



# Uranium Report 2019

Everything you need to know about uranium!



# Disclaimer

Dear reader,

Please read the complete disclaimer in the following pages carefully before you start reading this Swiss Resource Capital Publication. By using this Swiss Resource Capital Publication you agree that you have completely understood the following disclaimer and you agree completely with this disclaimer. If at least one of these point does not agree with you than reading and use of this publication is not allowed.

We point out the following:

Swiss Resource Capital AG and the authors of the Swiss Resource Capital AG directly own and/or indirectly own shares of following Companies which are described in this publication: Appia Energy, Denison Mines, Energy Fuels, Fission Uranium, GoviEx, Laramide Resources, Skyharbour Resources, Uranium Energy.

Swiss Resource Capital AG has closed IR consultant contracts with the following companies which are mentioned in this publication: Uranium Energy.

Swiss Resource Capital AG receives compensation expenses from the following companies mentioned in this publication: Appia Energy, Denison Mines, Energy Fuels, Fission Uranium, GoviEx, Laramide Resources, Skyharbour Resources, Uranium Energy. Therefore, all mentioned companies are sponsors of this publication.

## Risk Disclosure and Liability

Swiss Resource Capital AG is not a securities service provider according to WpHG (Germany) and BörseG (Austria) as well as Art. 620 to 771 obligations law (Switzerland) and is not a finance company according to § 1 Abs. 3 Nr. 6 KWG. All publications of the Swiss Resource Capital AG are explicitly (including all the publications published on the website <http://www.resource-capital.ch> and all sub-websites (like <http://www.resource-capital.ch/de>) and the website <http://www.resource-capital.ch> itself and its sub-websites) neither financial analysis nor are they equal to a professional financial analysis. Instead, all publications of Swiss Resource Capital AG are exclusively for information purposes only and are expressly not trading recommendations regarding the buying or selling of securities. All publications of Swiss Resource Capital AG represent only the opinion of the respective author. They are neither explicitly nor implicitly to be understood as guarantee of a particular price development of the mentioned financial instruments or as a trading invitation. Every investment in securities mentioned in publications of Swiss Resource Capital AG involve risks which could lead

to total a loss of the invested capital and - depending on the investment – to further obligations for example additional payment liabilities. In general, purchase and sell orders should always be limited for your own protection.

This applies especially to all second-line-stocks in the small and micro cap sector and especially to exploration and resource companies which are discussed in the publications of Swiss Resource Capital AG and are exclusively suitable for speculative and risk aware investors. But it applies to all other securities as well. Every exchange participant trades at his own risk. The information in the publications of Swiss Resource Capital AG do not replace an on individual needs geared professional investment advice. In spite of careful research, neither the respective author nor Swiss Resource Capital AG will neither guarantee nor assume liability for actuality, correctness, mistakes, accuracy, completeness, adequacy or quality of the presented information. For pecuniary losses resulting from investments in securities for which information was available in all publications of Swiss Resource Capital AG liability will be assumed neither by Swiss Capital Resource AG nor by the respective author neither explicitly nor implicitly.

Any investment in securities involves risks. Political, economical or other changes can lead to significant stock price losses and in the worst case to a total loss of the invested capital and - depending on the investment – to further obligations for example additional payment liabilities. Especially investments in (foreign) second-line-stocks, in the small and micro cap sector, and especially in the exploration and resource companies are all, in general, associated with an outstandingly high risk. This market segment is characterized by a high volatility and harbours danger of a total loss of the invested capital and - depending on the investment – to further obligations for example additional payment liabilities. As well, small and micro caps are often very illiquid and every order should be strictly limited and, due to an often better pricing at the respective domestic exchange, should be traded there. An investment in securities with low liquidity and small market cap is extremely speculative as well as a high risk and can lead to, in the worst case, a total loss of the invested capital and - depending on the investment – to further obligations for example additional payment liabilities. Engagements in the publications of the shares and products presented in all publications of Swiss Resource Capital AG have in part foreign exchange risks. The deposit portion of single shares of small and micro cap companies and low capitalized securities like derivatives and leveraged products should only be as high that, in case of a possible total loss, the deposit will only marginally lose in value.

All publications of Swiss Resource Capital AG are exclusively for information purposes only. All information and data in all publications of Swiss Resource

Capital AG are obtained from sources which are deemed reliable and trustworthy by Swiss Resource Capital AG and the respective authors at the time of preparation. Swiss Resource Capital AG and all Swiss Resource Capital AG employed or engaged persons have worked for the preparation of all of the published contents with the greatest possible diligence to guarantee that the used and underlying data as well as facts are complete and accurate and the used estimates and made forecasts are realistic. Therefore, liability is categorically precluded for pecuniary losses which could potentially result from use of the information for one's own investment decision.

All information published in publications of Swiss Resource Capital AG reflects the opinion of the respective author or third parties at the time of preparation of the publication. Neither Swiss Resource Capital AG nor the respective authors can be held responsible for any resulting pecuniary losses. All information is subject to change. Swiss Resource Capital AG as well as the respective authors assures that only sources which are deemed reliable and trustworthy by Swiss Resource Capital AG and the respective authors at the time of preparation are used. Although the assessments and statements in all publications of Swiss Resource Capital AG were prepared with due diligence, neither Swiss Resource Capital AG nor the respective authors take any responsibility or liability for the actuality, correctness, mistakes, accuracy, completeness, adequacy or quality of the presented facts or for omissions or incorrect information. The same shall apply for all presentations, numbers, designs and assessments expressed in interviews and videos.

Swiss Resource Capital AG and the respective authors are not obliged to update information in publications. Swiss Resource Capital AG and the respective authors explicitly point out that changes in the used and underlying data, facts, as well as in the estimates could have an impact on the forecasted share price development or the overall estimate of the discussed security. The statements and opinions of Swiss Capital Resource AG as well as the respective author are not recommendations to buy or sell a security.

Neither by subscription nor by use of any publication of Swiss Resource Capital AG or by expressed recommendations or reproduced opinions in such a publication will result in an investment advice contract or investment brokerage contract between Swiss Resource Capital AG or the respective author and the subscriber of this publication.

Investments in securities with low liquidity and small market cap are extremely speculative as well as a high risk. Due to the speculative nature of the presented companies their securities or other financial products it is quite possible that investments can lead to a capital reduction or to a total loss and - de-

pending on the investment – to further obligations for example additional payment liabilities. Any investment in warrants, leveraged certificates or other financial products bears an extremely high risk. Due to political, economical or other changes significant stock price losses can arise and in the worst case a total loss of the invested capital and - depending on the investment – to further obligations for example additional payment liabilities. Any liability claim for foreign share recommendations, derivatives and fund recommendations are in principle ruled out by Swiss Resource Capital AG and the respective authors. Between the readers as well as the subscribers and the authors as well as Swiss Resource Capital AG no consultancy agreement is closed by subscription of a publication of Swiss Resource Capital AG because all information contained in such a publication refer to the respective company but not to the investment decision. Publications of Swiss Resource Capital AG are neither, direct or indirect an offer to buy or for the sale of the discussed security (securities), nor an invitation for the purchase or sale of securities in general. An investment decision regarding any security should not be based on any publication of Swiss Resource Capital AG.

Publications of Swiss Resource Capital AG must not, either in whole or in part be used as a base for a binding contract of all kinds or used as reliable in such a context. Swiss Resource Capital AG is not responsible for consequences especially losses, which arise or could arise by the use or the failure of the application of the views and conclusions in the publications. Swiss Resource Capital AG and the respective authors do not guarantee that the expected profits or mentioned share prices will be achieved.

The reader is strongly encouraged to examine all assertions him/herself. An investment, presented by Swiss Resource Capital AG and the respective authors in partly very speculative shares and financial products should not be made without reading the most current balance sheets as well as assets and liabilities reports of the companies at the Securities and Exchange Commission (SEC) under [www.sec.gov](http://www.sec.gov) or other regulatory authorities or carrying out other company evaluations. Neither Swiss Resource Capital AG nor the respective authors will guarantee that the expected profits or mentioned share prices will be achieved. Neither Swiss Resource Capital AG nor the respective authors are professional investment or financial advisors. The reader should take advice (e.g. from the principle bank or a trusted advisor) before any investment decision. To reduce risk investors should largely diversify their investments.

In addition, Swiss Resource Capital AG welcomes and supports the journalistic principles of conduct and recommendations of the German press council for the economic and financial market reporting and within the scope of its responsibility will look out that

these principles and recommendations are respected by employees, authors and editors.

## Forward-looking Information

Information and statements in all publications of Swiss Resource Capital AG especially in (translated) press releases that are not historical facts are forward-looking information within the meaning of applicable securities laws. They contain risks and uncertainties but not limited to current expectations of the company concerned, the stock concerned or the respective security as well as intentions, plans and opinions. Forward-looking information can often contain words like "expect", "believe", "assume", "goal", "plan", "objective", "intent", "estimate", "can", "should", "may" and "will" or the negative forms of these expressions or similar words suggesting future events or expectations, ideas, plans, objectives, intentions or statements of future events or performances. Examples for forward-looking information in all publications of Swiss Resource Capital AG include: production guidelines, estimates of future/targeted production rates as well as plans and timing regarding further exploration, drill and development activities. This forward-looking information is based in part on assumption and factors that can change or turn out to be incorrect and therefore may cause actual results, performances or successes to differ materially from those stated or postulated in such forward-looking statements. Such factors and assumption include but are not limited to: failure of preparation of resource and reserve estimates, grade, ore recovery that differs from the estimates, the success of future exploration and drill programs, the reliability of the drill, sample and analytical data, the assumptions regarding the accuracy of the representativeness of the mineralization, the success of the planned metallurgical test work, the significant deviation of capital and operating costs from the estimates, failure to receive necessary government approval and environmental permits or other project permits, changes of foreign exchange rates, fluctuations of commodity prices, delays by project developments and other factors.

Potential shareholders and prospective investors should be aware that these statements are subject to known and unknown risks, uncertainties and other factors that could cause actual events to differ materially from those indicated in the forward-looking statements. Such factors include but are not limited to the following: risks regarding the inaccuracy of the mineral reserve and mineral resource estimates, fluctuations of the gold price, risks and dangers in connection with mineral exploration, development and mining, risks regarding the creditworthiness or the financial situation of the supplier, the refineries and other parties that are doing business with the company; the insufficient insurance coverage or the failure to receive insurance

coverage to cover these risks and dangers, the relationship with employees; relationships with and the demands from the local communities and the indigenous population; political risks; the availability and rising costs in connection with the mining contributions and workforce; the speculative nature of mineral exploration and development including risks of receiving and maintaining the necessary licences and permits, the decreasing quantities and grades of mineral reserves during mining; the global financial situation, current results of the current exploration activities, changes in the final results of the economic assessments and changes of the project parameter to include unexpected economic factors and other factors, risks of increased capital and operating costs, environmental, security and authority risks, expropriation, the tenure of the company to properties including their ownership, increase in competition in the mining industry for properties, equipment, qualified personal and its costs, risks regarding the uncertainty of the timing of events including the increase of the targeted production rates and fluctuations in foreign exchange rates. The shareholders are cautioned not to place undue reliance on forward-looking information. By its nature, forward-looking information involves numerous assumptions, inherent risks and uncertainties both general and specific that contribute to the possibility that the predictions, forecasts, projections and various future events will not occur. Neither Swiss Resource Capital AG nor the referred to company, referred to stock or referred to security undertake no obligation to update publicly otherwise revise any forward-looking information whether as a result of new information, future events or other such factors which affect this information, except as required by law.

## 48f Abs. 5 BörseG (Austria) and Art. 620 to 771 obligations law (Switzerland)

Swiss Resource Capital AG as well as the respective authors of all publications of Swiss Resource Capital AG could have been hired and compensated by the respective company or related third party for the preparation, the electronic distribution and publication of the respective publication and for other services. Therefore the possibility exists for a conflict of interests.

At any time Swiss Resource Capital AG as well as the respective authors of all publications of Swiss Resource Capital AG could hold long and short positions in the described securities and options, futures and other derivatives based on these securities. Furthermore Swiss Resource Capital AG as well as the respective authors of all publications of Swiss Resource Capital AG reserve the right to buy or sell at any time presented securities and options, futures and other derivatives based on these securities. Therefore the possibility exists for a conflict of interests.

Single statements to financial instruments made by publications of Swiss Resource Capital AG and the respective authors within the scope of the respective offered charts are not trading recommendations and are not equivalent to a financial analysis.

A disclosure of the security holdings of Swiss Resource Capital AG as well as the respective authors and/or compensations of Swiss Resource Capital AG as well as the respective authors by the company or third parties related to the respective publication will be properly declared in the publication or in the appendix.

The share prices of the discussed financial instruments in the respective publications are, if not clarified, the closing prices of the preceding trading day or more recent prices before the respective publication.

It cannot be ruled out that the interviews and estimates published in all publications of Swiss Resource Capital AG were commissioned and paid for by the respective company or related third parties. Swiss Resource Capital AG as well as the respective authors are receiving from the discussed companies and related third parties directly or indirectly expense allowances for the preparation and the electronic distribution of the publication as well as for other services.

#### Exploitation and distribution rights

Publications of Swiss Resource Capital AG may neither directly or indirectly be transmitted to Great Britain, Japan, USA or Canada or to an US citizen or a person with place of residence in the USA, Japan, Canada or Great Britain nor brought or distributed in their territory. The publications and their contained information can only be distributed or published in such states where it is legal by applicable law. US citizens are subject to regulation S of the U.S. Securities Act of 1933 and cannot have access. In Great Britain the publications can only be accessible to a person who in terms of the Financial Services Act 1986 is authorized or exempt. If these restrictions are not respected this can be perceived as a violation against the respective state laws of the mentioned countries and possibly of non mentioned countries. Possible resulting legal and liability claims shall be incumbent upon that person, but not Swiss Resource Capital, who has published the publications of Swiss Resource Capital AG in the mentioned countries and regions or has made available the publications of Swiss Resource Capital AG to persons from these countries and regions.

The use of any publication of Swiss Resource Capital AG is intended for private use only. Swiss Resource Capital AG shall be notified in advance or asked for permission if the publications will be used professionally which will be charged.

All information from third parties especially the estimates provided by external user does not reflect the opinion of Swiss Resource Capital AG. Consequently, Swiss Resource Capital AG does not guarantee the

actuality, correctness, mistakes, accuracy, completeness, adequacy or quality of the information.

#### Note to symmetrical information and opinion generation

Swiss Resource Capital AG can not rule out that other market letters, media or research companies are discussing concurrently the shares, companies and financial products which are presented in all publications of Swiss Resource Capital AG. This can lead to symmetrical information and opinion generation during that time period.

#### No guarantee for share price forecasts

In all critical diligence regarding the compilation and review of the sources used by Swiss Resource Capital AG like SEC Filings, official company news or interview statements of the respective management neither Swiss Resource Capital AG nor the respective authors can guarantee the correctness, accuracy and completeness of the facts presented in the sources. Neither Swiss Resource Capital AG nor the respective authors will guarantee or be liable for that all assumed share price and profit developments of the respective companies and financial products respectively in all publications of Swiss Resource Capital AG will be achieved.

#### No guarantee for share price data

No guarantee is given for the accuracy of charts and data to the commodity, currency and stock markets presented in all publications of Swiss Resource Capital AG.

#### Copyright

The copyrights of the single articles are with the respective author. Reprint and/or commercial dissemination and the entry in commercial databases is only permitted with the explicit approval of the respective author or Swiss Resource Capital AG.

All contents published by Swiss Resource Capital AG or under <http://www.resource-capital.ch> – website and relevant sub-websites or within <http://www.resource-capital.ch> – newsletters and by Swiss Resource Capital AG in other media (e.g. Twitter, Facebook, RSS-Feed) are subject to German, Austrian and Swiss copyright and ancillary copyright. Any use which is not approved by German, Austrian and Swiss copyright and ancillary copyright needs first the written consent of the provider or the respective rights owner. This applies especially for reproduction, processing, translation, saving, processing and reproduction of contents in databases or other electronic media or systems. Contents and rights of third parties are marked as such. The unauthorised reproduction or dissemination of single contents and complete pages is not permitted and punishable. Only

copies and downloads for personal, private and non commercial use is permitted.

Links to the website of the provider are always welcome and don't need the approval from the website provider. The presentation of this website in external frames is permitted with authorization only. In case of an infringement regarding copyrights Swiss Resource Capital AG will initiate criminal procedure.

#### Information from the Federal Financial Supervisory Authority (BaFin)

You can find further information on how to protect yourself against dubious offers in BaFin brochures directly on the website of the authority at [www.bafin.de](http://www.bafin.de).

#### Liability limitation for links

The <http://www.resource-capital.ch> – website and all sub-websites and the <http://www.resource-capital.ch> – newsletter and all publications of Swiss Resource Capital AG contain links to websites of third parties ("external links"). These websites are subject to liability of the respective operator. Swiss Resource Capital AG has reviewed the foreign contents at the initial linking with the external links if any statutory violations were present. At that time no statutory violations were evident. Swiss Resource capital AG has no influence on the current and future design and the contents of the linked websites. The placement of external links does not mean that Swiss Resource Capital AG takes ownership of the contents behind the reference or the link. A constant control of these links is not reasonable for Swiss Resource Capital AG without concrete indication of statutory violations. In case of known statutory violations such links will be immediately deleted from the websites of Swiss Resource Capital AG. If you encounter a website of which the content violates applicable law (in any manner) or the content (topics) insults or discriminates individuals or groups of individuals, please contact us immediately.

In its judgement of May 12th, 1998 the Landgericht (district court) Hamburg has ruled that by placing a link one is responsible for the contents of the linked websites. This can only be prevented by explicit dissociation of this content. For all links on the homepage <http://www.resource-capital.ch> and its sub-websites and in all publications of Swiss Resource Capital AG applies: Swiss Resource Capital AG is dissociating itself explicitly from all contents of all linked websites on <http://www.resource-capital.ch> – website and its sub-websites and in the <http://www.resource-capital.ch> – newsletter as well as all publications of Swiss Resource Capital AG and will not take ownership of these contents."

#### Liability limitation for contents of this website

The contents of the website <http://www.resource-capital.ch> and its sub-websites are compiled with utmost diligence. Swiss Resource Capital AG however does not guarantee the accuracy, completeness and actuality of the provided contents. The use of the contents of website <http://www.resource-capital.ch> and its sub-websites is at the user's risk. Specially marked articles reflect the opinion of the respective author but not always the opinion of Swiss Resource Capital AG.

#### Liability limitation for availability of website

Swiss Resource Capital AG will endeavour to offer the service as uninterrupted as possible. Even with due care downtimes can not be excluded. Swiss Resource Capital AG reserves the right to change or discontinue its service any time.

#### Liability limitation for advertisements

The respective author and the advertiser are exclusively responsible for the content of advertisements in <http://www.resource-capital.ch> – website and its sub-websites or in the <http://www.resource-capital.ch> – newsletter as well as in all publications of Swiss Resource Capital AG and also for the content of the advertised website and the advertised products and services. The presentation of the advertisement does not constitute the acceptance by Swiss Resource Capital AG.

#### No contractual relationship

Use of the website <http://www.resource-capital.ch> and its sub-websites and <http://www.resource-capital.ch> – newsletter as well as in all publications of Swiss Resource Capital AG no contractual relationship is entered between the user and Swiss Resource Capital AG. In this respect there are no contractual or quasi-contractual claims against Swiss Resource Capital AG.

#### Protection of personal data

The personalized data (e.g. mail address of contact) will only be used by Swiss Resource Capital AG or from the respective company for news and information transmission in general or used for the respective company.

#### Data protection

If within the internet there exists the possibility for entry of personal or business data (email addresses, names, addresses), this data will be disclosed only if the user explicitly volunteers. The use and payment for all offered services is permitted – if technical possible and reasonable – without disclosure of these

data or by entry of anonymized data or pseudonyms. Swiss Resource Capital AG points out that the data transmission in the internet (e.g. communication by email) can have security breaches. A complete data protection from unauthorized third party access is not possible. Accordingly no liability is assumed for the unintentional transmission of data. The use of contact data like postal addresses, telephone and fax numbers as well as email addresses published in the imprint or similar information by third parties for transmission of not explicitly requested information is not permitted. Legal action against the senders of spam mails are expressly reserved by infringement of this prohibition.

By registering in <http://www.resource-capital.ch> – website and its sub-websites or in the <http://www.resource-capital.ch> – newsletter you give us permission to contact you by email. Swiss Resource Capital AG receives and stores automatically via server logs information from your browser including cookie information, IP address and the accessed websites. Reading and accepting our terms of use and privacy statement are a prerequisite for permission to read, use and interact with our website(s).



# Commodity-TV

## The whole world of commodities in one App!

Download our unique App for free!



Watch Management & Expert Interviews, Site-Visit-Videos, News Shows and receive top and up to date Mining Information on your mobile device worldwide!

### Amazing features:

- Company Facts
- Global Mining News
- Push Notifications
- Commodity-TV, Rohstoff-TV and Dukascopy-TV
- Live Charts
- JRB-Rohstoffblog



## Table of Contents

Disclaimer	02
Table of Contents   Imprint	07
Preface	09
Climate change and the electric revolution make it necessary to rethink the power supply. - Nuclear energy is the only base load-capable energy source that can manage the balancing act between an enormously increasing demand for electricity and clean energy generation!	10
Interview with Dr. Christian Schärer – Manager of the Uranium Resources Fund and partner of Incrementum AG	20
Interview with Scott Melbye – Executive Vice President of Uranium Energy, Commercial V.P. of Uranium Participation Corp. and Advisor to the CEO of Kazatomprom	24
<b>Company profiles</b>	
Appia Energy	30
Denison Mines	35
Energy Fuels	40
Fission Uranium	45
GoviEx	50
Laramide Resources	55
Skyharbour Resources	59
Uranium Energy	64

## Imprint

Editor  
Swiss Resource Capital AG  
Poststr. 1  
9100 Herisau, Schweiz  
Tel : +41 71 354 8501  
Fax : +41 71 560 4271  
info@resource-capital.ch  
www.resource-capital.ch

Editorial staff  
Jochen Staiger  
Tim Rödel

Layout/Design  
Frauke Deutsch

All rights reserved. Reprinting material by copying in electronic form is not permitted.

Deadline 09/30/2018

cover photo: © angellodeca/stock.adobe.com  
All images and graphics are, unless otherwise stated, by the companies.

Back: photo 1, 2, 3: flickr.com/photos/nrcgov  
photo 4: TTstudio / shutterstock.com

Charts 10/22/2018



**Commodity-TV and Rohstoff-TV get your company the awareness it deserves!**



## Preface

Dear Readers,

We are now entering the second year of our uranium report. Uranium is a „hot potato“, but not many investors have recognized this yet and have not yet positioned themselves accordingly. However, without energy production from uranium, i.e. nuclear power plants, we will have a huge global problem in the stable supply of basic energy. The electric revolution, above all electromobility, would thus be nothing more than a beautiful dream. Because according to popular opinion, electricity comes from the socket, so no problem. Only hardly anyone thinks about how the electricity gets into the socket.

