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PRIMER

ENERGY, MINING AND SUSTAINABILITY IN NW BRITISH COLUMBIA • FEBRUARY 2008

Sustainable Energy Solutions

Boom to Bust

Social and Cultural Impacts of the Mining Cycle

Mineral prices have more than doubled over the past five years, setting the stage for a burst of new mine development in Northwest British Columbia. But as companies rush to capitalize on the province's valuable mineral resources, who is looking out for the long-term interests of British Columbia's northern communities?

The mining industry has a long track record of booms and busts. When mineral prices rise, new mines are built in a hurry. Host communities benefit from a jump in jobs, infusions of cash, and investment in infrastructure – the "boom." However, when prices fall, production slows down and some mines close altogether. Communities suddenly find themselves facing unemployment, loss of income and a declining population – the "bust."

The timing of the ups and downs is hard to predict because mineral prices fluctuate on the world market. Today's boom – and the bust that will likely follow – could last for a couple of decades, or just a few years. No one knows for sure.

What is clear is that the boom and bust cycle can take a heavy toll on communities. When assessing mine proposals, communities need to think critically about how – or whether – they can mitigate negative impacts, and plan accordingly. This primer describes some of the key problems the boom-bust cycle can create – from economic uncertainty to loss of traditional cultures to environmental degradation – and offers recommendations for how communities can best beat the cycle.

Today, Northwest British Columbia is a sparsely populated region of vast wilderness and abundant wildlife. However, if the mines proposed for the region go forward, the population of some communities along Highway 37 could double in less than three years.

PHOTO: KAREN CAMPBELL, THE PEMBINA INSTITUTE

The Population Rollercoaster

Small, mine-dependent communities often find their populations fluctuating alongside the local mines' fortunes. For example, the Yukon town of Faro went from a boom population of nearly 2,000 in 1981 to around 100 residents in 1985 after a drop in lead and zinc prices forced the Faro mine to close. The community of Cassiar, near Highway 37 in British Columbia, had a population of 1,100 in 1990, but was abandoned when the local asbestos mine shut down.

What does that mean for parts of Northwest British Columbia, where many new mines are being proposed? For example, a Social Impact Assessment study commissioned by the British Columbia government found that if new mines proceed as planned, the Stikine region could see a major influx of migrants in order to fill as many as 2,500 boom jobs.[1]

1 G.E. Bridges & Associates Inc. Consulting Economists and Robinson Consulting & Associates, *Northwest BC Mining Projects Socio Economic Impact Assessment*, (2005). Available online at http://www.eao.gov.bc.ca/pub/2005/nw_impact_July05.pdf.

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Communities and Mining: A Bumpy Ride

- High mineral prices are fuelling a "gold rush" in Northwest British Columbia. At least five new mines are proposed for the Stikine region alone.
- New mines create new jobs and provide other economic benefits; however, sudden drops in mineral prices can lead to unexpected mine closures and unemployment.
- As jobs and workers come and go, mine-dependent communities may find themselves riding a population rollercoaster. Local infrastructure may be strained during booms, while during busts, people will often move away.
- Changing levels of wealth, population and employment can also fuel social problems, including drug and alcohol abuse, and loss of culture. When mines close for good, the social problems they created often remain.
- Communities need to plan for economic and social stability, especially when negotiating Impact-Benefit Agreements with mining companies. Planning can help reduce the impacts of boom and bust cycles.

Acid mine drainage from the Equity Silver Mine in Northern British Columbia, which closed in 1994.

