# The Coles Hill Progress

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## Commentary

### By Ron F. Hochstein

*Mr. Hochstein is president and chief executive officer of Denison Mines Corp. and a member of the board of directors of Virginia Energy Resources, the corporation that has just over a 22 percent stake in Virginia Uranium Holdings. He brings a wealth of experience in global exploration, mining and the uranium industry to the company.*

As a life-long metallurgical engineer, I am gratified to be able to assist in the development of the world-class Coles Hill uranium deposits. At Denison, we are at work on various uranium projects from Mongolia and Zambia to the Western United States and Canada as well as other points around the world. Coles Hill represents a striking opportunity to showcase the mining industry's latest best practices in developing this natural resource for the benefit of the region as well as for the energy security of the free world.

A major reason I see success here is the commitment of the founding families to make this entire endeavor much more than a mining project. In the best spirit of enlightened stewardship, the Bowen and Coles families understand that in order to succeed, everyone needs to benefit.

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## The Safe Mining of Uranium: Bessines, France

President Obama has pointed to France's nuclear industry as a model for increasing domestic energy production in the United States, saying as recently as October 15, 2009 that the U.S. should "employ safe nuclear energy like France." France has a long and safe tradition of using nuclear power to generate electricity. More than 80 percent of the electricity in France comes from nuclear power. Uranium has been mined throughout France. More than 50 percent of the uranium needed to power the country was domestically mined. The Bessines mine was operational from 1948 to 1995, during which time it produced more than 59 million pounds of $U_3O_8$.

*Reclaimed Bessines open pit and tailings management area looking southeast toward the neighboring village as it looks today*

*Aerial view of reclaimed Bessines open pit mine as it looked in 2001*

## How does Bessines, France compare to Pittsylvania County, Virginia?

*Pittsylvania County*

| | Haute-Vienne Region Bessines, France | Pittsylvania County, Virginia |
|---|---|---|
| Rainfall* | 38 in | 43.5 in |
| Humidity* | 78% | 80% |
| Temperature* | 43-77°F | 39-78°F |
| Topography* | 1,082 ft | 670 ft |
| Main Agricultural Product | Beef and Dairy Cattle | Beef and Dairy Cattle |
| Population Density | 171 people/sq. mile | 64 people/sq. mile |

** Based on historical averages*

## Inside This Issue:

# Virginia's Nuclear Renaissance

A nuclear renaissance is underway in Virginia.

Concerned about global climate change and growing energy demand, Virginia is turning to nuclear energy as a viable solution to these challenges.

Nuclear energy is virtually carbon-free, producing a fraction of the carbon emissions caused by coal, oil and gas, and nuclear is far cheaper, less land-intensive and more efficient than wind and solar.

In mid-June, Babcock & Wilcox in Lynchburg announced its plans to build a new cutting-edge reactor. The proposed reactor is smaller, cheaper and easier to build than a traditional model. Babcock & Wilcox's announcement comes on the heels of Dominion's plans to build a third reactor at its North Anna power station. Together, the new units will power nearly 500,000 homes.

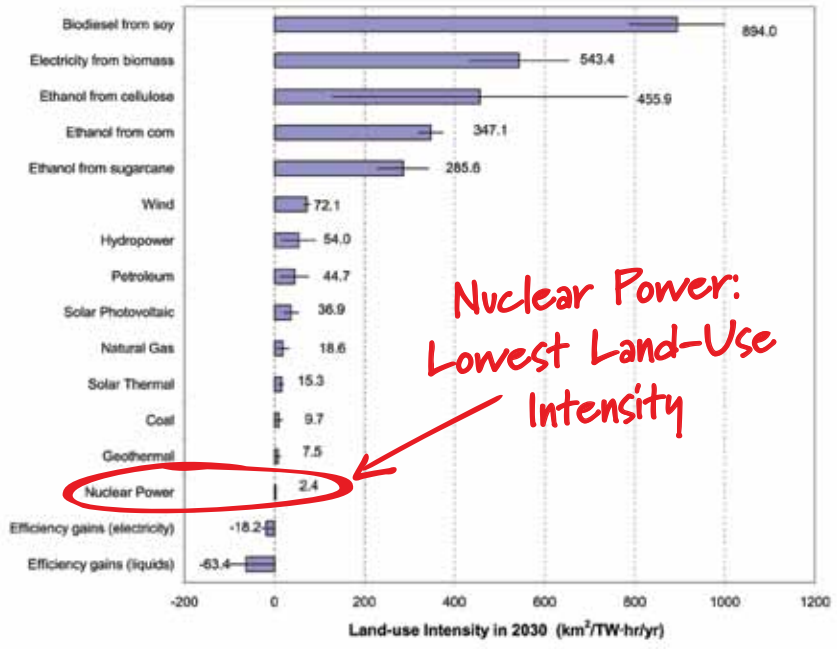
Also in June, Lynchburg's Areva and Northrop Grumman broke ground on a sprawling nuclear components factory in Newport News that will supply parts for the next generation of nuclear plants in Virginia and across the United States.

On the fuel side, the Coles Hill uranium deposit is believed to contain enough uranium to fuel Virginia's existing nuclear demand for 65 years.

Just imagine, as these projects come to fruition our entire supply of carbon-free nuclear energy will be produced right here in Virginia – from the fuel to the parts to the plants themselves, making Virginia energy independent for our entire supply of nuclear energy.

# The Nature Conservancy Study on Energy Sprawl

The Nature Conservancy recently published a paper that predicts that by 2030, energy production in the United States will occupy a land area larger than the state of Nebraska. The authors call it "energy sprawl" – a term meant to draw attention to habitat destruction. The study measured the land-use intensity of different energy production techniques, noting that nuclear energy has the smallest environmental footprint of any major energy source – traditional or renewable.