Our series of special reports started with lithium and silver, but these reports have since evolved into battery metal and precious metal reports. Closely connected to the battery metals (the main components of lithium-ion batteries, the heart of every electric vehicle) is the base load-capable power supply(charge) of the batteries, and thus either the combustion of coal, gas or oil or the use of uranium as a fuel element in nuclear power plants. There are no other base-load-capable energy generation methods as long as no adequately large storage facilities have been created for electricity from renewable energy sources. This report is intended to give the reader an overview of the uranium industry and the real facts as well as the global energy supply from nuclear power. China in particular needs nuclear power in order not to suffocate, as most of the electricity is still generated by coal-fired power plants. At the same time, several of the top uranium producers have announced that they will artificially reduce their production in or from 2018 in order to bring the uranium spot price back to a level that is essential for the survival of most companies and to put pressure on the energy companies to renegotiate their supply contracts, which are due to expire shortly.

In addition, we conducted interviews with experts Scott Melbye and Dr. Christian Schärer on the uranium markets and future developments. Of course, we also present some inte-

resting companies of the industry with facts and figures. This is to be understood as a suggestion and not as a buy recommendation since there are only very few listed companies at all. „There’s really only one technology that we know of that supplies carbon-free power at the scale modern civilization requires, and that is nuclear power“ - Ken Caldeira of Stanford University’s Department of Global Ecology.

Raw materials are the basis of our entire economic coexistence. Without raw materials there are no products, no technical innovations and no real economic life. We need a reliable and constant basic energy supply for our highly industrialized world.

Swiss Resource Capital AG has set itself the task of providing interested people with comprehensive information on metals, raw materials and various listed mining companies. On our website [www.resource-capital.ch](http://www.resource-capital.ch) you will find 20 companies from various raw material sectors as well as a lot of information and articles about raw materials.

With our Special Reports we want to give you insights and provide you with comprehensive information. In addition, you have the opportunity to always inform yourself through our two raw material IPTV channels [www.Commodity-TV.net](http://www.Commodity-TV.net) & [www.Rohstoff-TV.net](http://www.Rohstoff-TV.net) free of charge. For the mobile everyday life, you can download our newly developed Commodity-TV App for iPhone and Android onto your smartphone. Here you get real-time charts, stock quotes, indices and the latest videos automatically to your mobile phone no matter where you are. My team and I hope you enjoy reading the Uranium Special Report and that we can provide you with lots of new information, impressions and ideas. Only those who are well informed will be able to win and preserve their assets in these difficult times.

Yours, Jochen Staiger



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



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

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

Global energy demand has multiplied since the late 1980s. Nuclear power currently covers about 11.5% of the world's total energy needs. However, fossil fuels, such as coal and crude oil, are still burned primarily to generate energy. The difference to the situation about 25 years ago lies in the increasing demand for the reduction of CO<sub>2</sub> emissions and the increasingly noticeable phenomenon of „global warming“. Above all, the energy-guzzling industrial nations and the emerging markets will have to increase their energy efficiency and improve their carbon footprint in the coming years. The second important point is the electric revolution that is about to begin, which will not only allow us to move almost 100% electrically in a few years' time, but will also bring with it a huge, additional surge in demand for clean energy.

This cannot be achieved by burning coal and oil, firstly, and secondly, one would lie one's own pocket with it. The alternatives are rene-

## Base load capacity, what is that?

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

wable energies, which, however, require an enormous amount of time and money and, in addition, are not nearly capable of base loads without the lack of larger electricity storage fa-

cilities, or nuclear power, which can provide a great deal of energy in a CO<sub>2</sub>-neutral manner. Some countries have long recognised this possibility of fast and almost clean energy generation and are now pushing ahead with the construction of new nuclear power plants.

## Supply gap unavoidable in the future

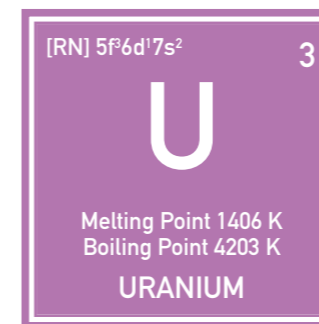
Even now, however, only 90% of the world's uranium requirements can be met from producing mines. However, the number of nuclear reactors is likely to double again in the next 10 to 20 years. The previous main supplier of uranium - Russia's arsenal of nuclear weapons - has virtually ceased to exist. Then where would the uranium come from? Existing mines can be expanded and new mines opened, but not at the current uranium spot price of approximately US\$27.50 per pound. An enormous supply gap seems unavoidable - at least at the current market price. And this is exactly where investors should start now - with a strongly rising uranium spot price and an inevitable second uranium (stock) boom.

## What's uranium?

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

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

The uranium isotope 235U is fissionable 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.



## Occurrences

Uranium does not occur dignified in nature, but always in minerals containing oxygen. 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 sedimentary types.

The highest uranium grades are achieved in unconformity-bound deposits with average uranium grades of 0.3 to 20 %. These are currently also the two largest uranium producers. The Earth's largest single uranium resource is Olympic Dam with a proven uranium content of over 2 million tonnes and an average uranium content of approximately 0.03%.

According to the International Atomic Energy Agency (IAEA), the largest uranium reserves are in the USA, Niger, Australia, Kazakhstan, Namibia, South Africa, Canada, Brazil, Russia, Ukraine and Uzbekistan.

## Uranium production

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

### Conventional production

Most of the uranium is extracted in underground mining. The deposits are accessed via shafts, tunnels, ramps or spirals. Problems are often caused by the ingress of mine water and by so-called ventilation (technical measures to supply mines with fresh air). The exact mining method is chosen according to the characteristics of the deposit. Above all, the shape of the ore bodies and the distribution of the uranium in them are decisive. In underground mining, an ore body can be mined in a targeted manner, resulting in much less overburden than in open pit mining.

Near-surface or very large ore bodies are preferably mined by open pit mining. This enables the use of cost-effective large-scale technology. Modern open pit mines can be a few metres to over 1000 metres deep and can reach several kilometres in diameter. Open pit mining often produces large amounts of overburden. As in civil engineering, large quantities of water may have to be pumped for an opencast mine, but ventilation is less of a problem.

### ISR production

With the ISR method, water and small amounts of CO<sub>2</sub> and oxygen are injected into the sandstone layers with the aid of injection wells, uranium is dissolved out and pumped

back to the surface for further processing with the aid of recovery wells. So the whole process is completely underground. The advantages of this process are obvious: no large earth movements as in open-pit operation have to be carried out, no spoil heaps or discharge basins for heavy metals and cyanides are created. Only the wells are visible on the surface, the areas around the wells can continue to be farmed without restrictions. The ISR process also makes depots with low grades economically mineable, and the capital costs for mine development are greatly reduced. In addition, the entire process must be carried out with a minimum of manpower, which also drastically reduces operating costs. According to a study by the World Nuclear Association, 25% of the uranium mined outside Kazakhstan recently came from ISR mines.

## The Current Status of the Uranium Market

But what about today's uranium market? What is certain is that the last 40 years of lacking investments in the procurement structure - i.e. in the infrastructure of mines and processing plants - will most likely prove to be a stroke of luck for uranium investors in the future!

Despite the fact that, at the latest since the Chernobyl catastrophe and even more so after the events surrounding the nuclear facilities in the Japanese Fukushima Front, the number of nuclear facilities worldwide has already reached a record level. Just 30 countries currently operate (as of 30 September 2018) 454 reactors with a total net electrical output of around 399.3 gigawatts.

The USA is currently the leading nuclear power nation with 98 reactors in operation. However, emerging economies such as China and India are in particular need of more and more energy and have been focusing for some time now on massively expanding their nuclear power capacities. So, it is not surprising that 55 more nuclear reactors are currently under construction. Planning has already been completed for 152 more and 335 more are in the pipeline. After almost 20 years of stagnation, there are signs of a renaissance for the uranium sector - especially in China.

## The demand situation

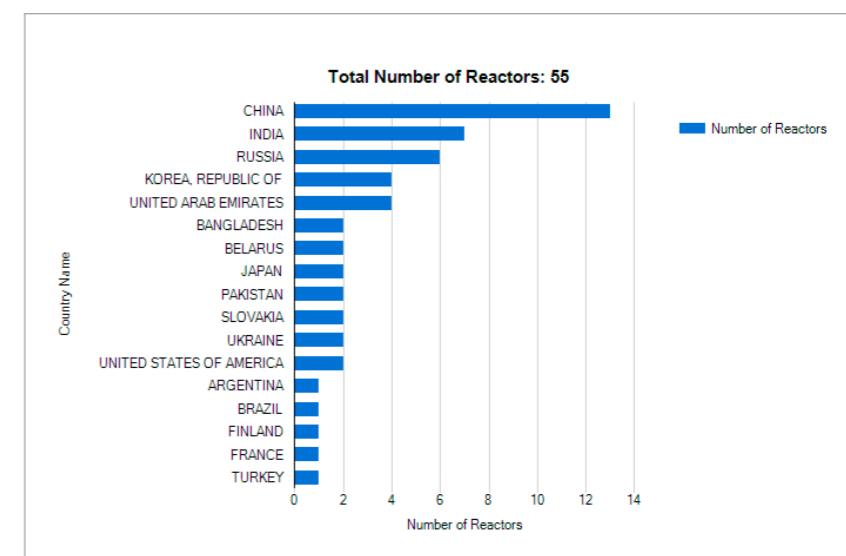
### China is only at the beginning of the nuclear age

While many self-proclaimed experts had already predicted the end of the nuclear age, it is still in its infancy in the world's most populous country. 44 reactors with a total net electrical output of 40.6 gigawatts operate the Middle Kingdom, where coal has been used primarily to generate electricity so far. Of these, 5 new

reactors alone have been put into operation since the beginning of 2018. The expansion of nuclear power in China is therefore enormous and is taking place at breathtaking speed! Nevertheless, more than two thirds of China's energy consumption is still generated by coal-fired power plants. And although China mines its own coal deposits on a large scale, it is one of the largest coal importers in the world alongside India. 30% of the coal mined worldwide is imported into these two countries alone. A certain dependence on these coal imports is obvious. And it is precisely this that the leadership of the People's Republic is trying to avoid. The obligation to establish climate-friendly and clean energy production facilities is becoming almost a minor matter.

The state-owned power plant manufacturer Power Construction Corporation of China (Beijing) predicted in autumn 2015 that its country would rise to become one of the world's largest nuclear power users after the Chinese government plans to build more than 80 new nuclear reactors in the next 15 years and more than 230 by 2050. According to information from China Power, the new five-year plan for the energy industry, scheduled for adoption by the National People's Congress in March 2016, envisages a more rapid expansion of nuclear capacity than previously: So far, the capacity should rise to 58 gigawatts in the next five years; now more than 90 gigawatts are under discussion. In the year 2005, only 40 gigawatts were planned until 2020. By 2030, 110 reactors should be connected to the grid. In 2016 alone, China began building 6 new reactors. A total of 18 nuclear reactors are currently under construction. In drafts for the energy industry, US\$ 75 billion are initially earmarked for nuclear expansion by 2020. In a further step, China's nuclear power generation is to be expanded to 120 to 160 gigawatts by 2030!

While in Germany, shortly after the events in Fukushima, the abolition of electricity generation from nuclear energy was sealed, China has decided exactly the opposite and is doing everything in its power to produce cheap electricity by means of a chain reaction. In view of an ever-increasing demand for energy - prima-



rily as a result of rising prosperity - and a catastrophic carbon footprint, China's path seems logical.

### India massively expands civil nuclear program

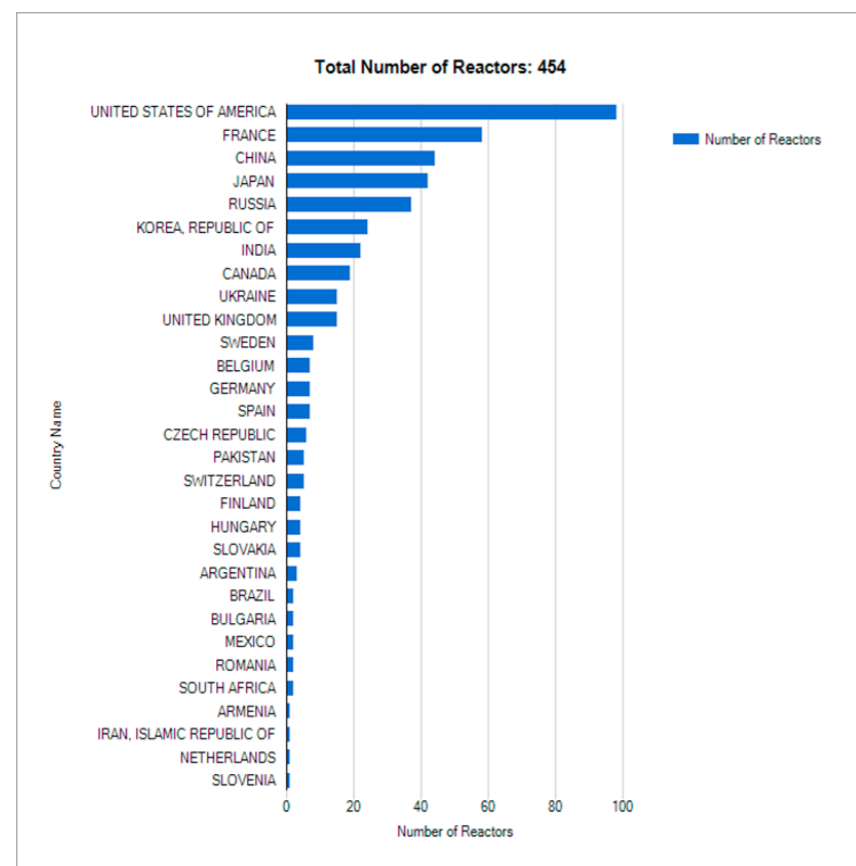
India is following a similar path. The world's second most populous state plans to expand its nuclear energy capacity by 70 gigawatts. By contrast, India's current total net electrical output of around 6.2 gigawatts seems downright ridiculous.

India, however, has overslept its entry into the nuclear energy market and is now desperately looking for exploitable deposits, but is also having to expand its overloaded power grid. A tenfold increase in nuclear energy capacities not only seems sensible, but also urgently necessary.

India itself has hardly any significant uranium deposits. An expansion of its own nuclear energy capacities by a factor of ten would at the same time mean a 10% increase in total nuclear power generation worldwide.

But where will the additional uranium come from? Currently, only a few of India's 22 nuclear reactors are operating at full capacity. While Japan, China, Russia and South Korea in particular have been able to secure uranium re-

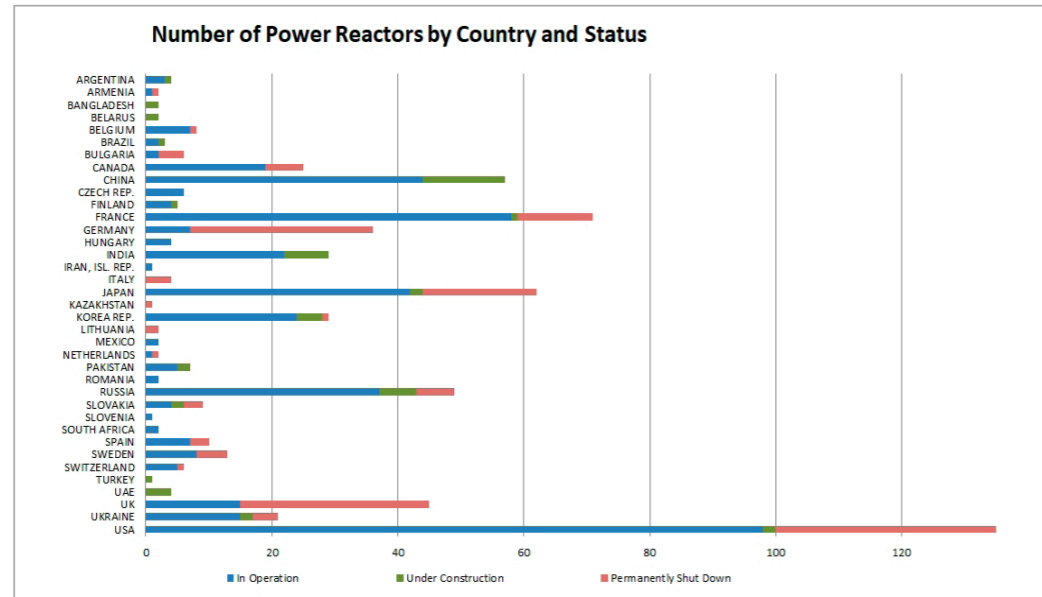
Overview of the reactors currently in operation in each country  
(Source: www.iaea.org/PRIS)



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

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

(Source: www.iaea.org/PRIS)



sources worldwide in recent years, India has completely missed this opportunity. Only recently have several purchase agreements been concluded with companies from the USA, Canada, Namibia, Kazakhstan, Russia, Great Britain and South Korea. There are currently 7 nuclear reactors under construction in India, with another 40 to follow by 2050.

### Russia and Brazil with increasing nuclear capacity

Russia and Brazil have also announced massive expansion of their nuclear power plants. Russia currently operates 37 nuclear reactors with about 28.3 gigawatts. 6 plants are in the construction phase. In addition, Russia plans to build 47 more nuclear power plants, which will increase the share of nuclear energy in the Russian energy mix from currently 16% to over 20%. In a further step, Russia wants to increase this quota again to 25%. Brazil currently operates only one nuclear power plant with two reactors. A third reactor is under construction and should be connected to the grid in 2019. Another 4 reactors are to be built by 2030.

### Increasing global expansion of nuclear energy

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

### Energy collapse threatens the USA in particular

The USA occupies a special position. With 98 reactors, these have by far the largest nuclear power plant fleet in the world. Nevertheless, the USA is threatened with a collapse in its energy supply. The United States is still the country with the highest per capita consumption of electricity in the world. And the Americans' hunger for energy is growing. Moreover, the USA is still faced with the question of how to achieve the CO<sub>2</sub> reductions agreed in Kyoto and Paris. Many of the coal-fired power plants still dating from the 1950s and 1960s operate inefficiently and uneconomically. They need to be taken off the grid sooner rather than later. Electricity consumption, on the other hand, is

rising continuously. So the USA has no choice but to increase the number of nuclear reactors in the coming years. Of course, climate-friendly energy is also provided by photovoltaic systems, wind farms, hydroelectric power plants or geothermal energy, but these energy producers can only solve acute energy problems to a limited extent because they are very costly on the one hand and their performance fluctuates depending on the time of day and weather conditions on the other. What therefore remains as the only climate-friendly energy generation option is nuclear power. In view of the volume of additional electricity required in the next two to three decades, renewable energies can only serve as an admixture to the overall energy mix.

It is precisely for this reason that the Clean Energy Act of 2009, a programme to provide carbon-free energy, has already created a law to increase and promote energy generation using nuclear power. Both U.S. government parties have drawn up an \$18.5 billion plan to double nuclear capacity by 2030. In early 2010, President Obama announced that the U.S. government will add \$36 billion to the 2011 federal budget for state guarantees to build a new generation of nuclear reactors. This meant a threefold increase in the budget originally planned.

In recent years, an application has been made for more than 60 US nuclear reactors to extend their operating life to 60 years. In addition, there are 40 applications for the construction of new nuclear power plants to be connected to the grid by 2025. So far, however, only 2 plants are under construction, a further 14 are in the concrete planning phase.

### Long-term supply contracts expire shortly

The previous cycle of contracts, dominated by the peak uranium prices in 2007 and 2010, has led plant operators to enter into contracts with higher price levels and very long terms of around 8 to 10 years. On the one hand, these old contracts expire, but on the other hand,

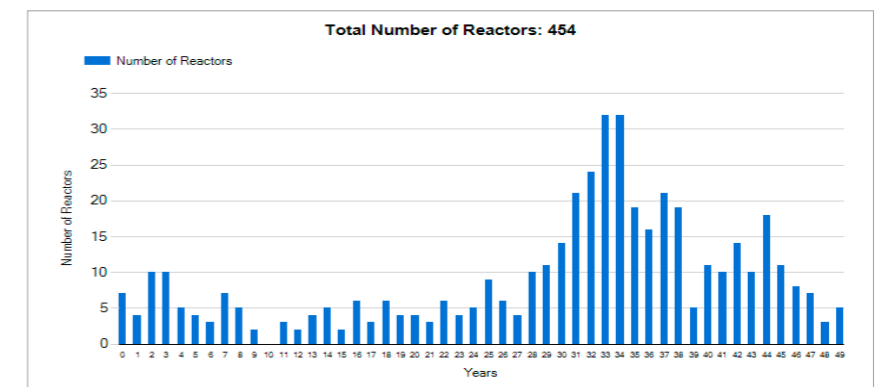
the plant operators have not yet taken care of a replacement for these delivery quantities. The forward transactions of the plant operators are therefore strongly declining, and thus the quantities required are also increasing, for which there is no contractual obligation yet, but which must be contractually secured in the future. Uncovered demand is expected to be just under one billion pounds U<sub>3</sub>O<sub>8</sub> over the next 10 years. At the same time, more than 75% of the reactor requirements to be expected are not contractually secured until 2025. With a commodity as little traded as uranium, this return to more „normal“ long-term contracts is likely to put enormous pressure on both long-term and spot prices. As a result, international plant operators are now increasingly seeing signs of increased buying activity, which is very encouraging.

### Summary

The fact is that there are currently 454 reactors on the grid and at least 335 more will be added by 2030. 55 plants are already under construction, a further 150 are in the concrete planning phase. Even if half of the old reactors were to be taken off the grid by then, between 550 and 600 reactors would be active by 2030. Furthermore, about 90% of all long-term supply contracts between uranium producers and energy generating companies expire by the end of 2020, which is likely to bring the established nuclear power nations such as the USA into trouble.

Overview of the age of the currently running reactors. Many will (have to) be replaced by more powerful ones in the coming years.

(Source: www.iaea.org/PRIS)





## The supply situation

### Established producers are running out of air

The established uranium producing nations Australia, Canada, Russia and Niger have problems further expanding their production. All four countries together produced just under 26,835 tonnes of uranium in 2016. In 2009, it was 28,000 tons of uranium. Australia is facing recurring problems at BHP Billiton's Olympic Dam Mine, by far the most productive uranium mine in the country. In Canada, the start of production at Cameco's McArthur River Mine had to be postponed umpteen times, as large quantities of groundwater penetrated again and again. In Niger, mine openings that were also planned had to be postponed.

### US uranium production down to earth

The situation in the USA is even more threatening. Although the Obama administration decided in 2010 on a US\$54 billion program to promote the nuclear power industry, it is far from clear where the uranium needed to operate the reactors will come from. The uranium industry in the USA is only a shadow of days gone by. Over the last 40 years, virtually nothing has been invested in the development of new deposits and nearly 95% of the uranium required has been extracted from disarmament programmes. US nuclear reactors already consume about 18,000 tons of uranium annually. Accordingly, an increase in capacity would entail an increase in the quantity of uranium required. The World Nuclear Association (WNA) expects that in 2025, in the USA alone, about 40,000 tons of uranium will be needed annually. Even at the heydays of US uranium production in the 1960s and 1970s, it would not have been possible to produce such a quantity from one's own facilities. U.S. uranium production peaked in 1980, when some 29,000 tons of uranium were extracted from

the ground. After the end of the Cold War, disarmed nuclear weapons became the most important source of uranium for the US. This led to a decline in American uranium production from 23,400 to just over 1,000 tons of uranium per year. As a direct consequence, most of the infrastructure and approved production facilities were simply closed or completely dismantled. Currently, there are only a few mines left in Texas, Arizona and Wyoming.

