

The Global Uranium Industry & Cameco's Troubled History

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1. INTRODUCTION

This report covers two overlapping issues.

Firstly: the miserable state of the global uranium industry. For several years, the uranium prices (the spot price and long-term contract price) has been well below the level that would incentivise new mines. There is no end in sight to the industry's current malaise – as acknowledged by numerous industry insiders and market analysts.

Secondly: the problems facing uranium mining company Cameco, which provides about 17% of the world's production from mines in Canada, the US and Kazakhstan, and has two uranium projects in Western Australia – Kintyre (70% Cameco / 30% Mitsubishi) and Yeelirrie (100% Cameco).

Cameco has been continuously downsizing for the past five years and the company acknowledges that the situation will get worse before it gets better.

Cameco has written off the entire value of its Kintyre project in Western Australia: a C\$238 million write-down in 2016 following a C\$168 million write-down in December 2012. Several other mines have been subject to production slow-downs or suspension, the company plans to sell its two uranium mines in the US (if it can find a buyer), and CEO Tim Gitzel said in February 2017 that Cameco is "very far from requiring any new greenfield uranium projects".

Cameco is currently embroiled in a court case, accused of illegal profit-shifting by the Canada Revenue Agency using subsidiaries in Switzerland and Barbados. If Cameco is found guilty, it may have to back-pay taxes amounting to C\$2.1 billion.

Finally, the report includes a table listing many of Cameco's accidents and controversies since 1981 – leaks and spills, the promotion of dangerous radiation junk science (in WA and elsewhere), appalling treatment of indigenous people, systemic and sometimes deliberate safety failures and breaches, etc.

2. THE GLOBAL URANIUM INDUSTRY

"Uranium bulls know how Moses felt when he was destined to wander forty years in the desert and never get to see the Promised Land."

– Christopher Ecclestone, March 2016.¹

"Uranium executives radiate sunny optimism at the start of each year when pitching their new project. This then disappears by the summer ... This time even that optimism has gone. All the executives I spoke to looked about as miserable as England football fans in the second week of a major tournament. What's to be done? Can this ever change? There is so much potential, but we never perform, why can't we be put out of our misery? Is it Wayne Rooney's fault?"

– RFC Ambrian, September 2016.²

Australia's Uranium Volume and Exports - 2006-2015 ³		
	2015	10-year average 2006 – 2015
Uranium export volume	5909 tonnes uranium	6,829 tonnes uranium
Uranium export revenue	A\$802 million	A\$726 million
Uranium % of national export revenue #	0.25%	0.26%
Australian % of global U production *	9.3%	13.2%

¹ Christopher Ecclestone, 22 March 2016, 'Uranium – Waiting for Godot or Forging Ahead?', <http://investorintel.com/uranium-energy-intel/uranium-waiting-godot-forging-ahead/>

² RFC Ambrian, 16 Sep 2016, 'In the news: The Nuclear Industry', www.proactiveinvestors.co.uk/columns/the-rfc-ambrian-metals-mining-and-oil-gas-overview/26047/in-the-news-the-nuclear-industry-26047.html

³ Unless otherwise indicated, data from the World Nuclear Association or calculated from WNA figures.

www.world-nuclear.org/information-library/country-profiles/countries-a-f/australia.aspx

National export revenue calculated from monthly data from Australian Bureau of Statistics, 'International Trade in Goods and Services, Australia', series 5368.0 – www.abs.gov.au/ausstats/abs@.nsf/mf/5368.0

* Australian uranium production figures from World Nuclear Association.

www.world-nuclear.org/information-library/country-profiles/countries-a-f/australia.aspx

Global production figures from WNA:

2006–14: www.world-nuclear.org/information-library/facts-and-figures/uranium-production-figures.aspx

2015: www.world-nuclear.org/information-library/nuclear-fuel-cycle/mining-of-uranium/world-uranium-mining-production.aspx

Australia's top export revenue industries – Compared to uranium⁴

Rank	Commodity	2015 export revenue	Share of national export revenue in 2015
1	Iron ores & concentrates	A\$49 bn	15.5%
10	Wheat	A\$5.8 bn	1.8%
25	Passenger motor vehicles	A\$2.1 bn	0.66%
?	Uranium	A\$0.8 bn	0.25%
	Total	A\$318.7 bn	100%

Using the 2015 data (above):

- Uranium export revenue would have to increase 61-fold to match the top export earner, iron ore. That would entail supplying the entire global demand for uranium almost six times over!
- Uranium export revenue would have to increase more than 7-fold to make it into the top 10 list of export revenue earning industries.
- Uranium export revenue would have to increase almost 3-fold to make it into the top 25 list of export revenue earning industries.

It should also be noted that a large majority of Australia's uranium export 'revenue' never reaches Australia because of the high degree of foreign ownership of companies mining uranium in Australia.

"It has never been a worse time for uranium miners"

"It has never been a worse time for uranium miners", said Alexander Molyneux from Paladin Energy in October 2016.⁵

"No major commodity had a worse 2016 than uranium," Bloomberg said in January 2017. *"In fact, the element used to make nuclear fuel has had a pretty dismal decade."*⁶

Uranium mining increased worldwide 5–10 years ago, in anticipation of the nuclear renaissance that never materialised. Hence the sustained low price and growing inventories that continue to keep prices low.

⁴ Sources:

* 'Australia's trade in figures',

www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BriefingBook45p/AustraliaTrade

* DFAT, Australia's trade in goods and services 2015, DFAT, Canberra, March 2016, <http://dfat.gov.au/about-us/publications/trade-investment/australias-trade-in-goods-and-services/Pages/australias-trade-in-goods-and-services-2014-15.aspx>

⁵ Geert De Clercq, 3 Oct 2016, 'Desperate uranium miners switch to survival mode despite nuclear rebound', www.reuters.com/article/us-uranium-nuclearpower-idUSKCN1230EF

⁶ Joe Deaux, Natalie Obiko Pearson, and Klaus Wille, 6 Jan 2017, 'World's Worst Commodity Radioactive for Investor Portfolios', www.bloomberg.com/news/articles/2017-01-06/world-s-worst-commodity-was-radioactive-for-investor-portfolios

The spot price fell 41% in 2016, sinking to a 12-year low in November (US\$18 / lb U₃O₈).⁷ The spot price averaged about \$26 in 2016 (all figures US\$ / lb U₃O₈), and is expected to average just \$23 in 2017 according to the median forecast of analyst estimates compiled by Bloomberg in December 2016.⁸ "I don't think there's a mine profitable at current spot prices," Leigh Curyer from Canadian uranium miner NexGen Energy told Bloomberg in January 2017.⁹

The long-term contract price fell from \$44 in January 2016 to \$30 in December.¹⁰ KPMG noted in December 2016 that "uranium producers are expected to reduce production and cut costs through 2017 and 2018, with high cost mines likely to scale back or close. New projects are expected to remain on hold."¹¹ RBC expects the sector will be oversupplied until around 2024.¹²

The uranium industry's downturn is evident in Australia. Honeymoon, Beverley and Beverley North all began production but were then put into care and maintenance. Only two mines are operating as of March 2017 – the Olympic Dam and Four Mile mines in SA. At Ranger in the NT, ERA is processing ore but mining has ceased and a planned expansion was cancelled. BHP Billiton cancelled the planned open-cut expansion of Olympic Dam in 2012 – and in the same year the company disbanded its uranium division and sold the Yeelirrie deposit in WA.