Nuclear power is the most compact in terms of the amount of land taken up per unit of energy, according to the study; coal and geothermal energy also took up relatively small amounts of space. Biodiesel made from soybeans, the burning of energy crops to create electricity, and ethanol production had the highest "sprawl" impact.

Interpreting the findings, Senator Lamar Alexander (R-Tennessee) said: "The gold standard for land usage is nuclear power. You can get a million megawatt hours of electricity a year – that's the standard unit the authors chose – per square mile, using nuclear power."

The purpose of the study was to illustrate the land-use impact to U.S. habitat types of new energy development resulting from different U.S. energy policies. To view the full report, visit: http://www.plosone.org/article/info:doi/10.1371/journal.pone.0006802.

# BY THE NUMBERS: RADIATION

| | |
|---|---|
| **25 MILLIREM*** | Annual radiation exposure limit for uranium mining and milling operations.** |
| **120 MILLIREM** | Radiation exposure from a routine abdominal x-ray. |
| **300 MILLIREM** | Average annual background radiation exposure in the United States. |
| **400 MILLIREM** | Average annual background radiation exposure in Colorado. |
| **526 MILLIREM** | Average annual background radiation exposure in Leadville, Colorado. |
| **1,000 MILLIREM** | Radiation exposure from abdominal or pelvic CAT scan. |

**Millirem is the common measurement used for radiation exposure.*
***Nuclear Regulatory Commission and Environmental Protection Agency Regulations. 25 millirem excluding exposure from radon. 100 millirem including exposure from radon.*

Source: Health Physics Society

## Commentary

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That includes the creation of jobs – direct as well as spinoffs – as well as a proliferation of corollary business enterprises that will be needed by an industrial operation of this size.

In order to facilitate wider local ownership in the project, the public at large can now invest in Coles Hill's development through Virginia Energy Resources Inc., which is listed on the Toronto Venture Stock Exchange and trades under the symbol VAE. That stock can be traded through most any registered stock broker in the U.S. and Canada.

Still, the founding families of Coles and Bowen, along with employees and management, own almost 78 percent of Virginia Uranium stock. With that, they as local residents retain leadership over the direction of the project. This is good for everyone – shareholders, neighbors, the county, the region and the entire state.

The impact of this multi-decade project will be extraordinary in terms of economic development, revitalized job opportunities and a vastly expanded tax base at a time when the state and the county governments most need it. The sooner more local citizens and elected officials get behind this project, the more quickly it will begin to bear fruit for us all.

**NEXT ISSUE**

**Full report on the Virginia Coal & Energy Commission's Uranium Mining Study**

## U.S. Dependence on Russian Uranium Grows

We are all now familiar with the unsettling fact that the United States imports more than 65% of our oil from foreign countries. We should be equally alarmed by the fact that America imports more than 90% of the uranium we use each year to fuel nuclear energy.

Since 1993, we have obtained as much as 50% of our uranium supply from Russia under a program known as "megatons to megawatts." This program allows American utilities to purchase civilian nuclear fuel converted from recycled weapons-grade uranium by the Russian government. The program is set to expire in 2013.

Now, it appears the United States is deepening its dependence on Russian uranium.

**AFTER 2013, THE U.S. WILL PURCHASE AS MUCH AS 50% OF OUR URANIUM SUPPLY DIRECTLY FROM RUSSIA.**

In late May, major American utilities signed contracts to import all of our Russian uranium exclusively from Techsnabexport, Russia's state-owned uranium company.

In early 2009, Russia completely cut off its natural gas supply line to Eastern Europe, leaving millions of people without heat and electricity for weeks.

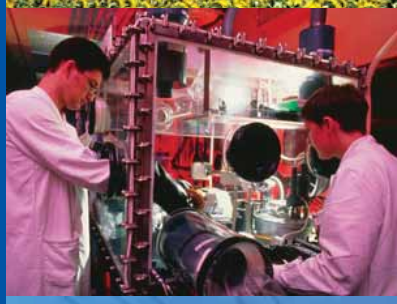
The latest uranium deal with the Kremlin raises concerns that our dependence on the Russian government for an energy resource as vital as uranium will put America's future energy supply at similar risk.

# What Others Are Saying About Nuclear Energy

**"NUCLEAR POWER IS CLEAN AND SAFE, AND IT'S GETTING MORE ECONOMICAL EVERY DAY AS THE SCIENCE ADVANCES. WHEN THE UNITED STATES WISES UP TO WHAT THE REST OF THE WORLD ALREADY KNOWS, VIRGINIA WILL BE REAPING MANY OF THE BENEFITS."** – *Lynchburg News & Advance, 6/16/09*

**"AMERICA IS UNDERGOING A DRAMATIC SHIFT IN REGARDS TO CARBON EMISSIONS. CONSEQUENTLY, NUCLEAR ENERGY HAS REGAINED ITS SEX APPEAL... [VIRGINIA IS] LINING UP THE CRITICAL MASS TO BECOME A SERIOUS PLAYER IN A NEW NUCLEAR MARKET."** – *Virginia Business, 7/1/09*

**"[N]UCLEAR ENERGY MAY JUST BE THE ENERGY SOURCE THAT CAN SAVE OUR PLANET FROM ANOTHER POSSIBLE DISASTER: CATASTROPHIC CLIMATE CHANGE... NUCLEAR ENERGY IS THE ONLY LARGE-SCALE, COST-EFFECTIVE ENERGY SOURCE THAT CAN REDUCE [CARBON] EMISSIONS WHILE CONTINUING TO SATISFY GROWING DEMAND FOR POWER. AND, THESE DAYS IT CAN DO SO SAFELY."** – *Patrick Moore, Co-Founder of Greenpeace, Washington Post, 4/16/06*



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