

**Net Economic Benefits  
of the  
New Prosperity Project**

*Prepared for MiningWatch Canada*

*by*

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## Executive Summary

- The purpose of this report is: (1) to review and comment on the proponent's economic analysis of the New Prosperity project, in particular whether it constitutes an assessment of net benefits consistent with standard economic valuation principles, and (2) to consider whether the net economic benefits of the New Prosperity project would be fundamentally different from what was concluded with respect to the original project, namely that there would be significant net costs and no evidence to suggest there would be net benefits overall.
- Net benefits and costs of the project arise from impacts on economic activity, government, the environment and communities. What must be measured for a proper benefit-cost assessment is what those affected would be willing to pay or give up to acquire the positive consequences or be compensated to fully offset the negative.
- With respect to the employment generated by the project, it is the **incremental** income that measures the net benefit – the amount by which those affected are better off than they otherwise would be. Similarly for government, it is the **incremental** net revenues that measures net benefits – taxes in excess of what government would collect in any event and not offset by new expense. For business there would only be a net benefit to the extent goods and services were sold at prices in excess of the incremental costs of supply. There would be a net cost, as in the important case of BC Hydro, when the price received is less than the incremental costs of supply.
- The proponent presents estimates of employment and tax impacts as project 'benefits'. However, these estimates do not properly measure net benefits or costs.
- Firstly, the impact estimates themselves are overstated. They do not take into account input supply constraints. For example, there is no consideration of the potential impacts on wages or exacerbated labour shortages due to the project's demand for skilled workers. Nor is there consideration of other impacts on input prices, for example electricity, due to the demands of the project. In short, there is no netting out of the likely adverse effects on other industries in the calculation of economic impacts.
- Secondly and more fundamentally, there is no recognition of the difference between economic impacts and net benefits. The wages generated by the project is a measure of impact, but the net benefit is measured by the difference between those wages and what the workers would otherwise earn. The value of the increased output by BC Hydro to meet the electricity requirements of the project is part of the project's impact, but this does not properly measure the net economic consequences, which with respect to BC Hydro is in fact a major net cost. In short, the proponent did not provide an assessment of the net benefits and costs of the project that one could weigh against any residual environmental or social concerns to determine whether the project is 'justified in the circumstances'.

- A benefit-cost assessment of the original Prosperity project concluded that it would appear to generate net costs for British Columbians and Canadians overall.<sup>1</sup> It was estimated that the net benefits from the employment and incremental taxes would be less than the net costs BC Hydro would incur to supply the mine. There would also be offset costs associated with the GHG emissions that British Columbians would have to incur to maintain its GHG emission reduction targets.
- While there would be some differences in the magnitude of the benefits and costs with the New Prosperity project the same general conclusion would apply.
- The net costs to BC Hydro would be even greater than what was estimated for the original project. The costs of new supply that BC Hydro would have to develop or acquire to meet the mine's electricity requirements is now well over \$100 per MWh, more than two and one half times the regulated industrial rate the mine would pay.
- The proponent submitted that the taxes paid by the mine would be much greater than estimated for the original project, but did not provide any evidence supporting the marked increase. Mineral prices are higher but so too are capital and operating costs. Furthermore, the estimates do not appear to reflect the very low (indeed negative) effective tax rates in the British Columbia mining industry because of investment tax credits and super allowances. Nor are they consistent with the low actual taxes paid at existing operations.
- Subject to information that would lend support to the proponent's new corporate and mineral tax estimates, the project would again appear to generate significant net costs. It is still the case that there is no basis to conclude that the project is justified 'in the circumstance', regardless of the resource and cultural effects it may have, because of overwhelming economic advantage. An analysis of benefits and costs in accordance with standard economic valuation principles does not indicate such an overwhelming, if any, economic advantage exists.

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<sup>1</sup> Marvin Shaffer, Marvin Shaffer & Associates, Ltd., *Benefits and Costs of the Proposed Prosperity Gold-Copper Mine Project*, report prepared for Friends of the Nemaiah Valley, March 11, 2009.

## 1.0 Introduction

A critically important question that government must ultimately address in the review and approval of major projects is whether adverse environmental and social impacts, should there be any, are justified in the circumstances. Specifically, governments must consider whether there are positive economic or other benefits and whether these are sufficient to offset the environmental or other costs.