The Australian uranium industry continues to project significant growth. It does this despite a track record of consistently failing to meet previous projections.¹³

A long-term contract price of about US\$70–\$80 / lb U₃O₈ would be required to encourage the development of new uranium mines.¹⁴ Yet the current long-term contract price is less than half that figure: US\$33 as of February 2017.¹⁵ Indeed the price is so low that operating uranium mines are struggling to break even – Greg Peel from FNAREna noted in 2016 that prices are below the cost of production for "many mines."¹⁶

⁷ Joe Deaux, Natalie Obiko Pearson, and Klaus Wille, 6 Jan 2017, 'World's Worst Commodity Radioactive for Investor Portfolios', www.bloomberg.com/news/articles/2017-01-06/world-s-worst-commodity-was-radioactive-for-investor-portfolios

⁸ Ben Sharples, 11 Jan 2017, 'Uranium Gains 10% as Top Producer Plans Output Cut Amid Glut', www.bloomberg.com/news/articles/2017-01-11/uranium-surges-10-as-top-producer-signals-output-cut-amid-glut

⁹ Joe Deaux, Natalie Obiko Pearson, and Klaus Wille, 6 Jan 2017, 'World's Worst Commodity Radioactive for Investor Portfolios', www.bloomberg.com/news/articles/2017-01-06/world-s-worst-commodity-was-radioactive-for-investor-portfolios

¹⁰ www.cameco.com/invest/markets/uranium-price

¹¹ KPMG, 18 Nov 2016, 'Commodity Insights Bulletin - Uranium Q2, 2016 – Q3, 2016', <https://home.kpmg.com/xx/en/home/insights/2016/11/uranium-q2-2016-q3-2016.html>

¹² Peter Ker, 22 Jan 2017, 'Bulls and Bears: A new ERA for Australia's original uranium miner?', www.afr.com/business/mining/bulls-and-bears-a-new-era-for-australias-original-uranium-miner-20170119-gtv5z5

¹³ Australian Conservation Foundation, 2012, 'Yellowcake Fever: Exposing the Uranium Industry's Economic Myths'.

¹⁴ Andrew Topf, 12 Jan 2016, 'Nuclear Renaissance Has Analysts Bullish On Uranium', <http://oilprice.com/Alternative-Energy/Nuclear-Power/Nuclear-Renaissance-Has-Analysts-Bullish-On-Uranium.html>

¹⁵ www.cameco.com/invest/markets/uranium-price

¹⁶ Greg Peel, 27 Jan 2016, 'Uranium Week: The Outperformer', www.fnarena.com/index2.cfm?type=dsp_newsitem&n=04E94862-A0A3-8285-8DB1A43BD163A09F

If there is a recovery, it will be a long time coming

Paladin Energy chief executive John Borshoff said in 2013 that the uranium industry *"is definitely in crisis ... and is showing all the symptoms of a mid-term paralysis"*.¹⁷ His prediction was accurate. Long-term contract prices and spot prices are much lower in 2017 than they were in 2013.¹⁸

Former World Nuclear Association executive Steve Kidd said in May 2014 that *"the case made by the uranium bulls is in reality full of holes"* and he predicted *"a long period of relatively low prices, in which uranium producers will find it hard to make a living"*.¹⁹

So far, Kidd's prediction has proven to be accurate. Long-term contract prices and spot prices are much lower in 2017 than they were in 2014.²⁰

An October 2015 report in Nuclear Engineering International noted that *"there may not be much upward pressure on market prices until the next decade"* as *"excess supply is expected to persist"*.²¹

Nick Carter from Ux Consulting said in April 2016 that the spot uranium price could stay in the low \$30s/lb *"for quite some time"* because supply is expected to exceed demand by 25–30 million lb U₃O₈ each year from 2016 to 2019. Carter does not see a supply deficit in the market until *"the late 2020s"*.²²

UBS analysts noted in July 2016 that a turnaround in the market could be years off due to the slow reactor restart process in Japan and the slow pace of global nuclear expansion.²³

The *Wall Street Journal* reported in September 2016: *"There is too much of nearly every commodity in the world today. Then there is uranium. The outlook for the element that powers nuclear reactors may be worse than for any other, and there is almost no prospect for improvement soon. Unlike other commodities, low*

¹⁷ Nick Sas, 18 July 2013, 'Uranium industry in crisis: Borshoff', The West Australian, <http://web.archive.org/web/20130725060831/http://au.news.yahoo.com/thewest/a/-/breaking/18043640/uranium-industry-in-crisis-borshoff>

¹⁸ www.cameco.com/invest/markets/uranium-price

¹⁹ Steve Kidd, 6 May 2014, 'The future of uranium – higher prices to come?', www.neimagazine.com/opinion/opinionthe-future-of-uranium-higher-prices-to-come-4259437/

²⁰ www.cameco.com/invest/markets/uranium-price

²¹ Thomas Meade and Julian Steyn, 2 Oct 2015, 'Treading water in the uranium market', www.neimagazine.com/features/featuretreading-water-in-the-uranium-market-4684314/

²² Benjamin Leveau, 29 April 2016, 'Uranium industry focuses on costs as supply glut continues', <http://blogs.platts.com/2016/04/29/uranium-cost-supply-glut/>

²³ Donald Levit, 27 July 2016, 'Uranium Prices Remain Below Cost of Production, Recovery is Years Away', www.economiccalendar.com/2016/07/27/uranium-prices-remain-below-cost-of-production-recovery-is-years-away/

*prices won't stimulate demand. No commodity faces the unique pressure that uranium and nuclear fuel do and there is little prospect of a near-term recovery.*²⁴

Expectations that uranium prices would rise have repeatedly been foiled:

- Reactor restarts in Japan were meant to stimulate the uranium industry – but only three reactors are operating as of May 2017.
- The December 2013 end of the US–Russia 'Megatons to Megawatts' program (converting highly enriched uranium from weapons into fuel for power reactors) was meant to stimulate the industry – but it had no effect.
- The global nuclear power 'renaissance' was meant to stimulate the uranium industry – but it didn't materialise.
- The industry hoped that the drawing down of inventories would lead to increased prices – but inventories are massive and are still growing (as discussed below).

