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Introduction

Far away, on the southern cone of South America in Chilean Patagonia, exists one of the most beautiful, still-virgin territories on Earth. There, an intense struggle is taking place that most Canadians have never heard of, but that intimately involves the Canadian mining industry, the Canadian government, and millions of Canadian pensioners and investors. This report by Alex Latta and Kari Williams tells the story of this struggle and why every Canadian should care about it.

To harness the mighty hydropower of as many as 12 major rivers in Patagonia, the Chilean government has given water rights and some permissions to three transnational energy companies to construct a series of major dams that would generate electricity to be transported more than 2,000 kilometres north for injection into Chile’s central grid near Santiago. The first phase of the project is the construction of five major dams on the Baker and Pascua Rivers, two of the few remaining pristine rivers in the world, an act that would flood more than 8,500 hectares of farmland, forest, river ecosystems and natural reserves.

Public opposition to the project is fierce in Chile and growing around the world. The Chilean government, committed to a policy of industrial and extractive industry growth, has turned a deaf ear to the environmentalists and scientists who have shown that Chile is rich in sunshine, wind, and other renewable energy sources. They have proven that this project is not only unnecessary, it will have long term and irreversible negative consequences for the watersheds, wildlife and human inhabitants of the region. Already, Chile’s energy practices have made it the leading greenhouse gas emitter in Latin America.

The Canadian connection is threefold.

First, as Latta and Williams show, the rising demand for more energy is driven by Chile’s rapidly expanding mining industry, in which Canadian companies are the single largest source of foreign investment. Canadian mining companies are aggressively moving into Latin America. They are backed by a federal government that turns a blind eye to frequent charges of human rights and environmental violations in Canadian mining operations abroad. Canada is the world leader in mining investment, and more than half of global assets held by Canadian mining companies are located in Latin America. Canadian companies such as Barrick Gold, Goldcorp, and Kinross are dominant players in Chile’s booming gold mining industry, and have enormous clout in setting government policy – in this case, hydroelectric development in Patagonia.

Second, Transelect, the only transmission company currently operating in Chile that is capable of building the project’s link to the market is owned by a Canadian consortium led by Brookfield Asset Management, with partnership from the Canada Pension Plan Investment Board and the British Columbia Investment Management Corporation, both public sector investors. The transmission line is likely to require an 80-metre wide, 2,300 kilometre long clear-cut corridor through 14 national parks, nature preserves and conservation areas. Other public pension funds, such as the Ontario Teachers’ Pension Plan, are invested in Canadian mining companies operating in Chile and will benefit from the energy created by this project.

Finally, major investments in the Chilean mining industry fuelling demand for the Patagonia project are supported by loans and loan guarantees from Export Development Canada, Canada’s export credit agency. As Latta and Williams point out, EDC’s financial services to Canadian exporters and in-
vestors in Chile quadrupled during the first decade of the new millennium and now involve some 300 Canadian firms. All attempts by human rights and environmental groups to establish human rights and environmental standards for this money have been met with resistance by the Harper government, which openly supports the Chilean government in its energy and mining policies through a shared free trade agreement and EDC loans.

Globalization has allowed transnational corporations to escape nation state rules and even paying taxes, as this report shows. But it has also created a global citizen’s movement that works together to expose corporate abuse and government collusion. Canadians care about our reputation abroad and are concerned to see it being squandered by policies that favour profit over principle and corporations over people and the planet.

Chileans opposed to the hydroelectric invasion of Patagonia are seeking the support of Canadians in exposing both the danger of the project to the region and its people, but also the very real and pernicious role being played by Canadian corporations, investors and our government. It is our hope that this meticulously researched and written report will touch Canadians and spur us to action.

Maude Barlow is the National Chairperson of the Council of Canadians and founder of The Blue Planet Project, a national organization that focuses on protecting water around the world as a human right and commons. She is the author of dozens of reports, as well as 16 books, including the international bestseller Blue Covenant: The Global Water Crisis and The Coming Battle for the Right to Water.
Section 1
Chilean Patagonia in the Crosshairs of the Energy Industry

Aysén: The final frontier?

The very name “Patagonia” stirs up images of a place at the edge of the world, a landscape of jagged mountains and endless glaciers, where wild rivers plunge to the sea at the head of dramatic fjords, and where guanacos roam in wind-swept inland planes – a land that time has forgotten. As usual with such imaginings, this impression of Patagonia holds within it a mix of truth and fantasy. Chilean Patagonia is all of these things, but it is also home to the descendents of pioneers who arrived in the region during the late 19th and early 20th centuries. In the Aysén region, the northern half of Chilean Patagonia that is the focus of this report, the pioneers spread westward from the edge of the Argentinean pampas, and settled the inland plateaus and the valleys of major watercourses, displacing in the process what remained of the Indigenous Tehuelche and Kwaeskar peoples. The settlers established a regional economy based on livestock, small-scale mining and timber, which became the foundation for a unique regional society and culture. Isolated from central Chile, the people of Aysén share many traditions more closely with their neighbours on the Argentinean pampas than with their compatriots to the north.

In this way, Aysén is both a natural and a human landscape. The decades-old scars of fire are still present on hillsides, where the pioneers cleared land for livestock grazing, and visitors are more likely to see sheep or cattle at the roadside than they are to get a glimpse of the native guanaco or huemul. Nonetheless, Aysén is expansive and its human population relatively sparse. Wide open spaces and secluded valleys abound, and with patient observation visitors can indeed set eyes on remaining native populations of guanaco, the elusive and endangered huemul, and a host of other flora and fauna both terrestrial and aquatic. Moreover, apart from slowly expanding mining and forestry industries, the region has so far escaped the large-scale development that has populated central and northern Chile with intensive export agriculture, monoculture forestry plantations, massive open-cast mining operations, electricity generation facilities, pulp mills, refineries and highways. In this sense, Aysén remains a place at the edge of the Earth, a place that moves to a different rhythm than that of the globalized circuits of commerce and consumption that shape our contemporary age. It is the allure of this rhythm, along with the unique culture and spectacular scenery, which the region’s fledgling tourism industry has begun to transform into a new source of livelihood.

All this could be about to change, with the region’s liquid gems – its wild glacial rivers – perhaps also becoming its undoing. If the powers that be have their way, Aysén will be transformed in merely a decade, becoming the single most important source of new electrical energy to feed central Chile’s economic growth. Three transnational energy companies – Endesa, Xstrata and AES Gener – own the water rights to construct hydroelectric facilities on as many as 12 of Aysén’s major rivers. At the forefront of the race to develop the region’s energy potential is a multi-phase project involving a total of five dams on the Baker and Pascua Rivers. Proposed by HidroAysén, a consortium comprised of the companies Endesa and Colbún, the dams would generate electricity to be transported more than 2,000 kilometres to the north for injection into Chile’s central energy grid near Santiago. Not far behind HidroAysén is Xstrata’s Río Cuervo facility, while plans for other potential projects have yet to be released.

Public opposition to HidroAysén has been fierce, and opinion polls show a majority of Chileans are against the project. In spite of the growing opposition, on May 9, 2011, the Regional Environmental
Assessment Commission approved HidroAysén’s environmental impact assessment, bringing the project a significant step closer to fruition.

The next major undertaking for the project’s proponents is to solve the hydroelectric transmission dilemma. This huge undertaking requires an estimated $3.8 billion. The transmission line has been the project’s worst-kept secret, with feasibility studies and securing of easements going on behind the scenes, while a long-awaited environmental impact assessment report remains outstanding. Now, with a more openly supportive government than ever before, new laws and public investment may reduce the costs of transmission by fast-tracking expropriation proceedings and providing a new publicly-funded trunk line into which the energy from the Aysén dams could be injected.