The Canadian Environmental Assessment Agency noted that the government of British Columbia had concluded that the adverse impacts of the original Prosperity project were justified in the circumstances; the federal government did not.<sup>2</sup> Those different judgments were based on different conclusions with respect to the extent and significance of the environmental effects of the original mine proposal. However, they presumably also reflect the implicit or explicit consideration of the nature and significance of the economic benefits that could offset them.

It is essential in weighing the trade-offs between any negative environmental and positive economic effects that the assessment of economic benefits and costs – the net economic benefits a project may offer – properly indicates the value that people and business place on the economic consequences. This is particularly important in instances where the environmental and social impacts are considerable and the trade-off decision difficult. Typically in environmental impact assessment and companion economic impact reports, the economic analysis is not done in accordance with well established and accepted principles of benefit-cost analysis<sup>3</sup> – the information provided does not indicate the value people and business place on the positive and negative economic consequences of a project. It does not indicate whether or to what extent the project does in fact generate positive net benefits.

The purpose of this report is twofold:

1. To review and comment on the economic analysis that the proponent and its consultants have presented in respect of the New Prosperity project,<sup>4</sup> in particular whether it provides an assessment of the economic value or net benefit of the project to British Columbians in accordance with standard economic principles; and
2. To consider whether there are reasons to conclude that the net benefits of the New Prosperity project would be fundamentally different from what was concluded in a benefit-cost assessment of the original project, namely, that there would be

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<sup>2</sup> Canadian Environmental Assessment Agency, *Draft Guidelines for the Preparation of an Environmental Impact Statement pursuant to the Canadian Environmental Assessment Act for the New Gold-Copper Mine Project*, January 2012, pp. 1-2.

<sup>3</sup> See e.g., A. Boardman et. al., *Cost-Benefit Analysis: Concepts and Practice*, 3<sup>rd</sup> ed., Prentice Hall, 2006 and Marvin Shaffer, *Multiple Account Benefit-Cost Analysis*, University of Toronto Press, 2010.

<sup>4</sup> *Environmental Impact Statement for the Proposed New Prosperity Gold-Copper Mine Project*, section 2.7.3.4 and Appendix 2.7.3.4, E. Stokes, The Centre for Spatial Economics, *The Economic and Fiscal Impacts of the New Prosperity Mine on British Columbia*, October, 2011.

significant net costs, and that there is no evidence to suggest that there would be positive net benefits overall.<sup>5</sup>

## 2.0 The Economic Assessment of Benefits and Costs<sup>6</sup>

A comprehensive, methodologically correct analysis of benefits and costs requires identifying all of the positive and negative consequences of the project and then assessing the value that the affected individuals or businesses would place on them. By *value* economists mean the trade-off people would in principle be willing to make for the different consequences – *i.e.* the maximum amount they would be willing to pay or forego to acquire the benefits and the minimum amount they would require in compensation to willingly accept the costs.

There are different ways in which such an analysis can be undertaken, but a standard approach is to analyze how different stakeholders and interests would be affected. Specifically, this involves analyzing the positive and negative consequences or net effect on:

- **The project developer** – the net return the project is expected to realize in excess of the opportunity cost of the funds that are invested;
- **Consumers** – the net benefits that consumers would realize because of the project's impact on the price or quality of what is produced;
- **Economic activity** – the net benefits workers and businesses would realize from the employment that is generated and from the supply of goods and services at prices in excess of their opportunity or incremental cost; and by the same token, the net costs that result from the supply of goods and services at prices less than their opportunity or incremental cost;
- **Government** – the net benefits or costs that taxpayers would realize from incremental tax revenues less incremental government expense;
- **Environment** – the net costs (negative environmental externalities) or benefits (positive externalities), if any, that would result from the emissions and the impacts on habitat, natural resource activities and environmental attributes;
- **Local Community** – the net benefits or costs (the positive and negative social externalities) that would result from impacts on community services, infrastructure, activities and values.

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<sup>5</sup> Marvin Shaffer, Marvin Shaffer & Associates, Ltd., *Benefits and Costs of the Proposed Prosperity Gold-Copper Mine Project*, report prepared for Friends of the Nemaiah Valley, March 11, 2009.

<sup>6</sup> This section is extracted from Marvin Shaffer (2009) pp.6-8, with some minor edits to the original material.