The industry is getting increasingly desperate, looking for a bounce from political conflicts upsetting existing production and supply networks (e.g. the Russia / Ukraine conflict) or from further mine failures and closures. According to an April 2015 *Mineweb.com* article: *"What could bring a major price surge forward though remains major supply interruptions – either for geopolitical reasons, or for debilitating technical problems at one or more of the key producers."*²⁵ Yet long-term contract prices and spot prices have fallen since April 2015 – indeed they have fallen sharply.²⁶

The only factors which have driven (small) uranium price increases in recent years have been deliberate decisions to reduce production – most recently Kazakhstan's decision in late 2016 to produce 10% less uranium in 2017 than previously planned in response to ongoing oversupply in the uranium market.²⁷ Kazakhstan has accounted for more than one-third of the world's total uranium production in recent years.

Explaining the uranium market's malaise

There are numerous reasons why the uranium market is likely to remain depressed for the foreseeable future. The most important are briefly discussed here.

1. Nuclear power is unlikely to expand.

²⁴ Spencer Jakab, 18 Sept. 2016, 'Uranium Investments Grow Radioactive', Wall Street Journal, www.wsj.com/articles/why-uranium-investments-will-remain-radioactive-1474225882

²⁵ Lawrence Williams, 22 April 2015, 'Uranium outlook positive but perhaps not outstanding unless ...', www.mineweb.com/news/energy/uranium-outlook-positive-but-perhaps-not-outstanding-unless

²⁶ www.cameco.com/invest/markets/uranium-price

²⁷ World Nuclear Association, 10 Jan 2017, 'Oversupply prompts Kazakh uranium production cut', www.world-nuclear-news.org/UF-Oversupply-prompts-Kazakh-uranium-production-cut-1001177.html

Stagnation or slow decline are the most likely scenarios over the next 20 years, and if there is any growth it will be slight.²⁸

2. Uranium is plentiful.

At the 2016 level of uranium requirements (63,404 tonnes of uranium²⁹), identified resources³⁰ are sufficient for 121 years of supply of the global nuclear power fleet (at its current capacity of 392 gigawatts).

From 2012 to 2014, uranium was produced in no less than 21 countries.³¹

3. Stockpiles (inventories) are massive and still growing.

Global stockpiles have grown sharply since the Fukushima disaster and now amount to more than 1.4 billion pounds U₃O₈ according to Ux Consulting³² or 1.2 billion pounds according to the OECD's 2016 Red Book.³³ Thus stockpiles alone would suffice to keep the entire global reactor fleet operating for around eight years.

Stockpiles continue to grow – supply from mines and secondary sources currently exceeds demand by about 30 million pounds U₃O₈ per year or 18%.^{34,35}

The growth of already-large stockpiles is one of the reasons that getting new mines into production is proving to be so difficult. The OECD's *2016 Red Book* states: "*Challenges remain in the global uranium market with high levels of oversupply and inventories, resulting in continuing pricing pressures. ... Producers will have to overcome a number of significant and, at times, unpredictable issues in bringing new production facilities on stream, including geopolitical factors, technical challenges and risks at some facilities, the potential development of ever*

²⁸ Jim Green, 27 March 2017, 'Lobbyists debate responses to the nuclear power crisis', Online Opinion, <http://onlineopinion.com.au/view.asp?article=18929&page=0>

²⁹ www.world-nuclear.org/information-library/facts-and-figures/world-nuclear-power-reactors-and-uranium-requireme.aspx

³⁰ OECD's Nuclear Energy Agency and International Atomic Energy Agency, 2016, 'Uranium 2016: Resources, Production and Demand', www.oecd-nea.org/ndd/pubs/2016/7301-uranium-2016.pdf

³¹ OECD's Nuclear Energy Agency and International Atomic Energy Agency, 2016, 'Uranium 2016: Resources, Production and Demand', www.oecd-nea.org/ndd/pubs/2016/7301-uranium-2016.pdf

³² 9 Aug 2016, 'Uranium: the world's worst commodity', Nuclear Monitor #828, www.wiseinternational.org/nuclear-monitor/828/uranium-worlds-worst-mined-commodity

³³ OECD's Nuclear Energy Agency and International Atomic Energy Agency, 2016, 'Uranium 2016: Resources, Production and Demand', www.oecd-nea.org/ndd/pubs/2016/7301-uranium-2016.pdf

³⁴ 9 Aug 2016, 'Uranium: the world's worst commodity', Nuclear Monitor #828,

www.wiseinternational.org/nuclear-monitor/828/uranium-worlds-worst-mined-commodity

³⁵ Rhiannon Hoyle and Mayumi Negishi, 31 July 2016, 'Japan Nuclear-Power Jitters Weigh on Global Uranium Market', www.wsj.com/articles/japan-nuclear-power-jitters-weigh-on-global-uranium-market-1469990663

more stringent regulatory requirements, and the heightened expectations of governments hosting uranium mining."

China is a growth market but has amassed a "staggering" stockpile of uranium according to Macquarie Bank.³⁶ China's stockpile of about 300 million pounds³⁷ would suffice to operate its existing reactor fleet for around 20 years.

Japan is "swimming – some would say drowning – in uranium" according to the senior editor of Platts Nuclear Publications.³⁸ According to Forbes writer James Conca, Japan's uranium inventory will suffice to fuel the country's power reactors "for the next decade".³⁹

4. Secondary sources continue to contribute significantly to oversupply.

Secondary sources of uranium – i.e. sources other than newly-mined uranium – include government and commercial inventories, reprocessed uranium, underfeeding at enrichment plants (extracting more U-235 per given volume of feedstock), uranium produced by the re-enrichment of depleted uranium tails, and low-enriched uranium produced by blending down highly enriched uranium (typically from military sources).