**The Canadian connection**

Why should Canadians be concerned about this project and about the fate of Aysén’s rivers more generally? Despite the fact that the Chilean Patagonia is half a world away, Canadians are directly implicated in the constellation of forces shaping its future. First, the rising demand for electricity in Chile is driven in large part by the country’s rapidly expanding mining sector, *in which Canadian companies are the single largest source of foreign investment.* 1 Second, Transelec, the only transmission company currently operating in Chile that is even remotely capable of building HidroAysén’s link to energy markets, *is owned by a Canadian consortium* led by Brookfield Asset Management, with partnership from the Canada Pension Plan Investment Board and another public sector investor, the British Columbia Investment Management Corporation. Canadian capital is instrumental in making HidroAysén and projects like it both attractive and possible.

Canadian companies and pension plans are increasingly invested in far-flung parts of the globe, but ordinary Canadians’ consciousness of the potential impacts of these investments has not kept pace. Some will argue that as long as our companies follow the laws set down in other countries we have no further responsibility to ensure our investments are environmentally and socially acceptable. But how much do we really know about the economic, social and political conditions that form the backdrop for our investments? Would the laws and procedures as they are applied in Chile be acceptable to Canadian citizens if they were applied in Canada? And if not, is a double standard morally defensible? These questions form the basis for this study. By probing the links between Patagonian hydropower, electricity transmission, and the expanding mining sector, we hope to make Canadians stop and think about the implications of our shared investments abroad, and consider what obligations we might have to ensure that those investments are socially and ecologically sustainable.
Section 2
The Politics of Development, Environment and Energy in Chile

Dictatorship, democracy and development

In 2010, Chile joined the OECD, one of only two Latin American nations admitted to this exclusive club. Bolstered by high commodity prices, the resource-rich country has experienced a decade of strong economic growth. With a low debt-to-GDP ratio and other strong macroeconomic indicators, Chile also currently enjoys the highest credit rating in Latin America. Moreover, after the end of the Pinochet dictatorship in 1990, Chile has seen more than 20 years of stable democratic government. On the surface the future seems bright for this unique Andean nation.

However, if we scratch the surface of what has been called Chile’s “economic miracle” the socio-economic reality is more equivocal. The country’s economic model is a legacy of the first, and perhaps the most far-reaching free market experiment in the world that was carried out in the 1970s and 1980s by a brutal dictatorship led by General Augusto Pinochet. As detailed in Naomi Klein’s book, The Shock Doctrine, Pinochet’s military coup against the Popular Unity government of Socialist President Salvador Allende set the stage for a dramatic socio-economic transformation, designed by a cohort of economists trained at the University of Chicago by neoliberal guru, Milton Friedman. In the shadow of the military’s regime of fear, which sidelined democratic debate by subjecting opponents to torture, disappearance and exile, the Chilean state and economy were radically overhauled: taxes and social spending were cut dramatically; trade and investment rules were liberalized; public corporations and services were privatized; and deregulation created an attractive investment environment by lifting protections for workers, public health and the environment.

Though Chile returned to democracy in the 1990s, with a coalition of centre-left parties known as the Concertación at the helm, Pinochet’s economic model endured. Successive Concertación governments have increased social spending, but have preserved the overall policy orientation that has allowed market forces to determine patterns of economic development and wealth distribution. Indeed, it can even be said the Concertación further entrenched the neoliberal doctrine, by carrying out, for instance, sweeping privatization of public water and sanitation utilities during the 1990s. The result of Chile’s adherence to a neoliberal development model has been prosperity for a small upper class, especially for a few select families whose political and economic connections have transformed them into members of the global hyper-elite. While this elite enjoys a lifestyle comparable to its counterparts in the developed world, Chile’s extensive underclass lives in another socio-economic dimension. The wealth gap is stark; though World Bank figures show a modest decline in poverty over the past decade, Chile has the highest rate of income inequality among OECD countries. Even compared to its Latin American peers in the United Nations Development Programme’s 2010 Human Development Report for the region, Chile exhibits a particularly pronounced class structure, with the report characterizing more than half of its population as lower class, compared to only ten per cent falling in the upper class category.

Environmental policy in Chile: Rhetoric and reality

On the environmental front, a number of scholars have underlined the high ecological costs of a development model based on the rapid expansion of natural resource exploitation, which has taxed Chilean soils, waters and ecosystems to their limits. As Chile emerged from dictatorship in the early 1990s, there was originally great optimism for a greening of the Chilean economy since a strong...
environmental agenda embedded in the pro-democracy movement was reflected in President Patricio Aylwin’s 1989 election platform. While Aylwin’s government did indeed pass legislation establishing the institutional and legal basis for consolidated environmental regulation in Chile, a gap between rhetoric and practice quickly emerged. That gap would come to define the orientation of the Concertación governments towards environmental policy.

The National Environmental Commission (known by its Spanish acronym, CONAMA) was created in 1994, along with a System of Environmental Impact Evaluation (SEIA by its Spanish acronym), which came into effect in 1997. With relatively minor changes, these formed the basis for environmental regulation in Chile until 2010. CONAMA and the SEIA quickly became targets of criticism. CONAMA lacked ministerial status and was allotted a disproportionately small budget. It played a largely coordinating role between other public agencies, lacking the power to establish and enforce its own environmental standards. Finally, though ostensibly grounded in technical criteria, the SEIA process proved subject to political influence.

These and other institutional weaknesses have resulted in a series of conflicts over such issues as energy generation, environmental contamination, mining projects, highway development, and the expansion of salmon farms and forestry plantations. When citizens have challenged the government’s promotion of corporate interests over the well-being of communities and the environment, successive presidents have responded with policies designed to co-opt popular leaders, diffuse dissent in drawn out “round table” processes, and criminalize radical opponents. In the most notorious cases an anti-terrorism law from the Pinochet era has been used to systematically silence Indigenous leaders whose communities are engaged in struggles for the recuperation of ancestral territory, which bring them into conflict with large landowners, corporations and the state.8 As Chile’s consistent economic growth is celebrated by neoliberal ideologues, the country’s environment – along with its most vulnerable populations – have borne the price of the “Chilean miracle.”

Michelle Bachelet’s presidency finally saw a significant overhaul in Chile’s environmental norms with legislation passed in early 2010 to (a) replace CONAMA with a Ministry of the Environment; (b) reform the SEIA; (c) create stronger enforcement powers; (d) set up a tribunal dedicated to environmental cases; and (e) reform the institutional structure for managing parks and forests. Unfortunately, despite Bachelet’s stated dedication to the environmental agenda and the sweeping nature of these reforms, the legislation passed by Chile’s Senate ultimately rested on a capitulation to powerful economic interests. During eleventh-hour closed-door negotiations between leaders of key political parties, some of the most important elements of the legislation were weakened. Most crucially, changes that had been introduced for the SEIA process were watered down. To the dismay of civil society representatives, the new law fails to significantly expand opportunities for public participation and retains the decision-making structure that gives the president and government ministers avenues to channel political influence into the environmental impact assessment process.9 When Sebastián Piñera came into office in March 2010 as the first right-wing leader of the republic since Pinochet, his pro-corporate agenda dovetailed nicely with implementing the new legislation as part of a business-as-usual approach to environmental regulation.

The Chilean energy sector: Power to the people?

Chile’s energy sector is strongly conditioned by the country’s relative lack of fossil fuel reserves. Dependent on imports for most of its coal, oil and natural gas, only in the electrical sector does Chile enjoy a degree of self-sufficiency, owing to its significant hydroelectric resources. These resources, however, are unevenly distributed. We can roughly classify Chile into three energy regions on the
basis of a few key characteristics (See Figure 1 below).\(^\text{10}\)

1. The largest transmission network in Chile, the **Sistema Interconectado Central (SIC)**, serves a geographical area that is home to more than 90% of the population, accounting in 2010 for 73.6 per cent of the total electrical generation in the country. Stretching from the Atacama Region down to the Lakes Region, the SIC sources roughly half its electrical needs from hydroelectric facilities on rivers in its more southern reaches, which are fed by annual rain and snowfall (see Figure 2). Although already heavily exploited, these rivers continue to be slated for further energy development.