Assuming that there would be limited excess profits (after-tax returns in excess of the opportunity cost of the invested capital) for the project developer and in particular for British Columbia shareholders, and limited or no impact on the price of copper and other metals for British Columbia consumers, the principal consequences that need to be analyzed in a benefit-cost assessment of this project from a British Columbia perspective are the net benefits or costs arising from the effects on: 1) economic activity; 2) government; 3) the environment; and 4) communities.

With respect to **economic activity**, the net benefits from the employment generated by the project are measured by the incremental income (or other benefits) the persons hired would realize in relation to the income they would otherwise earn (or the value of the activities they would otherwise be engaged in). The net benefits for businesses are measured by the incremental net income arising from incremental sales – when goods or services are sold at prices that exceed their incremental or opportunity cost of supply.

Net costs arise when goods and services are supplied at prices *below* their incremental or opportunity cost of supply – *i.e.* where the incremental sales generate a *loss* of net income. In the case of mining projects in British Columbia, such net losses arise from the substantial amount of electricity required in mining and processing activities. BC Hydro's electricity rates reflect the average costs of its existing generating and transmission facilities, not the much higher incremental cost of new supply. The difference between the relatively low rates paid by the mine for the electricity consumed and the much higher incremental costs of new supply BC Hydro must incur to meet new requirements is a very significant net economic cost of the project – a cost that is borne by all other BC Hydro ratepayers and that must be taken into account in the evaluation.

For **governments**, net benefits are measured by incremental tax revenues generated by the project less the incremental expenditures incurred. The incremental tax revenues depend on any incremental employment and business income that would be earned, as well as mineral and corporate taxes paid by the mine. Incremental expenditures arise from the in-migration that would be caused by the project and the additional facilities and services that would be needed to support the larger population, as well as any infrastructure or service required as a result of the mine development itself.

For the **environment and local communities**, net benefits or costs are measured by the magnitude of the externalities – impacts that are not paid for or fully compensated.

With respect to air emissions, there would be net costs due to the local air pollutants emitted in mine construction and operations. In principle these costs are measured by the compensation required to offset any increased health risks (and associated health care costs) and adverse resource impacts. There would also be net costs due to the GHG emissions resulting from the project. These are measured by the costs British Columbians would have to incur to offset the mine-related emissions and still meet the total provincial emission targets, in excess of the carbon taxes that are paid.

With respect to impacts on natural resources and environmental attributes, there would be net costs arising from any destruction of natural habitat and adverse impacts on resource activities. In principle these net costs are measured by the compensation people would require to fully offset (willingly accept) the residual adverse effects, in excess of the compensation actually paid.

Net benefits for local communities would arise to the extent the economic activity generated by the project enhances services and opportunities or provides other such advantages. The measure of that benefit is what the local communities would in principle be willing to pay for them. There could also be significant net costs, in particular for the First Nation communities because of the impacts on traditional lands and the loss of important social and cultural values. The measure of that net cost would in principle be the compensation or offset they would require to willingly accept those project impacts in excess of the compensation actually paid.

**Table 1**  
**Summary of Key Components and Measures of Benefits and Costs**

<b>Component</b>	<b>Measure of Net Benefit or Cost</b>
Economic Activity	-Incremental income (net benefit) from new employment opportunities -Net profit (or loss) on incremental sales
Government	-Incremental tax revenues less incremental expenditures
Environment	-Compensation required to offset local air emission impacts -GHG offset costs less carbon tax paid -Compensation required to willingly accept habitat and resource impacts
Social	-Willingness to pay for positive or compensation required to willingly accept negative impacts on community services, opportunities, and values

### **3.0 The Proponent’s Economic Analysis**

In section 2.7.3.4 of its Environmental Impact Statement<sup>7</sup>, Taseko presents what it defines to be ‘the project benefits’. Specifically, it presents estimates of the impact of the construction and operation of the project on gross domestic product, employment, wages

<sup>7</sup> Taseko Mines Limited, *New Prosperity Gold-Copper Mine Project, Environmental Impact Statement*, September 2012.

and salaries, and taxes. The estimates for British Columbia are based on the impact analysis undertaken by Spatial Economics (2011).<sup>8</sup>

Spatial Economics uses a model of the British Columbia economy to estimate how the demand for labour, goods and services in the construction and operation of the New Prosperity project would affect output and employment, capacity utilization and new investment by industry, and consequently how the input requirements for the project, as well as the mineral sales themselves, would impact total gross domestic product, employment and population, wages and salaries, and provincial and federal taxes relative to a scenario where the project does not proceed.