Former World Nuclear Association executive Steve Kidd sums up the uranium industry's predicament: "Secondary supplies in total are still contributing about 15,000 tonnes, meaning that total supply is now running at about 75,000 tonnes. With demand at 60,000 tonnes, inventories held by the producers and their customers must be rising by about 15,000 tonnes per year. ... So overall, uranium production has risen by half over the past 10 years at a time when underlying demand has stayed constant. Abundant secondary supplies are coming to the market so the level of uranium inventories has naturally risen sharply."⁴⁰

The over-capacity and low cost of uranium enrichment services has emerged as a significant factor undermining the uranium industry. Cheap, abundant enrichment capacity can substitute for newly mined uranium. This has and will continue to keep uranium prices down.⁴¹ Steve Kidd describes the emergence of cheap,

³⁶ Stephen Cauchi, 31 Dec 2015, 'Australian uranium in demand as China goes full steam for nuclear', www.theage.com.au/business/energy/australian-uranium-in-demand-as-china-goes-full-steam-for-nuclear-20151217-glqldr

³⁷ Rhiannon Hoyle and Mayumi Negishi, 31 July 2016, 'Japan Nuclear-Power Jitters Weigh on Global Uranium Market', www.wsj.com/articles/japan-nuclear-power-jitters-weigh-on-global-uranium-market-1469990663

³⁸ James Conca, 4 Jan 2016, 'As The World Warms To Nuclear Power, The Outlook For Uranium Is Up', www.forbes.com/sites/jamesconca/2016/01/04/the-2016-uranium-market-reflecting-the-worldview-on-nuclear-power/

³⁹ James Conca, 4 Jan 2016, 'As The World Warms To Nuclear Power, The Outlook For Uranium Is Up', www.forbes.com/sites/jamesconca/2016/01/04/the-2016-uranium-market-reflecting-the-worldview-on-nuclear-power/

⁴⁰ Steve Kidd, 1 Sept 2016, 'Uranium – the market, lower prices and production costs', www.neimagazine.com/opinion/opinionuranium-the-market-lower-prices-and-production-costs-4995055/

⁴¹ Steve Kidd, 8 Dec 2016, 'Uranium enrichment – why are prices now much lower and what is the impact?', www.neimagazine.com/opinion/opinionuranium-enrichment-why-are-prices-now-much-lower-and-what-is-the-impact-5692128/

abundant enrichment capacity as a "crucial" factor and states that the "*substitution of enrichment for uranium will continue to be important.*"⁴²

Platts noted in April 2016 that enrichment companies are using their excess enrichment capacity to bring an estimated 15 million lb U₃O₈ equivalent to the market annually.⁴³ That equates to about 10% of annual demand.

⁴² Steve Kidd, 6 May 2014, 'The future of uranium – higher prices to come?', www.neimagazine.com/opinion/opinionthe-future-of-uranium-higher-prices-to-come-4259437/

⁴³ Benjamin Leveau, 29 April 2016, 'Uranium industry focuses on costs as supply glut continues', <http://blogs.platts.com/2016/04/29/uranium-cost-supply-glut/>

3. CAMECO BATTLING URANIUM DOWNTURN, TAX OFFICE, TEPCO

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Where the nuclear power industry goes, the uranium industry follows. A decade ago, the hype about a nuclear power renaissance drove a uranium price bubble: the spot price in May 2007 was six times greater than the current price. The bubble collapsed, the nuclear power renaissance never materialised, and the uranium industry's prospects were further dimmed by the Fukushima disaster.

With the current nuclear power crisis jeopardising the existence of industry giants like Toshiba and Westinghouse, the question arises: will the crisis create similar carnage in the uranium industry? Might it bring down a uranium industry giant like Cameco, which provides about 17% of the world's production from mines in Canada, the US and Kazakhstan?⁴⁴

The short answer is that Cameco will likely survive, but the company has been downsizing continuously for the past five years. Other established uranium companies – such as Paladin Resources⁴⁵ and Energy Resources of Australia – may not survive, and an endless stream of uranium exploration companies have gone bust or diversified into such things as medicinal marijuana production⁴⁶ or property development.⁴⁷

Cameco's downsizing began soon after the Fukushima disaster:

- In December 2012, Cameco booked a C\$168 million (US\$124m) write-down on the value of its Kintyre uranium deposit in Western Australia.⁴⁸
- In 2014, Cameco cut its growth plans and uranium exploration expenses, warning that the "*stagnant, over supplied short-term market*" was not going to improve any time soon.⁴⁹
- In 2014, Cameco put its Millennium uranium project in northern Saskatchewan on hold – where it remains today – and asked the Canadian Nuclear Safety Commission to cease the mine approval process.⁵⁰

⁴⁴ www.cameco.com/about

⁴⁵ Paul Garvey, 16 Feb 2017, 'Paladin risks falling prey to Chinese nuclear firm CNNC', www.theaustralian.com.au/business/mining-energy/paladin-risks-falling-prey-to-chinese-nuclear-firm-cnnc/news-story/0e8bdd424905c6403b8541248d471018

⁴⁶ ABC, 17 April 2015, 'Capital Mining makes bid to be first to grow medicinal cannabis', www.abc.net.au/news/2015-04-17/capital-mining-in-bid-to-be-first-to-grow-medicinal-cannabis/6400544
www.wise-uranium.org/upaussa.html

⁴⁷ Vicky Validakis, 6 June 2014, 'Price collapse sees junior miner ditch uranium to focus on property development', www.miningaustralia.com.au/news/price-collapse-sees-junior-miner-ditch-uranium-to

⁴⁸ Nick Sas, 13 Feb 2013, 'Cameco puts Kintyre on ice', <https://thewest.com.au/news/wa/cameco-puts-kintyre-on-ice-ng-ya-344802>

⁴⁹ Cameco, 7 Feb 2014, 'Cameco Reports Fourth Quarter and 2013 Financial Results', www.cameco.com/media/news/cameco-reports-fourth-quarter-and-2013-financial-results

⁵⁰ www.cameco.com/businesses/uranium-projects/millennium

Cameco announced in April 2016 that it was suspending uranium production at Rabbit Lake in Canada, reducing production at McArthur River / Key Lake in Canada, and slowing production at its two US uranium mines, both in-situ leach mines – Crow Butte in Nebraska and Smith Ranch-Highland in Wyoming. About 500 jobs were lost at Rabbit Lake, 85 at the US mines, and corporate headquarters was downsized.⁵¹

Another 120 workers are to be sacked by May 2017 at three Canadian uranium mines – McArthur River, Key Lake and Cigar Lake – and production at McArthur River, already reduced, will be suspended for six weeks in mid-2017.^{52,53}

"We regret the impact of these decisions on affected employees and other stakeholders," Cameco president and CEO Tim Gitzel said. "These are necessary actions to take in a uranium market that has remained weak and oversupplied for more than five years. While it is positive that we are starting to see other producers announce their intent to reduce supply, we have not yet seen an actual reduction in supply. Ultimately, it will be the return of both term demand and term contracting in a significant way that will signal that market fundamentals have turned more positive."⁵⁴