### Kazakhstan – the new uranium superpower

While almost all established uranium producers have difficulties rebuilding or expanding their uranium production, one region has now moved past all other countries to the top of uranium production: Central Asia. Kazakhstan, in particular, has been able to multiply its uranium production there in the last ten years. Uranium production in the former Soviet Republic increased from 1,870 tonnes in 2000 to over 24,500 tonnes in 2016. In 2009, Kazakhstan also overtook Canada, the previous leader, and is now responsible for almost 40% of the world's uranium production.

### Massive production cuts have already been initiated

But although Kazakhstan is one of the nations that can currently mine uranium at the lowest cost, the country is no longer prepared to squander its uranium reserves at the lowest possible prices. In early 2017, the state-owned Kazatomprom Group announced that it would cut its uranium production by at least 20% in 2017. In May 2018 Kazatomprom announced further production cuts. That would remove about 2,500 tons of uranium from the market. But Kazatomprom is not the only uranium producer who is betting on production cuts in view of the ridiculous price of uranium. Uranium major Cameco also announced corresponding production cuts and closed its McArthur River mine and Key Lake facilities indefinitely in

January 2018. The Rabbit Lake mine has also been closed, both of which are among the ten largest uranium mines in the world.

### Supply gap inevitable

Despite the massive expansion of production in Kazakhstan in recent years, there will be a large supply gap in the uranium sector in the foreseeable future. Such a thing already exists de facto. However, it has always been possible to compensate for this with uranium-capable material from atomic scrap. But the nuclear power industry already consumes about 10% more uranium than is currently being produced. At the current level of 454 nuclear reactors worldwide, consumption is around 70,000 tons of uranium, of which only around 60,000 tons are covered by global uranium production. The International Atomic Energy Agency (IAEA) estimates that global uranium demand

will rise to 140,000 tonnes of uranium in 2030 as a result of the construction of new nuclear power plants.

### Summary

The supply side is currently undergoing upheaval in the uranium sector. Secondary supply from Russia's disarmed nuclear stocks is becoming less and less important. Whereas in 2006 37% of demand was covered by disarmed nuclear weapons, the figure is now just 9%. At the same time, however, the number of nuclear reactors will rise sharply. The established uranium producers will not be able to completely cover this equally volatile increase in demand - at least not at the current uranium spot price of US\$ 27 per pound of U<sub>3</sub>O<sub>8</sub>. So where will the more uranium we need in the future come from?

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



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

Increased production can only be achieved through a higher uranium price and the associated large investments in the expansion of existing and new mines.

The basic problem, however, remains the relatively low uranium spot price, which does not allow producers to access deposits that are more difficult to access and therefore costlier to extract.

At a market price of US\$ 40 per pound of uranium, experts estimate that nearly 650,000 tonnes of economically recoverable uranium will be produced.

With an annual consumption of about 70,000 tons of uranium, these deposits would not even last for 10 years, provided that the market price for them would remain constant at a minimum of US\$ 40 during this period and demand would also remain constant. However, this will inevitably increase.

If the market price for uranium were to rise, justifying production costs of US\$80 per pound of uranium, it would be possible to economically mine about three times that amount, 2.12 million tonnes of uranium.

If the uranium price were US\$130 per pound, approximately 5.7 million tonnes of uranium could be economically extracted. The known reserves would then last for about 83 years at current consumption.

## Conclusion

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

However, the uranium spot price is currently as far away from the US\$130 per pound mark as the current demand will soon be from future demand. According to a very conservative estimate by the International Atomic Energy Agency (IAEA), this will double in the coming

years. In 10 to 15 years one could therefore confidently halve the above-mentioned ranges. The whole thing shows that the still - apparently most favourable - method of electricity generation can only be used if the market price for the original product uranium rises again. Demand and supply also regulate the market price of uranium. However, if the market price no longer permits economic support, it must and will inevitably increase. In the case of uranium, demand will also rise sharply as a result of the construction of several hundred new nuclear reactors, so that the market price will virtually double. And of course, also those investors who have recognized this trend in good time.

### **High proportion of requirements not covered to date**

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

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

A hitherto underestimated but highly interesting aspect with regard to a turnaround in the uranium spot price could be an initiative from the USA. In January 2018, the only two remaining US uranium producers, Ur-Energy and Energy Fuels, filed a petition with the U.S. Department of Commerce to highlight the relevance of U.S. uranium production in terms of potential security concerns and increasing dependence of the energy industry on uranium imports.

The two companies argued that imports from successor countries of the former Soviet Union (namely Russia, Kazakhstan and Uzbekistan) now account for 40% of US demand for uranium, while only 5% of demand is produced in the US itself. The dependence, both of the US energy industry (after all, 20% of the electricity consumed in the USA is generated from nuclear power plants) and of the military, on these nations has increased alarmingly as a result.

With their petition, the two producers want both the Ministry of Commerce and President Trump to work out a clear assessment of the import dependence of the USA on Russia, Kazakhstan and Uzbekistan and to promote the US's own uranium industry.

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

Should Trump actually follow the proposal of the two producers, then a spot price of its own could be formed in the USA which would be so high that the US producers would be able to support it economically. This would certainly also mean that the actual uranium spot price would follow and the entire sector would gain momentum again.

## Uranium ETFs Boost Spot Price

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

## **The best uranium stocks promise multiplication potential!**

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

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



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

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

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

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

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

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

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

It is important to distinguish between the situation in Germany or Switzerland on the one hand and the global perspective on the other. Unlike Germany, emerging economies in Eastern Europe or Asia are relying on the expansion of nuclear energy. As of 01.02.2018, 448 reactors were connected to the grid worldwide. That's a historic record. According to the International Atomic Energy Agency (IAEA), 60 reactors are under construction worldwide. A good half of them in China (20), Russia (8) and India (5).

With the construction of new nuclear power plants, CO<sub>2</sub> emissions and air pollution as well

as dependence on the import of fossil fuels are to be reduced. In addition, nuclear energy supplies the baseload in the electricity grids, which are under constant pressure due to the rapidly growing demand. Despite the events at Fukushima and the nuclear phase-out in German-speaking countries, this will lead to an increase in nuclear power production capacity from 390 GW (2016) to 580 GW in 2030. The forecast growth in demand of 3% p.a. is to be seen against this background.

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

The uranium price moves in multi-year cycles. The price movement between the lower and upper turning point is enormous. The price of uranium in the bull market rose from US\$ 3 to US\$ 43 in the 1970s, only to fall by around 70% to US\$ 8 by 2001. As part of the next cycle, the price then rose to a good US\$ 130 by 2007. It goes without saying that such price movements entail both enormous profit opportunities and considerable risks.

Following the Fukushima reactor accident in 2011, prices on the uranium spot market fell from US\$75 per pound to a temporary low of around US\$18. For a good two years now, the uranium market has been in a volatile phase of bottoming out and the spot price has recovered to its current level of around US\$ 27. This price development has put producers under enormous pressure. Essentially, three reasons seem to me to be responsible for the fall in prices. Firstly, the sale of uranium from the stocks of Japanese nuclear power plant operators who can no longer connect to the grid after the reactor disaster in Fukushima. Secondly, the sale of uranium producers with liquidity bottlenecks and of producers who extract uranium only as a by-product and are therefore not price-sensitive. And thirdly, the reluctance of buyers, who are not under stress due to falling prices and still significant inventories.

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

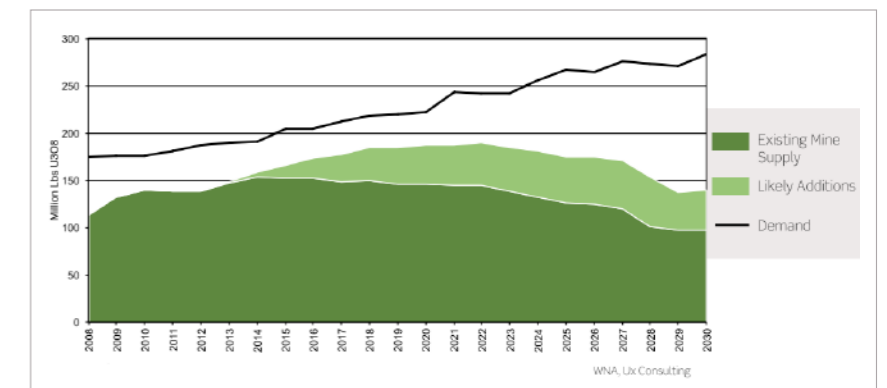
*You mentioned that the fall in uranium prices is putting massive pressure on producers. How have companies come to terms with these low uranium prices and why do they now expect a turn for the better?*

The fall in prices on the uranium market is a huge challenge for producers. In this environment, profitable production is almost unthinkable. Accordingly, costs are consistently reduced. Production plans are adjusted to the low prices and loss-making mines are even closed. The available capital is allocated in a very disciplined manner. Accordingly, development and expansion projects are re-dimensioned or cancelled. It is noteworthy that individual producers have meanwhile switched over to buying uranium on the spot market and thus fulfilling the long-term delivery commitments they have entered into. The current spot price is obviously well below their own production costs! The advantage for these producers is that the unproduced uranium remains in the ground and can later be sold on the market at higher prices.

With their behaviour, the producers are reducing their supply and thus preparing the ground for a medium-term price turnaround on the uranium market when the stagnating supply is no longer able to satisfy the steadily growing demand from China and India against the background of depleted inventories. In other words, there is a growing supply gap on the uranium market in the foreseeable future and this will be closed by rising uranium prices. We assume that uranium prices will have to recover permanently in the direction of US\$ 70 in order to stimulate the necessary expansion of production capacities...

To come back to your question: we expect that a turn for the better can materialize already this year. In this time window, for many European and American nuclear power advertisers, a procurement or storage cycle is coming to an end. They will have to come to the market to replenish their stocks. As of today, a good third of the demand for the year 2020 is probably not yet contractually secured. This impulse should become the catalyst for a sustainable turnaround. In addition, the spot market should no longer be as liquid as in the two previous years, as the two largest uranium producers (Kazatomprom and Cameco) are significantly reducing their production for the current year. Normally, market participants anticipate such a turnaround in fundamental data with a lead of a few months. The recent rise in prices should be seen against this background. ... We are also noticing a growing interest on the part of financial investors in the uranium market. Yellow Cake Plc., which is listed in London, has collected around US\$ 200 million from investors who are to invest primarily in physical uranium.

*While supply has been stagnant for years due to falling uranium prices, the demand is continuously growing.*  
(Source: WNA, UX Consulting)



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

An investment in the fund is a focused bet on the emerging supply gap in the uranium market. An investor with a medium-term investment horizon has an attractive return potential, which is, however, also risky. The fund is

therefore suitable as a supplementary component in a diversified portfolio and not as a basic investment. The Uranium Resources Fund holds between 25 and 30 positions in the portfolio. This diversification makes sense against the background of the current state of the uranium market.

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

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

***What selection criteria do you apply when selecting fund values?***

We have launched the fund with confidence three weeks before the Fukushima nuclear accident due to the positive medium-term prospects outlined above. These events have postponed the supposedly positive starting position by 6 to 7 years. This was due to the decommissioning of the Japanese reactor fleet, which comprises a good 10% of all reactors in operation worldwide, and the associa-

ted uncertainty about the future prospects for the civilian use of nuclear power. Against this backdrop, we have become quite humble, although we remain convinced of the potential of the uranium market. Our ultimate goal is to still be in the game when the uranium market turns up.

Our portfolio is therefore based on three pillars. The core of the portfolio consists of 2 rock-solid basic investments. One is an interest in Uranium Participation (U CN), a Canadian investment company that invests its funds in physical uranium. If our view is correct, the supply gap in the uranium market will be closed by a rising uranium price. Uranium participation will thus be a first and direct profiteer. In addition, we always hold a significant position in the Canadian industry leader Cameco (CCO CN). The company has a broad portfolio of world class assets, has a positive cash flow over the past years despite the challenging environment and pays a dividend.

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

Thirdly, we also use Explorer and Developer to drive world-class development and mining projects forward. These are particularly interesting if they will be able to start their production in the time window of the expected supply gap. You will then be able to benefit from attractive sales prices. In addition, these assets

should have the necessary size to qualify as takeover targets. We assume that a wave of consolidation will take place on the uranium market following the price turnaround and that non-sector mining companies will also position themselves in the uranium business. This would make sense not least because of the low economic sensitivity and the comparatively high visibility of uranium production.

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

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

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

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

The uranium exploration company owns a portfolio of interests in world-class exploration and development projects in the Athabasca Basin of Saskatchewan, Canada. Of particular interest is the „Wheeler River“ exploration project, which is probably home to the world's highest quality uranium deposit, the „Phoenix“. Denison recently published the results of her Pre-Feasibility Study (PFS) on her flagship-project. The study shows a significant

change from the preliminary studies published last year, as it not only moves the Phoenix high-grade deposit to the forefront of the mining schedule, but now also includes in-situ recovery (ISR) as a production method for the Phoenix deposit. The new design dramatically improves the profitability of the project: the NPV 8% of the „Wheeler River“ project increases on a pre-tax basis by 275% to around USD 1.3 bn. Remember: The current market capitalization of the company is around USD 380 m. A difference that leaves room for further price increases.

# Interview with Scott Melbye

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



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

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

Thank you. I have been fortunate to spend the past 34 years in the nuclear energy and uranium industries. Straight out of university at Arizona State in 1984, I joined uranium brokerage and trading company, Nukem, in White Plains, New York. With that initial industry experience, I returned to Phoenix, Arizona to become the uranium fuel buyer for the Palo Verde Nuclear Power Station where I established their procurement strategy for the brand new 3-reactor unit station. Subsequently, this took me to Saskatoon, Saskatchewan where I joined Cameco and spent the next 22 years in increasing marketing and sales leadership positions. I concluded my time there serving as President of Cameco's global marketing subsidiary where we achieved annual sales exceeding 30 million pounds  $U_3O_8$  per year and established customer relationships with just about every nuclear power generator around the world. In 2011, I joined Uranium One who had become a majority-owned subsidiary of the Russian nuclear energy company, Rosatom. In my role as V.P. of Marketing, I was able to expand customer relationships in exciting emerging markets of China and the United Arab Emirates, among others. As a top tier uranium producer with substantial operations in Kazakhstan, this also allowed me to expand close relationships within JV partner Kazatomprom. In 2014, I was very fortunate to join Uranium Energy Corp. in my current role as Executive Vice President, focusing on the marketing, corporate development, and investor relations activities of this emerging American producer. Also, during this time and up until this year, I served as an advisor to the CEO of Kazatomprom assisting with their corporate transformation process helping establish their marketing and sales strategies. In addition, I handled the commercial activities of Uranium Participation Corp. the publicly traded company that buys and warehouses uranium as a speculative vehicle for investors. In addition to my UEC

role, I serve as the Chairman of the Board of Uranium Royalty Corp., a newly founded company to provide investor exposure to the uranium price through a portfolio of royalty and physical uranium holdings. URC is presently the largest shareholder of Yellow Cake plc (London-AIM).

*Since mid-2015 we saw significant volatility in the uranium spot-price. It went from 40 to 18 and back to 27,50 US\$. So, have we already seen the bottom?*

Over the preceding seven years, the uranium market suffered a steep and prolonged downturn that took the price from US\$70 per pound  $U_3O_8$  in early 2011 (pre-Fukushima), to a low of US\$17.75 in November 2016. I am very pleased to report, however, that the price has risen over 56% to reside presently around US\$27.70 per pound. While the market recovery has had some false starts off the back of positive fundamental news recently, it appears this rally is sustainable and has "legs under it". As would be expected in any prolonged, commodity bear-market, we are now finally seeing the uranium fundamentals re-balancing in a more accelerated fashion. So, in answer to your question, yes, I firmly believe that the market has seen the bottom and turned the corner.

*Over the past 18 months, several of the leading uranium producers - notably Cameco and Kazatomprom - have announced significant production cuts. What has been achieved, how high are these production cuts and when will this have a significant effect on the uranium spot price?*

At the heart of this market re-balancing are indeed the substantial cuts to global uranium production that have finally materialized. These cuts are the result of a prolonged, depressed spot market which has been at levels substantially below global production costs. Up until the past couple of years, long term



Uranium mining facility in Kazakhstan  
(Source: Kazatomprom)

legacy contracts signed in the previous bull-market kept many producers insulated from the weak market conditions. However, at this point those higher-priced hedges have simply expired, providing the primary catalyst for these production decisions. As a result, global production peaked in 2016 at 162 million pounds  $U_3O_8$  and will likely fall to about 135 million pounds (or lower) in 2018 at the present trend. For context, 2018 global demand, as estimated by UxC Consulting, is pegged at about 191 million pounds  $U_3O_8$ , leaving a substantial gap between production and consumption. While these conditions have impacted mine output in every global uranium district, including Kazakhstan, Africa, Australia and the United States, the most substantial cuts have occurred in the Athabasca Basin of Saskatchewan, Canada. In Q4 2017, Canadian producer, Cameco, and their French partner, Orano, announced that they would suspend production at their world-class McArthur River and Key Lake operations due to the depressed uranium price. In July, they further announced that these operations, the world's largest (18-21 million pounds of annual capacity), would remain in indefinite care and maintenance until such time the uranium price recovers to levels which produce adequate, and justifiable, returns. Furthermore, as Ca-

meco continues to have a large contract book in place, they will in-turn enter the market to purchase between 11 and 15 million pounds  $U_3O_8$  through the end of 2019. This procurement initiative is underway and should result in a clearing of the most aggressively priced supplies from the market, at just the point when electric utility companies were preparing to re-enter the market to replace their expiring long-term uranium contracts.

Adding to the production narrative has been the recent constraint, and market discipline, shown by the world's largest producing country, Kazakhstan, and their state-owned, uranium company, Kazatomprom. Kazakhstan presently represents 40% of global production, and their announced cuts to production demonstrate that even the world's lower cost producers have been compelled to alter course in the face of unsustainable market prices. These production cuts should reduce Kazakhstan's annual output by 12.2% in 2018 from 2016 levels. For 2018 to 2020 they have announced a 20% reduction from planned levels and are expected to produce about 56 million pounds this year. Kazatomprom's planned IPO is also compelling this more market-rational approach. In addition to these cuts, Kazatomprom also recently entered into an agreement

with the new London AIM-listed company, Yellow Cake plc, to consume their uncommitted production volumes and sequester them from the spot market in a pure-commodity holding investment (8.44 million pounds of U<sub>3</sub>O<sub>8</sub> taken off the market in just the last few months).

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

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

Obviously if the current gap between global production and consumption amounts to about 56 million pounds in 2018 alone, we are continuing to see a very substantial contribution by inventories and secondary supplies. However, at the same time, we are also experiencing a tremendous drawdown of these supplies as a result. The ongoing global production cuts accelerate this depletion, especially in terms of finite inventories. One significant source of secondary supply has been the excess uranium volumes generated by the so-called underfeeding of uranium enrichment centrifuges (the stage in the nuclear fuel cycle that concentrates the U-235 isotope to sustain the fission process in a reactor). The relative market prices of uranium and enrichment (the ratio of which is known as tails assay) has an impact on how much of these inputs are used in the fuel manufacturing process. However, a significant driver in the generation of these excess under-feeding uranium supplies is the under-utilized capacities of the centrifuges themselves. This condition was created by the enrichment demand-destruction occurring in the years following Fukushima. It has been well reported that this secondary source globally has been supplying between 15-20 million pounds of U<sub>3</sub>O<sub>8</sub> annually (equivalent to a McArthur River mine). The good news however, is that this significant overhang on the

market has likely peaked in its contribution to global supply and should decrease in the coming years. This is largely due to the prices of enrichment services (known as separative work units, or "SWU") have fallen to historic lows. This has discouraged some new additional SWU capacity to be built, and caused older, first-generation centrifuges to be shut down. This rationalization, coupled with increased demand from new reactors and those re-entering service (Japanese restarts for example) will cause more of this reduced capacity to be dedicated to uranium enrichment, leaving less for underfeeding.

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

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

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

While the supply-side market fundamentals have certainly turned positive, so has demand. In this regard, the global nuclear energy industry is finally emerging from a post-Fukushima environment which saw the shutdown of some existing capacity and cancellation of other new developments. Despite this setback, the global nuclear industry has seen the best growth rates, as measured by new units connected to the grid, that has been experienced in the past 25 years. Twenty-eight reactors have started up and entered commercial service in just the last 3 years. At present, the global fleet is comprised of 453 operable reactors in 30 different countries, with 55 units currently under construction with approximately 50% of those to be completed within the next few years. Another 152 reactors are on-order or actively planned. Even challenges to this growth have seen positive developments in recent months. Japan has restarted 9 of their reactors, and on their way to re-establishing nuclear energy for 20-22% of their stated contribution goal of total national energy supplies. Furthermore, a number of countries that have contemplated reducing their reliance on nuclear energy have reversed, or deferred, any action as opposition was too great and/or lack of viable alternatives presently exist for baseload, non-carbon emitting electricity. The countries of France, South Korea and Taiwan being prime examples. Even the United States, that had a number of reactors in a vulnerable economic position due to poorly structured power markets, have seen four U.S. states, namely New York, New Jersey, Connecticut and Illinois pass legislation to preserve their installed nuclear capacity. Two additional states, Ohio and Pennsylvania are contemplating similar steps and are being encouraged by the Trump Administration to preserve this critical energy infrastructure.

***In the USA, two uranium producers have submitted a petition to Congress with the aim of producing a large proportion of the uranium demanded in the USA in the USA as well. What is the current status of this pro-***

***ject, how are the prospects of success to be assessed and what influence could this have on the uranium price?***

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

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



in a 15 million pound per year requirement for U.S. origin uranium which is achievable over a several year ramp up, and of course, higher incentive prices that would require a U.S. origin price premium over current levels. While this issue will play out prominently between U.S. nuclear generators and domestic fuel cycle companies, it should not cause too much disruption to the global market as a buy-American requirement would only impact roughly 8% of global requirements and does not change the dynamics of the substantial rebalancing of the uranium market which is underway.

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

This development should be startling to the nuclear generating companies, and probably explains the current, and very strategic appetite for Chinese investment. Beyond the large Chinese Husab mine, we see very little in terms of new mine development. From a producer's viewpoint this is not surprising, given

the seven-year period of challenging price conditions we have experienced. The incentive price for meaningful new uranium production (new developments or mine expansions) to come to the market is estimated by BMO, in their March 2017 uranium market outlook, to be higher than US\$60 per pound  $U_3O_8$ . This, and the prolonged licensing and permitting process required to bring on new production (as much as 10 years or more for a major conventional mine/mill complex), make for an interesting situation as the uranium market is already moving into a near term supply deficit amidst higher contracting volumes. In coming years, this need for new production becomes acute, and while decent resources and potential developments exist globally to meet this need for new production, no one has been incentivized by the recent unsustainable market price conditions.

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

Great question and something that adds to near term uranium requirements due to the 55

reactors currently under construction. A reactor under steady-state operation refuels only once every 12 – 24 months depending on their optimal fuel management and operating strategy. At these periodic refueling outages, approximately one-third of the reactor core is replaced with fresh fuel and the remaining fuel assemblies are shuffled to new locations in the core. The oldest fuel that has been in the reactor for several years is retired to spent fuel storage for ultimate disposal (or is reprocessed into new fuel).