There are, however, two fundamental problems with this analysis.

First, while sophisticated in the range of factors and interrelationships it captures, the Spatial Economics' model would appear to be entirely demand driven. In economic terms, the model appears to assume that the supply of labour and all other inputs are perfectly elastic. There are no reported impacts on wages, despite Taseko's stated objective to hire as much as possible from within the region and province.<sup>9</sup> Given the widely forecast shortages of skilled workers,<sup>10</sup> one could expect this demand for labour to put upward pressure on wages with consequent adverse effects on other industries.

Nor are there reported impacts on other key input prices, in particular electricity, despite the large amount of electricity the mine would require and the financial losses BC Hydro would incur to supply it. As discussed in the next section, the industrial rate that the mine would pay for the electricity it consumes is far less than the cost BC Hydro would incur to acquire or generate the required new supply. The resulting financial loss would have to be recovered in higher rates from BC Hydro's other customers.<sup>11</sup> These higher rates in turn would adversely affect households and industries.

There are other potential input price effects that a demand-driven model would not capture, despite the significant consequences they could have. One could expect there would be some opportunity cost to the capital the project requires – some marginal impact on the availability or cost of capital for other projects. There could also be some marginal impacts on exchange rates, both because of an inflow of foreign capital and the net export revenues due to the project.

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<sup>8</sup> E. Stokes, The Centre for Spatial Economics, *The Economic and Fiscal Impacts of the New Prosperity Mine on British Columbia*, October, 2011.

<sup>9</sup> See Stokes (2011) pp, 3-4: "It will be attempted to source the largest proportion of these [construction] jobs from the provincial labour force....If possible 95% of the operating employees are to be sourced from British Columbia". See also Taseko Mines Limited *Environmental Impact Statement* (2012) p. 1219 where Taseko states it will make best efforts to hire locally.

<sup>10</sup> See WorkBC, *BC Labour Market Conditions, 2010-2020* which forecasts shortages of workers province-wide by 2016 and sooner on a regional basis, and Mining Industry Human Resource Council, *British Columbia Hiring Requirements and Available Talent Forecasts: Exploration, Mining, and Stone, Sand and Gravel*, August 2012, which forecasts increasing shortages of workers in a wide range of occupations needed in the mining and related industries.

<sup>11</sup> It was estimated that BC Hydro would lose \$35 million per year as a result of the demand for electricity for the original project. See Shaffer (2009), p.10.



It is simply not valid to assume that this project would have no impacts on wages, electricity or other input prices and therefore no adverse effects on other industrial activity. Economic impact estimates based on such an assumption are not complete or reliable.

*Second*, and more fundamentally, the problem with the Spatial Economics' analysis in so far as it purports to present the economic *benefits* of the project, is that it does not address the very important difference between economic impacts and economic benefits. The provincial GDP, employment and tax revenue numbers that are reported do not in themselves represent economic benefits for British Columbians. They simply do not indicate whether and to what extent there will be improvements in British Columbians' well-being.<sup>12</sup>

- All of the estimated impacts over the life of the project are simply aggregated with no discount rate applied to impacts expected in future years. These aggregated numbers do not indicate their present value significance. This is a problem that applies generally, but is particularly important in relation to the tax impacts of the project, which likely to be disproportionately weighted to later years of the project.
- The GDP impacts indicate the estimated increase in the total value of production and therefore earnings, but do not indicate to whom the increase in earnings accrue. There is no estimate of the corporate earnings that will flow to British Columbians as a result of their direct ownership or other interests in the project. Nor is there an estimate of the wages that will accrue to British Columbians as opposed to immigrants.
- The employment estimates and related impact on total wages reflect the number of jobs or demand for labour generated by the project, but that in itself says nothing about the net benefits those jobs would provide. Net benefits depend on what those hired would otherwise be doing – the wages they would otherwise have earned or value of the activity they would otherwise have been engaged in. They also depend on the training and relocation or other costs individuals and governments incur to fill the new jobs.