Cameco's revenue dropped C\$323 million (US\$238m) in 2016 and the company posted a C\$62 million (US\$46m) loss for the year. The loss was largely the result of C\$362 million (US\$267m) in impairment charges, including C\$124 million (US\$91m) related to the Rabbit Lake mine and **a write-off of the full C\$238 million (US\$176m) value of the Kintyre uranium project in Western Australia.**⁵⁵

"I think it's fair to say that no one, including me, by the way, expected the market would go this low and for this long," Gitzel said.⁵⁶ He said "market conditions in 2016 were as tough as I have seen them in 30 years."⁵⁷

Cameco's 'tier-1' mines – McArthur River and Cigar Lake in Canada and the Inkai ISL mine in Kazakhstan – have been largely unaffected by the cutbacks except for

⁵¹ World Nuclear News, 22 April 2016, 'Cameco scales back uranium production', www.world-nuclear-news.org/UF-Cameco-scales-back-uranium-production-2204167.html

⁵² Cameco, 17 Jan 2017, 'Cameco Announces Preliminary 2016 Earnings Expectations and Operational Changes Planned for 2017', www.cameco.com/media/news/cameco-announces-preliminary-2016-earnings-expectations-and-operational-changes-planned-for-2017

⁵³ Greg Peel, 14 March 2017, 'Uranium Week: See You In Court', www.fnarena.com/index.php/2017/03/14/uranium-week-see-you-in-court/

⁵⁴ World Nuclear News, 18 Jan 2017, 'Cameco responds to 'discrepancy' in analyst expectations', www.world-nuclear-news.org/C-Cameco-responds-to-discrepancy-in-analyst-expectations-18011702.html

⁵⁵ The Canadian Press, 9 Feb 2017, 'Cameco swings to \$62M loss on write-downs as uranium market drags', <http://globalnews.ca/news/3240104/cameco-swings-to-62-million-loss-on-write-downs-as-uranium-market-drags/>

⁵⁶ Alex MacPherson, 10 Feb 2017, 'No one...expected the market would go this low and for this long': Cameco records \$62-million net loss for 2016', <http://thestarphoenix.com/business/mining/cameco-records-62-million-net-loss-for-2016>

⁵⁷ Cameco, 9 Feb 2017, 'Cameco's (CCJ) CEO Tim Gitzel on Q4 2016 Results – Earnings Call Transcript', <https://seekingalpha.com/article/4044994-camecos-ccj-ceo-tim-gitzel-q4-2016-results-earnings-call-transcript>

the slowdown at McArthur River. But the tier-1 mines aren't safe, Cameco plans to reduce production by 7% in 2017, and new mines are off the table. Gitzel said: *"In fact we're far from declaring that even tier-1 production is free from the pressure of further reductions. And obviously we're very far from requiring any new greenfield uranium projects."*⁵⁸

Cameco is considering selling its two US uranium mines – Crow Butte in Nebraska and Smith Ranch-Highland in Wyoming. Company spokesperson Gord Struthers said the company was at an *"early stage"* in the process and there was no target date for a decision. *"Together, our US facilities have capacity to produce up to 7.5 million pounds a year and hold 93 million pounds of reserves and resources. In a different uranium market, it would be very attractive,"* he said.⁵⁹

Analyst David Talbot said Cameco has probably been open to selling the US mines for some time.⁶⁰ The mines are potentially attractive, two US producers told Reuters, but liabilities related to reclaiming groundwater and future decommissioning of the mines may limit interest. Those costs might amount to C\$257 million (US\$190m), Cameco said.⁶¹

TEPCO cancels billion-dollar contract

Cameco faces a new problem with notorious Japanese company TEPCO announcing on January 24 that it had issued a contract termination notice, sparking a 15% drop in Cameco's share price over the next two days.^{62,63,64} The termination affects about 9.3 million pounds of uranium oxide due to be delivered until 2028, worth approximately C\$1.3bn (US\$959m).

TEPCO argues that a *"force majeure"* event occurred because it has been unable to operate its nuclear plants in Japan – four reactors at Fukushima Daini and seven reactors at Kashiwazaki Kariwa – for some years due to government regulations relating to reactor restarts in the aftermath of the March 2011 Fukushima disaster.

Cameco plans to fight the contract termination and will pursue *"all its legal rights and remedies"*. Tim Gitzel said: *"They've taken delivery under this contract in 2014, 2015 and 2016, so we're a bit perplexed as to why now all of a sudden they think*

⁵⁸ ibid

⁵⁹ World Nuclear News, 9 March 2017, 'Cameco considers future of US operations', <http://world-nuclear-news.org/C-Cameco-considers-future-of-US-operations-0903177.html>

⁶⁰ Rod Nickel, 6 March 2017, 'Exclusive: Cameco explores U.S. mines sale as uranium slump drags on – CEO', www.reuters.com/article/us-cameco-uranium-idUSKBN16D28I

⁶¹ ibid

⁶² 6 Feb 2017, 'Cameco and Tepco in dispute over uranium contract', www.neimagazine.com/news/newscameco-and-tepco-in-dispute-over-uranium-contract-5732219

⁶³ Dan Healing / Reuters, 1 Feb 2017, 'Cameco 'surprised' after Tepco cancels \$1.3-billion uranium-supply contract', www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/cameco-at-risk-of-losing-contract-to-supply-uranium-to-tokyo-electric/article33855015/

⁶⁴ David Shield / CBC News, 1 Feb 2017, 'Cameco threatening legal action after Japanese company cancels major uranium contract', www.cbc.ca/news/canada/saskatoon/cameco-threatening-legal-action-after-japanese-company-cancels-major-uranium-contract-1.3961294

there's a case of, as they say, 'force majeure.'"⁶⁵ TEPCO has received and paid for 2.2 million pounds of uranium oxide from Cameco since 2014.

Gitzel also noted that other Japanese utilities have successfully restarted their plants – three reactors are operating and seven have been approved to restart. *"It is our opinion that TEPCO doesn't like the terms it committed to, particularly the price, and they want to escape the agreement,"* Gitzel said.⁶⁶

Financial analysts told Reuters that Cameco has a winning record in previous contract disputes with customers.⁶⁷ A negotiated settlement may be the outcome. Cameco reported cash receipts of C\$46.7 million and C\$12.3 million last year to allow two customers to cancel long-term uranium contracts.⁶⁸

Japan is *"swimming – some would say drowning – in uranium"*, the senior editor of Platts Nuclear Publications said in early 2016.⁶⁹ According to Forbes writer James Conca, Japan's existing uranium inventory will suffice to fuel the country's power reactors *"for the next decade"*.⁷⁰

Nick Carter from Ux Consulting said he believes TEPCO is the first Japanese utility to terminate a long-term contract, while many others have tried to renegotiate contracts to reduce volumes or prices or delay shipments. Gitzel acknowledged that *"there is concern over the risk of contagion from the TEPCO announcement"* – more customers might try to cancel contracts if TEPCO succeeds.⁷¹

Tax dispute

A long-running tax dispute is starting to heat up with the October 2016 commencement of a court case brought against Cameco by the Canada Revenue Agency (CRA). The dispute has been slowly winding its way through appeals and legal motions since 2009 when Cameco first challenged the CRA's findings. The court case is likely to conclude in the coming months but the court's decision may not be finalised until late-2017 or 2018.