In the case of a new reactor in its first operating cycle, the entire reactor core needs to be loaded with fresh fuel. This creates what is known as the "initial core effect". The first core fueling requires about 1.5 times the uranium required in a typical reload (the reason it is not 3 times more has to do with lower U-235 enrichment levels in the first cycle). Taken collectively across all of the new reactor start-ups, the bump in global requirements is substantial, not to mention that these requirements tend to be procured earlier than subsequent reloads.

To put this into actual numbers, a new Westinghouse AP-1000 reactor (like those being built in Georgia) require about 1.65 million pounds for an initial core, with a reload requiring around 1.1 million pounds. This can, of course, vary based on operating cycle-length and tails assay (depending on the relative prices of uranium and enrichment).

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

A seven-year bear market in uranium is long by any commodity standards, but, as we know from the laws of economics, the cure for low prices is usually prolonged low prices. The supply destruction that was delayed by the high level of hedged contracts at higher prices, is finally occurring in a very big way as that protection falls off. The two largest uranium producing countries, Kazakhstan and Canada, seem to be in agreement that something needed to be done to help this market re-balance

more rapidly than the status quo was providing, and have cut back production from some of the world's largest and most competitive mines. This rebalancing of market fundamentals is accelerated by producer purchasing required to backfill existing sales commitments from lost production, and investors throwing gasoline on the fire, buying and removing uranium from the open market for speculative investment purposes. The next shoe to drop will be the resumed utility procurement cycle which is emerging just as the uranium supplies begin to tighten and new mines have not been sufficiently incentivized. As a result, the outlook for the uranium industry looks as positive as it has been in many years, and the investment thesis could not be any stronger. We have already begun to see the early signs of recovery in the sector, but we are truly in the early stages as much better days are yet to come.

# Appia Energy

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

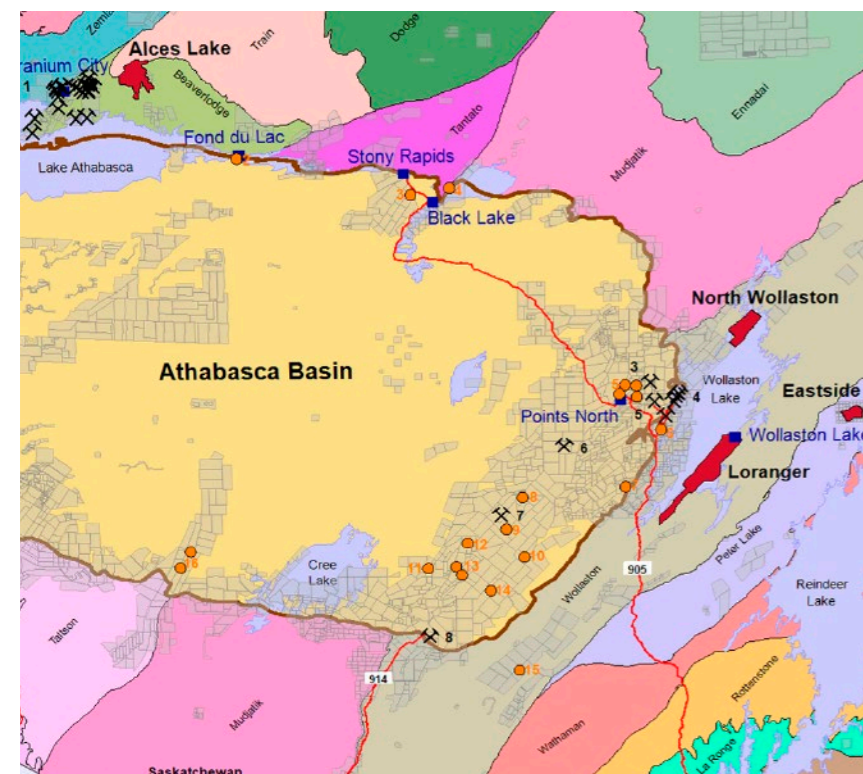


Appia Energy is a Canadian commodity development company specializing in uranium and rare earths. Appia Energy is pursuing a two-pronged strategy: on the one hand, it is exploring high-grade uranium deposits in the Athabasca Basin region and, on the other, it is developing the Elliot Lake Uranium and Rare Earth Project in Ontario.

## Athabasca Basin Uranium and Rare Earth Projects

Although the Athabasca Basin is known for its rich uranium deposits (eight deposits each containing more than 50 million pounds of  $U_3O_8$  have been discovered since 2000 alone), its exploratory exploration is still in its infancy. In the Athabasca Basin region, Appia Energy owns several high-caliber license areas. All of these projects have geophysical and geological similarities with known high-grade uranium occurrences.

In the Athabasca Basin region, Appia Energy owns several high-caliber license areas: Alces Lake, North Wollaston, Eastside and Loranger (marked red). (Source: Appia Energy)



## Alces Lake

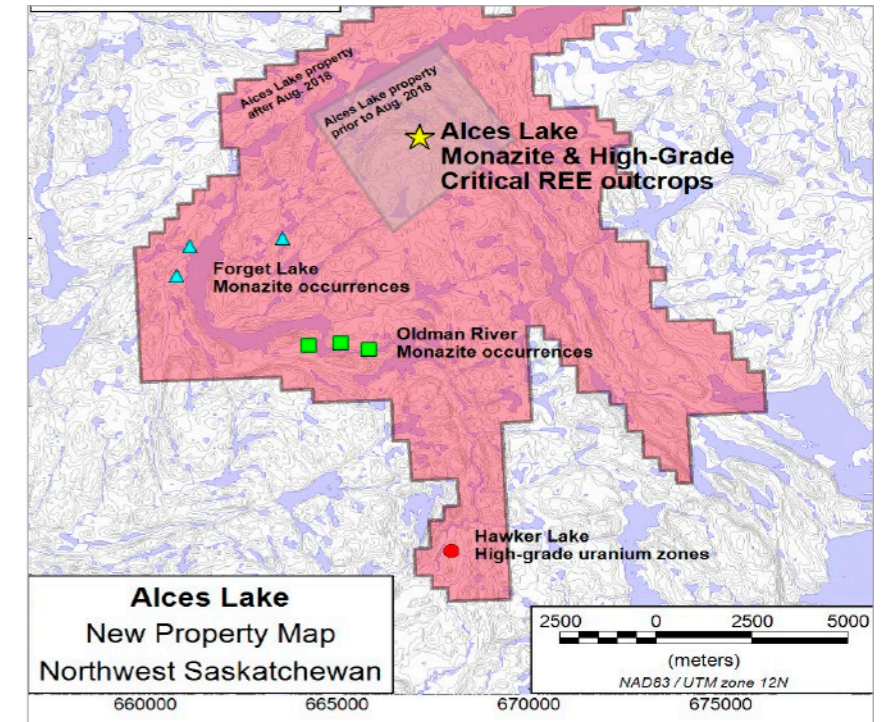
Alces Lake is located northwest of the Athabasca Basin, not far from Uranium City. It covers 1,518 hectares and hosts uranium, rare earth elements, titanium and thorium. Alces Lake is 100% owned by Appia Energy. Exploration activities to date have included sampling where up to 49% by weight (wt%) of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

## Alces Lake Extension: Oldman Property

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

## Loranger

Loranger is located in the southeast of the Athabasca area, slightly outside the actual Athabasca basin. The Cigar Lake Mine is about 60 kilometers away, the McLean Lake Mill about 40 kilometers and the Rabbit Lake Mill only about 28 kilometers. The approximately 33,400-hectare project area has both a highway connection (over a 20-kilometer-long Ice Road) and direct access to a high-voltage line. In addition to uranium, traces of rare earths, thorium and molybdenum can also be found on Loranger. Appia Energy owns 100% of Loranger. The project area contains several sites with high grade near surface uranium resources not covered by sandstone. As early as the 1970s, radioactive outcrops and radon anomalies were discovered in the water. A historic drill program has identified significant uranium grades in 10 of 13 holes to a depth of 94 metres. The breakthrough came in October 2016, when a VTEM (Versatile Time Domain Electromagnetic) study (airborne, electromagnetic investigation of the composition of the rock) proved the existence of four separate structural corridors with a total strike length of



Based on recent positive sample results, the Alces Lake Project was drastically expanded in September 2018. (Source: Appia Energy)

94 kilometres. So far only two kilometres of it have been explored! In 2017, a gravity survey was carried out to identify numerous areas of gravity dropouts, similar to those found on NexGen's Mega-discovery Arrow. A drill program was also completed with unusual radioactivity encountered in three drill holes. In addition, a further four drill holes encountered low grade traces of uranium. In May 2017 Appia Energy published sensational drilling results. Thus, the company encountered 72.9 metres with 0.012 wt%  $U_3O_8$ , 150 metres away 26.4 metres could be detected with 0.014 wt%. 600 metres southwest along strike, a 56.85-metre-long interval of 0.012 wt%  $U_3O_8$  and 425 metres further to 10.3 metres of 0.016 wt%  $U_3O_8$  was encountered. In July 2017, the company was also able to announce that instead of the two historical manifestations, 3 radiometric manifestations with significant radioactivity were found.



### Eastside Property

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

### North Wollaston Property

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

### Elliot Lake

The Elliot Lake Project is located approximately three kilometers north of the city of Elliot Lake in northern Ontario. 60 kilometers southwest is Blind River, where Cameco operates the world's largest uranium refinery. The short distance to the nearest city means that virtually the entire infrastructure is already in place. The total project comprises 101 claims in which Appia Energy holds 100%. A total of 362 million pounds of  $U_3O_8$  were mined from 13 underground mines within the

Elliot Lake Mining Camp from 1955 to 1996, with an average grade of 0.106 wt%.

Elliot Lake nevertheless still has a significant resource of 8.0 million pounds  $U_3O_8$  and 47.7 million pounds TREE (total rare earth elements) in the indicated category and 47.7 million pounds  $U_3O_8$  and 133.2 million pounds TREE in the inferred category. Historical resource estimates suggest that Elliot Lake could host more than 200 million pounds of  $U_3O_8$ .

In recent exploration campaigns, Appia Energy, and especially other companies, have invested more than CA\$50 million in Elliot Lake. It has been demonstrated that Elliot Lake has high potential for an even greater resource as the known uranium veins are still open on all sides.

The Elliot Lake Project hosts a number of independent occurrences with the Teasdale Lake Zone and Banana Lake Zone clearly prominent. These zones are currently also the target of further exploration plans, which include drilling plans to ensure good results as well as possible economic mining scenarios. The project is currently on standby and should be reactivated quickly in the event of higher uranium and rare-earth prices.

### Appia Energy relies on top uranium geologists

Appia Energy has a dedicated top management team, but one name stands out: James Sykes! These are Appia Energy's chief geologists and Vice President Exploration & Development.

In the uranium world, Sykes is considered to have the best feeling for extremely high-grade and extensive uranium deposits. At Denison Mines, for example, Sykes was part of the exploration team that set the targets for finding the Phoenix and Gryphon mega-projects. At Hathor Exploration he developed the 3D geological model of the Roughrider West deposit, which led to the discovery of the East and Far East deposits.

At NexGen, he was instrumental in the discovery of the Arrow deposit and the high-grade A2 subzone. Sykes has thus been one of the main discoverers of well over 450 million pounds of  $U_3O_8$  in his career to date!

### Summary: Appia Energy has the potential for a second NexGen

Sykes now wants to repeat these successes at Appia Energy, where he finds an almost ideal operating environment. Several Appia projects have almost identical geological conditions to NexGen's mega-project Arrow. The main focus is undoubtedly on Alces Lake, from where several spectacular results have recently been reported. There one could have actually hit a real bull's eye, which indicates the unusually large extension of Alces Lake around the project. The trump card is the El-

liot Lake project, where it is only a matter of time before it can be put back into operation. After all, it already possesses one of the largest uranium resources in the world. Appia Energy therefore has a great chance of hitting the bull's eye in the Athabasca Basin and, given the high resource, also offers an equally high leverage on the uranium price, which will simply have to rise in the future. A large number of exploration results are expected in the coming months. A capital increase carried out in July 2018 gives the company sufficient financial leeway.

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

### What did you and your company achieve within the last 12 months?

Appia Energy Corp has;

- ▶ raised \$1,050,100 CAD in new capital,
- ▶ expanded shareholder base by starting trading on the OTCQB Venture Market in the United States of America
- ▶ completed an exploration program on the high-grade critical Rare Earth Elements + Uranium, Alces Lake property;
  - surface outcrops rank as some of the highest-grade REE deposits in the world, enriched with strategic metals (neodymium „Nd“ and Praseodymium „Pr“) used for permanent magnets in electric vehicles and wind power
  - exposed seven high-grade REE+U deposits at surface (Bell, Charles, Dante,

Dylan, Ivan, Wilson and Wilson South-Central)

- 846 surface outcrop channel samples (~75% of results still pending, best results to date returned 14.90 wt% Total Rare Earth Oxide and 0.061 wt%  $U_3O_8$  over 5.1 m)
- 15 diamond drill holes (results still pending)
- identified new high-grade REE zones below Charles and Ivan zones, both within 10 m of surface
- ▶ acquired the North Wollaston property; a high-grade uranium prospective area on-trend with a 200 M lbs.  $U_3O_8$  producing structural corridor. The property hosts four surface outcrops that returned up to 0.495 wt%  $U_3O_8$ , all of which share geologi-



Anastasios (Tom) Drivas, CEO



cal similarities with numerous Athabasca Basin high-grade uranium deposits.

- ▶ staked an additional 12,816 hectares (31,669 acres) surrounding the Alces Lake property. The property addition includes; 1. two new areas for REE exploration (Forget Lake and Oldman River), both of which share geological similarities with the Alces Lake deposits including visible monazite at surface; and 2. the Hawker Lake high-grade uranium zones where mineralization was intersected in a 1950's drilling campaign that returned uranium (0.11 to 1.24 wt%  $U_3O_8$ ) from near surface (2.5 m) down to 46 m depth.

**What are the main catalysts for your company within the next 6 months?**

The Company plans to continue releasing assay results from the Alces Lake property as they become available in the next few weeks. In the next 6 months, Appia plans to continue to advance the Alces Lake property; metallurgy, extractability, processing and separation studies.

**What is your opinion about the current conditions of the uranium market?**

The uranium market has shown signs of continued recovery since April/May of this year (2018) but we are still witnessing long-term and spot uranium prices at levels that are not sustainable for the uranium producers and explorers. Many producers have put their operations into care-and-maintenance for the time being because they are not making any money at the current commodity prices.

The price of uranium needs to continue climbing higher as there are more than 300 new reactors still proposed for construction by 2030 and supply will have to almost double to 300 M lbs. uranium annually to meet demand. In the meantime, there's no new uranium mines scheduled to come into production within the next 7 years which creates a looming shortfall in production on the horizon.

## Denison Mines Best Uranium Project on the Planet Already in the Feasibility Phase

Denison Mines Corp. has a long history of uranium mining in Canada - stretching back to its operations in Elliot Lake, which were closed and fully reclaimed in the 1990s after decades of mining. Having expanded its holdings during the last uranium bull market to include projects in the US, Africa and Mongolia, Denison has recently sold its non-core projects to focus back on Canada and the Athabasca Basin region in particular. The Company's interests include the Wheeler River project, which is the largest undeveloped uranium project in the eastern Athabasca Basin, and the McClean Lake uranium mill, which is a fully licensed processing plant with excess licensed capacity.

### Wheeler River – Location, Infrastructure, Ownership

Denison Mines' flagship Wheeler River project is located in the southeast of the Athabasca Basin, between Cameco's McArthur River mine and Key Lake processing plant. As a result, Wheeler River is surrounded by the best infrastructure, including roads and the province's power grid. Denison is increasing its interest in the project to up to 90% by the end of 2018, with a Japanese consortium, JCU (Canada) Exploration Limited, expected own a 10% interest in the project.

### Wheeler River – Resources

In January 2018, Denison Mines released a new resource estimate for Wheeler River. Accordingly, the project is estimated to have 1.81 million tonnes of rock with an average of 3.3%  $U_3O_8$  in the indicated category, equivalent to 132.1 million pounds  $U_3O_8$ . It also includes 166,000 tonnes with an average of 19.1%  $U_3O_8$  from the Phoenix subproject, making Phoenix the highest-grade undeveloped uranium deposit in the world. Taken together, the resource update represented an 88% increase in the estimated indicated resources on the property, when compared to the previous re-

source estimate. In addition, Wheeler River is estimated to have an additional 3.3 million pounds of  $U_3O_8$  in inferred resources.

### Wheeler River Deposits

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

### Wheeler River – Phoenix

The larger and higher grade of the two deposits is Phoenix, is estimated to contain indicated resources of 70.2 million pounds  $U_3O_8$  at an average grade of 19.1%  $U_3O_8$ . Based on the recently completed Pre-Feasibility Study (PFS) for the project, Phoenix is planned to be the first In-Situ Recovery (ISR) uranium mining operation in the Athabasca Basin – combining the benefits of the world's lowest cost uranium mining method with the world's highest grade uranium deposit. The geological setting of Phoenix is unique, compared to most other Athabasca Basin uranium deposits – situated in permeable sandstones, making it amenable to ISR mining. As a high-grade ISR operation, the Company is estimating operating costs for Phoenix production of US\$3.33/lb  $U_3O_8$  – which is the lowest of any publicly stated uranium mining operation presently in production or planned. Processing would occur at a small surface plant to be built at the Wheeler River site, with annual production estimated at 6 million pounds  $U_3O_8$  per year. By way of comparison: some low-grade ISR projects operate with uranium grades that are measured in parts per million (PPM) with grades in the range of 0.05%  $U_3O_8$ !

### Wheeler River – Gryphon

Gryphon was discovered in 2014 and is estimated to host 61.9 million pounds of  $U_3O_8$  at

ISIN: CA03783B1022  
WKN: A2DL6  
FRA: AOI  
TSX-V: API

Shares outstanding: 52.3 million  
Options: 3.8 million  
Warrants: 9.1 million  
Fully diluted: 65.3 million

Contact:  
Appia Energy Corp.  
Suite 500 - 2 Toronto St.  
Toronto, ON M5C 2B6, Canada  
phone: +1-416-546-2707  
fax: +1-416-218-9772

appia@appiaenergy.ca  
www.appiaenergy.ca

## Appia Energy Corp.



an average grade of 1.7% U<sub>3</sub>O<sub>8</sub>. The deposit is hosted in competent basement rocks and is amenable to convectional low-cost underground mining methods (including longhole stoping). Based on the recently completed PFS for the project, Gryphon is planned to be mined using shaft access with processing of Gryphon ore to be completed at the 22.5% Denison owned McClean Lake uranium mill. Operating costs are also estimated to be well below the current price for uranium, with the Company estimating cash costs of US\$11.70/lb U<sub>3</sub>O<sub>8</sub>, and annual average production of 7.6million pounds U<sub>3</sub>O<sub>8</sub>.

ble reserves of 109.4 million pounds U<sub>3</sub>O<sub>8</sub> or 1.4 million tonnes at an average grade of 3.5%. Mine production of the project is estimated at an average of 7.8 million pounds U<sub>3</sub>O<sub>8</sub> per year over a 14-year mine life, returning a base-case pre-tax net present value (NPV) of 1.31 billion CA\$ (8% discount rate), a profitability (IRR) of 38.7% and requiring initial capital of only 322.5 million CA\$. The base-case NPV assumes Phoenix production will be sold at an estimated spot price starting at ~US\$29/lb U<sub>3</sub>O<sub>8</sub> in the year of first production to up to US\$45/lb U<sub>3</sub>O<sub>8</sub>, and that Gryphon production will be sold via long-term contract at a fixed price of US\$50/lb U<sub>3</sub>O<sub>8</sub>. Using the same price assumed for the 2016 PEA, a fixed uranium price of US\$44/lb U<sub>3</sub>O<sub>8</sub>, the PFS plan produces a pre-tax NPV of 1.41 billion CA\$, which is approximately 2.75 times the NPV estimated in 2016 PEA.

tive feasibility study prior to planned construct in the early 2020s, and first production from the Phoenix operation as early as mid-2024.

**Wheeler River – Exploration and Development Potential**

Although Wheeler River is already the largest undeveloped uranium project in the infrastructure-rich eastern part of the Athabasca Basin, exploration activity on the property has focused on the Phoenix and Gryphon deposits for most of the past decade. With the PFS results illustrating the strong economic merit of Phoenix and Gryphon at their current resource sizes, the focus going forward will be on advancing the permitting and engineering work to start construction, and on the exploration for potential satellite deposits across the relatively under-explored remainder of the property – with the potential to add additional ISR amenable deposits that would work as a satellite to the processing plant proposed for Phoenix.

Zone. A basement hosted zone of mineralization highlighted by several high-grade drill intercepts. In 2018 a further new area of mineralization was discovered approximately 3 kilometres from the Huskie Zone along the GB Trend, a further prospective area likely to see follow up exploration drilling.

Adjacent to Waterbury is also the Midwest project (25.17% owned by Denison). According to the latest March 2018 estimate, Midwest hosts over 50 million pounds of U<sub>3</sub>O<sub>8</sub> Indicated Resources and over 18 million pounds of U<sub>3</sub>O<sub>8</sub> Inferred Resources in the Midwest Main and Midwest deposits.

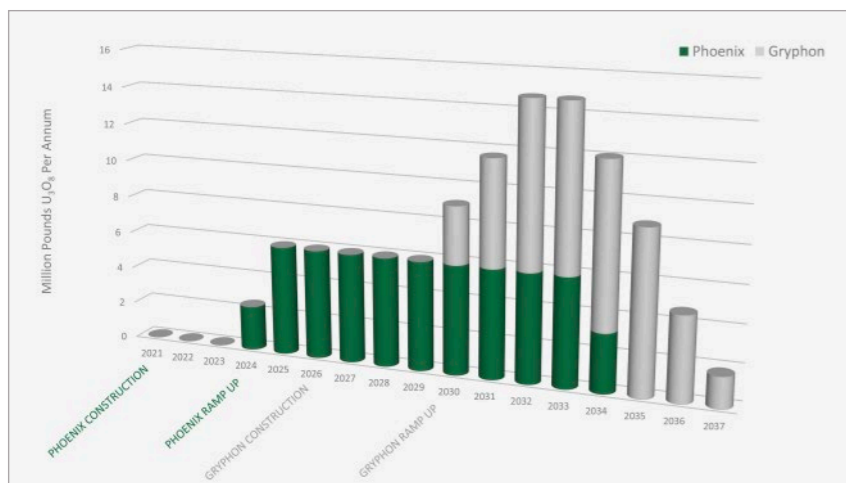
Both Waterbury and Midwest are located within 25kilometres of the McClean Lake mill.

**Hook-Carter**

In October 2016, Denison Mines acquired 80% of the Hook-Carter project, which is on the same trend as Fission’s Uranium Triple R and NexGen’s Arrow projects. Hook-Carter is a large-scale land package with over 15 kilometres of strike coverage on the Patterson Lake corridor, and has been grossly underexplored to date, by comparison to adjacent properties. Denison conducted an extensive geophysical survey in 2017, followed by an initial reconnaissance drill program in 2018 – with the purpose of generating targets for further exploration drilling.

**Investments in other top uranium companies**

In recent years, Denison Mines has become a major shareholder in other first-class uranium companies through the sale of various non-essential projects. Denison owns approximately 16%of the shares of GoviEx Uranium (TSX-V: GXU) and just under 10% of the shares of Skyharbour Resources (TSX-V: SYH).