Economists generally expect the net benefits from the employment generated by a project to be relatively small compared to the gross wage impact. In his analysis of this issue, highly regarded economist Arnold Harberger argued that even in a severe downturn, one should at most assign a net benefit of 30% of the wages paid, and then only for a few years out. People for the most part have other employment opportunities, especially over the longer term, and it is the incremental income or

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<sup>12</sup> See P. Grady and R. Muller, "On the Use and Misuse of Input-Output Based Impact Analysis in Evaluation", *Canadian Journal of Program Evaluation*, Vol. 3, No. 2, 1968 for a discussion of the fundamental difference between demand-driven impact and benefit-cost analysis.

value in relation to those opportunities that governs the net benefit from employment in a new mine or elsewhere.<sup>13</sup>

The proponent has suggested that the project will benefit the region because of the relatively high rate of unemployment it faces combined with the decline of traditional forestry activity. However there is no estimate of the impact this project will have on unemployment rates in the region or province as a whole. And the analysis does not provide any reason to believe that the project would have a significant effect on unemployment over the long run. Spatial Economics' analysis would suggest that the project is more likely to affect migration flows and population than the rate of unemployment.

- The estimated tax revenues generated by the project similarly indicate gross impacts rather than net benefits. Net benefits depend on what proportion of the impacts are incremental – taxes that governments would not otherwise have received – and on the extent to which any incremental revenues are offset by incremental government expense. It is important to recognize that employing people who would otherwise be employed in comparable jobs does not increase taxes, and the taxes paid by immigrants are offset by the costs of the services governments must provide for them and their families.
- The estimate of the impact on personal disposable income per capita in the Spatial Economics' analysis is arguably the most meaningful indicator of benefit, but it is overstated in that the impact estimates do not take into account the adverse impacts of wage, electricity and other input price effects on other industries, and do not net out the negative effects of residential electricity price increases on households. Nor does it address the costs to First Nations and others from the resource losses due to the project, nor the opportunity costs to any British Columbians who increase their labour supply. Interestingly, even with these limitations the estimated impact in Spatial Economics' analysis is quite modest, an impact of \$48 per capita per year.

#### **4.0 Benefits and Costs of the New Prosperity Project**

The conclusion of a benefit-cost assessment of the original Prosperity mine proposal was that:

*“Contrary to statements in the EIS suggesting this project would generate billions of dollars of net benefits, **the project would appear, based on the available information, to generate significant net costs for British Columbians and Canadians as a whole.**”<sup>14</sup>*

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<sup>13</sup> A. Harberger, “The Social Opportunity Cost of Labour: Problems of Concept and Measurement as Seen from a Canadian Perspective”, Technical Study 15, Canada Employment and Immigration Commission Task Force on Labour Market Development, July, 1981. See also, Treasury Board of Canada Secretariat, *Canadian Cost-Benefit Analysis Guide: Regulatory Proposals*, 2007, p.4 and p.15.

<sup>14</sup> Shaffer (2009), p. 17.

That conclusion was based on assessments of the different benefits and costs of the project as summarized in Table 2 below. There would be some employment net benefits, but these are limited because the jobs generated by the project would for the most part be filled by persons who would otherwise have been employed. The net benefit – the increase in earnings – would be much less than the total impact on wages. There would also be net benefits for government but these would be much smaller than the estimated total tax impact because the total impact does not net out the taxes that would have been paid in any event, for example the taxes paid by workers who would have been employed and paying taxes with or without the project. Nor does it net out the incremental government expense, for example to supply the infrastructure and services needed to serve a larger population. The incremental net benefit for government due to the project would principally derive from the project’s corporate income and mineral tax payments, which were estimated to be relatively small in present value terms based on cash flow estimates in a pre-feasibility study.<sup>15</sup>

The most significant measurable economic effect of the project is the loss BC Hydro would incur in supplying the large amount of electricity required by the mine at rates significantly below the incremental cost of supply. This loss was estimated at some \$35 million per year, which was greater than the estimated employment and government net benefits combined.

There would be positive community impacts arising from the increase in regional economic activity and related opportunities. However, there was no evidence to suggest these would be of a magnitude that would offset the very significant measurable net costs this project would have imposed.

**Table 2**  
**Summary of Original Prosperity Project Net Benefits and Costs<sup>16</sup>**

Impact category	Measure of Net Benefit or Cost	Estimated Annual Value (\$/yr)
<b>Economic Activity</b> - employment - business activity	- incremental income - net loss on electricity purchases	\$7.6 million (\$35 million)
<b>Government</b>	- incremental revenues less incremental expenditures	\$11 million
<b>Environment</b> - emissions -resource/env. attributes	- GHG offset cost - in principle, compensation required to willingly accept impact	(\$2.6-2.8 million)  Not estimated

<sup>15</sup> Taseko Mines Ltd., *Pre-Feasibility Study of the Prosperity Gold-Copper Project, Executive Summary*, February 25, 2007, p.166.

