



power grab

The impacts of power market deregulation
on B.C.'s environment and consumers

A Sierra Legal Defence Fund report
prepared for BC Citizens for Public Power



SIERRA LEGAL
DEFENCE FUND



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POWER GRAB: The impacts of power market deregulation on B.C.'s environment and consumers

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This report was researched and written by independent researcher Greg Simmons and Sierra Legal staff lawyers Tim Howard and Randy Christensen.

Layout by Nadene Rehnby

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BC CITIZENS FOR PUBLIC POWER is a non-profit, grassroots organization established to give voice to British Columbians' demand that BC's power generation system remain in public hands. Citizens for Public Power is registered as a non-profit society funded by donations from individuals and groups.

CITIZENS FOR PUBLIC POWER SOCIETY
Suite 53
1895 Commercial Drive
Vancouver, BC
V5N 4A6
Tel: 604.790.3352
Fax: 604.681.0490
E-mail: coordinator@citizensforpublicpower.ca



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B.C. HEAD OFFICE
Suite 214
131 Water Street
Vancouver, B.C. V6B 4M3
Tel (604) 685-5618 • 1-800-926-7744
Fax (604) 685-7813
E-mail: sldf@sierralegal.org

ONTARIO OFFICE
Suite 900
30 St. Patrick Street
Toronto, ON M5T 3A3
Tel (416) 368-7533
Fax (416) 363-2746
E-mail: sldfon@sierralegal.org



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Executive summary

ELECTRICITY TOUCHES VIRTUALLY EVERY ASPECT OF OUR LIVES. FROM THE FUNDAMENTALS of heat and light to medical services, communications and entertainment – all depend on electricity. And for the past four decades, British Columbians have come to assume that the power will always be there. Powered by massive hydroelectric dams built with public money and managed and distributed by the publicly-owned crown corporation BC Hydro, B.C.'s electricity service and rates are the envy of the world.

But big changes for the B.C. power system and consumers are on the horizon. Mandated by the Premier of British Columbia to develop recommendations for a new provincial energy policy, the Task Force on Energy Policy submitted a final report to the Minister of Energy and Mines on March 2002, which as of the time of writing has not been released publicly. However, the Task Force's interim report, released November 2001, outlines a radical deregulation and restructuring of the provincial power market that would include the break up of BC Hydro and the privatization of some or all of its assets and a move to "market" electricity rates.

Power market deregulation is not a new concept – it has been tried in the U.K., California, Alberta and other jurisdictions. We can therefore look to the experience in those markets to address what power market deregulation will mean for the environment, the economy and consumers in British Columbia.

The answer is not a pretty one. Experience shows that power market deregulation will have the following impacts:

- Increased pollution and environmental degradation from new coal and natural gas fired power generation facilities.
- Lack of accountability and control in the power market, leading to profiteering and market manipulation by utilities and power market traders.
- Predicted minimum price increases of 30% in B.C. for residential consumers and 60% for industrial users. If, as predicted, electricity prices in B.C. harmonize with those of the western U.S., rates may increase 100% or more.
- Increased price and supply volatility, producing brownouts and economic crisis for consumers and governments.

Simply put, deregulation threatens severe consequences for B.C.'s environment and for B.C. Hydro's 1.5 million power consumers. It will create in B.C. the same problems caused by privatized power production in other jurisdictions, problems that our publicly owned hydroelectric system has to date avoided.

Deregulation and the environment

Proponents of deregulation contend that it is an environmentally beneficial policy. In reality, a deregulated electricity market reduces the ability to implement a key component of energy conservation: "demand side management." Utilities that have an obligation to provide power to a service area have an incentive to assist their customers in reducing energy use (such as through BC Hydro's "Power Smart" program). In a deregulated power market, competing power

producers are motivated to maximize the amount of power they sell – something fundamentally at odds with conservation.

Further environmental problems arise from allowing “market forces” to choose new sources of power. In a deregulated system, the primary determinant of production decisions is not environmental impact, but cost. The extensive subsidization of fossil fuel production means that new power generation will be weighted toward coal and natural gas, rather than sustainable options. In post-deregulation Alberta and the U.S., coal remains the most popular choice for new electricity production. On a continental level, some models predict that coal consumption by utilities will increase 30 percent as a result of deregulation.