Production timeline (Source: Denison Mines)

**Wheeler River – Pre-Feasibility Study**

On September 24, 2018, Denison published the results of a PFS for Wheeler River, upgrading the confidence of the Company’s economic evaluation for the project from a Preliminary Economic Assessment (2016 PEA) completed in early 2016. The PFS represents a dramatic change in the project economics – largely driven by the selection of the low cost ISR mining method for the high cost Phoenix deposit and an increase in the rate of production assumed for the Gryphon deposit. With the completion of the PFS, the Company now estimates that Wheeler River is host to Proba-

**McClean Lake uranium mill – Strategic 22.5% ownership interest**

An important part of the Denison story is its strategic 22.5% ownership interest in the McClean Lake uranium mill through a joint venture with Orano, formerly AREVA (70%). The plant is fully licensed and is currently processing ore from the Cigar Lake Mine under a toll milling agreement. McClean Lake has a licensed processing capacity of 24 million pounds U<sub>3</sub>O<sub>8</sub> per year with 18 million pounds reserved for Cigar Lake. The remaining 6 million pounds of licensed processing capacity is currently unutilized and could be used by Denison Mines for Wheeler River’s Gryphon mine production – a unique and enviable option for Denison.

**Wheeler River – Current plans and schedule**

According to the PFS, the next steps for the Wheeler River project involve initiation of the permitting and environmental assessment process, as well as the completion of a defini-

**Further projects**

Including Wheeler River, Denison has interests in approximately 320,000 hectares of land in the Athabasca Basin region, highlighted by numerous highly prospective exploration projects.

**Waterbury and Midwest**

The Waterbury Project (Denison: approximately 65%) was acquired by Denison in 2013 and hosts the J-Zone uranium deposit (an estimated indicated resource of 12.8 million pounds U<sub>3</sub>O<sub>8</sub> at an average grade of 2.0% U<sub>3</sub>O<sub>8</sub>), known to be the western extension of the Roughrider deposit (acquired by Rio Tinto in 2011 for over CA\$500 million). Approximately 1 kilometre north of the J Zone deposit, Denison more recently discovered the Huskie

### Mastermind David Cates

Denison Mines is led by David Cates, an absolute financial specialist. Prior to his appointment as President and Chief Executive Officer, Cates served as Denison's Vice President of Finance, Tax and Chief Financial Officer. As Chief Financial Officer, he played a key role in the company's merger and acquisition activities - leading the acquisition of Rockgate Capital Corp. and International Enxco Ltd. Prior to joining the company, Cates held various positions at Kinross Gold Corp. and PwC LLP with a focus on the extractive industry and finance. He received a special honor in 2018 when he was elected to the Board of Directors and the Executive Committee of the Canadian Nuclear Association (CNA), at the CNA's 58th Annual General Meeting.

### Summary: Future uranium producer with almost inexhaustible development potential!

Denison Mines is well prepared for a rising uranium price. Wheeler River is the largest undeveloped uranium project in the eastern

Athabasca Basin, and the Phoenix operation is estimated to have the lowest operating costs per pound of any uranium mining project globally. Wheeler has the advantage of nearby infrastructure, high uranium grades and large scale. Taken together, Denison has positioned itself to be the first new uranium producer in Canada at a time when the uranium market is beginning to show signs of long-term improvement. With comparatively low capital costs required to build the Phoenix operation, Denison can also avoid significant dilution to existing shareholders, which is a challenge for most Companies operating in jurisdictions without existing infrastructure. In addition to Wheeler River, Denison holds a large and prospective exploration portfolio in the Athabasca Basin and generates internal cash flows from a management contract with Uranium Participation Corp. (TSX: U) and an environmental services business located in Elliot Lake. With the dramatic change from the recent PFS result, Denison has truly become one of the most exciting companies in this sector and uranium investors must pay attention to their progress in advancing Wheeler River forward, as there are likely to be many future catalysts to come.

Wheeler is the Company's most advanced and most valuable asset – so we were certainly pleased with a result that represents such a significant increase in the NPV of the project.

### What are the main catalysts for your company within the next 6 months?

With the Wheeler PFS result, Denison's Phoenix deposit is now estimated to have the lowest operating cost of any uranium project in the world (US\$3.33/lb U<sub>3</sub>O<sub>8</sub>). With such healthy operating margins at today's spot price, we can justify advancing the project to permitting and a feasibility study even before the uranium price rises. As a result, you are likely to see Denison make announcements about permitting the project and potential field and lab test results associated with the ISR mining method selected for Phoenix. Each of these developments has the potential to be a meaningful catalyst. In addition, we will explore for satellite deposits at Wheeler and for new de-

posits on the Company's Waterbury and Hook-Carter properties – each of which could be a significant catalyst for Denison as well.

### What is your opinion about the current conditions of the uranium market?

The uranium market is poised for sustained increases in both the spot and long-term price – primarily owing to the current production deficit created by significant mine curtailments and the cumulative impact that it will have on excess inventories ahead of a renewed utility contracting cycle. Nuclear utilities are currently paralyzed by the uncertainty created by the ongoing Section 232 trade case in the USA, suggesting the market will move gradually in the near term and then could see increased activity from utilities which would drive the price up once the trade dispute is resolved.



David D. Cates, CEO

## Exclusive interview with David D. Cates, CEO of Denison Mines

### What did you and your company achieve within the last 12 months?

The past 12 months have been a whirlwind of exciting news for Denison. We started 2018 with an update to our resource estimate for our flag-ship Wheeler River project, which returned an 88% increase in the estimated indicated resources for the property. This solidified Wheeler's position as the largest undeveloped uranium project in the infrastructure rich eastern portion of the Athabasca Basin

region. Then, in September, following on from nearly two and a half years of engineering and geological work, the company announced the results from a Pre-Feasibility Study (PFS) for the Wheeler River project. The PFS resulted in a dramatic increase in the value of the project from the previous economic study (a PEA) completed in 2016. The NPV of the project under the PFS is approximately 2.75 times that of the PEA from 2016 and is now highlighted by the selection of the low-cost ISR mining method for the high-grade Phoenix deposit.

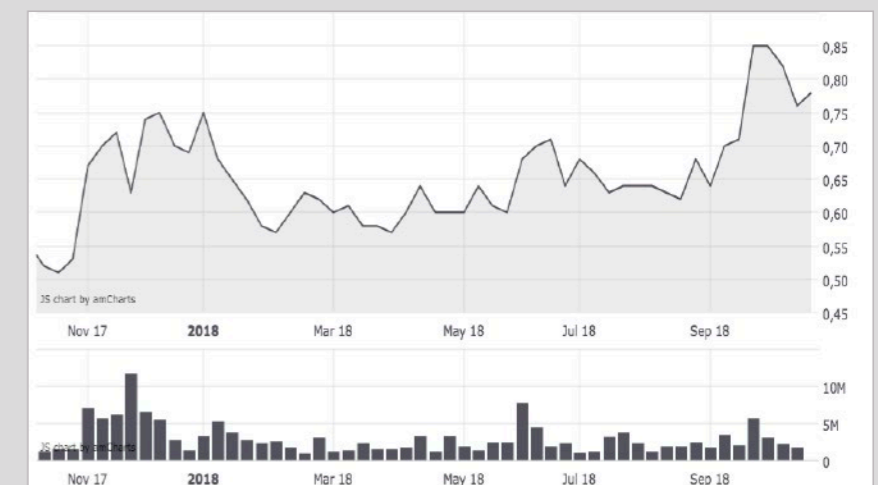
**ISIN:** CA2483561072  
**WKN:** AOLFYS  
**FRA:** IUQ  
**TSX:** DML  
**NYSE:** DNN

Outstanding shares: 559.2 million  
 Options: 17.5 million  
 Warrants: 1.7 million  
 Fully diluted: 578.4 million

**Contact:**  
 Denison Mines Corp.  
 1100 - 40 University Avenue  
 Toronto, ON M5J 1T1, Canada  
 phone: +1-416-979-1991  
 fax: +1-416-979-5893

info@denisonmines.com  
 www.denisonmines.com

## Denison Mines Corp.



# Energy Fuels

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



Energy Fuels is one of only three uranium producers in the USA. Although the company will produce between 460,000 and 520,000 pounds of  $U_3O_8$  in 2018, the company has much higher licensed production capacity. Energy Fuels could produce and sell up to 11.5 million pounds of  $U_3O_8$  per year if the price of uranium rises again. This results in an almost gigantic leverage on the uranium spot price for society! In addition, the former vanadium production will be resumed from mid-November 2018 in order to benefit from increased vanadium prices and a possible boom in larger vanadium redox batteries in the upcoming electric revolution.

### Nichols Ranch ISR Project

One of currently two producing uranium projects is called Nichols Ranch and is located in the US state of Wyoming. Nichols Ranch is an in-situ-recovery-(ISR)-project and could be won by the fusion with Uranerz Energy. ISR mining is considered to be an extremely cost-effective production method, which is why Energy Fuels can operate this project at extremely low uranium prices. At Nichols Ranch, more than 1 million pounds of  $U_3O_8$  have been mined and processed at the central licensed 2 million pounds of  $U_3O_8$  per year facility since the start of operations. In addition, Nichols Ranch offers other wellfields that can be exploited in the future. Nichols Ranch is regarded

as the central piece of the puzzle for a whole series of other (potential) satellite projects. The Jane Dough and Hank projects, which are only a short distance away, have at least another 30 wellfields with corresponding additional resources, which can be connected relatively easily and cost-effectively to the existing pipeline system. Jane Dough currently has resources of approximately 3.9 million pounds  $U_3O_8$ , Hank has 1.7 million pounds  $U_3O_8$ . Both projects have already been fully approved for future funding. Nichols Ranch could significantly ramp up production within just 6 months if a uranium selling price of between US\$40 and US\$50 per pound of  $U_3O_8$  could be achieved. For 2018, the company expects uranium production at Nichols Ranch to range from 140,000 to 160,000 pounds of  $U_3O_8$ .

### Alta Mesa ISR plant

The Alta Mesa ISR system is located in the southeast of Texas and is currently in standby mode. Alta Mesa produced a total of 4.6 million pounds of  $U_3O_8$  from 2005 to 2013 and has a fully licensed processing capacity of 1.5 million pounds of  $U_3O_8$  per year. The associated license area has approximately 20.4 million pounds of  $U_3O_8$  resources and could resume production within 12 months if a uranium sales price of between US\$40 and US\$50 per pound of  $U_3O_8$  could be achieved. The approximately 200,000 acres license area continues to have high exploration potential which could further extend the estimated 15-year mine life.

### Focus on vanadium

In addition to the uranium business itself, Energy Fuels has for some time focused on restarting its vanadium cycle on White Mesa and exploiting existing stockpiles. Vanadium is a metallic element used in the transformation into ferrovandium (an alloy of vanadium and iron) mainly as an additive for the reinforcement and hardening of steel. In addition, vanadium continues to see interest in

energy storage technologies, including vanadium redox flow batteries, which are used on a larger scale to store grid power.

In addition to assessing the potential for recovering vanadium from the mill tailings and evaporation ponds, the Company is also reviewing the economics of processing certain previously mined uranium/vanadium ore stockpiles near the mill and restarting conventional mining at certain of its uranium/vanadium mines and recovering vanadium alone or in combination with uranium from other potential vanadium-bearing mines.

The objective of the Company's vanadium review is to better quantify short- and medium-term vanadium revenues in light of recent price increases for vanadium (six times the price since the low in early 2016) while minimizing the risk of market volatility. In September 2018, the company announced that it would resume vanadium production on White Mesa in mid-November 2018.

### White Mesa Mill

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

around US\$ 7.1 million can be generated in 2018.

The company is currently working on restarting vanadium production, which is scheduled to start in mid-November. To this end, the existing vanadium processing plants will be renovated and upgraded. It is estimated that over 4 million pounds of  $V_2O_5$  with contents between 1.4 and 2.0g/L are stored in ponds. Most recently, Energy Fuels funded 1.5 million pounds of vanadium on White Mesa in 2013. A total of over 45 million pounds of vanadium have been mined there in the 38-year production history.

### Canyon Mine

One of these high-grade uranium mines, which will (again) feed the White Mesa Mill with uranium-bearing rock in the future, belongs to Energy Fuels itself. This is the fully approved and currently standby canyon uranium and copper mine in northern Arizona, which has the highest uranium grades of any conventional uranium mine in the USA! The Canyon Mine currently has approximately 1.6 million pounds of  $U_3O_8$  resources (as of 2012) but has only been sporadically explored for existing deposits to date. Since 2012, the Company has been able to report some high-profile drilling results. Taking the average of the best 12 drill intersections, 1.15%  $U_3O_8$  and 9.36% copper over a total length of just under 330 metres is found! The superficial infrastructure and the production shaft have already been completed. It is estimated that Canyon would be among the conventional uranium mines with the lowest mining costs in the world. The actual processing of the extracted rock would take place in the White Mesa Mill about 300 kilometres away. Canyon could be put into operation within 12 months at a stable uranium price of between US\$40 and US\$50 per pound of  $U_3O_8$ , providing annual production of between 500,000 and one million pounds of  $U_3O_8$ . Drill results published in 2017 confirmed Canyon Mine up to 2.88%  $U_3O_8$  and 14.85% copper. In particular, the

Overview of Energy Fuels' projects and processing facilities as well as the locations of the U.S. nuclear facilities  
(Source: Energy Fuels)



high copper content could lead Energy Fuels to process the rock from the Canyon Mine at an almost unbeatable price in the White Mesa Mill. The corresponding test procedures are already underway.

In August 2017, Energy Fuels released a new, expanded resource estimate for the Canyon Mine. Accordingly, the Upper, Main and Juniper zones contain approximately 2.6 million pounds of  $U_3O_8$  with average grades between 0.20 and 0.89% and approximately 12.5 million pounds of copper with average grades between 5.70 and 9.29%.

### Further approved top projects

In addition to the major projects already mentioned, Energy Fuels has a number of additional projects that have already been fully approved for funding.

### La Sal Complex in Utah

The La Sal Complex is located approximately 100 kilometers northeast of the White Mesa Mill and consists of the two mines Beaver and Pandora, which were already in production until 2012. Both mines together have approximately 4.5 million pounds of  $U_3O_8$  and 23.4 million pounds of vanadium. The La Sal Complex could be put back into operation within 6 months if a uranium sales price of at least US\$60 per pound of  $U_3O_8$  could be achieved. Since the price of vanadium has also risen sharply recently, the commissioning of La Sal could also reactivate the vanadium cycle in the White Mesa Mill. In February 2018, Energy Fuels received regulatory approval to expand the La Sal Complex. Two former access tunnels are currently being restored.

### Daneros Mine

The Daneros Mine is located about 40 kilometers west of the White Mesa Mill and was already in production until 2012. The mine has

about 0.7 million pounds of  $U_3O_8$ . Daneros could be put back into operation within 6 months if a uranium sales price of at least US\$60 per pound of  $U_3O_8$  could be achieved.

### Whirlwind Mine

The Whirlwind Mine is located approximately 120 kilometers northeast of the White Mesa Mill and has approximately 3.0 million pounds of  $U_3O_8$  and 10.1 million pounds of vanadium. Whirlwind could be operational within 12 months if a uranium sales price of at least US\$60 per pound of  $U_3O_8$  could be achieved. The same applies to the vanadium resource as to the La Sal Complex.

### Tony M Mine (Henry Mountains)

The Tony Mine is located about 200 kilometers west of the White Mesa Mill and belongs to the Henry Mountains Complex as does the Bullfrog Mine. Tony M has approximately 10.9 million pounds of  $U_3O_8$  and could be operational within 12 months if a uranium sales price of at least US\$60 per pound of  $U_3O_8$  could be achieved.

### Petition to strengthen US uranium production

In January 2018, the only two remaining US uranium producers, Ur-Energy and Energy Fuels, filed a petition with the U.S. Department of Commerce to highlight the relevance of U.S. uranium production in terms of potential security concerns and increasing dependence of the energy industry on uranium imports. The two companies argued that imports from successor countries of the former Soviet Union (namely Russia, Kazakhstan and Uzbekistan) now account for 40% of US demand for uranium, while only 5% of demand is produced in the US itself. The dependence, both of the US energy industry (after all, 20% of the electricity consumed in the USA is generated from nucle-

ar power plants) and of the military, on these nations has increased alarmingly as a result. With their petition, the two producers want both the Ministry of Commerce and President Trump to work out a clear assessment of the import dependence of the USA on Russia, Kazakhstan and Uzbekistan and to promote the US's own uranium industry.

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

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

Energy Fuels is the second largest uranium producer in the USA after Cameco and has production capacity of over 11 million pounds of  $U_3O_8$  per year! The company owns several

low-cost mines at the same time and could significantly restart production from a uranium price of around US\$ 40. In addition, there are several of our own processing plants, which can produce more cheaply with increasing utilization. These are very flexible with regard to increasing production and can also extract other raw materials such as vanadium and copper. Energy Fuels thus not only has a significantly high leverage on the uranium spot price, but also a unique variability. A further advantage: Energy Fuels currently produces both conventionally and by ISR mining. With a total of 130 million pounds of  $U_3O_8$  resources, Energy Fuels is one of the top three companies with the largest uranium resources in the United States. The CEO Mark S. Chalmers, who was newly appointed in January 2018 and brings several decades of experience in the uranium sector, should provide additional momentum. Energy Fuels will also soon be the only primary vanadium producer in North America.

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

### What did you and your company achieve within the last 12 months?

Over the past 12 months, Energy Fuels has emerged as the "go-to" name among U.S. uranium producers. Today, Energy Fuels is the leading uranium producer in the U.S. by several metrics. We produce more uranium than any other U.S. company. We can increase production sooner, and on a greater scale, than any other U.S. company. In addition to our industry-leading production, our asset portfolio leads our peers by a fairly wide margin, in terms of annual licensed capacity (11.5 million pounds) and in-ground resources. We are extremely proud of these achievements, but we want to provide more for our shareholders.

Upon the request of Energy Fuels, in July 2018 the U.S. government initiated an investigation into the effects on U.S. national security of today's high levels of uranium imports into the U.S. In recent years, state-owned entities in Russia and its allies have supplied about 35% of the uranium used in U.S. nuclear reactors. By contrast, U.S. miners produce less than 4% of the uranium used in U.S. reactors, and uranium production in U.S. allies like Canada and Australia is dropping precipitously. Therefore, nuclear imports into the U.S. from Russia and Russian allies is expected to increase significantly in the coming years. To resolve this issue, we have asked the U.S. government to enact a trade quota that reserves 25% of the U.S. market for U.S. miners like Energy Fuels. If a quota is implemented, Energy Fuels would put our ca-



Mark S. Chalmers, CEO



pabilities and resources to work and increase production significantly. We should know more about the investigation in mid-2019.

In the shorter-term, we are also ramping up vanadium ( $V_2O_5$ ) production. Energy Fuels is first-and-foremost a uranium producer. However, we have also historically produced large quantities of vanadium. Vanadium prices are up to about \$20/lb. as of this writing, and we have about 4 million recoverable pounds that we believe we can produce at a significant margin over the next 2 years, starting in Q4-2018. Expect to hear more about this significant opportunity in the near-term.

**What are the main catalysts for your company within the next 6 months?**

Over the next several months, we expect to provide updates to the market on the U.S. government's Section 232 probe into uranium imports. In addition, we are keeping a close eye on global uranium fundamentals, which are pointing to higher prices. We also expect

to begin vanadium production in Q4-2018, which has the potential to result in significant free cash flow for the Company. Vanadium prices appear set to remain strong for the next few years, due to supply cuts and significantly increasing demand for high-strength steel in China. We expect to utilize cash flow from vanadium as a bridge to finance future uranium production increases.

**What is your opinion about the current conditions of the uranium market?**

The market may be at a very interesting inflection point right now. We are seeing major supply cuts, combined with slow, but steady, increasing demand. Basic economics tell us that these will lead to higher prices – and prices have begun to creep upward recently. Then, when you include the Section 232 probe in the U.S., we think we may be at the beginning stages of the next uranium super-cycle, especially for U.S. producers like Energy Fuels.

## Fission Uranium

A world-class resource that is constantly improving

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

### Patterson Lake South – Location, Discovery and Infrastructure

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

While most deposits in the Athabasca Basin are so-called „unconformity deposits“ (sediment), there are also a few so-called „basement hosted“ deposits that typically run flat below the surface because they have eroded over time. This means concretely for the Athabasca Basin that in former times it was bigger than today. Accordingly, McElroy investigated where the basin had its original outer edge. After carrying out a radiometric study which revealed a very large range of radioactive radiation, one came across boulders containing up to 10%  $U_3O_8$  as extremely high-grade material. During the last ice age, the material

available there was distributed over several kilometres by glacier migration. Fission Uranium then tracked the ice to the source of the uranium. All this led to the first discovery in November 2012, when the very first drill hole hit the PLS deposit. The interesting thing is that the surface course is only 50 metres. All of these findings led to an extensive drilling program in 2013, during which a one-kilometer long mineralization called Triple R, with particularly high uranium concentrations well in excess of 20%, was discovered under a shallow lake. PLS is located directly on the road that connects Saskatoon to the old Cluff Lake Mine, drastically reducing the cost and ultimately the risk to the project.

### Patterson Lake South – Resource and Feasibility Study

In February 2018, Fission Uranium released its latest resource estimate to date. 87.76 million pounds  $U_3O_8$  could be displayed in the category and 52.85 million pounds  $U_3O_8$  derived in the category. Nearly 63 million pounds of  $U_3O_8$  were derived from the high grade R780E zone with average grades of 18.39%  $U_3O_8$  (indicated) and 20.85%  $U_3O_8$  (inferred), respectively.

In September 2015, Fission Uranium published a Preliminary Economic Assessment (PEA) which clearly demonstrates that the deposit is economically mineable. The mine design was based on surface mining as the top portion of the resource is only 50 metres below surface. This open pit model extends to a depth of 200 metres, with further underground scenarios. Profitability (IRR) is around 40% after tax. The project requires capital costs of approximately CA\$ 1.1 billion. Despite these relatively high capital costs, the repayment period is only one and a half years. Based on the resource estimate from 2015, the mine life is about 12 to 15 years. Since the initial resource estimate, the Company has continued to drill along the main trend and has been able to extend it to more than 3 kilometres through several newly discovered zones.

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

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

**Contact:**  
 Energy Fuels Inc.  
 225 Union Blvd., Suite 600  
 Lakewood, Colorado, 80228, USA  
 phone: +1-303-974-2140  
 fax: +1-303-974-2141  
 info@energyfuels.com  
 www.energyfuels.com

## Energy Fuels Inc.



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

In addition, Fission Uranium was able to land another sensational hit in January 2018. The Triple R deposit, approximately 120 metres west of the high grade R780E zone, intersected 108 metres of continuous mineralization averaging 8.46%  $U_3O_8$ . This included an 8.5-metre-long intercept with a sensational 27.66%  $U_3O_8$ , one of the highest uranium grades ever recorded worldwide. Further to the east, an 8.0-metre-long interval with 22.28%  $U_3O_8$  was also detected. In May 2018, Fission encountered uranium in the 510E line area including 4 metres of 21.93%  $U_3O_8$  and 1.5 metres of 22.36%  $U_3O_8$ , respectively. In September, 15.5 metres with 23.89%  $U_3O_8$  were encountered in the area of line 645E, among others. Line 525E yielded 5.5 metres with 26.03%  $U_3O_8$ . All these sections were included in much longer sections.