PHOTO: CARRI SLANINA, CENTRE FOR SCIENCE IN PUBLIC PARTICIPATION

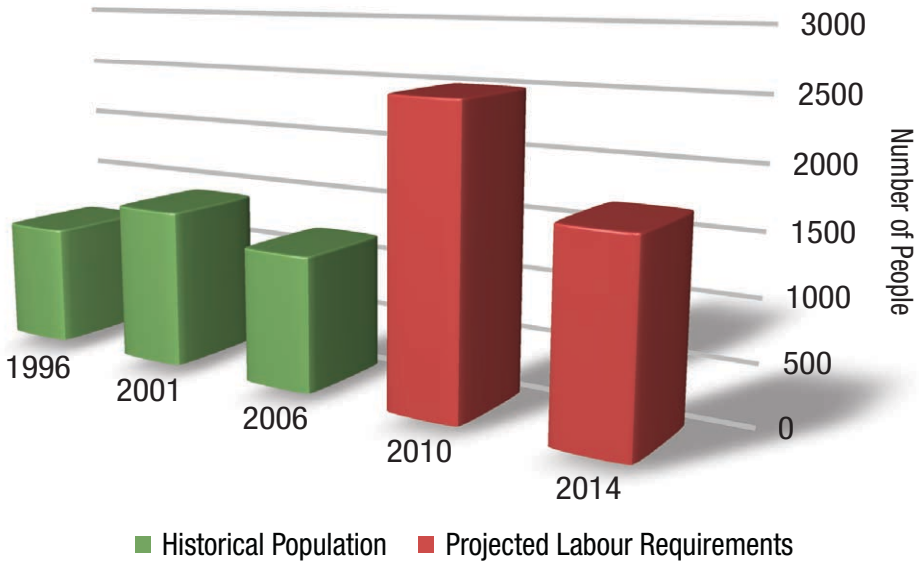


Figure 1: Current population trends for communities in the Stikine region compared to projected labour requirements in the region, should the five proposed mines proceed.

SOURCE: JOBS AND LABOUR PRIMER

Of those jobs, about 1,000 would be in mine construction and would only last a few years. As a result, the Stikine population could fluctuate from around 1,100 in 2006 to 2,500 in 2010 to 1,600 in 2014 (see Figure 1).[2] When the mines close – after about 20 to 25 years – another significant drop in population, or out-migration, could follow.

These kinds of fluctuations can strain local infrastructure and finances if communities don't have time to expand – or contract – essential services like education, health and housing. In the near term, quick jumps in population could exacerbate existing service shortages in communities throughout Northwest British Columbia.

Maintaining a traditional way of life is already a real challenge for many First Nation communities in the North. An influx of new migrants that could outnumber current residents would make this challenge even more difficult.

Booming Social Problems

When mine closures result in sudden unemployment and loss of income, social problems often follow. After a series of mine closures in Elliot Lake, Ontario, domestic disturbances tripled, weapons use and demand for social services increased, and student enrolment dropped. In short, the community's overall well-being was "seriously and negatively affected." [3]

Booms can also generate social problems, in some cases because of a sudden rise in disposable income. Examples include higher rates of alcohol and drug addiction,[4] youth delinquency and distrust among community members.[5] Indeed, studies suggest that "drug problems and...associated social problems in the Iskut community started about the time Golden Bear [a gold and silver mine] began operations." [6]

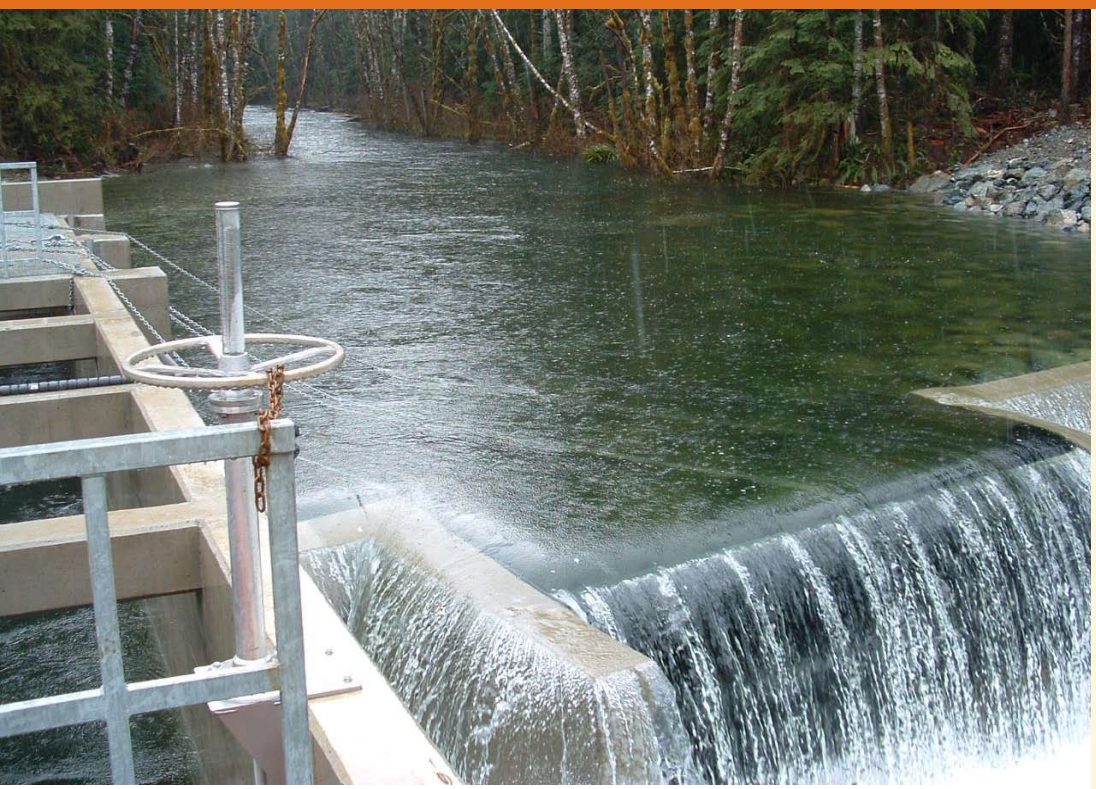
2 For more detailed data, see the Jobs and Labour primer in this series.