2. In the far north the population is relatively sparse, but mining activities generate significant electricity demand. The **Sistema Interconectado del Norte Grande (SING)** is a smaller grid accounting for 25.7 per cent of energy generation in 2010, roughly 83 per cent of which was consumed by mining alone. Due to its aridity, the region’s electricity is generated almost exclusively by burning fossil fuels (see Figure 3).

3. The remaining energy systems lie in Patagonia – in the **Aysén and Magallanes regions** – and in 2010 accounted for a mere 0.7 per cent of national electricity generation. While Patagonia’s distance from centres of consumption has so far prevented it from playing a significant role in national energy generation, Aysén in particular holds tremendous hydroelectric potential in its numerous rivers, which are fed by massive glaciers. Since these rivers flow reliably in the summer (when rain-fed rivers further north can suffer from low water levels) they are seen by many to promise an expanded and more secure generation capacity for the SIC.

\[\text{Figure 1: Generation Capacity and Output in Chile’s Electrical Transmission Grids.}\]

\[\text{Source: CNE 2010}\]
In addition to this geographic distribution of hydroelectric resources, there are several other major factors that shape the political landscape with respect to hydroelectric development in Aysén. These are all related to the fact that Chile’s energy system is thoroughly privatized. The 1982 General Law of Electrical Services, set in place by the Pinochet dictatorship, established the basis for the sale of the state-owned electricity infrastructure, the abdication of state authority in planning for new generation and transmission capacity, and the creation of a pricing mechanism that is accountable to corporate profitability over consumer accessibility. That same law, with only minor modifications, still provides the legal infrastructure for the country’s electricity sector today.

Chile’s national electricity generation company, Enedsa, was broken up and sold off in various stages, primarily during the Pinochet dictatorship, reaching full completion in the early 1990s. A portion of that infrastructure became the basis for Colbún, a generation company now controlled by Chile’s powerful Matte family. The largest portion, however, retained the name Endesa as it moved into private hands. Control of Endesa was originally consolidated in the early 1990s by Enersis, a Chilean company controlling a significant piece of the distribution market. In 1999 a controlling interest in Enersis was bought by Endesa Spain. Finally, in 2007 Endesa Spain came under the control of Italy’s national electricity company, ENEL. Thoroughly transnationalized as a result of this process of acquisitions, Endesa Chile remains the largest generating company in Chile, with a 37 per cent share of the national generating capacity once all its business affiliates and subsidiaries are accounted for. After Endesa, Colbún holds the next largest share of installed generation capacity at 17 per cent nationally. Together, the two companies control more than half of Chile’s generation capacity. This control rises to 65 per cent when considering just the SIC. Factoring in just one other company, AES Gener (subsidiary of a U.S. based transnational), more than 80 per cent of the installed capacity in the SIC is accounted for, making for a startling concentration in the electricity market. Projecting to the future, Endesa and Colbún stand to increase their presence in the SIC, since between them they control more than 75 per cent of the non-consumptive water rights in the country – a key requirement for further hydroelectric development. In the smaller SING three companies (E-CL, AES Gener, and Gas Atacama) control more than 90 per cent of generation capacity. As a recent report observes, this degree of consolidation makes for both market distortions and undue levels of political influence in favour of preserving the status quo in energy policy.

Where electricity generation in Chile presents the potential for collusion between large players, the transmission sector is, by its nature, monopolistic. Transelec controls all of the 500kV transmission lines, 89 per cent of the 220 kV lines, and 94 per cent of the 154 kV lines. The company was formed in the early 1990s when the newly privatized Endesa still controlled the major part of the transmission grid. After Endesa was bought by Enersis, which also controls important distribution companies,
political pressure and court challenges eventually forced it to sell Transelec in 2000, so as to avoid vertical integration in the electricity sector. Originally purchased by Hydro Quebec, in 2006 Transelec changed hands again, and was bought up by a consortium of Canadian investors that includes Brookfield Asset Management, the Canada Pension Plan Investment Board, and the BC Investment Management Corporation (which serves a range of public sector BC investors).

In accord with the private sector dominance in Chile’s energy sector, government regulation mainly centres on establishing the rules for market exchange amongst the various players in generation, transmission and distribution. Since its inception in 1978, the Corporación Nacional de Energía (CNE) has been the closest thing Chile has to a regulator, though its role is more advisory in nature. Other institutional players include the Superintendencia de Electricidad y Combustibles, which oversees the implementation of technical norms, and the Centros de Despacho Económico de Carga, which manage the ongoing interaction and flows of energy in the system, playing a key role in the calculations and decisions that link variations in supply and demand to changes in the marginal cost of energy. While the first two bodies are public, the third is dominated by representatives of the private sector companies involved in the electricity system – an anomalous institutional framework compared to most other jurisdictions, where the delivery of energy to the distribution system is managed by a neutral party, not the same companies that control the market.

The CNE plays a subsidiary role to the market in planning the future evolution of the electricity sector, relying on private sector initiative to determine where new investment will occur and what forms of energy generation will predominate. The state’s lack of strategic planning has had significant impacts on the reliability of Chile’s electricity supply. A 1998 drought led to blackouts, the pricing system proving incapable of internalizing the anticipated risk of shortfalls. Then, after an increased reliance on natural gas imports during the late 1990s, the Argentinean economic crisis resulted in a contraction of gas supply that once again led to energy shortages. More recently, shortages due to droughts and transmission bottlenecks have recurred on several occasions, resulting in the need for energy rationing. To address shortages of supply, legal reforms in 2004 and 2005 changed the way transmission costs are distributed in Chile’s electrical system, raising prices for consumers (who pay one of the highest rates in the world) and creating more favourable conditions for investment in generation.

While such measures have indeed increased incentives for investment in generation capacity, they are a blunt policy tool in the sense that they give no strategic direction to the character of supply. In Chile, as elsewhere, the fact that governments continue to ignore the social and ecological costs associated with conventional energy sources such as big coal or big hydro means that they remain relatively less expensive to develop and operate. Indeed, during the past decade favourable investment conditions for coal-fired generation have resulted in a spike in coal’s contribution to Chile’s energy mix. This has led to controversy over rising local pollution levels as certain communities have become concentrated sites for thermoelectric generating facilities. It has also pushed Chile into the lead amongst its Latin American peers for per-capita greenhouse gas emissions. Only government intervention can change the balance of economic incentives for new generation capacity and promote the construction of transmission systems amenable to numerous small-scale inputs instead of large, single-point generators.

More recently, the Chilean government has taken tentative steps towards a more enlightened policy agenda. In 2010 the Piñera government launched the Chilean Energy Efficiency Agency. This built on changes made during the presidency of Michelle Bachelet, which included the elevation of the energy portfolio to Ministry status, as well as the legislation of incentives for investment in non-conventional renewables such as wind, geothermal and solar. A 2008 law assigned tradable quotas for minimum
levels of non-conventional renewable energy in the generation sector, with the aim of making these sources 10 per cent of the overall electricity mix by 2025. Critics have suggested that this goal is not nearly ambitious enough given Chile’s tremendous assets in wind, sun and geothermal energy. One study estimates that a more appropriate target would be to see non-conventional renewables constitute 25 per cent of the mix by 2025.\textsuperscript{17} While this kind of ambitious thinking has recently been echoed in statements by Chile’s president,\textsuperscript{18} there is little evidence of the political will necessary to achieve such a target. Meanwhile, with respect to efficiency, the government has so far failed to act on a report from its new agency that suggests that policy changes could reduce new demand over the next decade by as much as 15 per cent.\textsuperscript{19}

In May 2011 President Piñera established the Comisión Asesora para el Desarrollo Eléctrico, a commission of experts to advise his government on how to move forward with new energy policy changes. While a greater degree of government involvement in shaping the future of the energy sector might be welcome, citizens’ organizations and members of congress charge that the commission is heavily stacked towards the existing dominant interests in the industry. In response, they formed a parallel commission comprised of civil society organizations, experts and parliamentarians. The latter commission’s report, released in November 2011, presents a sweeping critique of Chile’s electricity policy and a systematic series of proposals for change.\textsuperscript{20} Though unprecedented in both the inclusiveness of its authorship and in its scope, the report joins a series of others sponsored by Chilean civil society organizations, all of which point to the tremendous untapped potential of energy conservation and non-conventional renewables, demonstrating that a proactive approach to Chile’s energy future could make projects like HidroAysén unnecessary.\textsuperscript{21}