### Economic efficiency improvements through zones on land

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

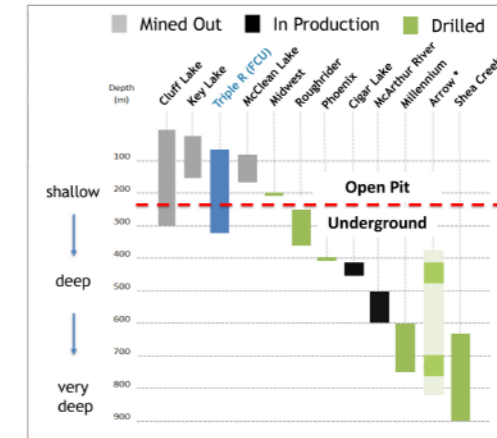
As part of the 2017 summer drilling campaign, the company was able to report several world-class drilling results. The R1515W zone has been reported to include 3.12%  $U_3O_8$  over 8.5 metres within 1.24%  $U_3O_8$  over 27.5 met-

res and 5.15%  $U_3O_8$  over 2.0 metres within 1.71%  $U_3O_8$  over 9.0 metres. In addition, radioactive anomalies of more than 10,000cps over several metres were detected. To illustrate, this high-grade zone is 2.3 kilometers from the Triple R deposit!

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

In October 2017, Fission Uranium from the R1545W zone was able to demonstrate further significant uranium grades over a total length of 95 metres. Including 35.0 metres with 1.80%  $U_3O_8$  and 4.5 metres with 5.27%  $U_3O_8$ .

In addition, in February and March 2018, in the 1530W and 1560W range, several further drill sections with more than 10,000cps radioactivity each were discovered. The best section showed a radioactivity of partly more than 65,500 cps over 9.5 and 14.5 meters respectively. In May 2018, Fission Uranium completed its 2018 drill program with further peak results. On line 1560W, for example, the company encountered 5 metres with 7.14%  $U_3O_8$  and on line 1530W 1 metre with 16.35%  $U_3O_8$ .

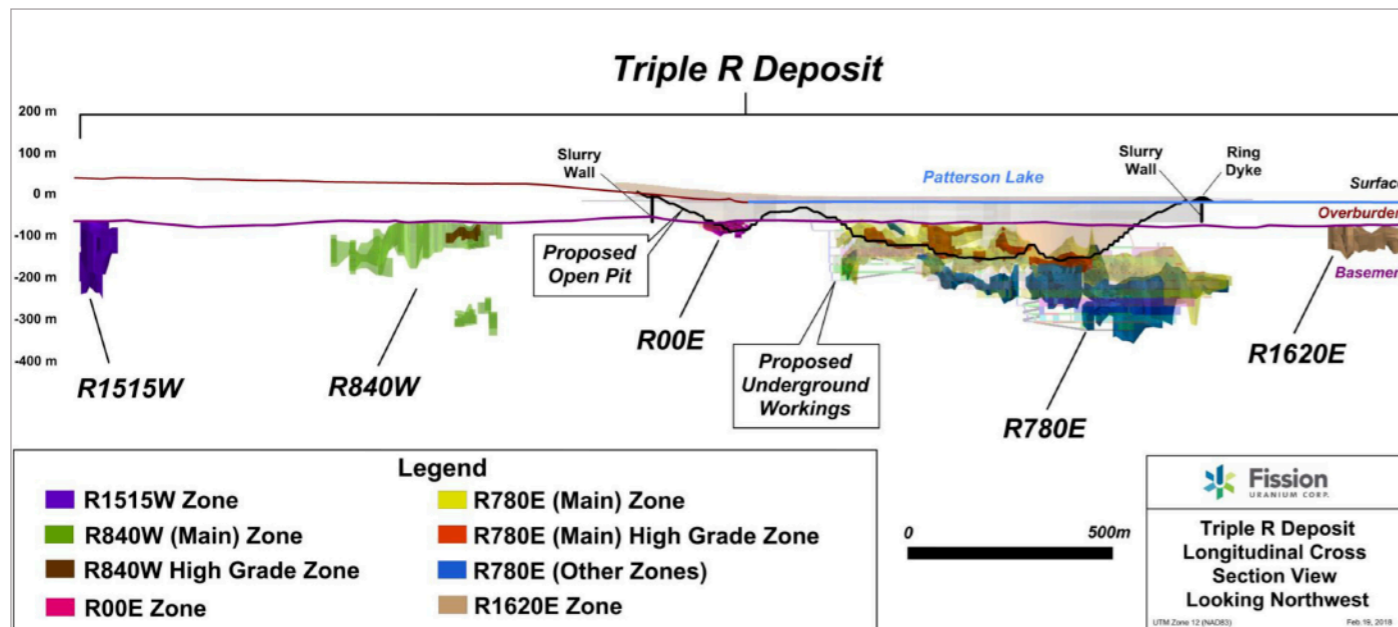


Many near surface uranium deposits have already been exploited. Compared to Triple R, the best deposits currently held by competitors are located at much greater depths.

(Source: Fission Uranium)

Meanwhile, several high-grade uranium deposits have been discovered over a length of more than 3 kilometres. Areas below a depth of 300 metres have not yet been tested for possible uranium occurrences and therefore offer high additional exploration potential.

(Source: Fission Uranium)



### Top management team for maximum success

Fission Uranium has a highly experienced and successful management team.

Dev Randhawa is an experienced CEO with a wealth of experience in resource expansion, mine exploration and energy companies. Northern Miner Magazine named him 'Mining Person of the Year 2013' and Finance Monthly awarded him the 'Deal Maker of the Year 2013' award. He is the current CEO of Fission Uranium and Fission 3.0 Corp.

Ross McElroy is a professional geologist with nearly 30 years of experience in the mining sector. He is the winner of the PDAC 2014 Bill Dennis Award for Exploration Success and the Northern Miner 'Mining Person of the Year 2013'. McElroy held positions in both majors and junior companies, including BHP Billiton, Cogema Canada (now AREVA) and Cameco. He was a member of the initial discovery team at the MacArthur River uranium deposit. Ross McElroy was part of the highly successful Fission Energy Corp. team as President, COO and Chief Geologist. He was head of the technical team at Fission Uranium's PLS discovery.

In April 2018, Mark Wittrup, a recognized expert in the licensing of Athabasca uranium deposits, was appointed to the Fission Advisory Board. He has several decades of experience specifically in uranium mines and nuclear fa-

### Strategic partner from China

In January 2016, the state-owned Chinese utility CGN purchased uranium from Fission. The latter received 19.9% of all outstanding shares at a price of CA\$ 83 million. CGN then paid a premium of 35% on the corresponding share price. CGN is not an end user, but a company planning far into the future looking for projects in Canada to secure uranium for the country's growing nuclear power industry. CGN also met with Cameco and almost all other companies holding projects in the Athabasca Basin. Ultimately it was decided to invest in Fission Uranium and PLS, primarily because of its sheer size, but also because of the very shallow mineralization beneath the surface.



cilities worldwide, with a particular focus on North Saskatchewan. In previous roles, Wittrup was with Cameco for more than 30 years, including as Director of Licenses, Safety and Environmental Affairs, and was a key member responsible for obtaining the necessary permits for Cameco's McArthur River Mine. Mr. Wittrup also spent several years with the Government of Saskatchewan as Deputy Minister of Environment.

### Plans for the coming months

The Company's objective for the coming months is to further expand the currently known mineralized trend to the west and east. The completion of a pre-feasibility study by the end of 2018 and the completion of a bankable feasibility study by the end of 2019 are also planned. Several field studies are currently underway.

### Summary: Top project, top management, top prospects!

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

new zones and targets on the property not yet explored, specifically on the west side.

### What is your opinion about the current conditions of the uranium market?

As for the uranium market, I think that things are getting better. We know ourselves that uranium is a growth sector. One of our greatest insights into that is having a partnership with a Chinese utility. There are two state owned utilities in China that build all the reactors over there and one of them is our partner. We get pretty good insight on that as they are the elephant in the room. We know by talking to them as well as the record number of new reactor builds happening right now globally. Saudi Arabia and India are likely the next big story like China and that growth is already underway. The price of the commodity has been so low that even the low-cost producers have been tapping out by cutting supply because they can't mine it at a profit let alone achieve

their cost of capital. The two lowest cost producing geographic regions in the world are Kazakhstan and the Athabasca Basin (where we are) and both of those areas have seen a significant reduction in production because they can't make money. This is forcing the price of uranium up, forcing the utilities to pay more for product because producers cannot sell product at these prices. Currently, we are seeing growth in both the number of reactors being constructed, where the fuel will be required and the price of the commodity. These increases will help make the sector healthier as companies will have more capital and stronger balance sheets. I think the true increases will happen when uranium prices reach \$35/lb or greater. That may be a year away, but once we see prices in the mid \$30s it will be a signal for the market for people to get interested in uranium again.



Ross McElroy, President, COO & Chief Geologist

## Exclusive interview with Ross McElroy President, COO and Chief Geologist of Fission Uranium

### What did you and your company achieve within the last 12 months?

Over the past year we have been working towards the release of our prefeasibility study (PFS) that we are expecting to release later this year. Recently, Fission announced the results of our summer drill program. We have been working on getting resources from the inferred category to indicated because the PFS requires indicated resources or higher. Indicated is simply a more accurate reflection of what's beneath the surface. I believe since our preliminary economic assessment (PEA) in 2015 we have grown the indicated resource by approximately 30-35%. Our indicated num-

bers keep growing through both our drill programs from existing, known deposits as well finding new zones.

### What are the main catalysts for your company within the next 6 months?

After the PFS is released, we will focus our attention on increasing shareholder value while being cognizant and sensitive to the uranium market. If we have a stronger uranium market, we may propose a more aggressive program as the investment community might give us the benefit of drilling new targets and stepping up our exploration efforts. This would mean

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

Shares outstanding: 485.8 million  
Options: 43.6 million  
Warrants: -  
Fully diluted: 529.5 million

Contact:  
Fission Uranium Corp.  
700 - 1620 Dickson Avenue  
Kelowna, BC, V1Y 9Y2, Canada

phone: +1-250-868-8140  
fax: +1-250-868-8493

ir@fissionuranium.com  
www.fissionuranium.com

## Fission Uranium Corp.



# GoviEx Uranium

## Mega-resource available, financing in progress



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

### Madaouela – Location, Infrastructure, Resource

Madaouela, 100% owned by GoviEx, is located in the north of Niger, only about 10 kilometres from Arlit and the Cominak and Somair mines in which AREVA is involved. Cominak's mine has been in operation since 1978 and is considered the world's largest underground uranium mine. GoviEx profits from the quite well-developed infrastructure, which offers roads all year round, sufficient groundwater as well as a good energy supply. Mada-

ouela has reserves of 60.54 million pounds  $U_3O_8$ . Resources total approximately 138 million pounds of  $U_3O_8$ . In January 2016, GoviEx received the final mine permit for Madaouela 1, i.e. one of six license areas (consisting of Madaouela 1 to 4, Eral and Anou Melle), which allows the company to build a mine there, including all the necessary facilities, as well as exploit the known deposits.

### Madaouela – Deposits

The currently most important deposit is called Marianne-Marilyn and is located within the Madaouela 1 concession. This is a so-called sandstone deposit that lies at very shallow depths of about 30 to 120 meters. The second major deposit is called MSNE and is located about four kilometres to the south. Third one named Maryvonne right in the middle. A fourth mining area called Miriam is located in the very south of the Madaouela 1 concession. In contrast to the first three reservoirs, Miriam can be exploited by means of open pit operation. The corresponding deposits are only 60 to 80 metres below the surface and have a thickness of up to 30 metres. In addition, some of this deposit possesses up to 1%  $U_3O_8$  and thus contributes to an immense cost reduction of the entire planned production activities.

### Madaouela – Pre-Feasibility and Feasibility Study

A pre-feasibility study in 2015 proved that mining can be economically realized. Based on a long-term uranium price of US\$ 70, this resulted in a profitability (IRR) of 21.9% and a net present value (NPV) of US\$ 340 million discounted at 8%. Initial capital costs were estimated at US\$ 359 million and cash generated from operations at US\$ 24.49 per pound  $U_3O_8$ . It was based on an annual production of 2.69 million pounds  $U_3O_8$  over a total mine life of 21 years. A study carried out in April 2018 concludes that capital and production

costs can be reduced with the aid of a membrane separation system. In September 2018, GoviEx appointed SRK Consulting and SGS Bateman as consultants for the completion of a feasibility study for Madaouela.

### Madaouela – Exploration potential

Madaouela is likely to have far more resources than known to date. Although more than 600,000 metres have already been drilled, Anou Melle, for example, offers a high „Blue Sky potential“ as this licence area lies on the same geological structure as Cominak and Somair. In addition, there is a possibility that the Miriam deposit will continue at Madaouela 4 and that a Cominak shoot will extend further down to Madouela 1.

### Madaouela – Development strategy

GoviEx is currently working on a four-stage development strategy for Madaouela. The first pillar is credit financing, including the involvement of several international export credit agencies. The second pillar consists of project optimisation and the completion of detailed engineering work. The third point is the conclusion of corresponding long-term purchase agreements, for which Houlihan Loken EMEA, LLP was engaged as financial advisor in February 2017. Fourthly, the company is working in parallel on self-financing through the issue of shares.

### Great interest in project financing

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

quisites. The existing legacy of Toshiba was repaid in March 2018 with a one-time payment of US\$ 4.5 million, making the company currently debt-free.

### Mutanga – Location, Resource, Infrastructure

Mutanga, 100% owned by GoviEx, is located about 200 kilometers south of the Zambian capital Lusaka, directly north of Lake Kariba. The project currently has 49.2 million pounds of  $U_3O_8$  divided between the three discovered deposits Mutanga, Dibwe and Dibwe East. GoviEx already owns a 25-year mining license for three of the five concessions, which allows mining via open pit mining and heap leaching. Mutanga has a road connection and sufficient groundwater. A high-voltage line runs about 60 kilometers away.

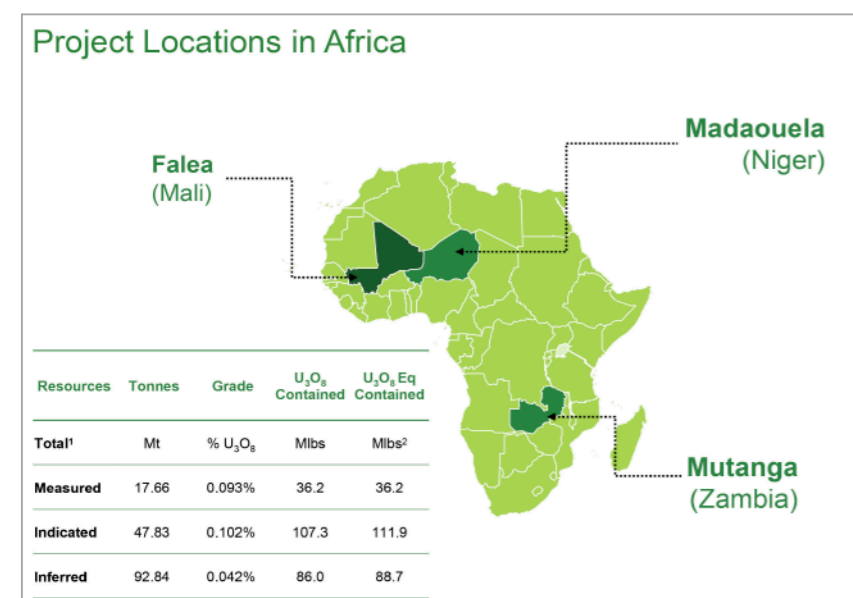
### Mutanga – Positive assessment of profitability

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

### Mutanga – Exploration potential

Mineralization starts directly at surface and is open on strike. Although the resource already appears high, not all areas of the concessions have yet been screened for possible uranium

*GoviEx' uranium projects are located in largely stable countries with strong government support.  
(Source: GoviEx)*



occurrences. In particular, the respective end-points, i.e. the areas close to the western and eastern borders of the license areas, offer high potential for further significant uranium deposits.

New VTEM surveys have identified a high exploration potential, particularly in the northeastern area of Dibe East. There it is now planned to continue drilling for possible additional deposits.

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

This northeastern area borders on the two Chirundu and Kiraba Valley concessions of African Energy Resources Ltd. Probably also based on the VTEM results described above, GoviEx submitted an offer for the African Energy Assets, which was accepted by African Energy in March 2017. Chirundu consists of two sub-projects, Njame and Gwabe, which together have resources of 11.2 million pounds U<sub>3</sub>O<sub>8</sub>. For the two concessions, GoviEx only has to transfer 3 million own shares

plus 1.6 million warrants to African Energy. A paltry price to pay for an 11-million-pound uranium project and seemingly high exploration potential in the southwestern part of Chirundu adjacent to GoviEx' Dibe East concession.

### Falea

Falea, 100% owned by GoviEx, is located in West African Mali, approximately 80 kilometers from AREVA's Saraya East uranium deposit. It consists of the three exploration licenses Bala, Madini and Falea. To date, a resource base of 30.8 million pounds U<sub>3</sub>O<sub>8</sub>, 63 million pounds copper and 21 million ounces silver has been identified. Translated, this represents a total resource of 38.1 million pounds U<sub>3</sub>O<sub>8</sub>. It is important to note that so far only 5% of the total 225 square kilometres of licensed space have been examined for corresponding deposits. In addition, the majority of known deposits could not yet be completely delineated.

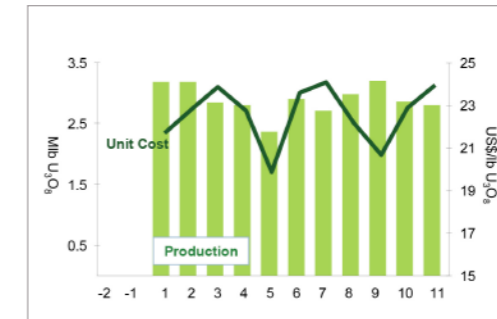
Falea offers high potential for the establishment of an underground mine. The project area is easily accessible by road and runway.

### Strong shareholder base

GoviEx has a very strong shareholder base. Among the largest shareholders are well-known names such as Denison Mines, which provides technical assistance, Cameco, which co-financed the initial exploration program on Madaouela, and Ivanhoe Industries, where mining luminary Robert Friedland excels as an investor. If the private investment of GoviEx' Executive Chairman Govind Friedland is added, these five largest shareholders hold about one third of all outstanding GoviEx shares. At the end of 2016, Spratt also joined GoviEx.

### Summary: Funding for Madaouela would change everything!

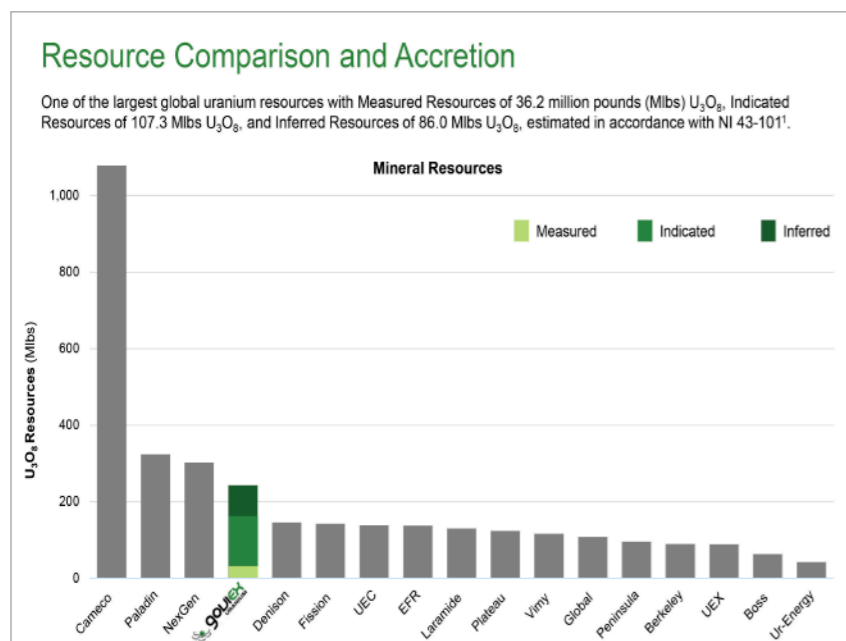
With a resource base of over 200 million pounds of U<sub>3</sub>O<sub>8</sub>, GoviEx is undoubtedly one of the heavyweights of the uranium industry. The largest project by far, Madaouela, is virtually ready for production. The multiparty interest to provide a US\$220 million credit line to build the mine is a milestone in the company's history and should make it easier for management to drive the project forward and negotiate purchase agreements. In addition, the second major project, Mutanga, was also able to demonstrate the possibility of economic support. What is still missing is a reasonable uranium price, which would move GoviEx to undreamt-of price levels precisely because of this large number of resources. Another plus point: In contrast to many other African countries, Niger and Zambia are considered politically stable. Mining companies are not put in



Madaouela has an estimated average annual production of 2.69 million pounds U<sub>3</sub>O<sub>8</sub> and low operating costs. (Source: GoviEx)

the way, as the above example of Cominak, whose mine has been in operation since the 1970s, shows. In addition, GoviEx has a highly experienced and successful management team and strong major shareholders who should ensure that GoviEx becomes a true success story. In June 2018, GovEx was able to generate CA\$ 6 million through a financing. The redemption of warrants could also provide GoviEx with a further US\$ 28 million in fresh capital.

GoviEx owns one of the largest uranium resource bases in the world. (Source: GoviEx)



## Exclusive interview with Daniel Major, CEO von GoviEx

What did you and your company achieve within the last 12 months?

GoviEx Uranium has three projects in Africa, and two of those are already mine-permitted. Over the past 12 months, GoviEx has focused on preparing the company and its assets for a potential improvement in the uranium market. We resolved long-term debt at a substantial discount to the market price and removed historical security restrictions on the company's Madaouela uranium project in Niger. At the same time, GoviEx is working to optimize the mine-permitted Madaouela Project through the application of modern technology that has the potential to reduce operating and capital costs. This optimization includes the use of membrane separation, dry attrition, and modularisation.

More recently, GoviEx appointed SRK Consulting (UK) Ltd and SGS Bateman (Pty) Ltd as the consultants for the completion of the Madaouela Project feasibility study. After consolidating the mineral tenements around our mine-permitted Mutanga project in Zambia, we also were able to update the technical study on the expanded project to highlight its economic potential.

What are the main catalysts for your company within the next 6 months?

We believe the fundamentals of the uranium market are recovering. The World Nuclear Association is reporting increased nuclear reactor start-ups, and major uranium producers have announced production cuts. The current



Daniel Major, CEO



impacts of these developments are evidenced by the rising uranium spot price. The Board of GoviEx believes our key commercial advantages are our two mine-permitted projects, as they provide us with the ability to react positively to a uranium rally. Our strategy will focus on the advancement of the feasibility study, debt financing, and offtake discussions related to the Madaouela Project.

**What is your opinion about the current conditions of the uranium market?**

Nuclear energy demand is currently growing at the most rapid rate in 25 years, evidenced by an increasing number of reactor new builds globally and Japan's steadily restarting reactors.

As uranium demand has been rising, annual production has been falling, with substantial cuts announced by Kazakhstan, Canada, Niger, and Namibia. Demand is forecast at 198 Mlbs U<sub>3</sub>O<sub>8</sub> in 2018 while annual production

will be only 135 Mlbs. This deficit is resulting in a drawdown of global inventories. Looking forward, annual secondary supplies are forecast to be 14 Mlb lower by 2028, and approximately 30 Mlb of annual production will be closed due to resource depletion. The current uranium price does not justify the development of new production to make up the expected widening deficit; hence, GoviEx's strategy is to develop its uranium projects at a time of decline supply and rising uranium prices.