<sup>16</sup> Shaffer (2009), p. 16.

<b>Community</b> - enhanced economic activity and related opportunities - population-related pressure on services and infrastructure - closure-related impacts - impacts on First Nation communities and cultural values	- in principle, willingness to pay for enhanced opportunities  - in principle, compensation demanded to offset cost  - in principle, compensation demanded to offset cost - in principle, compensation demanded to offset cost	Not estimated  Not estimated  Not estimated Not estimated
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One could expect that the benefits and costs of the New Prosperity project would be different from what would have resulted with the original project. The project is different in design, impact and cost. Mineral prices have increased. Labour markets have tightened. And general economic conditions have changed.

The question is: how great would the differences in benefits and costs be? Would there be material changes that would suggest a different conclusion than what was reached with respect to the original project, namely, that the project would appear to generate significant net costs.

**Employment net benefit:-** The benefits from the employment generated by the original Prosperity project were estimated at \$7.6 million per year, based on the much higher than average wages paid to workers in mining operations. The specific estimate equalled 25% of the average annual wages that would be paid in mining operations. That was the assumed average increase in wages for those that would be hired, relative to what they would otherwise have earned.

The average annual operating wages in the New Prosperity project would be somewhat higher than what was estimated for the original project (\$35 million per year as compared to \$30 million). That would suggest proportionally higher employment benefits. On the other hand, labour markets have tightened and the incremental wages or net benefit from the new jobs would arguably be less than what was previously assumed. On balance there is little reason to assume there would be a material change.

**Business activity:-** The main benefit-cost consequence of the business activity generated by the original project was the loss that BC Hydro would incur to supply the electricity the mine would require. There would of course be considerable direct and indirect impacts on other supplier industries, but in a well functioning economy the revenues those industries receive would generally reflect the cost of supply. There is no reason to assume there would be sustained surpluses (extra-normal profits) that would give rise to significant net benefits over the long run.

The situation is different for BC Hydro because its rates are regulated to reflect its historic average costs of supply. These are much lower than the cost of new supply and consequently BC Hydro incurs a significant net loss when it has to acquire or develop new resources to be able to meet new demands for power. The loss that BC Hydro would incur to meet the power demands for the original Prosperity project was estimated at \$35 million per year, based on the estimated amount of electricity the mine would require (700,000 MWh per year) and the difference between the standard industrial rate that the mine would pay (estimated at approximately \$38/MWh) and the average price BC Hydro will pay for new supply in its 2006 Call for Energy (\$88/MWh).

The rate that the New Prosperity mine would pay for its power has increased. It would pay over \$40/MWh as a result of recent and expected BC Hydro rate increases. On the other hand the cost of new supply is also higher than the average price BC Hydro contracted to pay in the 2006 Call. The average price BC Hydro will pay to new suppliers from the 2010 Call is over \$125/MWh. And even a potentially lower cost new source like Site C is estimated to cost \$110/MWh.<sup>17</sup> That suggests a significantly greater loss for BC Hydro than what was previously estimated – closer to \$50 million per year as compared to the estimated \$35 million in the report for the original project.

**Government net benefit:-** The net benefit for government from the original Prosperity project was estimated at \$11 million per year. This was based on the levelized corporate income taxes one might expect given the pre-income tax cash flow estimated in a technical pre-feasibility study of the project plus the mineral taxes estimated in that study. It was recognized there would be incremental personal income taxes due to higher earnings, but these were already captured in the estimated employment net benefit (the estimated increase in pre-tax wages) due to the project. There would also be incremental taxes paid by in-migrant workers, but these would be offset by increased government expense to provide services and infrastructure for them and their families.

Estimates in the Environmental Impact Statement for the New Prosperity project suggest that the corporate income and mineral taxes paid to government would be much higher than what was previously estimated. Mineral taxes are estimated to average \$34.4 million per operating year; corporate income taxes paid to British Columbia \$21.3 million per operating year and to Canada \$31.9 million per operating year.<sup>18</sup>

If those tax impacts were valid it would constitute a material difference from what was estimated for the original project. However, the cash flow estimates and tax planning assumptions underlying the new estimates are not provided, and no explanation is given explaining why the tax impacts would be so much greater than what was provided or suggested in the pre-feasibility study of the original project. Without supporting analysis there is no reason to accept the new numbers.