A final piece of the puzzle in understanding the relationships that shape Chile’s electricity sector is demand. Proponents of increased investment in socially and environmentally dubious generation projects repeatedly emphasize that electricity is equivalent to progress. They suggest that increasing generation capacity contributes to the well-being of all Chileans. “Development” is equated to reliable electric light and the proliferation of electronic appliances and personal devices. While a certain portion of electricity demand is indeed driven by changing lifestyles and increased domestic consumption, the vast majority of electricity is consumed elsewhere. In particular, at a national level the single largest consumer of electricity – at 33 per cent of the total – is the mining sector (see Figure 4). As we have already noted, this figure is even higher in the SING, surpassing 80 per cent of consumption. As Chileans evaluate the social, environmental and human health costs of expanded electricity generation infrastructure, questions must be raised about mining’s contribution to the general welfare of the population. As we will see in a subsequent section of this report, there is reason to doubt that increased generation capacity for expanded mining investment is a formula for equitable and sustainable development.

![Figure 4. Electricity Consumption By Sector](International Energy Agency 2008)
Controversial energy, industrial and mining megaprojects dominated the landscape of Chilean environmental politics over the past two decades. A few of the following stand out in particular:

- Endesa’s Pangue and Ralco hydroelectric dams on the Bío Bío River, the latter of which received funding from Export Development Canada despite the controversial displacement of Pewenche indigenous communities;
- The Angelini Group’s CELCO pulp mill in San José de la Mariquina, near Valdivia, responsible for an environmental disaster in the Carlos Anwandter Nature Sanctuary beginning in 2004 that has led to the death of hundreds of black-necked swans;
- Barrick Gold’s Pascua Lama project, Latin America’s first transboundary mining operation, which sparked national controversy over its impacts on glaciers and water supplies in the arid Atacama Region;
- MPX Energía’s massive Castilla project, a 2,354 megawatt coal-fired thermoelectric complex approved for Chile’s Atacama region, far outstripping any other single generating source in Chile and promising ecological impacts on the same scale.

The HidroAysén hydroelectric project promises to rival Castilla both in terms of its generating capacity and its ecological impact, dwarfing previous hydroelectric endeavours such as Ralco (690 MW) and Pangue (467 MW). HidroAysen’s five dams would together constitute 2,750 MW of generating capacity, equivalent to 18 per cent of Chile’s total installed capacity as of 2010. To produce this energy, the project will flood 8,614 hectares of terrain, much of it productive agricultural land and some of it protected areas of international significance. Being a region of high species endemism, such radical intervention in river ecosystems promises significant impacts, not only to fresh water species, but also to marine ecosystems that will be deprived of the river’s normal sediment load with its important nutrients. Of particular note, Chile’s endangered huemul (the deer that appears in the country’s coat of arms) has populations in the project’s areas of influence. Local communities will also be affected, both through direct inundation of property and residences, but also through the dramatic changes that the project and its thousands of workers will bring to the local society, culture and economy. In addition, the more than 2,000 km transmission line will transect still other natural reserves, protected areas and unprotected wilderness, and cross numerous human settlements – including several indigenous communities.

Though HidroAysén is currently in the spotlight, it represents just the beginning of a potential rush on energy development in the Aysén region. At the time of the writing of this report, the first of three dams proposed by Energía Austral, a subsidiary of Swiss transnational Xstrata, is in an advanced stage of the environmental assessment process. The company’s Río Cuervo project would install 640 MW of generating capacity, also with a view to transport this energy north for injection into Chile’s SIC. AES Gener, the third transnational with water rights for hydroelectric development in Aysén, has yet to present concrete plans. The company is undoubtedly watching closely as its competitors seek to win Chileans over to a vision of Aysén as the country’s future source of power.
There is no doubt that the HidroAysén project represents a threshold that, once crossed, will change the scenario for future hydroelectric development. Opposition to the dams is categorical: the coalition of environmental and citizens groups that has come together to fight HidroAysén calls itself *Patagonia Sin Represas* (Patagonia Without Dams). Once the first dam is built, this kind of region-wide resistance, connected to a national struggle to define the very identity of Aysén, will no longer be possible. Moreover, once transmission infrastructure is in place, it will be less costly to connect new generation sites to the grid. Indeed, the estimated $3.8 billion cost of the transmission line for HidroAysén is currently one of the most important remaining hurdles that the project must overcome. Finally, given the existing scale of the Aysén population and economy, compared to the quantity of money and workers that would flood into it during the construction of the five dams, HidroAysén would leave the regional socio-cultural fabric transformed. Without diminishing the importance of struggles against the impacts of megaprojects in other parts of Chile, the battle over HidroAysén represents a historic fork in the road both for the region and the nation.

**Environmental impact assessment and corporate influence**

The May 2011 approval of HidroAysén’s environmental impact study was a major victory for the company. It gives proponents and supporters of the dams the ability to claim legitimacy for the project on the basis of having complied with Chilean environmental law. However, to accurately assess such claims to legitimacy we must look beyond formal compliance to determine whether the rule of law is truly being upheld and whether the law itself actually delivers justice.

Environmental impact assessment (EIA), now a mainstream piece of environmental policy around the world, is meant to provide an impartial and complete accounting of the benefits and risks associated with a proposed development project based both on scientific scrutiny and public participation. HidroAysén’s EIA process was characterized by a series of shortcomings and irregularities that suggests it is anything but impartial and comprehensive. Indeed, the case of HidroAysén offers a particularly pointed demonstration of the deficiencies in Chilean environmental law, and of the way that EIAs in Chile have been hijacked by economic and political interests to serve more as an instrument of influence peddling and political discipline than as a safeguard for citizens and the environment.

To begin with, Chile’s EIA norms allowed HidroAysén’s dams to be reviewed separately from the transmission lines that are an integral part of the undertaking. Similarly, road and port building, as well as the construction of accommodations and a landfill to accommodate the influx of workers, are to be reviewed on their own, and may not even be subjected to a full assessment process. By considering the project in pieces, the overall impact is obscured. Moreover, with the dams approved and the possibility that construction could get underway soon, a perverse incentive is created in favour of approval for the transmission lines.

A second shortcoming of the EIA has to do with the severe limitations on public participation within Chilean environmental law. When the company first delivered its EIA in August 2008, citizens were permitted by law a period of 60 days to deliver their observations to Aysén’s Environmental Evaluation Commission (EEC). Two additional “addenda” to the study were submitted by the company over the next two-and-a-half years, but no additional citizen observation opportunities are allowed by the law. In other words, as HidroAysén introduced new information in response to requests to fill in the gaps in its original study, *Chilean citizens were without rights to comment on that new information, which became central to the decision to reject or approve the project*. Furthermore, amidst rising public controversy over the dam projects, the EEC moved the EIA process onto its second phase before the citizen observation period had ended. The EEC released its first ICSARA (the Spanish acronym...
Further irregularities in the EIA emerged as the process continued. For example, although the company’s water rights were not in the correct locations in the river for the proposed dams to go ahead, the government allowed the EIA process to proceed as if the company owned the correct water rights. Although regional authorities within Chile’s national water agency refused to transfer the rights as the company requested (which would have required an extra-legal administrative sleight of hand), the new director of the agency appointed by President Piñera approved exactly this transaction in November 2010. This decision has since been reversed following a legal appeal to the Comptroller General. As a result, HidroAysén finds itself in possession of environmental approval for a dam to which it does not hold the correct water rights.

Another irregularity also demonstrated the government’s willingness to interfere in the operation of the EIA. On repeated occasions civil servants responsible for evaluating the EIA study have complained that their superiors have removed or modified important aspects of their reports. For instance, the first two ICSARA contained commentaries from foresters in Chile’s national forestry agency, CONAF, noting the illegality of the proposed flooding of lands within the Laguna San Rafael National Park, which is also a UNESCO Biosphere Reserve. No effort was made by the company to address this concern, and in the final ICSARA released by the EEC, this observation simply disappeared from the record.