3 Anne-Marie Mawhiney, Monica Neitzert and Elaine Porter. *The Unravelled Tapestry: Reweaving the Yarns*, (1998). Available online at http://inord.laurentian.ca/pdf/1a13.PDF.

4 Canadian Forest Service, *Beyond Boredom: Contributing Factors to Substance Abuse in Hinton, Alberta* (2006). Available online at http://www.fmf.ab.ca/SS/SS_report10.pdf.

5 Smith et al, "Growth, Decline, Stability, and Disruption: A Longitudinal Analysis of Social Well-being in Four Western Rural Communities." Rural Sociology 66(3), 2001, pp 425-450.

6 G.E. Bridges & Associates Inc. Consulting Economists and Robinson Consulting & Associates, *Northwest BC Mining Projects Socio Economic Impact Assessment*, (2005). Available online at http://www.eao.gov.bc.ca/pub/2005/nw_impact_July05.pdf.



The China Creek run-of-river project completed by the Hupacasath First Nation near Port Alberni, British Columbia.

Typical mining work schedules can also lead to social problems, especially when many adults in one community work in the same mine. A rotation of two weeks on, one week off, for example, can be stressful. Employees' need to "let loose" after two weeks of intensive shifts can result in increased rates of drug and alcohol abuse.

Broken Ecosystems

Busts sometimes result in bankruptcy for mine operators, and mine sites may be abandoned without being properly shut down and cleaned up. That usually leaves taxpayers to pay for environmental restoration, while local communities deal with pollution in the interim. Canada's Commissioner of the Environment has referred to abandoned mines as an "ecological time-bomb."[7]

The Yukon, home to the abandoned Faro, Giant, Mount Nansen, and Coloma mines, is still dealing with remnants of a bust that took place decades ago on traditional lands of the Dene and Inuit. The federal government never collected enough funds from mining companies to cover the cleanup and closure of these sites, so hundreds of millions of dollars of work has not been completed. For example, the abandoned Giant Mine left behind 237,000 tonnes of toxic arsenic, which will need to be managed forever. This problem is not unique to the Yukon. The Britannia Mine, an abandoned site near Squamish, British Columbia, will cost almost $100 million to clean up.

Boom times are no guarantee of effective environmental stewardship, either. The mining industry in British Columbia spends less than 1% of revenues on environmental management.

7 Office of the Auditor General, "Commissioner of the Environment and Sustainable Development's Opening Statement," news release, October 22, 2002. Available online at http://www.oag-bvg.gc.ca/domino/other.nsf/html/c2002pc_e.html.

Surviving the Boom-Bust Cycle

Boom and bust cycles are particularly difficult for small, remote communities that are at risk of becoming dependent on mining income. What would the alternatives look like?

