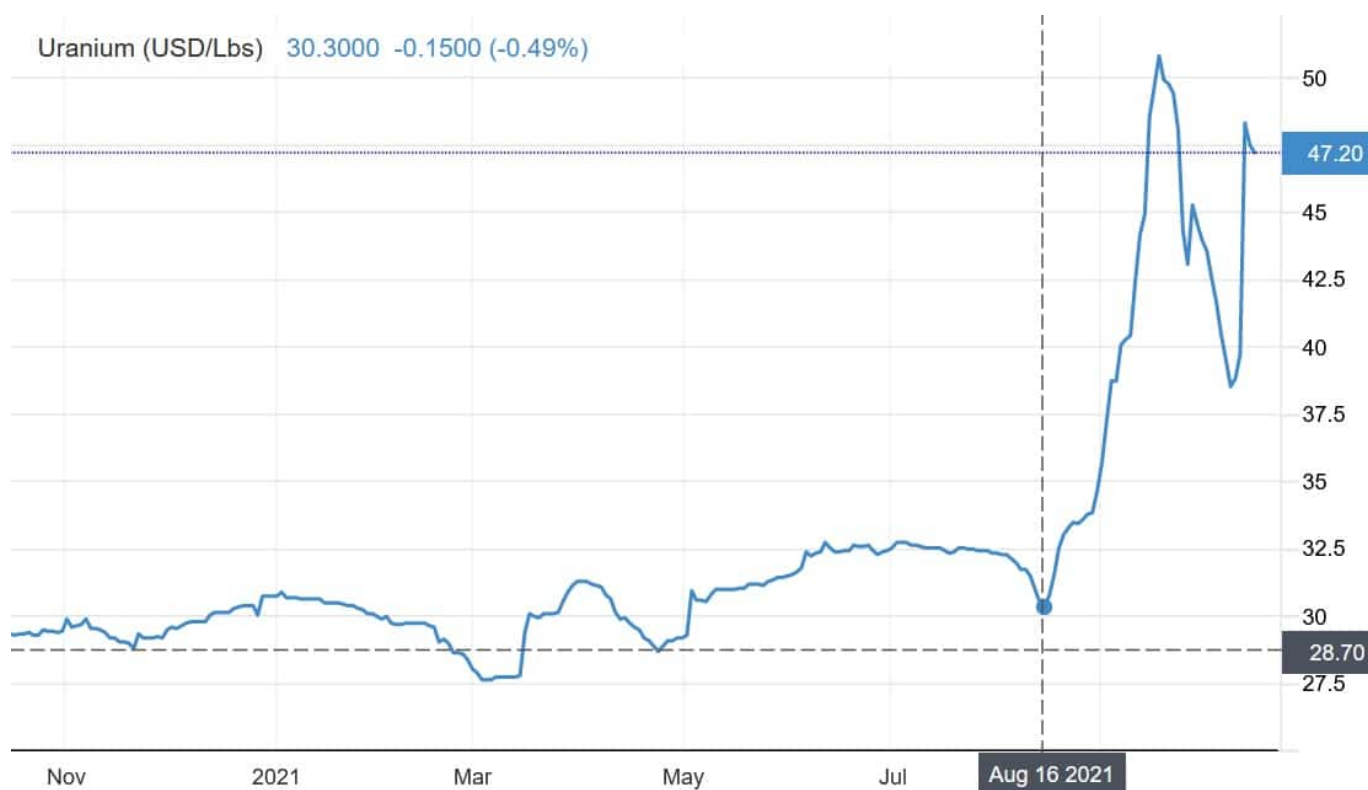


# U.S. nuclear power generation at historical heights as investors buy uranium

There has been a lot of talks lately about fossil fuel energy source prices rising, particularly coal and gas prices. But did you know that uranium prices are up 64% since the August low, and are now at US\$47.20/lb?

**Uranium prices are up 64% from the August 16, 2021 low (as on 18 October 2021)**



Source: Trading economics

The reason uranium prices are rising is that supply has reduced and demand is reviving with an upward trajectory.