In another case that received wide media attention, geologists with Chile’s National Geological and Mining Service alleged that their superiors removed a number of crucial observations, among them the charge that serious gaps remained in the EIA study with respect to the impacts of the planned reservoirs, as well as the proposed landfill site, on aquifers in the region.

As a result of this kind of interference, but also because of the narrow environmental focus of the review process, many have argued that the EIA is woefully inadequate. Complaints have been voiced not only by environmental groups, but also by community organizations, business and professional associations, unions, academics and members of Chile’s Congress and Senate. Among other objections, critics of the project have underlined the following shortcomings of the EIA:

- Inadequate studies to determine population data for important fauna, both terrestrial and aquatic, including the endangered huemul;
- Incomplete characterization of soils necessary to determine the impact on agriculturally productive land;
- Lack of study both of the seismic risks in the areas of dam construction and the risks associated with sudden water outflows characteristic of several of the glacial lakes that feed the Baker River;
- Lack of consideration for the impact that altered flow rates will have for sediment and nutrient levels where the rivers reach coastal ecosystems;
Incomplete analysis of the environmental impacts associated with the decade-long construction phase, including the construction of new port facilities, residential sites for several thousand employees, and a landfill;

Failure to account for the economic costs to the region’s growing tourism industry;

Failure to adequately assess the impact on local agricultural producers as a result of HidroAysén’s water rights being implemented over and against customary usage of surface water for irrigation and livestock;

No consideration of the social and cultural impacts that will result both from the presence of the dams, and from a 10-15 year influx of temporary population.

In addition to these issues, there are other concerning factors surrounding the approval of the HidroAysén project. First, the aspect of relocation and compensation for those who would be directly affected by the flooding has been piecemeal and lacking in transparency. Indeed, it isn’t even clear that everyone who may be forced off the land by the project has been counted, since the company has used land ownership as the sole criteria to identify affected parties. Officially, HidroAysén claims that there are only 14 families to be relocated. Locals, however, claim that others will be affected, but have not been counted. It is clear that the company has engaged in a series of land negotiations and purchases over the several years preceding the EIA approval. Moreover, Canadian Anthropologist Carlota McAlister, who has conducted extensive research in the Los Ñadis sector that is home to the majority of the 14 families identified for relocation, reports that the process of consultation was carried out almost exclusively on an individual basis, with no effort to engage the community as a social unit as prescribed by international EIA standards. Even more concerning, Juan Le-Bert, the consultant who conducted the EIA study of the Los Ñadis community relocation proposal, has a long history of working for Endesa. As if this were not problematic enough, community members report that Le-Bert visited the community in the company of HidroAysén personnel. In the context of this highly questionable consultation and evaluation practice, there is no evidence that the government has provided any of the residents, many of whom have only basic schooling, with information or support to understand their rights when faced with the possibility of relocation for a major infrastructure project.

Meanwhile, under the guise of “corporate social responsibility” HidroAysén has engaged in a persistent and well-funded campaign to win over the communities of the region. During the first portion of the EIA the company targeted various municipalities with offers of funding. While some mayors and councils refused the funding as a matter of principle, others jumped at the opportunity to supplement their limited budgets, putting the company’s money towards a host of endeavours such as improvements for public plazas, the creation of greenspace, the sponsorship of cultural events, and the provision of training programs for local entrepreneurs. Amidst public discontent about the implications of such funding relationships on the independence of the municipal authorities in the context of their participation in the EIA, the Regional Comptroller ruled in March 2010 that municipal governments should cease accepting funds from HidroAysén. Still, the company had already cultivated relationships with local business and producer associations, sports teams, schools and cultural organizations, and has been able to maintain a constant presence in the communities of the region. In the face of such injections of funding at the local level, the communities of the region never had the opportunity to engage in an effective debate over the project’s implication for the general public good. Instead, deep divisions have been sown between those who choose to accept HidroAysén’s money and others who denounce the purchase of citizens’ consciences.
At the national level, the company has also put its financial resources to work, attempting to massage public opinion with major advertising campaigns on television, in print media, and online. This campaign has portrayed the project as a kind of nationalist effort, which would provide “Chilean energy” and “energy independence.” Moreover, the company’s commercials have set out a stark decision for Chilean consumers: build HidroAysén, or put future growth and prosperity at risk.

While such advertising campaigns are perhaps to be expected, the company’s political influence has won it powerful allies in government, who have reiterated the same messages even as the EIA process was still underway. Among others, publicly-voiced support for HidroAysén came from President Bachelet’s Minister of Energy, Marcelo Tokman, her Minister of the Interior, Edmundo Pérez Yoma, and her Minister of Public Works, Segio Bitar, as well as President Piñera’s Minister of Energy, Ricardo Raineri. For public servants reviewing HidroAysén’s EIA, such declarations by senior ministers exert pressure to set aside critical observations; for the regional directors of state agencies that make up the EEC – who owe their appointments to central government ministers – such proclamations of support amount to directives. Indeed, it seemed very much like a directive when Rodrigo Hinzpeter, Piñera’s Minister of the Interior, pronounced just hours before the May 9, 2011 vote on the EIA that he favoured the project’s approval.

These kinds of visible pressures from central government authorities help explain the irregularities observed in the EIA process. We can only imagine what such pressures might have looked like behind the scenes. This political interference in due process is a result of the deeply embedded connections between corporate and political elites in Chile. While such corporate influence might be expected of Chile’s political right, it has in fact become systemic across the political spectrum. A few examples illustrate the ways such lines of influence have developed in this specific case:

- Jorge Rosenblut, who became President of Endesa Chile in 2009, was Subsecretary of Telecommunications during the 1998-2002 government of Eduardo Frei, and played a key role securing financing for the 2005 presidential campaign of Michelle Bachelet.
- Eugenio Tironi, a long-time party militant and communications advisor within the Concertación, since 2000 has also been a Director of Enersis, which controls 51 per cent of Endesa Chile. His consulting company, Tironi Asociados, was awarded the contract to develop HidroAysén’s community relations strategy.
- Daniel Fernández was appointed Executive Vice-President of HidroAysén in 2010. Fernández had been a party militant within the Concertación and is past Director of three state corporations: the Santiago Metro, the National Petroleum Company and the National Television Company.

While supporters of HidroAysén have stated repeatedly that the project’s legitimacy rests on its compliance with Chile’s environmental norms, numerous observers have characterized the political process surrounding HidroAysén as a demonstration of the dramatic failure of these norms. Indeed, many have suggested that it puts the very substance of Chilean democracy in question. As stated in a Declaration of Chile’s Citizens’ Human Rights Observatory following HidroAysén’s approval and police suppression of the nation-wide protests that resulted,

“This approval comes preceded by diverse charges of irregularities in the process and considerable pressure exerted by the executive in support of the project, providing evidence of the multiple limitations of Chilean institutions when it comes to guarantee-
As a footnote to the limitations of Chilean environmental policy, it is fitting to conclude this section by taking note of Canadian complicity in a final irregularity in the HidroAysén EIA. In a side agreement to the Canada-Chile Free Trade Agreement (CCFTA), signed in December 1996, the Canada-Chile Commission for Environmental Cooperation was created to foster dialogue and cooperation between Canadian and Chilean environmental authorities. The agreement also established a committee to hear complaints from Chilean or Canadian citizens regarding either country’s failure to implement its environmental laws. The committee has heard only five citizen submissions since its inception, none of which has led to any kind of report. The last of these submissions was launched in 2008 by a coalition of people and groups involved in the campaign against HidroAysén. The submission argued that Chile was failing to uphold a 1991 treaty with Argentina requiring consultation in any activities affecting boundary waters. Since the lake that forms an important part of the headwaters for the Baker River is shared between Chile and Argentina, impacts on the river ecosystems on the Chilean side could indeed affect species populations in the shared waters. As with previous cases, after soliciting a reply from the Chilean authorities, “the Joint Submission Committee recommended not to develop a factual record.” The existence of this side agreement to the CCFTA, along with its utter lack of utility, is just one example of the doublespeak involved in Canadian foreign policy in Latin America. As we will see in a moment, it is part of a larger pattern not only of complicity, but also of direct responsibility for the social and environmental impacts of an extractive model of economic growth in the region.
Projected impacts of HidroAysén:

- Inundation of 8,614 ha of terrain, 80 percent of which has vegetation including native forest (total surface area of reservoirs would be 5,910 ha). The projected reservoirs include areas of impact within the Laguna San Rafael UNESCO biosphere reserve.