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<sup>17</sup> BC Hydro, *Site C Clean Energy Project: Environmental Impact Statement, Executive Summary, Part 1*, January 2013, p.8.

<sup>18</sup> Taseko Mines Limited, *Environmental Impact Statement* (2012), p.1224.

The mineral tax estimates in the New Prosperity EIS are ten times what was estimated in Taseko's 2007 pre-feasibility study of the original project.<sup>19</sup> Mineral prices are higher, but so too are costs. Furthermore, a recent study has concluded that the availability of investment tax credits and super allowance on depreciable assets has made the marginal effective tax rate in the British Columbia mining sector negative. The proponent's estimates would not appear to reflect this, nor are they consistent with the very low actual taxes paid at existing operating mines.<sup>20</sup>

**GHG Costs:-** GHG costs for the original project were estimated based on the amount of emissions in different phases of the project and an assumed offset cost of \$50/tonne. That resulted in total costs of \$2.6 to \$2.8 million per year.

Taseko states in its EIS that GHG emissions for New Prosperity would not be materially different from the emissions estimated for original project.<sup>21</sup> As for offset opportunities and costs, if anything they would be higher than previously estimated given the challenges B.C. is facing to meet its legislated GHG targets. That would suggest the total GHG offset costs for the New Prosperity project (the costs of what would have to be done to maintain emission targets despite the incremental emissions from this source) would if anything be higher than previously estimated.

The net costs to British Columbians, however, would be less because of the carbon taxes paid on all combustion related emissions. Assuming \$50/tonne offset cost and recognizing the \$30/tonne carbon tax now in place, the net costs of the project's GHG emissions would be two-fifths of the total offset costs. In other words the net GHG costs would be in the order of \$1 to \$1.1 million per year (possibly more depending on the costs of incremental offset opportunities) as opposed to the \$2.6 to 2.8 million estimated for the original project. That would mean lower estimated GHG costs than previously estimated, but it would not materially change the overall net benefits and costs which are affected more by employment, BC Hydro and government net benefits than GHG costs.

**Other Environmental and Community Effects:-** The benefits and costs of other environmental and community effects were not estimated in the benefit-cost assessment of the original project. It was simply noted that there were significant adverse effects on resources and cultural values, the cost of which would in principle be measured by the amount of compensation those affected would have to receive to willingly accept those consequences. There would also be positive community effects associated with increased economic activity and population, the benefit of which would in principle be measured by what people would be willing to pay or give up for them.

The specific effects of the New Prosperity project would be different from the original

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<sup>19</sup> Taseko Mines Ltd., *Pre-Feasibility Study of the Prosperity Gold-Copper Project*, (2007), p.166.

<sup>20</sup> See C. Chen and J Mintz, *Repairing Canada's Mining Tax System to be Less Distorting and Complex*", University of Calgary School of Public Policy Research Papers, Volume 6, Issue 18, May 2013. Joan Kuyek, *Understanding Mining Taxation*, power point presentation to the Canadian Parks and Wilderness Society, October, 2010

<sup>21</sup> Taseko Mines Limited, *Environmental Impact Statement* (2012), p.557.

proposal because of the different mine plan. However, it is not clear that the significance of the effects has changed. There is still considerable concern about adverse impacts on resources and cultural values. And there is still considerable support by those who welcome the increased local economic and population-related opportunities the project would bring..

**Overall assessment:-** Subject to information that would lend support to the very high corporate and mineral tax estimates provided in the proponent's Environmental Impact Statement, it would appear that the same general conclusion as reached with respect the original project applies here: *the project would appear to generate significant net costs.* The measurable losses to BC Hydro likely exceed the employment and government net benefits. And there is no evidence to suggest that the local economic activity and related benefits are of a magnitude that would offset the measurable net costs.

Most importantly, it is still the case that there is no basis to conclude that the project is justified 'in the circumstance', regardless of the resource and cultural effects it may have, because of overwhelming economic advantage. An analysis of benefits and costs in accordance with standard, widely-accepted economic principles does not indicate such an overwhelming, if any, economic advantage exists.