

# Rare mineral fuelling nuclear ambitions for local investors

Vancouver's IBC Advanced Alloys Corp. banking on beryllium to play a major role in the 21st century's nuclear renaissance

KRISENDRA BISETTY

Two entrepreneurs "shooting the breeze" at South Africa's Mining Indaba a couple of years ago are rapidly building a mining-to-manufacturing business in Vancouver, while eyeing what could be the next generation of nuclear fuel.

Early stage investors **Anthony Dutton** and **James Passin** were chatting about the nuclear renaissance when they asked themselves a key question: what material, other than uranium, was going to play a big part in the nuclear renaissance?

"We didn't have to go very far before we realized, bingo, it's beryllium," said Dutton, a principal of **Primary Capital Group**, a Vancouver-based private equity and corporate finance advisory firm.

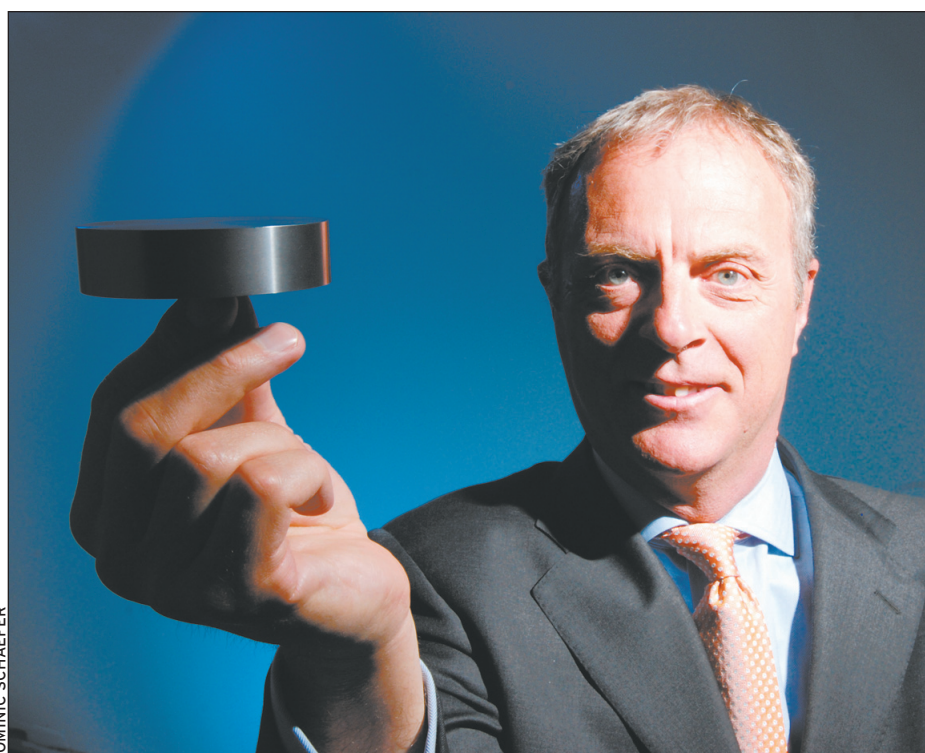
Dutton pointed out that beryllium is already used as a reflector and moderator in nuclear warheads and nuclear reactors.

"The next iteration where we see it being used ... is on the fuel side. And that was what really, really excited us."

But developing a nuclear fuel, which is what Vancouver-based **IBC Advanced Alloys Corp.** (TSX-V:IB) is focusing on, is a bit like developing a blockbuster drug.

The process can take anywhere from five to 15 years, and there's usually three phases involved – the final one, in the case of a drug, is when it's tested on human beings.

IBC says it has successfully completed the first laboratory phase of its nuclear fuel initiative. The 65-employee com-



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pany is now in the midst of the research's second phase at two American universities.

It's sponsoring some of the research being done at **Purdue University** and **Texas A&M University** as it pertains to combining beryllium and uranium oxides to form a new source of fuel in nuclear power reactors.