- Impacts on terrestrial and aquatic animal species. Of particular note are the following:
  - habitat disturbance and destruction affecting one of the last significant populations of Chile’s critically endangered huemul, a species of deer endemic to Patagonia;
  - threats to other mammals and birds due to the destruction and fragmentation of habitat and migratory routes;
  - especially significant impacts on aquatic species such as river otters, the torrent duck, and endangered native fish species as a result of subdividing and modifying the river course, as well as significantly altering water flows, sedimentation patterns, and the seasonal water temperature regime.

- Reduced sediment loads, both organic and inorganic, degrading the trophic chain with far reaching consequences for the riverine, coastal and marine ecosystems.

- Impacts associated with the construction of high tension transmission lines (over 2,000 km long) that would cross through several protected areas with rare native forests, as well as the lands of indigenous communities, many other rural communities, as well as agricultural and tourism operations.

- Potential hazards associated with seismic activity, as well as with glacial lake outburst flooding from the Colonia glacier; the EIA does not adequately calculate the risk associated with a sudden catastrophic rise in water levels in the Baker River.

- Displacement of 14 families, whose land and dwellings would be flooded, along with impacts on the land and livelihood of an unspecified number of other residents, many of whom would suffer from a range of so-called “indirect” impacts without any possibility of compensation.

- Influx of temporary population, with dramatic economic and cultural impacts on local society; estimated at 5,000 workers at the peak of the project, this population influx would dwarf the population of the largest nearby town, which currently has just over 3,000 residents.

- Threats to a rapidly growing tourism industry built around Aysén’s reputation for its world-renowned natural landscape, along with its unique rural culture based on a history of low-intensity livestock and agriculture without significant industrial development.
Section 4
Demand, Transmission and Canadian Complicity in HidroAysén

Public policy and Canadian foreign investment in Latin America and Chile

During a July 2007 tour of Latin America, Canadian Prime Minister Stephen Harper announced that the region had moved to the centre of Canadian foreign-policy priorities. In fact, the Conservative government’s “discovery” of the Americas comes as a natural extension of changing patterns of engagement that began in the early 1990s, reversing Canada’s historical marginality in the region relative to the United States. Similar to the Liberal government that preceded them, Harper’s Conservatives have made much of promoting democratic values and human rights, but have simultaneously advanced neoliberal policies such as free trade, financial liberalization, foreign investment, intellectual property rights, and the deregulation of extractive industries.

The promotion of these economic policies over the past two decades has resulted in rising rates of Canadian investment, as well as increased trade facilitated by bilateral trade agreements. While fundamentally driven by corporate interests, such trade and investment flows are also propelled by average Canadian investors, whose enthusiasm for returns on stocks and mutual funds fuel corporate expansion into foreign markets. Even more importantly, Canadian foreign investment is made possible by capital flowing from major public sector investors. The Canadian Pension Plan is a key player, and as we will see in this report, other public sector pension plans also play important roles, participating in and even leading investment in water, mineral and energy ventures in Latin America. These plans are run by professional managers, out of sight from pension plan members, who often fail to appreciate the long reach and potential impacts of their retirement investments. Finally, it is crucial to recognize the role of the Canadian government in facilitating and underwriting the trade and investment flows that have dramatically increased Canada’s presence in Latin America. Through Export Development Canada (EDC), the government promotes the purchase of Canadian goods and services by foreign companies, and supports foreign investment by Canadian businesses by providing insurance and financing to offset risk and increase access to capital. EDC has ramped up its involvement in the Latin American region during recent years, rising to a record $10 billion of business volume in 2010.

Nowhere is the dramatic growth of Canadian economic ties to Latin America clearer than in the mining sector. By 2008, more than half of global assets held by Canadian mining companies were located in Latin America, at an estimated value of $57 billion. These figures are significant, not only for Canada, but also in global terms. Canada is the world leader in mining investment, with up to 40 per cent of equity for the global mining industry raised on the Toronto Stock Exchange, and Canadian companies similarly responsible for 40 per cent of global exploration expenditure. The extractive industries have also become a priority sector for EDC. For instance, in 2008 this sector constituted the single most important target for EDC financing, with the Latin American portion of such backing worth more than $4 billion.

The Canadian mining industry has gained a reputation not only for its global reach, but also for its behaviour. Charges of environmental negligence and human rights violations by Canadian-registered mining companies operating abroad have been prolific. A 2009 report commissioned by the Producers and Developers Association of Canada, which was never released to the public, but was leaked in 2010 to Mining Watch Canada, reveals that “Canadian mining companies are implicated in four times as many violations of Corporate Social Responsibility (CSR) as mining companies from other countries.” Around the world, national and international civil society organizations have increasingly
denounced Canadian mining companies for the impact of mineral extraction on local environments and communities. Meanwhile, communities that have sought to stop mining projects in their backyards have often faced repression from security and paramilitary forces. On this front, 2010 was a particularly bloody year for Latin American communities resisting the imposition of mines: five assassinations resulted from conflicts around Canadian mining developments in El Salvador, Guatemala and Mexico.

In light of the rising level of conflict around Canadian mining operations in foreign countries, along with the significant financial backing that the industry receives from EDC, Canadian civil society organizations have called for stronger oversight by the federal government. These calls led the government to sponsor extensive national consultations on the issue in 2006. The National Roundtable Process on Corporate Social Responsibility and the Canadian Extractive Industries in Developing Countries led to the publication of a report in 2007, in which even industry representatives agreed that a greater degree of regulation would be beneficial. But instead of implementing the report’s recommendations, the Harper Conservatives responded in 2009 with a Corporate Social Responsibility Strategy for the Canadian International Extractive Sector based entirely on voluntary measures organized around the office of a CSR “Counsellor.” The program launch was met with staunch criticism by civil society groups that say the strategy “fails to address the serious human rights and environmental abuses associated with Canadian extractive companies operating abroad.

In some instances, the government has even provided explicit support to controversial Canadian mining operations in Latin America. Harper’s 2007 Latin American tour included a visit to Santiago, Chile, where he made a special stop at the Chilean headquarters of Barrick Gold. The significance of this visit was not lost on the protesters who met him there. In the midst of what had become an emblematic struggle between a transnational mining superpower and small farmers in the Huasco Valley, Harper had come to endorse Barrick Gold’s Pascua Lama mine project. While refusing to talk to protesters, he answered media questions stating that “as far as he knows, Barrick Gold follows Canadian standards of corporate social responsibility” and that it is the responsibility of Chile and Argentina to verify that the company complies with environmental protection norms in both countries. The prime minister’s comments came just as a Chilean parliamentary committee set out to examine alleged irregularities in the mine’s EIA process. His comments undoubtedly also set the tone around his signing, along with then-President Michelle Bachelet, of the Canada-Chile Partnership Framework.

The federal government’s unwillingness to hold the Canadian extractive industry to basic environmental and human rights standards in its international operations is part of a broader pro-corporate agenda that defines the Harper Conservatives’ orientation to the Latin American region. As argued by Yasmine Shamsie, of Wilfrid Laurier University, and Ricardo Grinspun, of York University, there is an obvious tension between the Harper government’s supposed commitment to democracy and human rights, and its simultaneous promotion of Canadian corporate interests in “strategic alignment with U.S. hemispheric priorities.” No longer a small-bit player relative to the United States, a recent special issue of NACLA Report on the Americas went so far as to dub Canada the “empire’s apprentice.