If communities receive a fair share of mining profits, they can invest the money in infrastructure, education and job training to diversify their economic opportunities – perhaps even making future mining development unnecessary. Effective Impact-Benefit Agreements can help ensure communities obtain a fair share of profits. For more information, see the Impact-Benefit Agreement primer in this series.

Renewable resources, like wind and hydro energy, are abundant in Northwest British Columbia, and could become the basis for future development. One potential model comes from the Hupacasath First Nation near Port Alberni. The community invested in a run-of-river hydro project at China Creek as part of a sustainable resource management plan. The project has a capacity of six megawatts, enough to power more than 3,500 homes, while providing long-term economic returns for the project partners. For more information on sustainable energy potential in the North, see our *Sizing it Up: Scenarios for Powering Northwest British Columbia* report and primer.

A father and son from the Tahltan First Nation taking Sockeye salmon from the Stikine River near Telegraph Creek.
PHOTO: GARY FIEGEHEN

Learning From Faro

The Yukon community of Faro was created to provide labour for the Faro Mine. At its peak, the mine produced 10% of the world's zinc and contributed 12-15% of the Yukon's GDP. However, the prosperous times ended in 1981. The town struggled with closures and re-openings until the mine was permanently shuttered in 1998.

Faro now has sharply reduced financial, social and health services. It's also saddled with an environmental mess: acid-generating mine tailings, which "[have] led to heavy contamination of surface water."[8]

Still, the community has made concerted efforts at economic diversification. Local government developed a municipal plan focused on new opportunities in tourism, service industries and home-based jobs. The Yukon government helped out with financial support in the form of worker severance and retraining packages.

Improving social conditions, well-developed infrastructure and an enthusiastic community committed to success suggest that Faro may yet see brighter days.

Want More Information?

For additional information on mining and sustainable development in Northwest British Columbia, including slide shows, primers, and reports, visit our website:

www.afterthegoldrush.ca.

This report was prepared by Alex Doukas, Alison Cretney and Jaisel Vadgama of The Pembina Institute:

www.pembina.org

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Steering Clear of Booms and Busts

Staying off the boom and bust rollercoaster is not easy for small communities that depend on mining jobs and investment. Many Canadian communities have experienced sudden loss of population, social problems and environmental degradation as a direct result of the mining cycle.

However, some communities have succeeded better than others when it comes to minimizing negative impacts and maximizing local benefits. Their experiences provide lessons that may prove useful for communities in Northwest British Columbia:

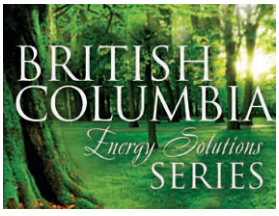
Start planning *early*: Communities need to assess their priorities and initiate long-term planning before significant new projects are proposed. This could include creating land use plans or setting policies on the nature and extent of acceptable development.

Exploration camp in the Golden Triangle adjacent to Iskut River.
PHOTO: GARY FIEGEHEN

Think about long-term economic opportunities: If mining projects can't deliver sustainable development consistent with local values, communities may need to consider how they can transition to other economic development opportunities – such as renewable energy or information sector services – in the long term. For example, communities could prioritize investments that support preferred industries, or invest in specific job training or education.

Don't underestimate the power of Impact-Benefit Agreements: First Nations communities have rights to consultation and accommodation which can be concretely realized through Impact-Benefit Agreements (IBAs). Communities can negotiate for a fair share of mining profits, but also for investment in future economic growth and other long-term benefits, as well as rainy-day funds for downturns and transitional periods.

Make concerted efforts: Communities need to take the initiative in long-term planning. Case studies from across Canada suggest that communities which foster cohesion, encourage an entrepreneurial spirit, engage forward-looking political leadership, and create strong networks of volunteer organizations are much better positioned to beat the boom and bust cycle.[9]



8 Office of the Auditor General, "2002 Report of the Commissioner of the Environment and Sustainable Development," Ch. 3, *Abandoned Mines in the North*. Available online at http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c20021003ce.html.

9 Oberlander, P.H. (editor) "The Resilient City," Vancouver Working Group Discussion Paper for the World Urban Forum, 2006. Accessed at http://www.wd.gc.ca/rpts/research/resilient/intro3_e.asp.