## Uranium supply

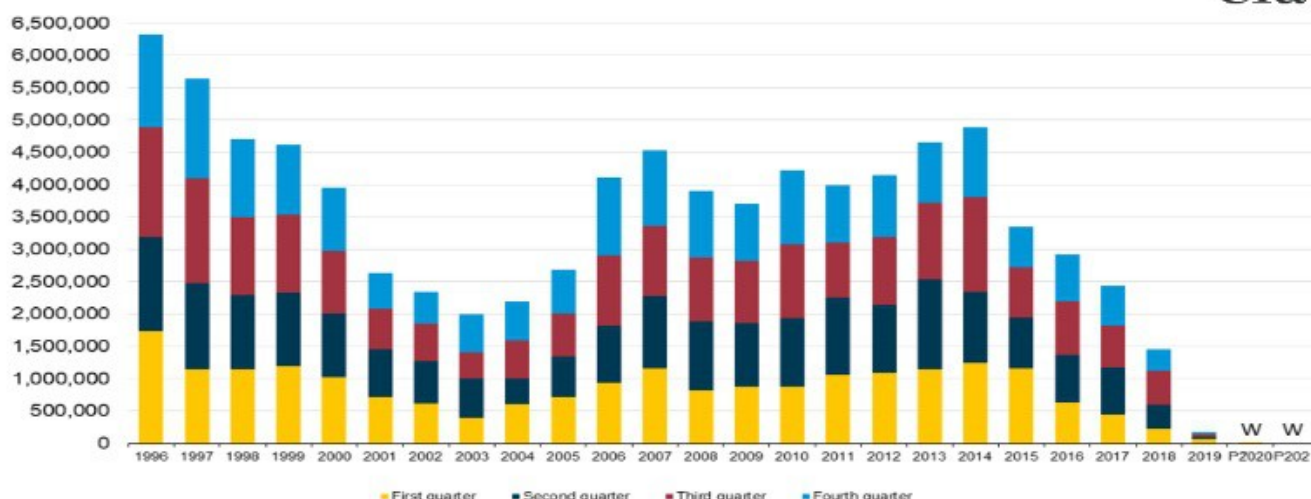
In 2020, ~46Mlbs or ~35% of global supply of uranium

production (annualized), was suspended due to low prices. Kazatomprom, the world's largest uranium miner, announced a 20% reduction in production into 2023. Cameco shuttered McArthur River and (largest in Canada) Cigar Lake mines, and there are several others. Meanwhile, U.S. uranium production is non-existent, or as Ur-Energy states: "2020 – 2021Q2: U.S. uranium production continues to be so low EIA unable to report due to commitments of confidentiality."

## EIA report: 2020 U.S. mined production negligible – too low to be reported

Figure 1. Uranium concentrate production in the United States, 1996 to second-quarter 2021