Chile is one of Canada’s key Latin American economic counterparts. The Canada-Chile Free Trade Agreement (CCFTA) was Canada’s first FTA with a South American country. Simultaneously, it was Chile’s first comprehensive FTA. Since then, trade has increased threefold and Canadian investment in Chile reached $8.3 billion by 2009 – concentrated in mining, electricity, gas and water. In the latter category, the Ontario Teachers’ Pension Plan has recently come under fire for its role in the privatization of Chilean water utilities. With an investment of more than $1 billion, the pension plan now con-
trols 37 per cent of the water utility sector in Chile.\textsuperscript{58} Though concentrated in certain sectors, Canadian investment is also significant as an overall proportion of total foreign direct investment in Chile, accounting for 17.7 per cent by the end of 2010, behind only Spain (18.7 per cent) and the United States (25.9 per cent).\textsuperscript{59}

Mining accounts for the largest share of Canadian investment in Chile. Canada is the number one foreign investor in the country’s booming mineral industry.\textsuperscript{60} Companies such as Barrick Gold, Goldcorp, and Kinross are dominant players in Chile’s gold mining industry, while a host of more junior companies are also active across the sector. As elsewhere, such investment is supported on numerous occasions by loans and loan guarantees from Export Development Canada (EDC). EDC’s financial services to Canadian exporters and investors in Chile quadrupled during the first decade of the new millennium, totalling $1.2 billion and involving 300 Canadian firms by 2009.\textsuperscript{61} This financing is concentrated in the mining sector, and has the notable effect of expanding the scope of Canadian involvement by financing the purchase of Canadian goods and services by non-Canadian mining corporations operating in Chile. For instance, EDC has consistently provided loans to CODELCO, Chile’s state-owned copper production company, for the purchase of Canadian goods and services. These loans have totaled more than $200 million dollars in each of the past three years.\textsuperscript{62}

Public sector Canadian investors also have stakes in Chile’s mining bonanza. Barrick Gold, Goldcorp, and Kinross are all among the public equity holdings in the investment portfolio of the Canadian Pension Plan (CPP). The CPP has shares totalling $351 million, $155 million, and $55 million in these three companies respectively.\textsuperscript{63} The Ontario Teachers’ Pension Plan is also invested in Barrick ($380 million) and Goldcorp ($310 million),\textsuperscript{64} and the British Columbia Investment Management Corporation has important holdings in Barrick ($426 million), Goldcorp ($240 million) and Kinross ($129 million).\textsuperscript{65} Beyond public sector investors, individual Canadians are also significantly invested in Chilean mining. Notably, Desjardins and Ethical Funds, which between them enjoy a significant share of the socially responsible investments market in Canada, hold shares in all three of these companies as part of their fund portfolios.

Proponents of these investments point to the centrality of mining to Chilean economic output, and suggest that Canadian investment helps bring the expertise and capital necessary to propel Chile towards higher levels of socio-economic development. It is true that mining activity has represented a key share in Chilean economic growth, with copper in particular playing a decisive role in the second half of the twentieth century. Chile is the world’s largest copper producer, representing a 34 per cent share of global output in 2009 – no other producer comes even close to Chile’s annual production of more than five million tonnes.\textsuperscript{66} For Chile, mining accounted for an average of 57 per cent of total export value from 2000 to 2009, with copper responsible for 86 per cent of those earnings.\textsuperscript{67} Despite the scale of production, however, it isn’t clear that Chilean mining provides a proportionate share of benefits to the Chilean people. According to York University researcher Tim Clark, the mining industry behaves poorly as a job creator and economic multiplier, with its contribution to GDP far outstripping its creation of jobs. In fact, Clark notes that during the mining boom of the 1990s, which began as foreign investment flowed into the country following its return to democracy, mineral production tripled, but employment in the industry \textit{actually declined}.\textsuperscript{68}

Meanwhile, though tributes paid by the state-owned copper company, CODELCO, have had a historically important place in government revenues, the same cannot be said of the private sector, which today mines more than two-thirds of Chile’s copper and all of its other mineral deposits. The transnationalization of resource extraction has, on a global scale, seen developing countries lose potential royalty and tax revenue from their mineral resources since the complex relationships between foreign
investors and their subsidiaries operating in the Global South makes tax evasion easier. The use of “transfer pricing” is one key strategy. Companies pay inflated prices on goods and services “purchased” from parent or sister companies, while selling the commodities they produce at below-market prices also to their affiliates abroad. Another strategy involves taking on exorbitant loans from affiliated financial companies. Finally, the buying and selling of futures contracts between related companies also facilitates financial outflows from extractive industries in developing countries. As a result of these “virtual” transactions between units within a single transnational corporate family, profitable mining operations can register a loss in their country of operation and hence avoid taxation.

Clarke documents that Canadian mining companies operating in Chile have a history of using such measures to avoid paying taxes. Indeed, during the mining boom of the 1990s they were not among the foreign mining companies that paid taxes on income (of which there were only two). In the face of public protest, a policy reform in 2005 was billed as a measure to introduce royalty payments for mining companies. The law establishes a specific tax on earnings in the mining industry, but provides no particular measures to prevent companies from continuing to dodge taxation through creative accounting practices. According to a 2006 op-ed piece in *La Nación* by the director of the Committee for the Defence and Recuperation of Copper, the only substantive aspect of the legislation is also the most concerning: it locks in mining taxation policies until 2021, effectively transforming a de facto tax holiday into a 15-year guarantee of existing tax loopholes. The taxation policy promises a fire-sale of Chilean resources that will leave future generations with nothing more than gaping holes and contaminated water.

With such a favourable investment climate, it should be no surprise that Chile is set for another wave of mining investment. The Chilean Copper Commission projects $50 billion in new copper, gold and silver mining investments during the next five years, with Canadian companies accounting for 38 per cent of that inflow. Barrick Gold’s controversial Pascua Lama mine anticipates $1.5 billion investment for 2013 alone, towards an eventual total $5 billion investment, while the company plans to launch a new operation at its Cerro Casale deposit by 2015, with a projected investment of $4.2 billion. Goldcorp’s anticipated investments total $2.5 billion for its El Morro project and Kinross is expected to expand its Lobo-Marte project by $575 million. Other Canadian companies are also anticipated to make significant investments, including Teck’s Quebrada Blanca copper project ($3 billion), Quadra FNX Mining’s Sierra Gorda project ($1.6 billion), and Far West Mining’s Santo Domingo Copper project ($600 million). In total, Canadian companies are set to contribute roughly 28 per cent of the growth in Chilean mining operations, representing nearly half of all private investment in the sector.

**Mining and transmission: the Canadian fulcrums in Chile’s energy future**

The projected wave of expansion in Chile’s mining sector is a crucial driver of the energy demand that attracts investment to HidroAysén and other electrical generation megaprojects. For instance, the Chilean Copper Commission projects that the copper sector alone will see increases in electricity consumption in the order of 46 per cent for the SING and 63 per cent for the SIC between 2009 and 2020. Projections of future demand vary significantly and are politically charged, but it seems probable that electricity use in the mining sector, already one-third of national consumption, will maintain or increase its share of demand over the next decade. One expert calculates that new investment in mining will spur 70 per cent of total new electricity demand. Perhaps reflecting Canada’s role in this demand, the EDC began speaking favourably of the HidroAysén project long before the project was approved, billing it as “a solution to Chile’s energy challenges.”
One of the greatest hurdles in meeting electricity demand in the mining sector stems from its geographical concentration in the SING and the northern extremes of the SIC. For those who seek to connect the hydroelectric potential of Chile’s Southern and Patagonian regions with the big energy users in Chile’s Central and Northern regions, major transmission infrastructure improvements must be secured over the next decade. There are two such improvements currently under consideration by Chile’s government: connecting the SIC with the SING, and (as an extension of this plan) building a single north-south energy trunk line. The first measure, which seems increasingly likely in light of recent indications from the Ministry of Energy, would make hydroelectricity generated in the SIC available for mining companies operating in the SING. Meanwhile, a single, public, open-access energy highway (announced as a priority in President Piñera’s 2011 presidential address) would reduce the cost of connecting new generation sources to the grid. While improved connectivity in Chile’s transmission networks could be carried out in a manner that would facilitate more decentralized supply based on the use of non-conventional renewables like wind, solar and micro-hydro, it seems clear that current priorities are being driven by large suppliers and large users. The benefit would be especially pronounced for large energy plants lying beyond the current reach of the SIC. Part of the reason for the exceptional length of the proposed transmission line for HidroAysén is the fact that bottlenecks in the current grid make it impossible to inject such massive new supply further south. In addition to these two initiatives, Piñera’s government is also considering legislation that would fast-track environmental and regulatory approval processes for transmission infrastructure, with the state sponsoring expropriation of land where required.