⁶⁵ 6 Feb 2017, 'Cameco and Tepco in dispute over uranium contract',

www.neimagazine.com/news/newscameco-and-tepco-in-dispute-over-uranium-contract-5732219

⁶⁶ David Shield / CBC News, 1 Feb 2017, 'Cameco threatening legal action after Japanese company cancels major uranium contract', www.cbc.ca/news/canada/saskatoon/cameco-threatening-legal-action-after-japanese-company-cancels-major-uranium-contract-1.3961294

⁶⁷ Dan Healing / Reuters, 1 Feb 2017, 'Cameco 'surprised' after Tepco cancels \$1.3-billion uranium-supply contract', www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/cameco-at-risk-of-losing-contract-to-supply-uranium-to-tokyo-electric/article33855015/

⁶⁸ *ibid*

⁶⁹ James Conca, 4 Jan 2016, 'As The World Warms To Nuclear Power, The Outlook For Uranium Is Up', www.forbes.com/sites/jamesconca/2016/01/04/the-2016-uranium-market-reflecting-the-worldview-on-nuclear-power/

⁷⁰ *ibid*

⁷¹ Cameco, 9 Feb 2017, 'Cameco's (CCJ) CEO Tim Gitzel on Q4 2016 Results – Earnings Call Transcript', <https://seekingalpha.com/article/4044994-camecos-ccj-ceo-tim-gitzel-q4-2016-results-earnings-call-transcript>

Cameco is accused of setting up a subsidiary in Switzerland and selling it uranium at a low price to avoid tax.⁷² Thus Cameco was paying the Swiss tax rate of about 10% compared to almost 30% in Canada.⁷³ Cameco set up the subsidiary in 1999 and established a 17-year deal selling uranium at approximately US\$10 a pound, far less than the average price over the 17-years period.⁷⁴ Another subsidiary was established in Barbados – possibly to repatriate offshore profits.⁷⁵

If Cameco loses the case in the Tax Court of Canada, it could be liable for back-taxes of C\$2.2 billion (US\$1.62bn).⁷⁶ Last year, the company spent approximately C\$120 million (US\$89m) on legal costs related to the tax dispute.⁷⁷

Canadians for Tax Fairness⁷⁸ have been arguing the case for legislative change to stop profit-shifting schemes, and for Cameco to pay up. Last year, the NGO teamed up with Saskatchewan Citizens for Tax Fairness and the international corporate watchdog, SumOfUs, to deliver a petition with 35,000 signatures to the Prime Minister's office and to Cameco's executive offices.⁷⁹

Don Kossick from Canadians for Tax Fairness said: "*Cameco has a corporate responsibility to pay the \$2.2 billion. They use Canadian-developed technology to dig Canadian uranium out of the Canadian ground and rely on the Canadian transportation system to bring their product to market. Cameco employs Canadian workers who developed their knowledge and skills in Canadian schools, rely on Canadian hospitals if / when they get sick and rely on the stability and legal protection that Canadian democracy provides. Canadians are exasperated with this shell game.*"⁸⁰

Kossick noted that the C\$2.2 billion could easily cover the budgetary deficit in Saskatchewan that has resulted in major cuts to health, education and human services.

⁷² WISE Uranium, www.wise-uranium.org/umopcdn.html

⁷³ Bruce Livesey, 25 April 2016, 'Did this company engineer the largest tax dodge in Canadian history?', www.nationalobserver.com/2016/04/25/news/did-company-engineer-largest-tax-dodge-canadian-history

⁷⁴ Ian Bickis, 3 Oct 2016, 'Cameco and the CRA head to court over potential \$2.2-billion tax dispute', The Canadian Press, <http://business.financialpost.com/news/cameco-and-the-cra-head-to-court-over-potential-2-2-billion-tax-dispute>

⁷⁵ Bruce Livesey, 25 April 2016, 'Did this company engineer the largest tax dodge in Canadian history?', www.nationalobserver.com/2016/04/25/news/did-company-engineer-largest-tax-dodge-canadian-history

⁷⁶ Ian Bickis, 3 Oct 2016, 'Cameco and the CRA head to court over potential \$2.2-billion tax dispute', The Canadian Press, <http://business.financialpost.com/news/cameco-and-the-cra-head-to-court-over-potential-2-2-billion-tax-dispute>

⁷⁷ World Nuclear News, 18 Jan 2017, 'Cameco responds to 'discrepancy' in analyst expectations', www.world-nuclear-news.org/C-Cameco-responds-to-discrepancy-in-analyst-expectations-18011702.html

⁷⁸ www.taxfairness.ca/en/search/node/cameco

⁷⁹ Emma Paling, 23 June 2016, 'Cameco Tax Dispute: All The Things Canada Could Buy With \$2.1 Billion', www.huffingtonpost.ca/2016/06/23/cameco-tax-evasion_n_10550884.html

⁸⁰ Emma Paling, 23 June 2016, 'Cameco Tax Dispute: All The Things Canada Could Buy With \$2.1 Billion', www.huffingtonpost.ca/2016/06/23/cameco-tax-evasion_n_10550884.html

4. CAMECO'S URANIUM DEPOSITS IN WESTERN AUSTRALIA – A BRIEF SUMMARY

Kintyre (70% Cameco / 30% Mitsubishi)

The Martu Aboriginal people have fought against this proposed uranium mine since the 1980s. The deposit sits between two branches of a creek called Yantikutji which is connected to a complex network of surface and groundwater systems. It is also in an area that was cut out of the Karlamilyi National Park, WA's biggest National Park. Kintyre is home to 28 rare, endangered and threatened species. The project would include an open pit 1.5 km long, 1.5 km wide, it would use 3.5 million litres of water a day and leave behind 7.2 million tonnes of radioactive mine waste over the life of the project.