## GoviEx Uranium



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

Outstanding shares: 394.9 million  
Options/warrants: 182.8 million  
Fully diluted: 577.8 million

**Contact:**  
GoviEx Uranium  
World Trade Centre  
Suite 654 - 999 Canada Place  
Vancouver, BC, V6C 3E1, Canada

phone: +1-604-681-5529

info@goviox.com  
www.goviox.com

## Laramide Resources

### High uranium grades and a large resource base on two continents

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

#### Westmoreland Uranium Project – Location, Resource and Infrastructure

Laramide Resources' flagship project in Australia is called Westmoreland and is located in Queensland, directly on the border to the Northern Territory. These are 3 contiguous licenses formerly owned by Rio Tinto located approximately 400 kilometers north-northwest of the famous Mt. Isa copper, zinc, lead, silver deposit. Through a subsidiary, Laramide Resources holds 100% of the total 548.5 square kilometre project. The Westmoreland uranium project already has a very large resource base of 36.0 million pounds of U<sub>3</sub>O<sub>8</sub> in the indicated

category and a further 15.9 million pounds of U<sub>3</sub>O<sub>8</sub> in the inferred category, making it one of Australia's 10 largest uranium projects. These resources are all within a 7-kilometre trend. It is important to note that 80% of these resources are located within a depth of only 50 metres, which is why Westmoreland would be exploitable by surface mining.

Regarding the infrastructure, there is sufficient electricity, as well as trained workers and road connections in sufficient quantity.

#### Westmoreland uranium project – feasibility study

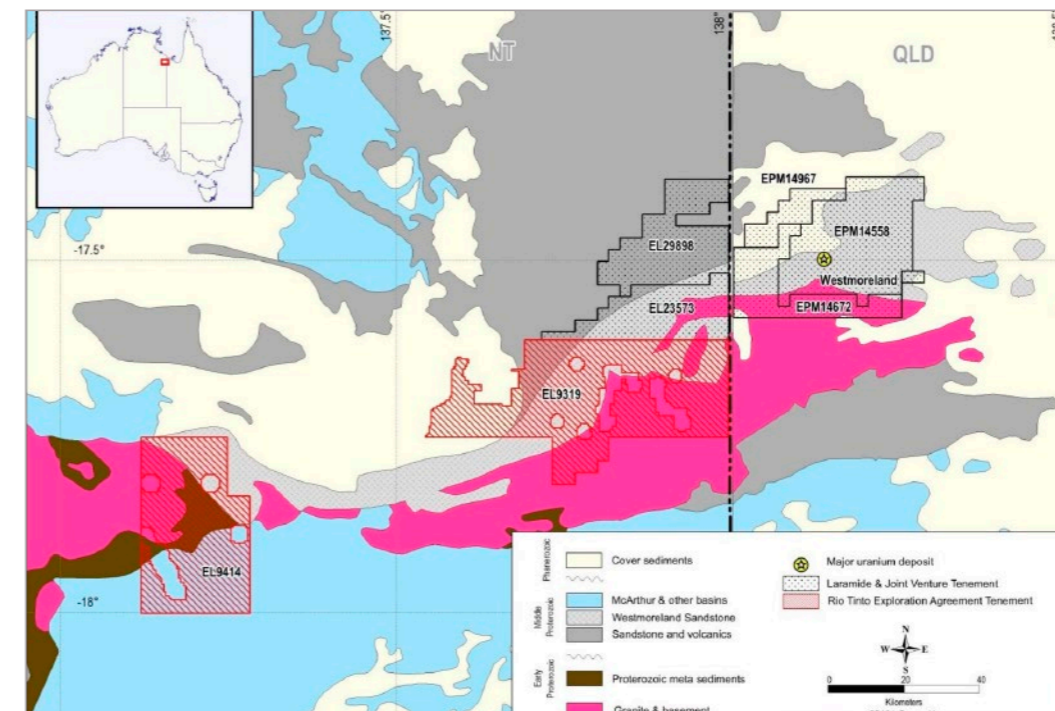
In 2016 Laramide Resources published a Preliminary Economic Assessment (PEA) for Westmoreland.

Accordingly, the processing of the rock by conventional acid leaching and solvent extraction would be possible.

The initial capital costs for the construction of the mine and the processing facilities thus amount to US\$ 268 million plus US\$ 49 million in buffer. This would allow the construction of



Marc Henderson, CEO



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

a processing plant with an annual capacity of 2 million tonnes, capable of producing up to 4 million pounds of  $U_3O_8$  per year. The additional costs during the 13-year estimated mine life are approximately US\$ 58 million.

Operating cash costs were estimated at US\$ 21 per pound  $U_3O_8$  for the first 5 years and US\$ 23.20 per pound  $U_3O_8$  for the entire mine life. The net present value (NPV) discounted at 10% is US\$400 million after tax. Profitability was calculated at a very good 35.8% after tax. According to internal company estimates, this would generate about 3.5 million pounds  $U_3O_8$  per year. Metallurgical tests have confirmed a recovery rate of up to 97% and that at relatively low acidity levels. The current mine life is approximately 13 years and the project has a much higher exploration potential, which could extend the mine life to well over 15 years.

### Westmoreland uranium project – expansion potential

### Murphy Uranium Project

Until July 2018, Laramide Resources owned a joint venture in the eastern part of the Northern Territory. This area, about 683 square kilometers in size, divided into two licenses, was developed together with Rio Tinto. In July 2018,

Laramide Resources acquired the two Rio Tinto licensed properties and is now the 100% owner. Laramide only has to pay AU\$ 450,000, either in cash or shares, to Rio Tinto. In return, Rio Tinto retains a pre-emptive right and a net smelter royalty of 2%. In addition, if Laramide were able to identify and develop a measuring/displayed resource with an in-situ value of more than US\$1 billion, the project would be reinvested in a joint venture in which Rio Tinto would hold a 51% interest. In addition, the major would have to pay twice as much to Laramide as Laramide would have spent on exploration and development costs until then. In the final analysis, this means that Laramide will finally be able to step on the gas on the project itself.

### Lagoon Creek Uranium Project

In September 2018, Laramide received a further 190 square kilometre licence area, which had previously been developed as a joint venture with Verdant Minerals Ltd. This project, called Lagoon Creek, is located directly west of Westmoreland and connects Westmoreland with the eastern of the two former Rio Tinto licenses. Laramide only had to pay AU\$ 125,000 in cash. Should a NI 43-101 compliant resource be identified at Lagoon Creek, an additional AU\$0.05 per pound will be payable. Thus, Laramide was able to successfully complete the consolidation of the Northern Territory property and at the same time started geophysical aerial photography.

### Churchrock und Crownpoint – Akquisition

In January 2017, Laramide Resources acquired the Churchrock and Crownpoint ISR projects from Uranium Resources Inc. Due to the fact that both projects are only approximately 25 kilometres apart in New Mexico, they were combined into one joint project. To acquire 100% of Churchrock and Crownpoint, Laramide Resources had to pay US\$

2.5 million in cash to Uranium Resources and transfer a US\$ 5 million bill of exchange debt to Uranium Resources. This debt will be settled over a total of three years from 2018. Uranium Resources also received 2,218,333 Laramide shares and retains a net smelter royalty of approximately US\$4.5 million.

### Churchrock

Churchrock consists of 7 sections, including the Mancos and Strathmore deposits. Over US\$100 million has been invested in exploration of the area in the past.

This confirmed a resource of approximately 50.82 million pounds of  $U_3O_8$  in the inferred category for Churchrock in October 2017.

A feasibility study carried out in 2012 showed that Section 8 could be exploited using low-cost ISR mining. The cost of capital for an initial production of one million pounds  $U_3O_8$  per year was estimated at US\$ 35 million, the operating cost at approximately US\$ 20 to 23 per pound  $U_3O_8$ . The profitability (IRR) would be around 22% at a uranium price of US\$65 per pound of  $U_3O_8$ .

Within 6 years, you could gain 6.5 million pounds of  $U_3O_8$ . It should be noted that the average grades within the peer group are by far the highest at 0.115%.

Section 8 and section 17 to the south, within which the old Churchrock Mine is located, also form the starting point in case of a production. Most licenses and approvals are already available for this purpose.

To the west of Section 8 are Sections 7, 12 and 13, within which the Mancos deposit is located.

Northeast of Churchrock (Section 8) is Section 4, which contains the Strathmore deposit.

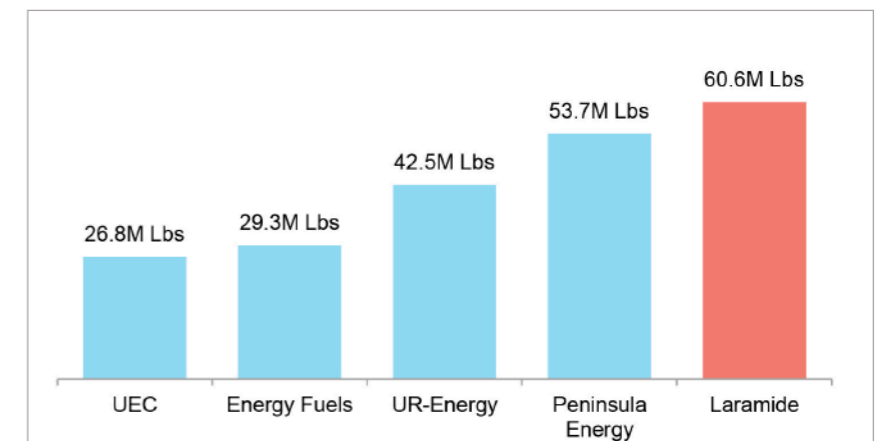
### Crownpoint

Crownpoint is about 25 miles northeast of Churchrock. The project has a historical resource of 15.3 million pounds of  $U_3O_8$  in the indicated category.

Although no feasibility study has been prepared for Crownpoint to date, Laramide Resources already holds the majority of the required production permits.

### Churchrock and Crownpoint – Development Plan

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



Laramide has greater ISR resources than its US competitors.  
(Source: Laramide Resources)

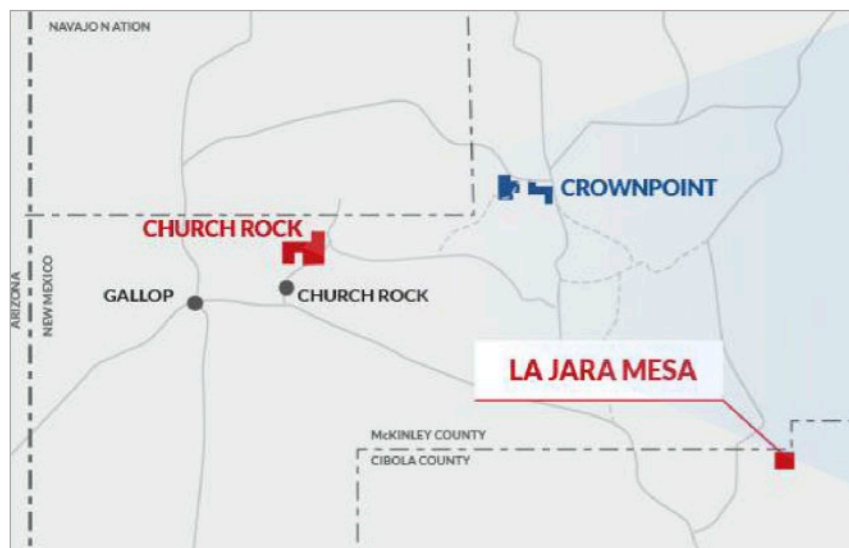
According to the current status, a satellite system is to be built in the area of sections 8 and 17. A central processing plant will then be built at Crownpoint.

In the short to medium term, a drilling program of approximately 6,100 metres (15 holes) is planned to upgrade existing resources to higher categories and expand the existing resource base.

### Further projects

In addition to the ISR projects mentioned above, Laramide Resources has two other hard rock projects in the USA.

Churchrock, Crownpoint and La Jara Mesa are each a few kilometres apart.  
(Source: Laramide Resources)





The La Jara Mesa Project is also located in New Mexico, just 40 miles southeast of Crownpoint. La Jara Mesa has a NI43-101 compliant resource of 10.4 million pounds of  $U_3O_8$ . The final operating permits have already been issued.

The La Sal project is located in Utah, approximately 100 kilometers northeast of the White Mesa Mill. A toll milling agreement has already been signed with its operator Energy Fuels to process the La Sal rock in the White Mesa Mill. Both projects offer great exploration and expansion potential.

**Summary: Diversified developer with a huge resource base and the prospect of a quick start to production**

Laramide Resources has a diversified portfolio of large, high-quality uranium projects in the United States and Australia. The company benefits from technically less demanding and at the same time low-cost production possibili-

ties by means of surface mining or ISR mining. In particular, the newly acquired Churchrock and Crownpoint projects offer the potential for a fairly rapid start of production, putting Laramide Resources in a top position in the event of an expected new uranium boom. In Australia, the consolidation of an entire uranium district was successfully completed and the development of the licenses there has now been started. Accordingly, many corresponding results can be expected in the coming months. The share has good liquidity, which can also be attributed to its membership in a top ETF (Global X Uranium ETF). Laramide Resources' long-term and supportive major shareholders make it a top pick in the uranium sector.

# Skyharbour Resources

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

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

### Moore Lake Uranium Project – Location and Deal

Skyharbour Resources' current flagship project is called Moore Lake and is located in the southeast of the Athabasca Basin, only about 10 kilometers southeast of Denison Mines' Wheeler River mega-project and quite central between the Key Lake Mill and the McArthur River Mine. Skyharbour Resources acquired the Moore Lake Project from Denison Mines in July 2016, which consists of 12 contiguous claims totaling 35,705 hectares.

To acquire 100% of Moore Lake, Skyharbour Resources had to cede 18 million of its own shares to Denison Mines, making Denison the largest single shareholder in Skyharbour. In addition, CA\$500,000 in cash payments and CA\$3.5 million in exploration expenses were due to earn a 100% interest in Moore Lake. This was achieved in August 2018, well ahead of schedule. All in all, an absolute bargain price considering that more than 35 million CA\$ have already been invested in exploration on Moore Lake to date. These flowed into more than 370 drill holes with a total length of over 135,000 metres.

### Moore Lake Uranium Project – Historical Exploration Successes

Since 1969, the Moore Lake uranium project has been the subject of episodic exploration by Noranda, AGIP, BRINEX, Cogema, Kenne-cott/JNR Resources and IUC/Denison, among others. The focus was on airborne and ground-based electromagnetic and magnetic surveys, gravity and seismic studies, as well as geochemical programs, mapping, sediment

sampling and a total of 370 drill holes. From the mid-2000s onwards, the 3.5-kilometre-long Maverick structure in the southwest of the licence area, where several high-grade uranium mineralisations were found, crystallized into a special hotspot.

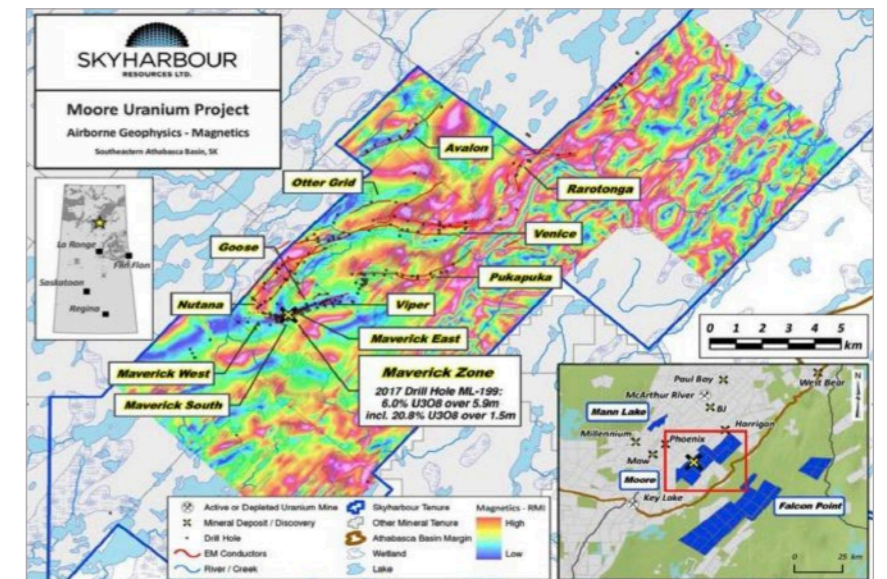
Among others, 4.03%  $eU_3O_8$  over 10 meters was found, including 20%  $eU_3O_8$  over 1.4 meters from a depth of 264.68 meters. Two additional drill holes also returned high grade uranium mineralization of 5.14%  $U_3O_8$  over 6.2 metres and 4.01%  $U_3O_8$  over 4.7 metres, respectively.

In addition, further drilling has also revealed structural disruptions, weathering and concentrations of elements in other areas that typically indicate existing uranium deposits. This has demonstrated the potential presence of further high-grade uranium deposits in these areas.

### Moore Lake Uranium Project – Recent Exploration Successes

Following the completion of the Denison Mines acquisition deal, Skyharbour commenced an initial 3,500 metre drill program in February 2017. High radioactivity and uranium mineralization were encountered in three of the first five

Moore Lake has a large number of independent uranium deposits. (Source: Skyharbour Resources)



## Laramide Resources Ltd.

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

Shares outstanding: 130.6 million  
 Options: 8.0 million  
 Warrants: 30.8 million  
 Fully diluted: 169.4 million

Contact:  
 Laramide Resources Ltd.  
 The Exchange Tower,  
 130 King Street West, Suite 3680,  
 Toronto, ON, M5X 1B1, Canada

phone: +1-416-599-7363  
 fax: +1-416-599-4959  
 greg@laramide.com  
 www.laramide.com



holes. The first drill hole in the Main Maverick Zone intersected 20.8%  $U_3O_8$  over 1.5 metres within a 5.9-metre-long intercept of 6.0%  $U_3O_8$  at a depth of 262 metres and up. The fourth well also returned 5.6%  $eU_3O_8$  over 1.8 metres within a 10.7-metre-long intercept with 1.4%  $eU_3O_8$  from a depth of 267 metres. The special feature is that this fourth well was drilled about 100 metres further east from the high-grade Main Maverick Zone and immediately produced a complete rediscovery!

Initial drilling successes have expanded the original 3,500 metre drill program twice to a total of 5,450 metres in 15 holes. In May 2017, Skyharbour Resources finally reported further significant drilling successes. For example, 2.25%  $U_3O_8$  over 3.0 metres was encountered in the Main Maverick Zone and 1.79%  $U_3O_8$  over 11.5 metres in the Maverick East Zone, including 4.17%  $U_3O_8$  over 4.5 metres and 9.12%  $U_3O_8$  over 1.4 metres.

In August 2017, Skyharbour Resources launched a further 4,000 metre drill campaign focusing primarily on the eastern portion of the Maverick structure.

In December 2017, the company was once again able to report fantastic results in this

area. For example, 7.4%  $U_3O_8$  was found over 1.8 metres within a 9.3-metre-long section with 2.23%  $U_3O_8$ .

Until then, only 1.5 kilometres of the corridor, which is at least 4 kilometres long, had been investigated by drilling.

In addition, the Company is currently working to consolidate historical, airborne and ground-based electromagnetic and magnetic surveys, gravity and seismic studies, geochemical programs, mapping, sediment sampling and data from a total of 370 drill holes into a modern database that will better identify and delineate prioritized targets.

In February 2018, a new 4,000 metre diamond drill program commenced which quickly returned further high-grade results of 5.39%  $U_3O_8$  over 1 metre, among others.

### Preston Uranium Project – Location and Exploration Work

The Preston uranium project is located to the southwest, just outside the Athabasca Basin in the Patterson Lake region. It borders in the north on Fission 3.0s and Nexgens project areas, among others. The approximately 121,000-hectare Preston Project, in which Skyharbour Resources holds a 50% interest (the remaining 50% is owned by Partner Clean Commodities Corp.), is located near the high profile discovery of Nexgen (Arrow) and Fission Uranium (Patterson Lake South).

To date, the two partners have invested approximately 4.7 million CA\$ in exploring the huge license areas. 15 areas with similar indicators to Patterson Lake South and Arrow have been identified. A large number of other drilling targets also provide a high exploration potential.

### Preston Uranium Project – Option Agreement with Orano/ AREVA

In March 2017, Skyharbour Resources entered into an option agreement with Orano (formerly AREVA) in conjunction with its partner

Clean Commodities Corp. Accordingly, Orano can earn a 70% interest in part of the Preston Uranium Project, which is approximately 49,600 hectares in the western portion of the total project, by investing 7.3 million CA\$ in exploration of the project over 6 years and making a further 700,000 CA\$ in cash payments. Orano can acquire an initial 51% interest by investing 2.8 million CA\$ in exploration over 3 years and making cash payments of 200,000 CA\$.

### Preston Uranium Project – Option Agreement with Azincourt Uranium

Also, in March 2017, Skyharbour Resources signed a second option agreement with Azincourt Uranium Inc for the East Preston Uranium Project. This is located in the eastern part of the Preston overall project and covers an area of around 25,300 hectares. Azincourt Uranium may acquire a 70% interest in the East Preston Uranium Project by pre-depositing 4.5 million treasury shares to Skyharbour Resources and its partner Clean Commodities Corp. and making cash payments totaling one million CA\$ over three years and investing a further 2.5 million CA\$ in the exploration and development of the project area.

At the beginning of 2018, Azincourt was able to identify several important targets for further exploratory studies by means of geophysical gravity studies. As a result, Azincourt decided to continue exploration at East Preston for another year and will commence a drilling program by the end of 2018.

With these two top deals (combined CA\$9.8 million in development spending by Orano and Azincourt), Skyharbour Resources and its partner Clean Commodities Corp. can be confident that the project area will continue to be explored, while the company itself has no exploration costs and can concentrate on Moore Lake. In addition, they receive 1.7 million CA\$ (50% for Skyharbour Resources) at their free disposal.

### Further top projects

In addition to Moore Lake and Preston, Skyharbour Resources also owns other top projects.

Including the Falcon Point uranium & thorium project. This covers 79,000 hectares and is located approximately 55 kilometers east of the Key Lake Mine. In 2015 Skyharbour Resources was able to release a NI43-101 resource of 6.96 million pounds  $U_3O_8$  and 5.34 million pounds  $ThO_2$  for Falcon Point. The project has geological and geochemical similarities with some of the best projects in the Athabasca Basin such as Eagle Point, Millennium, P-Patch and Roughrider. Up to 68%  $U_3O_8$  was detected in recent sampling in the northern area of the licence area.