pounds U3O8



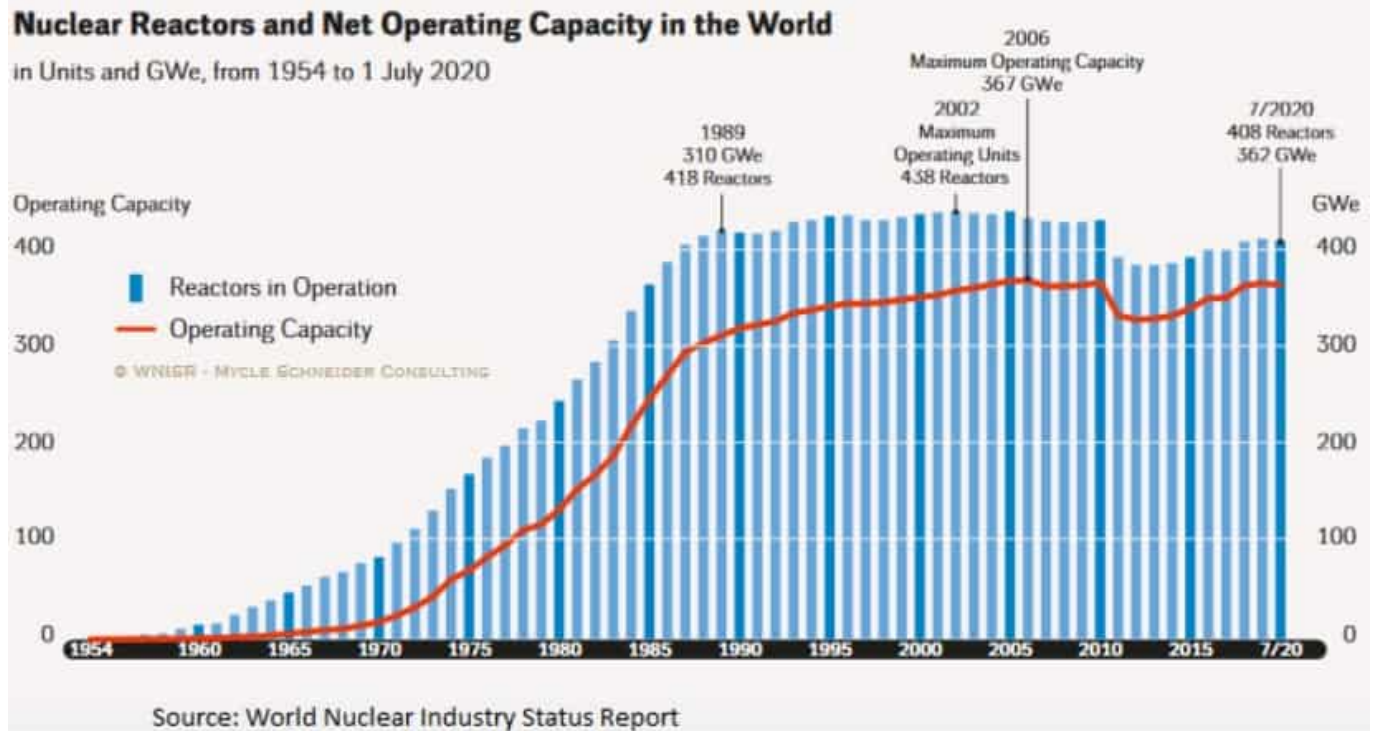
Source: UR-Energy company presentation

## Uranium demand

Demand has remained strong and has recently been boosted by some serious market speculators. The one that grabs the headlines most is the Sprott Physical Uranium Trust which has been buying up millions of pounds of uranium. Of course, the regular buyers are the utilities that own and operate nuclear reactors and want to secure supply.

**World and U.S. nuclear power generation has recovered from a 2011 post-Fukushima contraction and is near historical peak**