In June 2016, Martu Traditional Owners led a 140 km, week-long walk to protest against Cameco's proposed uranium mine at Kintyre. Aboriginal Traditional Owners are concerned the project will affect their water supplies as well as 28 threatened species in the Karlamilyi National Park.

Joining the protest walk was Anohni, the Academy Award-nominated musician from Antony and the Johnsons. She said: *"It's a huge landscape – it's a really majestic place. It's really hard to put a finger on it but there's a sense of presence and integrity and patience, dignity and perseverance and intense intuitive wisdom that this particular community of people have. There is almost an unbroken connection to the land – they haven't been radically disrupted. They are very impressive people – it's humbling to be around these women. In many regards, I think the guys who run Cameco are desolate souls, desolate souls with no home, with no connection to land, with no connection to country."*

www.ccwa.org.au/kintyre

Yeelirrie (100% Cameco)

Yeelirrie in the local Wongutha Aboriginal language means 'place of death'. The local community has fought against mining at Yeelirrie for over 40 years. There was a trial mine in the 1970s which was poorly managed: the site was abandoned, unfenced and unsigned with a shallow open pit and tailings left behind. The project would include a 9 km long, 1 km wide open pit, it would use 8.7 million litres of water a day and leave behind 36 million tonnes of radioactive mine waste over the life of the mine. There are many cultural heritage sites under threat from this proposal. The project was rejected by the Western Australian Environmental Protection Agency in 2016 because of the threat that 11 species of underground microfauna would become extinct. The WA Environment Minister ignored the EPA advice and approved the project anyway.

www.ccwa.org.au/yeelirrie

5. CAMECO'S INCIDENTS AND ACCIDENTS: 1981–2016

A more detailed, referenced version of this information, written by Mara Bonacci and Jim Green for Friends of the Earth Australia, is posted at

<https://wiseinternational.org/nuclear-monitor/842/nuclear-monitor-842-26-april-2017>

or: <http://tinyurl.com/cameco-2017>

Date and Location	Description of Incident
1981–89: Saskatchewan, Canada	153 spills occurred at three uranium mines in Saskatchewan from 1981 to 1989. Cameco was fined C\$10,000 for negligence in relation to a Nov. 1989 spill of two million litres of radium- and arsenic-contaminated water from the Rabbit Lake mine into Collins Creek, which flows into Wollaston Lake.
1990, May 13: Blind River Uranium Refinery	Leak shuts down the Canadian refinery. Approximately 178 kg of radioactive uranium dust leaked into the air over a 30-hour period. The filter system was bypassed accidentally.
1993: Canada/US	Inter-Church Uranium Committee from Saskatchewan reveals export of at least 500 tons of depleted uranium to the US military by Cameco, despite several Canadian treaties to export uranium only for "peaceful purposes".
1998: Kyrgyzstan	A truck en route to a Cameco gold main spills 2 tons of cyanide into the Barskoon River, a local drinking water and agricultural water source. 2,600 people treated and more than 1,000 hospitalized.
2001– onwards: Ontario	A 2003 report by the Sierra Club of Canada provides details of 20 major safety-related incidents and unresolved safety concerns at the Bruce nuclear power plant.
2002: Kyrgyzstan	Fatality at Cameco's Kumtor Gold Mine. Death of a Kyrgyz national, buried in the collapse of a 200 meter-high pit wall.
2003, April: McArthur River, Saskatchewan	Cave-in and flood of radioactive water at the McArthur River mine. Cameco knew about the danger of a cave-in for months if not years and how "miners worked without ventilation masks to save the mine and their jobs." A consultant's report found that Cameco had been repeatedly warned about the water hazards right up until the accident happened.
2004: Key Lake uranium mill, Canada	Canadian Nuclear Safety Commission approves Key Lake license renewal, despite continuing pit sidewall sloughing into the tailings disposed in the Deilmann pit. One million cubic meters of sand had already slumped into the tailings.
2004, April: Port Hope, Ontario	Gamma radiation discovered in a school playground during testing in advance of playground upgrades. Although the Canadian Nuclear Safety Commission and AECL tried to dismiss the findings, the material under the school had to be removed

	when it was converted to low-cost housing in 2011. The contaminated material came from the uranium processing facility in Port Hope, now owned by Cameco.
2006, April: Cigar Lake, Saskatchewan	A water inflow began at the bottom of the 6-meter wide shaft, 392 meters below the surface. All the workers left the area and removed equipment. According to a miner, "the mine's radiation alarm kept going off, but the radiation technician merely re-set the alarm, assuring us that everything was fine."
2006, Oct.: Cigar Lake, Saskatchewan	Cameco said its "deficient" development of the Cigar Lake mine contributed to a flood that delayed the mine project by three years and would double construction costs. Blasting by contract miners was performed with the wrong equipment and inadequate safeguards, allowing the mine to flood with groundwater on 22 Oct. 2006.
2007: Port Hope, Ontario	Substantial leakage of radioactive and chemical pollutants into the soil under the conversion facility – leakage not detected by monitoring wells. The plant was closed when contaminated soil was discovered, but during the clean-up it is likely that tailings found their way into the harbour.
2008: US/Canada	ISL mines owned by Cameco in Nebraska, Wyoming, and Canada have all had spills and leaks since beginning ISL uranium mining. Cameco made a settlement payment of \$1.4 million to Wyoming for license violations, and \$50,000 to Nebraska for license violations.
2008, January: Rabbit Lake mill	Seepage underneath the mill discovered after a contract worker noticed a pool of uranium-tainted ice at an outdoor worksite.
2008, May: Port Hope, Ontario	It was discovered during soil decontamination at the suspended Port Hope uranium processing facility that egress from degraded holding floors had contaminated the harbour surrounding the facility, which flows into Lake Ontario.
2008, June: Key Lake	Canadian Nuclear Safety Commission intends to approve the license renewal for Cameco's Key Lake mill although CNSC staff assigned 'C' ratings ("below requirements") in four out of 10 program areas assessed, including waste management, fire protection, environmental protection, and training. Pit wall sloughing in the Deilmann open-pit tailings facility remains unresolved.
2010: Rabbit Lake	Uranium discharges from Rabbit Lake (highest by far in Canada) showed increase rather than the predicted decrease in 2010. In 2010, the average monthly uranium discharge concentrations exceeded the Uranium Screening Objective during three months.
2011: Ship from Vancouver to China	A number of sea containers holding drums of uranium concentrate are damaged and loose uranium is found in the hold.