The government’s commitment to improving transmission infrastructure is good news for Transelec given its current monopoly as a provider of high-gauge transmission capacity in the country. Potential public tenders for transmission expansion aside, Transelec also stands to benefit from any hydroelectric development in Chile’s Aysén region. The company has a history of working with Endesa, with some of that work supported by loans from the EDC, so a partnership with HidroAysén would hardly be surprising. Transelec worked under contract to conduct the feasibility study and preliminary phases of the EIA for HidroAysén’s projected transmission line. The contract ended in December 2009, but at the time HidroAysén indicated its intention to continue working with Transelec. Despite some frictions more recently between the two corporations, in July 2011, the CEO and General Manager of Transelec, Andres Kuhlmann, confirmed that the company remains interested in the HidroAysén project. Moreover, Transelec’s 2011 installation of a $60 million STATCOM in the heart of the Santiago Metropolitan region was conducted in consultation with Endesa and billed as a preparation for the injection of large-scale electricity inputs from the south. With this investment, along with its role in the feasibility study and EIA, Transelec’s involvement in HidroAysén is not merely a question of future possibility; the company has already contributed to the project. And while all eyes are focussed on HidroAysén, Xstrata’s Rio Cuervo complex is slowly weaving its way through the EIA process. In 2008 Transelec and Xstrata signed a contract for development of the transmission plan for that project, a connection spanning roughly 800 kilometres.

Clearly, the boom in Chile’s energy-hungry mining sector is also a boom for Transelec. And both are good news for Canadian corporations and investors. But for Chileans who will be faced with the environmental impacts of massive mining operations and energy projects, the benefits are harder to enumerate. When we factor in the impact of transmission lines, it becomes even more difficult to justify undertakings like HidroAysén and Rio Cuervo. In many ways, the line planned for HidroAysén would have a social and ecological footprint even larger than the dams themselves, running through protected areas, indigenous territories and other rural communities, disrupting habitats and transforming the landscape. Opponents don’t mince words, calling it “a 2,300 kilometre clear-cut.”
Section 5
Towards an Alternate Future: The Role of Canadian Solidarity

Even organizations that have been working hard for years to stave off hydroelectric development in Aysén were surprised by the level of public outrage at HidroAysén’s approval in May 2011. Thousands of people in all of the country’s major cities took to the streets spontaneously in the wake of the announcement. Though the protests were largely peaceful, the police response was alarming, and led to calls from around the world for the Chilean government to respect its citizens’ political rights. The protests continued intermittently for weeks, bringing out not just seasoned environmentalists but also many citizens who had previously watched the debate from the sidelines. Media reports estimate that a major rally in Santiago one week after the decision drew more than 30,000 people (citizens’ organizations put the number even higher). This outpouring of public opposition was also reflected in new polling figures that showed that opposition to the project had reached new highs, with almost three-quarters of respondents registering their disagreement with the government’s decision. Even if politicians seem unwilling to chart a new course, Chileans themselves are increasingly convinced that HidroAysén is unnecessary. Their convictions are bolstered by studies showing that the untapped potential in energy efficiency and non-conventional renewables could easily supplant the project’s contribution to future electricity supply.

The protests were followed by the opening of new fronts in a series of ongoing legal battles. At the time of the writing of this report, the Chilean Supreme Court is considering a challenge to the legality of the EIA process launched by several senators, a number of key environmental organizations and citizens whose land would be flooded by the dams on the Baker River. Simultaneously, a parliamentary commission is in the midst of its own investigation of the irregularities in the EIA. And yet, while court challenges and commissions of inquiry buy time for those who oppose the dams, the Chilean justice system has a record of judgments favourable to corporate interests, and the recommendations of congressional committees tend to fall on deaf ears. Endesa and Colbún have already invested millions of dollars in the EIA for HidroAysén, in their “corporate social responsibility” initiatives, and in a massive national publicity campaign. They will invest millions more in legal bills, and with a slow, grinding determination, will seek to clear the hurdles before them. There is little doubt that Endesa and Colbún will eventually realize their ambitious project unless sustained political pressure is exerted both in Chile and abroad.

Canadians are in a privileged position relative to this dramatic unfolding debate over the future of Patagonia. On the one hand, Canadian companies and investors stand to make very good returns on the synergies between Patagonia’s hydroelectric potential and the rich deposits of gold and copper in Chile’s arid north. On the other hand, the leverage of Canadian investment could be put to work to promote a more sustainable development model in Chile: an alternate future where Canadian mining companies can be held accountable in Canada for their social and environmental records abroad, where new transmission infrastructure paves the way for a more diverse set of renewable energy sources with a lighter footprint, and where the people of Aysén are given the opportunity to choose their own path to regional livelihood. For this shift to take place, Canadians must demand that our government do more than promote voluntary corporate social responsibility for our companies operating abroad. Moreover, as individual investors, as contributors to public sector pension plans, and as citizens with a stake in our national pension plan, we must seek divestment from companies that profit on the backs of people and the environment, while urging others to show true leadership in promoting different ways of doing business. In the specific case of HidroAysén we are at a critical juncture where Canadian voices can have a significant impact. When the EIA study for the proposed HidroAysén
transmission line is finally made public – likely towards the end of 2011 or early in 2012 – Canadians should consider whether they support Transelec's participation in the construction of that line.

Gone are the days when we could watch events unfold on the other side of the world and act as armchair critics of foreign social and environmental debacles. The globalized age in which we live links us directly to those far away events. With our pensions and other investments fueling so-called “development” in Latin America and other parts of the Global South, the time has come to question whether we are contributing to the welfare of our global neighbours, or simply deepening the hold of an economic model that draws away the collective natural wealth and concentrates it in the hands of a few. There is a bright future for economic cooperation and cultural exchange between Canada and Chile, but that future must start on a different and more equal foundation. Canadian citizens can help build that foundation by acting in solidarity with our Chilean partners in the name of promoting a more just and sustainable road to shared livelihood and well-being.
Endnotes


14. Ibid.


18. Sebastian Piñera, *Mensaje Presidencial 21 de Mayo 2011: Construyendo una sociedad de seguridades, opor-
Chilean Patagonia in the Balance: Dams, Mines and the Canadian Connection

19 Chile Necesita una Gran Reforma Energética, 16.

20 Chile Necesita una Gran Reforma Energética.


37 Jessica Esturillo, “Raineri destacó el ‘Tremendo Atractivo’ de Proyecto HidroAysén,” Diario Financiero, March 18,


45 Grinspun and Shamsie, “Canadian Re-engagement in Latin America”.


51 Liisa North, “Bad Neighbours: Canadian Mining Companies in Latin America,” Canadian Dimension, 45, no.1, Jan/Feb 2011, 19-23 (19).


56 NACLA Report on the Americas, 43, no. 3, May/June 2010, (The issue is titled “Empire’s Apprentice: Canada in Latin America”); for a more extended analysis see Shamsie and Grinspun, Ibid.


60 Grinspun and Shamsie, “Canadian Re-engagement,” 16.


69 Ibid., 96.


72 Ibid.


82 Ibid.

83 Hall, Román, Cuevas and Sánchez, ¿Se Necesitan Represas?: Aporte Potencial de Energías.
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