## generation levels

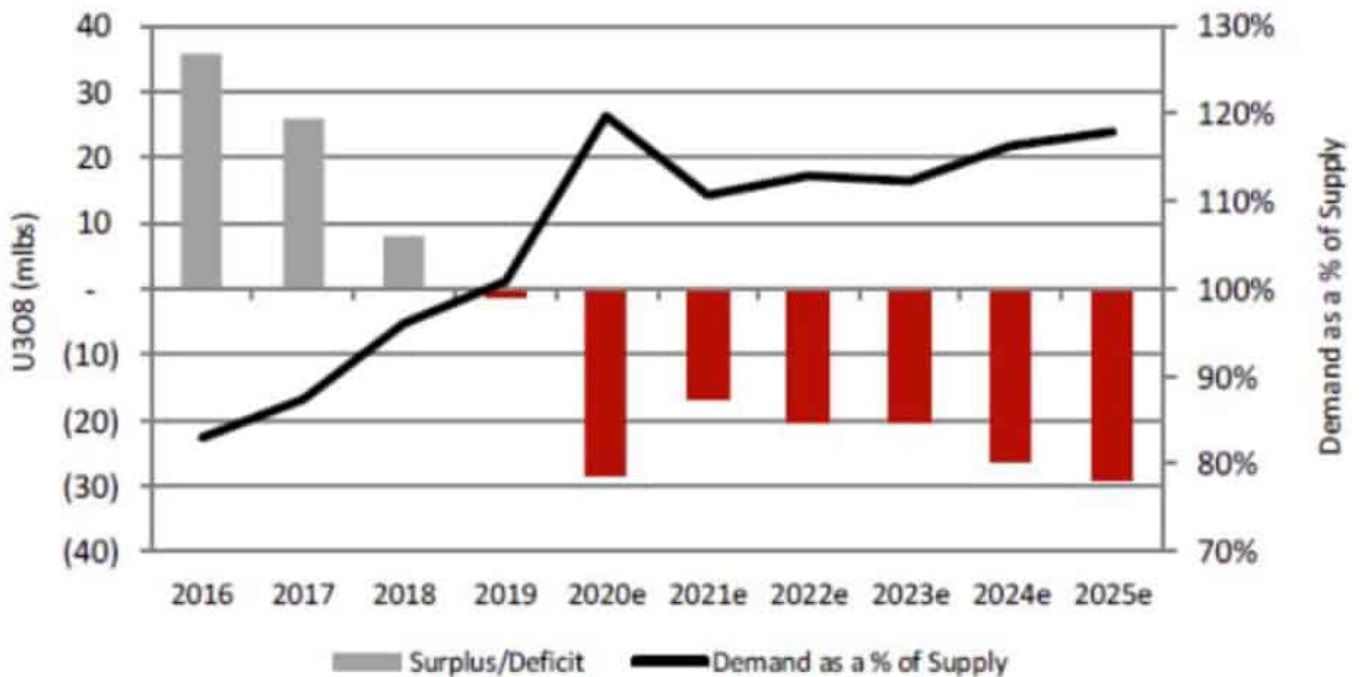


Source: Western Uranium & Vanadium company presentation

While higher prices ultimately encourage supply to come back on, it appears there is no rush for uranium producers to ramp up to large volumes and swamp the market; especially as they are now enjoying the windfall of higher prices after 5 years of very low prices. Many are finding that distressed inventory has become an asset as market pricing exceeds production costs.

**Uranium is forecast to be in deficit each year to 2025**

## The market has shifted into a sustained deficit



Source: Western Uranium & Vanadium company presentation (courtesy Canaccord Genuity estimates)

### 3 leading U.S uranium producers

**Energy Fuels Inc. (NYSE American: UUUU | TSX: EFR)** has been building uranium inventory while diversifying into rare earths production. The Company has significant capacity to quickly increase low-cost U.S. uranium production from proven assets and has more production facilities, capacity & experience than any other U.S. company.

**Ur-Energy Inc. (NYSE American: URG | TSX: URE)** is among the top two U.S uranium producers and is a global low cost uranium producer. Ur-Energy operates the Lost Creek in-situ recovery uranium facility in south-central Wyoming, USA.

**Western Uranium & Vanadium Corp. (CSE: WUC | OTCQX: WSTRF)** own the Sunday Mine Complex, which is now back in pre-production development. On October 12, 2021 the Company stated: "Active mine development operations have resumed at the Sunday Mine Complex, and the project is already producing strong results.....The ore body is projected to be significantly larger

than indicated by the previous limited surface drilling. Development ore is being stockpiled underground. Full production of the GMG ore body can begin with the improvement of market conditions and after development operations are completed within six months.”

### **Closing remarks**

The leading U.S uranium miners (as mentioned above) have seen significant stock price increases over the past year as uranium prices rose on the back of a growing uranium deficit.

Looking ahead the US uranium producers are well placed to benefit from the Biden policies that are becoming aware of the importance of smart nuclear power generation and of building a significant uranium reserve. After all, key parts of the U.S military and about 20% of U.S electricity rely totally on nuclear and hence uranium. Today, the U.S. imports 95% of its annualized uranium demand. There is a need to ramp up domestic and North American production if the more than 100 U.S. based civilian nuclear power reactors are to remain in service without interruption by geopolitical factors.

Meanwhile Europe, other than France, which gets 80% of its electric power from nuclear, and Asia are learning they also need a stable source of base load power that is not carbon based. As we approach the COP26 climate summit on November 1, the future of nuclear and uranium has never looked better.

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# **China is winning the war for**

# the future.

The perennial key geopolitical and geoeconomics issues of the conflict among nation-states over the allocation of scarce critical natural resources have, in the last 25 years, been dramatically affected by the current wave of the globalization of the ownership and of the productive output of natural resources, primarily in Africa and South America. Contemporary globalization has worked very much in the favor of the Peoples' Republic of China (PRC). China's goal of self-sufficiency in all natural resources, technologies, and industrial manufacturing for the stated purpose of achieving total independence from the rest of the world is well on its way to success.

China has combined a coherent industrial policy, based on the above stated goal, and has given that policy a driver with what it calls "capitalism with Chinese characteristics," which turns out to be not profit-centered but national goal-centered capitalism.

One result of Chinese goal-centered capitalism has been the decline of North America's and Western Europe's dominance as the industrial manufacturing and technological innovation centers of the world. The very same Chinese consumer market for manufactured goods that caused a boom for Western OEMs has been redirected to favor Chinese domestic OEMs to move China into its new era of the policy of dual circulation, the gradual substitution of domestic consumption for export markets.

