Uranium supply is not able to keep up with demand. We are in a supply deficit and will be in an even worse deficit in 5 years if new mines don't come online as planned. During the downturn in the uranium sector the expenditures on exploration and development of resources diminished while additional reactor build has accelerated and new demand for data centers and artificial intelligence related applications has grown rapidly.

How much uranium does a normal-sized

nuclear power plant need per year, and

For example, a 1GW nuclear plant requires

about 500'000lbs per year. At the initial

start of a new power plant this amount can

As for the stockpiles that utility companies

usually plan for, these are heavily depend-

ent on where in the world we are looking at

the numbers. In the US the average lead

time is about 2 years, in Europe about 3-4

Why did the price of uranium fall from

\$107 per pound in January 2024 to below \$80 per pound in September 2024?

Prices were driven higher by speculative

demand jumping on the underlying strong

Short term prices outstripped long term

prices, and the market simply reset to its

natural setup, with the same strong funda-

years and in Asia 5-10 years.

fundamentals.

mentals still in place.

easily double or triple during that phase.

what does the stockpiling look like?

If one adjusts historic prices by inflation, this already suggests even from low double-digit levels an actual price level well above \$100 per pound. In our view more importantly, there is no new significant production coming online in the next two to three years which suggests good potential for prices to go higher on any production shortfalls at existing mines as well as will be supported even in a scenario of globally sound production numbers by facts such as a growing energy demand from data centers. Just in the US this part of electricity consumption is currently growing from 2% to 8%.

Multiple sources suggest a deficit of over 200 million lbs building up over the coming years. Such a deficit can be solved only if a range of long-term projects come online on time in the timeframe you are asking about. A handful of new mines, including some significant assets, are more likely to start producing rather only towards the end of that period.

It seems like utility companies are not taking enough advantage to secure contracts when prices are low whilst there must be existing contracts expiring?

Utilities are constantly contracting long term. But due to a range of uncertainties they have not reached replacement contracting in the last few years. Also, when the uranium prices were depressed, they didn't feel a need to enter long-term contracts as they were often able to secure equal or lower prices than what might have been locked-in with long-term contracts. As we all know, this can very well go the other way to their disadvantage in supply-demand situations as we see currently.

#### What is your price forecast for 2025-2030 for the uranium price per pound and will the uranium deficit really be eliminated within this period?



Patrick Michaels is Chairman of Zuri-Invest AG, has been in the asset management business for 17 years and has extensive experience in mining finance, fund management and asset allocation. Mr. Michaels has a background in law and economics and completed his training in private banking and investment research at UBS in Zurich. He also attended postgraduate courses at the Colorado School of Mines in Golden, Colorado. Mr. Michaels is also a member of the boards of GoldQuest Mining Corp. and Steppe Gold Ltd. He is also a member of the board of the non-profit organization Cypress Seeds.