2012, August: Port Hope, Ontario	Spill of uranium dioxide powder resulted in one worker being exposed to uranium and three other workers potentially exposed during clean-up.
2012: Northern Saskatchewan	Draft agreement between Cameco, Areva and the Aboriginal community of Pinehouse includes extraordinary clauses such as this: "Pinehouse promises to: ... Not make statements or say things in public or to any government, business or agency that opposes Cameco/Areva's mining operations; Make reasonable efforts to ensure Pinehouse members do not say or do anything that interferes with or delays Cameco/Areva's mining, or do or say anything that is not consistent with Pinehouse's promises under the Collaboration Agreement."
2012, June 23: Blind River refinery, Ontario	Three workers exposed to airborne uranium dust after a worker loosened a ring clamp on a drum of uranium oxide, the lid blew off and about 26 kg of the material were ejected into the air.
2013– ongoing: Canada	Cameco is battling it out in tax court with the Canada Revenue Agency (CRA). Up to C\$2.2 billion in corporate taxes allegedly went unpaid. Cameco set up a subsidiary in Switzerland allegedly for the sole purpose of avoiding taxes in Canada. 2016: Cameco also involved in tax dispute with the US IRS. According to Cameco, the IRS is seeking an additional \$32 million in taxes, plus interest, and may also seek penalties.
2013: English River First Nation, Canada	English River First Nation sign deal with Cameco and Areva, agreeing to support Millennium uranium mine and drop a lawsuit over land near the proposed mine. Some English River First Nation band members reacted strongly to the agreement. Cheryl Maurice said. "I am speaking for a group of people who weren't aware that this agreement was being negotiated because there was no consultation process."
2013, June: Saskatchewan	Federation of Saskatchewan Indian Nations Chief Perry Bellegarde says the provincial government should not issue any new permits for potash, uranium or other resource development until First Nations concerns are addressed. Bellegarde said the province's lack of a revenue-sharing deal with First Nations stemmed from "economic racism." "Do not issue a licence to Cameco or Areva or BHP until indigenous issues are addressed," he said.
2013, August: Troy, Ohio, USA	A fire occurred on a truck carrying uranium hexafluoride which originated from Cameco's refinery in Port Hope, Ontario. Nuclear regulators in Canada – where the cargo originated – and in the US were not informed of the incident.
2013, Sept.: Northern Saskatchewan	Sierra Club Canada produces a detailed report on Cameco's uranium operations in Northern Saskatchewan. It details systemic corporate failure by Cameco as well as systemic regulatory failure. The report states: "This is a story about the failure to regulate despite the Canadian public interest and international commitments otherwise. ... There is no limit for

	<p>uranium in groundwater. Despite limits where they exist, Cameco is allowed to wildly exceed them without consequence. ... At the McArthur River site, concentrations of arsenic, selenium, and uranium in water effluent have exceeded the standards by 54 percent for arsenic, 700 percent for selenium and an astronomical 1,230 percent for uranium. There is no reporting done on mercury. Blueberries and fish are contaminated with uranium."</p>
2013, Dec.: Key Lake	<p>License violations and reportable events on 2 Dec. 2013: approx. 200 cubic metres of permeate water with pH >9.5 was released to Horsefly Lake over a period of approx. one hour.</p>
2014, Jan.: Port Hope	<p>About 450 Port Hope homeowners have had their soil sampled and properties tested in the first phase of the biggest radioactive clean-up in Canadian history. Some 1.2 million cubic metres of contaminated soil will be entombed in a storage facility. More than 5,000 private and public properties will undergo testing to identify places which need remediation. Port Hope is riddled with low-level radioactive waste, a product of radium and uranium refining at the Eldorado / Cameco refinery. The clean-up will cost an estimated C\$1.28 billion.</p>
2014, March	<p>A statement endorsed by 39 medical doctors calls on Cameco to stop promoting dangerous radiation junk science. The statement reads in part: "Cameco has consistently promoted the fringe scientific view that exposure to low-level radiation is harmless. Those views are at odds with mainstream scientific evidence and expert assessment. It is irresponsible for Cameco to consistently promote fringe scientific views regarding the health effects of ionising radiation."</p>
2014, May: Canada	<p>Northerners and environmentalists criticize the ethics and practices of Cameco outside the company's headquarters during its AGM. Candyce Paul said collaboration agreements with her English River First Nation and the Northern Village of Pinehouse Lake are undemocratic. Those deals were negotiated by certain leaders while many people from the communities were left in the dark, she said.</p>
2015	<p>A uranium supply contract was signed by Cameco and India's Department of Atomic Energy on April 15, 2015. Nuclear arms control expert Crispin Rovere said: "As with the proposed Australia–India nuclear agreement, the text of the Canadian deal likewise abrogates the widely accepted principle that the nuclear recipient is accountable to the supplier. This is ironic given it was nuclear material diverted from a Canadian-supplied reactor that led to the India's break-out in the first place. It would be like the citizens of Hiroshima deciding it would be a good idea to host American nuclear weapons within the city – the absurdity is quite astonishing."</p>
2015: Saskatchewan	<p>Cameco's uranium operations in Saskatchewan are facing opposition from the Clearwater Dene First Nation. A group</p>

	<p>called Holding the Line Northern Trappers Alliance has been camping in the area to block companies from further exploratory drilling in their territory. The group set up camp in November 2014 and plans to remain until mining companies leave. Concerns include Cameco's uranium deal with India and the health effects of Cameco's operations on the Indigenous people of northern Saskatchewan.</p>
<p>2015: Key Lake mill, Canada</p>	<p>Cameco personnel identify the presence of calcined uranium oxide within a building. Five workers receive doses exceeding the weekly action level of 1 mSv.</p>
<p>2016: Smith Ranch ISL uranium mine, Wyoming, USA</p>	<p>The US Nuclear Regulatory Commission finds that a supervisor from Cameco subsidiary Power Resources deliberately failed to maintain complete and accurate records of contamination exit surveys. The NRC also issues a Notice of Violation to Cameco, stating that "between 2006 through 2016 ... the licensee failed to calculate the committed effective dose equivalent to all significantly irradiated organs or tissues using the appropriate biological models."</p>
<p>2016: Smith Ranch ISL uranium mine, Wyoming, USA</p>	<p>The Nuclear Regulatory Commission issued a Confirmatory Action Letter to Cameco subsidiary Power Resources documenting actions that the company has agreed to take before resuming shipments of radioactive sludge to a Utah facility. The letter followed two incidents in which containers of radioactive barium sulfate sludge, a byproduct of uranium ore processing, arrived at the facility in Blanding, Utah, with some external contamination from leakage during transport. The incidents occurred in August 2015 and March 2016. The NRC conducted an inspection of Power Resource's Smith Ranch-Highland uranium mine and determined that while the company took some corrective actions after the first incident, they were not fully effective.</p>