Western politicians are frantic to keep their consumer products' boom going, so they are paying lip service to the notion of a consumer oriented free-market economy based on profit while more and more (disastrously) trying to manipulate that same consumer market demand without any real understanding of supply economics.

The best example of the failure of the Western approach is the looming and unnecessary energy poverty creating a political theme of an amorphous danger (aka as "boogeyman") called climate change, a "crisis" being used to attempt to manipulate consumer demand through concepts called "clean energy" and the "Green Economy."

Nowhere is there a better example of this than the current political mania for the electrification of transportation power trains. Self-described "experts" and "analysts" confidently predict the market penetration of so-called EVs, electric vehicles, over the next decade and well beyond. But these predictions fail miserably when analyzed through the prism of what is known about the existence, accessibility, volumes, and economics of deposits of the critical technology metals that would need to be present for such predictions to be viable. Further analysis of the current production, distribution and use of electricity is necessary.

Ninety nine percent of the world's transportation runs on oil based fuels, the distribution of which is in effect universal. The same cannot be said for electricity.

The recent breathless coverage of weather "extreme" events, drought in California, hurricane in Louisiana, and flooding in New York and New Jersey have two things in common; one is that they are blamed on "climate change"; and a second thing, that no one in journalism seems to have noticed, that all of, and each of, these events have dramatically reduced or eliminated the flow of electricity to consumers in the affected regions, not just by generation reduction but primarily by disrupting the distribution of reliable electricity.

Imagine, for a moment, that you are a perceptive observer of the U.S. electrical energy production industry and of its distribution industry. (Note, you therefore couldn't and wouldn't be a mainstream media journalist). How would "greened" emergency services, for

example, be able to fulfill their charge (excuse the pun) without reliable continuous electric energy production? The answer is that they will rely and always must rely on fossil fueled vehicles and localized electric generators.

Now further imagine that such fuels and vehicles have been made extraordinarily expensive due to the increased costs (due to supply reduction following forced demand reduction) of fossil fuels, storage batteries, and the need for reliable backup power generation.

The legacy power distribution systems of America and Europe cannot even today cope with extreme weather events and government paid emergency services can only function with off-the-grid power sources. China has a lesser problem, because its electric power generation and distribution are being built on a national scale with exactly the problem, the interruption of power distribution, I am describing being considered and taken into account by China's industrial policy execution bureaucracy.

How would (will) a California city, such as Los Angeles, function in a heat wave/drought when the choice is between air conditioning or charging your electric car? The famous "Valley" society of the Los Angeles complex grew originally after World War II with "all electric homes."

How will steel, aluminum, and copper be mined, refined, and fabricated without baseload, continuous and reliable, electric power to sustain the enormous continuous drains of power that batteries cannot sustain? Such flows cannot be created or sustained by solar panels and wind turbines.

And note that without a steady increase in the production of copper, which is refined ELECTROchemically and melted in electric furnaces, there can be no clean or green energy transformation. And that there can be no production of the companion metals upon which our electronics depend without



massive production of the base, structural metals, within which they occur in tiny quantities. So, paradoxically and ironically, mining will have to increase manyfold and baseload fossil and nuclear electric generation would have to be increased dramatically to sustain the flow of scarce technology metals for the “greening” of society.

There is, of course, an alternative. Electricity for air conditioning, lighting, and transportation can be allocated by privilege, I.e., economic class. The wealthy and their servants will have all that they need and the rest will simply exist in a dry, hot world of water and food rationing. Politicians by the way will rate as “servants” of the wealthy. That must be what the Western politicians think, because that is the world they are creating.

The real question is: Will the climate change “crisis” collapse the fragile democracies of the West before anyone comes to their senses outside of China. Note that China already has secured sufficient supplies of all the metals it needs to avoid the supply crisis now barreling down on the West.

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## **Nikolaos Cacos on the largest uranium-vanadium discovery in Argentina in the last 40 years**

“Blue Sky is a uranium exploration company that is focused in Argentina. We have been active in Argentina for many years. The fruit to our labor is that we recently announced our first

43-101 resource calculation on our uranium-vanadium deposit of 19 million pounds uranium and 10 million pounds vanadium, making it the largest uranium-vanadium discovery in Argentina in the last 40 years.” states Nikolaos Cacos, President, CEO and Director of Blue Sky Uranium Corp. (TSXV: BSK | OTCQB: BKUCF), in an interview with InvestorIntel Corp. CEO Tracy Weslosky.