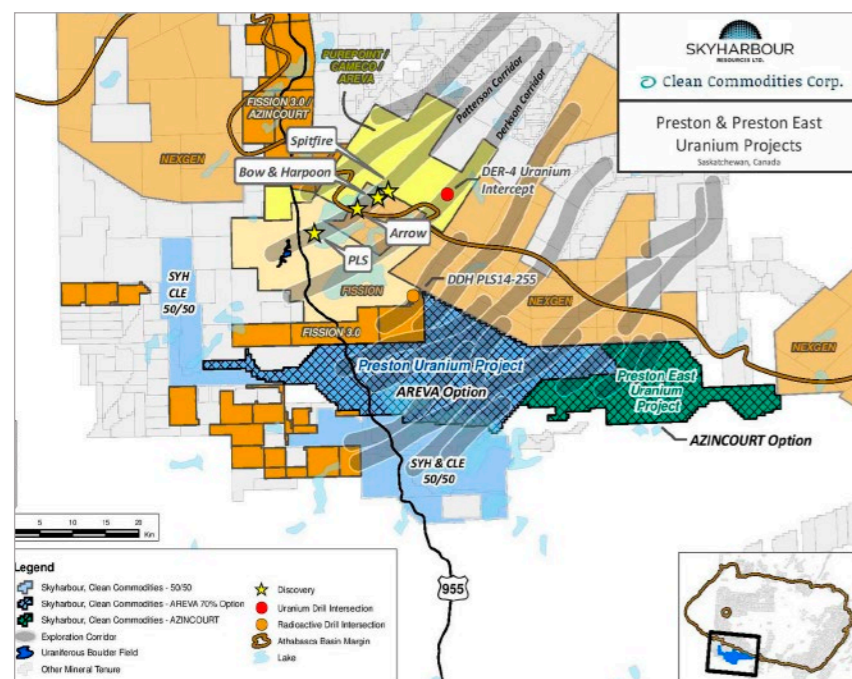
Another top project is Mann Lake which is directly adjacent to the joint venture project of the same name of Cameco, Denison and Orano. Mann Lake is strategically located approximately 25 kilometers southwest of Cameco's McArthur River Mine and 15 kilometers northeast of Cameco's Millennium uranium deposit. A 2014 Cameco drill campaign encountered 2.31%  $eU_3O_8$  over 5.1 metres including a 0.4-metre-long intercept of 10.92%  $eU_3O_8$  over 2.31%  $eU_3O_8$  in 2014.

### Coming Catalysts

Skyharbour Resources and its partners are expecting several significant developments in the coming months. Skyharbour Resources is itself carrying out a winter drilling program, among other things to find what it is looking for within the Maverick structure on Moore Lake. Orano and Azincourt Uranium began exploration and development work on the Preston Project in February 2018. Orano started a 4,500-metre diamond drill program, Azincourt an exploration and general exploration program. Azincourt was able to identify various drilling targets by means of geophysical studies. Both Azincourt and Orano are currently working on plans for a new winter drilling program. Skyharbour Resources also plans to

The Preston uranium project, most of which has been optioned, is located just south of several major new discoveries.

(Source: Skyharbour Resources)



find additional partners for its projects as part of its Prospect Generator Model in order to drive them forward and generate additional funds for the development of the Moore Lake flagship project.

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

Skyharbour excels above all through its top projects, its strong partners and its good business model. The Moore Lake flagship project stands alone anyway. Top grades and a tremendous exploration potential in the immediate vicinity of some of the world's best uranium deposits on the globe: there should be some top news to expect! Two top development partners could be won for the giant Preston project. Not only will these companies bear the sole exploration costs over the co-

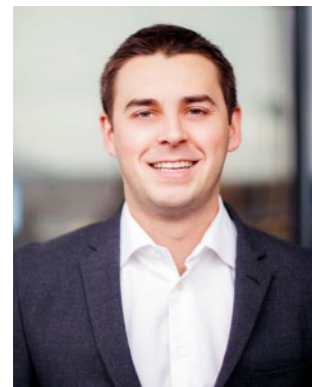
ming years and thus rapidly develop Preston, but they will also be paying a substantial amount of cash to further develop Moore Lake. Skyharbour Resources' Prospect Generator business model is already paying off. With the largest single shareholder Denison Mines, whose CEO David Cates also sits on the board of Skyharbour Resources, they also have a technical development partner at their side. This makes Skyharbour Resources one of the top picks in the uranium sector for years to come, with the potential for several direct hits. The Company completed a financing in the summer of 2018 which raised CA\$ 2.6 million instead of the originally planned CA\$ 1.475 million. In addition, the Company received a further CA\$ 450,000 in fresh capital through the redemption of warrants.

drill program focused on testing the basement rock for feeder zones for the known high-grade uranium. Recent notable high-grade discoveries like Nexgen and Fission are basement hosted deposits. At the Preston Project, Orano has just finished its first drill program and is planning for a winter program. Azincourt is planning for a winter 2019 drill program at East Preston as well. Skyharbour will also look to consummate similar property deals, like those at Preston and East Preston, on its remaining secondary projects including Falcon Point and Mann Lake.

duction curtailment continue to dominate headlines. The two largest producers, Cameco and KazAtomProm, have announced large supply cuts in 2017 and 2018 including Cameco's suspension of operations at the world's largest uranium mine, McArthur River, as well as KazAtomProm's announcement that it will cut 20% of planned production over the next three years as well as another 6% production cut over previous expectations. A new uranium holding company called "Yellow Cake" raised US \$200 million in a London-based IPO and has bought 8.1 million lbs of uranium from KazAtomProm representing a significant portion of the uranium spot market. There has also been recent talk that current producers are more likely to buy larger quantities of material from the spot market going forward including Cameco announcing it would buy 11-15mm lbs in the spot market through 2019 which should add upward pressure to the uranium price.

**What is your opinion about the current conditions of the uranium market?**

The uranium market has recently shown notable signs of recovery with increasing uranium prices and improving sentiment, and this recovery appears to be accelerating amid recent news and several sector developments. The demand side continues to grow, and Japanese nuclear restarts have recently accelerated. On the supply side, mine closures and pro-



Jordan Trimble, CEO

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

**What did you and your company achieve within the last 12 months?**

Skyharbour has been very active exploring the company's 100% owned, flagship Moore project over which was acquired from the Company's largest strategic shareholder Denison Mines. We have drilled approx. 14,000m in the last three programs and have just begun our next program testing new basement hosted targets. Previous drill programs have yielded high grade results including 21% U<sub>3</sub>O<sub>8</sub> over 1.5 metres within 5.9 metres of 6.0% U<sub>3</sub>O<sub>8</sub> at 265 metres depth at the property's Maverick Zone. The project hosts several mineralized targets with strong discovery potential. While focused on its core strategy as a discovery-driven exploration company, Skyharbour

also employs the prospect generator model to advance its other projects in the Basin. At the Preston and East Preston properties, Skyharbour's partners, industry-leader Orano (formerly AREVA) and Azincourt, have begun drilling and exploration work which is ongoing. The Company has also recently raised \$3M through private placements and warrants being exercised.

**What are the main catalysts for your company within the next 6 months?**

The major catalysts will involve drill results at both the Moore and Preston projects in addition to a rising uranium price. At Moore, the Company is currently carrying out a 3,000m

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

Shares outstanding: 62.0 million  
Options/warrants: 32.1 million  
Fully diluted: 94.1 million

**Contact:**  
Skyharbour Resources Ltd.  
777 Dunsmuir Street - Suite 1610  
Vancouver, BC, V7Y 1K4, Canada

phone: +1-604-639-3850  
fax: +1-604-687-3119

nfinder@skyharbourltd.com  
www.skyharbourltd.com

**Skyharbour Resources Ltd.**





# Uranium Energy

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

Uranium Energy is a former US uranium producer that belongs to a small circle of only a handful of companies that can revive the US uranium industry, which is absolutely idle, for the highly probable and already incipient rebound of the uranium sector. In addition to the formerly producing Palangana Mine, Uranium Energy will also be able to mine on the Goliad Project and the Burke Hollow Project in the future. Additional resources are provided by the (North) Reno Creek Project and the Alto Paraná Titan Project.

### Palangana project is always ready

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

### Uranium Friendly Texas

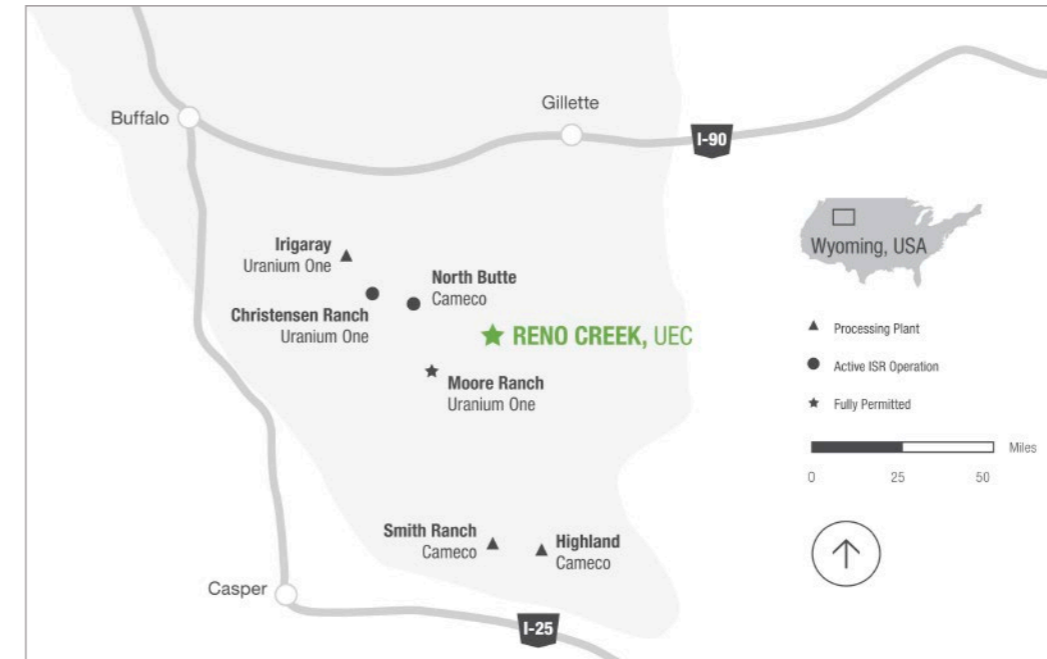
Texas is one of the few states in the United States whose environmental agency is allowed to issue mine permits independently of the U.S. state authorities. The Texas Commission on Environmental Quality issued a mining permit for the Goliad project, the only one of its kind in the last ten years to be granted to a corporation. Over the past 35 years, all Texas production license applications have been approved. The South Texas Uranium Trend stretches over 300 kilometers, through 54 Texas counties. 26 out of 31 deposits within this trend were or are accessible for cost-effective in-situ recovery (ISR) mining.

### Goliad project fully approved

The second advanced ISR project, Goliad, has already held a final production license since December 2012. The Goliad Project, which like Palangana is located near the Hobson Processing Plant, is the largest ISR uranium project in Texas. It has a NI43-101 compliant resource of nearly 7 million pounds  $U_3O_8$ , of which 5.5 million pounds are already in the Measured and Indicated category and the remaining 1.5 million pounds in the Inferred category. This independent estimate is based on a total of 487 historical drill holes and 599 additional drill holes completed by Uranium Energy. The Goliad Project offers further potential as the mineralization is open on all sides. It is expected that the current resource can be greatly expanded.

### Burke Hollow Project

The third Top ISR project is called Burke Hollow and received its full mining permit in December 2016. Burke Hollow has a current November 2017 resource of 7.09 million pounds  $U_3O_8$  and is located approximately 54 kilometres from Hobson. A total of five independent uranium trends could be identified in the licence area. Not even half of the license area has been tested for uranium deposits. The 2017 drill campaign, which quickly yielded initial encouraging results (average uranium grades of 0.067%) and was therefore extended from originally 90 holes to approximately 132 holes, resulted in the above resource estimate which was 38% higher than the old one. Several mineralized trends were discovered and extended to a length of over 4.5 miles. A remarkable success when you consider that Burke Hollow was initially an absolute grass root project. The company assumes that this resource can be further expanded. The last necessary approval for the construction of an appropriate conveyor is to be obtained shortly.



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

### Hobson production plant is the trump card up your sleeve!

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

### Reno Creek Project

In May 2017, Uranium Energy announced the acquisition of Reno Creek Holdings Inc., 100% of its fully uranium production approved Reno Creek ISR uranium project in Wyoming.

In February 2017, Reno Creek received the Source and By Product Materials License from the U.S Nuclear Regulatory Commission in conjunction with a Final Environmental Impact Statement and Record of Decision and

thus the last important production license! This will allow Uranium Energy to begin construction of ISR fields and a central processing plant virtually immediately and to mine and process up to 2 million pounds of  $U_3O_8$  per year!

Reno Creek holds a large NI43-101 resource of 21.98 million pounds of  $U_3O_8$  in the Measured and Indicated category. Added to this is a further 930,000 pounds in the derived category. Uranium Energy thus increased its resource base by around 70%!

A pre-feasibility study from 2014 confirms that Reno Creek is highly profitable with low capital and operating costs.

In total, Uranium Energy paid less than US\$20 million for a fully licensed ISR project with a resource of over 20 million pounds of  $U_3O_8$  and a much higher exploration potential! And this despite the fact that all previous owners of Reno Creek have already spent more than US\$ 60 million on the exploration and development of the project!

Uranium Energy is already working on a new, optimized pre-feasibility study.

### North Reno Creek

In November 2017, Uranium Energy was also able to secure additional claims directly adjacent to the Reno Creek project. For a total of 4.3 million pounds of U<sub>3</sub>O<sub>8</sub> in the measured and displayed category of the North Reno Creek project, a total of only US\$5.39 million in cash and shares was ceded to previous owner Energy Fuels. A bargain price, given that this project is still almost entirely within Reno Creek's permit area and could be connected to a central processing facility almost immediately after receiving a mining permit.

### Alto Paraná Titanium Project

In July 2017, Uranium Energy CIC Resources (Paraguay) Inc. acquired more than 70,000 hectares of land in Paraguay, including the Alto Parana titanium project and its pilot plant. To date, CIC Resources and former joint venture partner Tronox have invested approximately \$25 million in the project. The Alto Parana Titan Project is an advanced exploration project in eastern Paraguay within the Alto Parana Department approximately

100 kilometres north of Ciudad del Este. The property covers an area of 70,498 hectares with five mining permits. The project is located near Itaipu, the world's second largest hydro-power plant and a source of low-cost electricity. The work carried out on the project to date included an extensive programme of digging pits and auger bores, the development of a small test mine, the construction of a pilot plant to evaluate the planned ore dressing workflow diagram, laboratory-scale smelting tests, the production of approximately 110 tonnes of concentrate for extensive smelting tests and related technical work, marketing work and logistical and environmental work. In September 2017, Uranium Energy published its own resource estimate for Alto Paraná. The total inferred resource has been estimated at 4.94 billion tonnes at 7.41% titanium oxide („TiO<sub>2</sub>“) and 23.6% iron oxide („Fe<sub>2</sub>O<sub>3</sub>“) with a minimum ore content of 6% TiO<sub>2</sub>, making Alto Paraná one of the largest known and highest grade ferro-titanium deposits. Uranium Energy plans to turn the project into money in 2018. After all, the titanium market will show a supply deficit from 2019 onwards, which in the case of Alto Paraná should arouse desire among the big majors.



The fully licensed Hobson production facility has a processing capacity of two million pounds of U<sub>3</sub>O<sub>8</sub> per year. (Source Uranium Energy)

### Diabase Project

In February 2018, Uranium Energy announced that it had signed a definitive concession purchase agreement with Nuinsco Resources Limited to acquire 100% of the shares of the Diabase project. The Diabase Project is located on the southern edge of the Uranium District in the Athabasca Basin in Saskatchewan, Canada. The project comprises 21,949 hectares of land and overlies a highly prospective regional corridor less than 75 kilometres from Cameco's Key Lake mill. For the acquisition, Uranium Energy paid a total of only approximately US\$500,000, a bargain price considering that more than US\$20 million has been invested in the exploration of the property in the past, including diamond drilling, geophysical measurements and surface sampling to a total of more than 21,000 metres.

which a positive economic study has already been prepared, based on a US\$65 uranium price and a strong 63% pre-tax IRR. The Slick Rock Project in Colorado has 15.7 million pounds of U<sub>3</sub>O<sub>8</sub> and a 33% pre-tax IRR. Uranium Energy has two promising projects in Paraguay. Yuty has resources of 11.1 million pounds U<sub>3</sub>O<sub>8</sub>, Oviedo has an exploration target of 23 to 56 million pounds U<sub>3</sub>O<sub>8</sub>.

### Top CEO guarantees success

President and CEO Amir Adnani is an entrepreneur with excellent contacts in the mining and financial world. Among other things, he founded Blender Media Inc, a company that was considered Canada's fastest growing company. In addition to Uranium Energy, he also manages GoldMining Inc, a mineral bank that now has a resource base of more than 24 million ounces of gold.

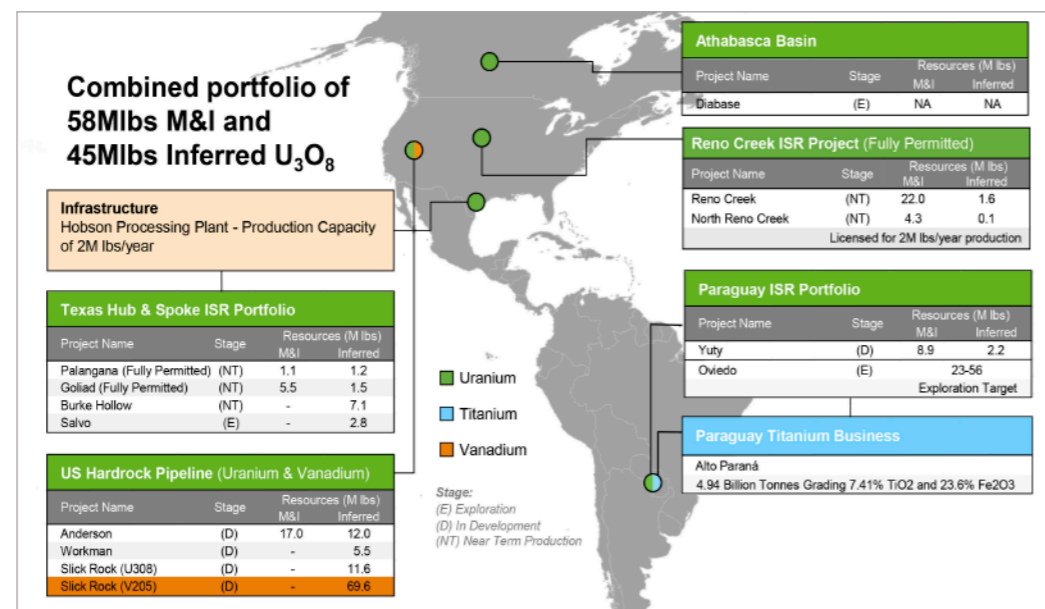
### More potential top projects in the pipeline!

In addition to the listed projects, Uranium Energy holds a majority stake in a number of other potential top projects. For example, the Anderson Project in Arizona, which has 29 million pounds of U<sub>3</sub>O<sub>8</sub>, and for

### Summary: Strong Project Pipeline, High Leverage on Uranium Price

In contrast to about five years ago, when Uranium Energy was already producing uranium

Uranium Energy has a resource base of approximately 100 million pounds of U<sub>3</sub>O<sub>8</sub>. (Source Uranium Energy)



once, in the future it will be possible to exploit four projects simultaneously instead of one (Palangana) and thus to utilize Hobson's own processing plant accordingly. Together with the newly acquired Reno Creek project (including Reno Creek North), which is already fully licensed, the company will have nearly 100 million pounds of  $U_3O_8$  and the ability to produce 4 million pounds of  $U_3O_8$  per year instead of 2 million pounds of  $U_3O_8$ . As an icing on the cake, they were also able to secure a very advanced titanium project for a small amount of money, which offers additional potential for the future.

Uranium Energy combines all the expected benefits of an upcoming supply shortfall in the uranium market, a cost-effective mining method, centrally located processing facilities and a uranium-friendly environment. In October 2018, the Company was able to execute a financing initially planned at US\$ 10 million, but increased to US\$ 20 million due to high demand, which now gives the Company considerable scope for further development and acquisition plans.

ment of Commerce (DOC) 232 investigation "to determine whether uranium imports threaten to impair national security." The DOC has until mid-April 2019 to make a recommendation to the President who will then have up to ninety days to decide what actions are to be taken by the U.S. government. We view this action as having the potential to accelerate already improving supply-demand fundamentals with near-term positive impacts for the U.S. production industry and UEC.

um prices. Higher priced contracts that have supported production costs are continuing to roll out of producer and utility supply portfolios. These higher priced contracts are not replaceable with current market prices below production costs for the vast majority of producers. This will likely continue the trend of production cuts and deferrals until prices rise sufficiently to sustain long-term mining operations. As utilities return to the market to replace expiring contracts, significant demand should emerge in a new long-term contracting cycle. As these and other forces unfold, the more recent inventory driven market is likely to wane, paving the way for a more production driven market.



Amir Adnani, CEO

## Exclusive interview with Amir Adnani, CEO of Uranium Energy

**What did your company achieve within the last 12 months?**

UEC expanded its resource base, acquiring the fully permitted (2 million lbs/yr.) Reno Creek in-situ recovery project in Wyoming's prolific Powder River Basin with an NI 43-101 Measured and Indicated resource of 27.47 million tons grading 0.041%  $U_3O_8$  yielding 21.98 million lbs. We also entered into an agreement to acquire 100% of the advanced stage North Reno Creek project located immediately adjacent to and within UEC's existing Reno Creek Project permitting boundary - increasing UEC's Reno Creek's combined Measured and Indicated resource by 20%, based on previously reported NI 43-101 Measured and Indicated resource of 3.8 million tons grading 0.056%  $U_3O_8$  yielding 4.3 million lbs.

In South Texas, we completed a 132-hole drill campaign at Burke Hollow project and reported updated estimates of an Inferred mineral resource of 7.09 million pounds of uranium (" $U_3O_8$ ") at a weighted average grade of 0.088%  $U_3O_8$  contained within 4.06 million

tons - increasing the previous inferred mineral estimate by about 2 million pounds (+38%) of  $U_3O_8$ . UEC also closed a definitive agreement to acquire 100% of the Diabase project located on the south rim of the Athabasca Basin uranium district. The project is a low cost, high value project that fits well in our pipeline of projects to be developed.

**What are the main catalysts for your company within the next 6 months?**

We will continue to advance our growth plans within the framework of our corporate strategy: 1) remain 100% unhedged for maximum exposure to a turn-around in uranium prices; 2) make accretive acquisitions near the bottom of the cycle; and 3) grow and de-risk our low-cost ISR portfolio in Texas, Wyoming and Paraguay. There is also another objective on the horizon: to maximize the value of our Alto Paraná titanium project for the benefit of UEC shareholders.

Another possible catalyst is the U.S. Depart-

**What is your opinion about the current conditions of the uranium market?**

Global market fundamentals for uranium are strengthening, through a combination of reduced supply from ongoing major foreign-producer cutbacks and heightened demand spurred by a growing international need for zero-emission, base-load electricity. Significant purchasing by producers to fill long-term supply contracts as well as fund buying are also contributing to the upward move in urani-

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

Outstanding shares: 158.4 million  
Options: 13.1 million  
Warrants: 31.0 million  
Fully diluted: 202.6 million

**Contact:**  
Uranium Energy Corp.  
500 North Shoreline, Ste. 800N  
Corpus Christi, TX 78401, USA

phone: +1-361-888-8235  
fax: +1-361-888-5041

bnicholson@uraniumenergy.com  
www.uraniumenergy.com

## Uranium Energy Corp.