The next phase, said Dutton, will be using it in a test reactor in Idaho to gauge its performance characteristics.

"This is research that has been recognized by the [U.S. Department of Energy] and [National Research Council Canada] and various academic and regulatory institutions around the world as being a very likely candidate for the next generation of nuclear fuel, which will result in a

much more efficient nuclear fuel, and more importantly, a much safer nuclear fuel."

The project is being led by **Shripad Revankar**, a Purdue professor of nuclear engineering who has described "multi-oxide" fuels as being more efficient and longer-lasting than their conventional counterparts.

They could generate billions of dollars in savings annually and dramatically increase the demand for beryllium.

But a nuclear fuel is a long shot for an industry where little has changed in the past 30 years.

Beryllium is light and strong. It can withstand high temperatures and retains its physical properties under extreme stress. Because the metal

is also non-magnetic, non-sparking and transparent to X-rays, it can be used in its pure form or combined with other metals to make unique alloys used in applications for the nu-

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– Rob Young, research analyst, Wm Smith & Co.

clear, aerospace, medical, automotive, telecommunications and defence industries.

And that's already a multi-billion-dollar industry dominated by two players: the U.S.A.'s

**Brush Wellman Inc.** and Japan's **NGK Insulators Ltd.**

While it's a metal with "a lot of good prospects," its main use is as a strategic asset for the U.S. government, said **Rob Young**, a research analyst for **Wm Smith & Co.**, a Denver-based institutional research firm that covers Brush Wellman.

"It's on a lot of fighter jets, just simply because of its strength-to-weight characteristics."

IBC's lead investor is **Firebird Management LLC**, a New York-based hedge fund group in which Passin is a manager. In the space of 18 months, IBC has been vertically integrating across the mine-to-market value chain.

On the mining side, it now owns the largest block of beryllium mineralization properties in the world.

The sites in Utah are contiguous to and surround the world's largest operating beryllium mine, which is owned by Brush Wellman.

"We have yet to complete our exploration work on that property, so we don't exactly know what the resource base is yet," said Dutton. "But we believe it's very significant."

The company has also bought **Non Ferrous Products**, the largest forging press operator in beryllium and specialized metals in the U.S., and **Freedom Alloys**, the second-largest beryllium casting or melt shop in the U.S. after Brush Wellman.

IBC's combined revenue before the downturn in the commodities market was in the low-to-medium \$20 million range, but the company, which has raised \$17 million in financings, is looking at making other acquisitions.

Said Dutton: "With the growth that we're expecting and the consolidation that we expect to continue, we believe that we're on track to be a \$100 million-a-year revenue company within 36 months." ■ kbisetty@telus.net

## Richmond now home to Canada's first solar panel testing facility

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Canada's first solar panel testing facility has officially opened in Richmond, just as Canada's largest photovoltaic solar module manufacturer has halted production because of falling demand.

Despite the dark clouds that hang over the global solar industry – adverse weather conditions and the economic crisis have both been blamed for helping create the most challenging period in the history of the sector – the **Canadian Standards Association** sees a bright future.

**Terry Nagy**, CSA's Richmond operations manager, said the solar business has evolved into a US\$37 billion market worldwide, creating positive spinoffs for the solar testing laboratory, which has been running since last year.

Located within its 40,000-square-foot facility in Richmond, which tests and certifies electro-medical products, audio-visual equipment and grid-tie invertors, the new lab specializes in solar photovoltaic panels and components for the global solar industry.

"Last year, we took the business from zero to about a million dollars in sales," Nagy said in an interview. "Our local business is planning on doubling growth every year. We've got job opportunities at this time."

Nagy added that in 2008 world solar photovoltaic market installations grew 110% over the previous year to a total cumulative capacity of 5.95 gigawatts.

The products the 85-employee lab will test will be destined primarily for the U.S.

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