**Tracy Weslosky:** Just an aside, let us just introduce our audience to who Blue Sky Uranium is. I know a lot of people are involved currently in cannabis. We have been following uranium for a while. You have one of the largest uranium deposits in Argentina. Can you give us a broad stroke introduction to Blue Sky please?

**Nikolaos Cacos:** Blue Sky is a uranium exploration company that is focused in Argentina. We have been active in Argentina for many years. The fruit to our labor is that we recently announced our first 43-101 resource calculation on our uranium-vanadium deposit of 19 million pounds uranium and 10 million pounds vanadium, making it the largest uranium-vanadium discovery in Argentina in the last 40 years. What is exciting about this project is not just the starting point, which is an excellent starting point, this occurs in a region where we are seeing vanadium-uranium occurrences over a region of 145 kilometers in length. This is exhibiting the potential to be one of the world’s largest uranium finds, but even more excitingly, because it occurs at surface it has the potential to be one of the lowest costs in the world. That is where the economics really come into play.

**Tracy Weslosky:** I am sure I am not the only investor and shareholder out there whose ears perked up when you said vanadium. A lot of people anticipate vanadium to be the hottest critical material that is going to be in the market this fall. Do you have any comments on vanadium and your vanadium aspects, the Amarillo project?

**Nikolaos Cacos:** Well vanadium is actually quite exciting. In the early years when we were doing exploration we always would get vanadium associated with the uranium in the assays in the work we were doing. Because it is such a large area in some cases it is primarily uranium with one to one ratio of vanadium. In some cases it is four or five of vanadium pounds for every uranium pound so they are primary vanadium targets. Because it was only about \$4.00 a pound versus a uranium \$35.00 or \$40.00 a pound, it was a nice add-on for our economics. Now recently when you see the price of vanadium trading at \$18.50 a pound it is almost one to one in terms of value adding commodity to our deposit. This is very exciting. The vanadium market, which you mentioned, the reason why it has gone up so high is because, just like lithium, vanadium is being used in batteries. Because it is lighter it is used in cars, but vanadium is also being used in larger storage facilities. It is just an excellent metal and in very high demand right now. That is why we are seeing the price of it go up so high.

**Tracy Weslosky:** You are in Argentina and Argentina has been on the news a lot. Putin came over there to make a deal specifically with uranium due to Argentina's commitment to more power sources with nuclear energy being the leader. Can you talk to us a little bit about nuclear energy? I think with us being in Canada we are not always as aware of how important nuclear energy is to the rest of the world.

**Nikolaos Cacos:** Nuclear energy is the energy of the future. There is absolutely no doubt about that. Right now there are 70 nuclear reactors under construction totally right now. There are in planning and drafting phases another 500 nuclear reactors and not just happening in places like you would expect, like in China and India, but we are seeing it happening in United Arab Emirates, in Saudi Arabia, places that are loaded with oil and gas...to access the complete interview, [click here](#)

Disclaimer: Blue Sky Uranium Corp. is an advertorial member of InvestorIntel Corp.

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## **Investor Radar Alert: A TSXV company that has seen almost 5 times revenue growth year to year?**

Aurora Solar Technologies Inc. (TSXV: ACU) is a Canadian based global provider of inline measurement, visualization and control systems for the photovoltaic product manufacturing industry.

The Company has developed a disruptive new infrared solar cell profiling technology that allows solar cell producers to increase cell power and yield. Attaining profitability in a sector with very slim margins is the solar industry's most urgent imperative. Despite this, cell lines are running without the most basic inline measurement and control, resulting in very poor product uniformity and high scrap rates. Aurora's mission is to deliver exceptional results to the photovoltaic industry through measurement, visualization and control of critical processes during solar cell manufacturing.

Aurora provides both hardware and software solutions to reduce the time it takes to bring new lines up to speed and maximizes the yield of the highest power cells. This is critical when producing advanced cell structures. Aurora's products improve cell efficiency and eliminate downgrades.

Decima 3T™



The industry's first inline, non-contact emitter dopant measurement system

Decima Gemini™



Measures both sides of a solar cells simultaneously – for PERC or bifacial solar cells

Veritas™ Software



Provides operators with real-time visualization and control that increases cell efficiency and yield

## Auroras main products

Global environmental concerns in large emerging markets like China and India are driving governments towards clean energy solutions like solar. The price of solar modules has plummeted from US\$6/watt in 2009 to less than US\$1/watt in 2017 making clean energy cheaper than fossil fuel options. This is motivating solar cell producers to invest in Aurora's technology to improve the yield of high power cells.

This booming solar market is rapidly adopting advanced cell structures, with China intending to spend more than \$360 billion through to 2020 on renewable power sources like solar. The solar PV (photovoltaic) market is expected to double from 100 GW to 200 GW in the next three years. Global revenue from PV systems is expected to exceed \$1.2 trillion by 2024.

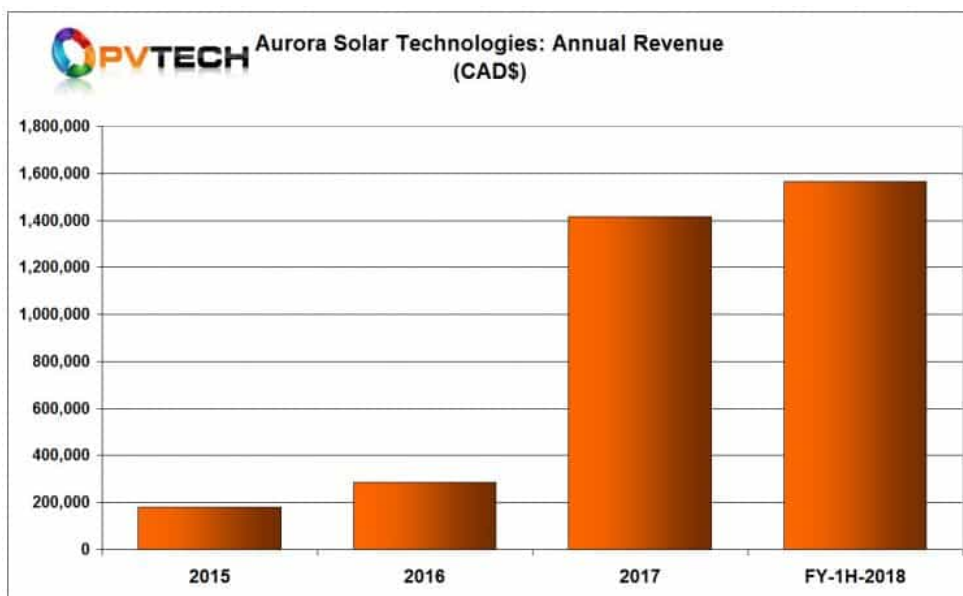
In May, 2018 a representative office in Shanghai was opened for the Asian sales team to be based. During the past two years Aurora has experienced major commercial successes in Korea, Taiwan and Singapore.

With more than 80% of global solar cell production in China, the regional producers are focused on improving efficiency and manufacturing yields. Michael Heaven, President & CEO stated: "With the advancement of solar cell design and growing complexity of the production methods, the opportunity for

Aurora's measurement and control systems have never looked brighter."

The Company received its first volume order from China for multiple Decima™ Gemini systems, Veritas™ wafer and process mapping software last year. The products were successfully delivered and integrated into new high-efficiency bifacial cell production lines enabling the customer to accelerate its plant start up and begin competing in the high end of the market. Aurora has also delivered to one of the world's leading solar panel manufacturers and is also in the final stages of securing a testing arrangement with a second top 5 Chinese solar cell manufacturer.

The Company has seen almost 5 times revenue growth year to year and is on track for 3 to 4 times the revenue growth in the current fiscal year (2018).



Aurora's revenue growth.

Aurora has a market cap of C\$ 8.6m.

Given revenue from global PV systems is expected to exceed \$1.2 trillion by 2024, and 80% of all global solar cell manufactured in China, the opportunity is enormous. China also intends to expand and spend \$360 billion by the year 2020. And

not to forget in the next 3 years the solar market is expected to double from 100 GW to 200 GW. Aurora is in a prime position to take advantage of this fast growing opportunity, and should soon be on investors radar.