Although large-scale hydroelectric production creates significant aquatic impacts, it has enabled B.C. to avoid the severe air pollution that accompanies fossil fuel fired electricity generation. It appears that the provincial government’s vision of electricity deregulation is to bring us in to the power pollution fold.

Problems with electricity markets

Inherent flaws of electricity markets prevent them from realizing benefits to consumers. Markets are distorted by the ability of polluters to “externalize” the costs of fossil-fuel powered generation on to the public – the costs of climate change, acid rain, cancer, neural impairment, respiratory disease and crop damage – making dirty production technology “cheap” in the language of the market. Further distortion occurs through direct government subsidization of fossil-fuel production: accelerated depreciation and other tax breaks, exploration grants, and written off loans.

Fundamentally, deregulation takes an essential service and turns it into a commodity for speculation. Once this happens, the price of electricity becomes particularly subject to market manipulation. Deregulated electricity markets are dominated by a handful of major corporations who seek to determine the price and supply of electricity through collusion and the exercise of market power.

- Britain’s Office of Electricity and Gas Markets found that deregulation in the U.K. soon led to collusion and manipulation of the power market becoming standard business practice.
- In California, a report by the managers of the state’s power grid found that over a ten-month period (in 2000 and 2001) that followed deregulation of the state’s power market “electricity wholesalers overcharged California \$5.5 billion.” As Californians saw electricity rates soar following deregulation, areas in the state that retained public control experienced prices 20-25% lower than those locked into the market.
- Recently released internal documents of the now-bankrupt Enron Corporation reveal that the company used a plethora of strategies – involving sham sales, the deliberate creation of power line congestion and falsified information – to manipulate the California power market and drive up prices during the state’s power crisis.

- The Power Pool Council of Alberta, which oversees the province's electricity market, found that following deregulation, suppliers were manipulating the province's power market to drive up prices.

Deregulated, privatized energy markets create incentives to hold back production in order to create artificial supply crises, and to delay building new production in order to obtain short-term price windfalls. There is strong evidence that power companies deliberately declaring plants out of service in order to increase prices was a factor in the California energy crisis, and upon examining prices over the summer of 2000, Alberta's market watchdog reported that the same practice occurred in Alberta.

NAFTA and free trade

The negative implications of energy deregulation in B.C. are heightened by the North American Free Trade Agreement (NAFTA), which contains provisions to protect investments made by corporations from NAFTA states in other NAFTA countries. An opening up of B.C.'s electricity markets would lead to increased investment in B.C. by U.S. energy companies. A future government that attempts to re-impose requirements on energy production in order to serve social or environmental ends could then face a challenge under NAFTA for measures “tantamount to expropriation” of a foreign corporation's potential profits. Canada has already faced – and lost – such challenges. The result is a threatened erosion of sovereignty, as foreign private corporations are able to override the will of democratically elected governments.

Social and economic impacts

It is a salient fact that the three jurisdictions with the lowest electricity rates in North America – Manitoba, Quebec and British Columbia – all have regulated publicly-owned utilities. In contrast, the evidence shows that letting the market reign translates to hefty price increases for consumers – in Alberta, California, Montana, Chicago, New York and elsewhere, deregulation precipitated massive increases in electricity prices

For B.C., the inexorable result of deregulation would be harmonization with U.S. prices. One economic estimate is that B.C. prices would rise to the average of Seattle and Los Angeles, at an annual cost of \$628 million to B.C. consumers and \$424 million to industrial users.

The impacts of such price increases would ripple through the whole of B.C.'s economy, affecting everyone from residential consumers to the public sector, small businesses and major industry. The Joint Industry Electricity Steering Committee, which comprises B.C.'s major industrial electricity users, has called the Task Force's report “a dangerous piece of work, with dangerous consequences for the province.” The Committee predicts that a move to “market rates” would result in 6,000 direct jobs lost and thousands more indirect jobs. Those hardest hit would be individuals on low and fixed incomes, who are already feeling the effects of reduced government services and programs.

Price increases would not necessarily be evenly distributed, however. The Task Force recommends a transition to market rates through a system of blended prices, which would likely result in industrial users receiving a substantial portion of their power at a below-market rate, subsidized by other consumers.

Conclusions

It is difficult indeed to find a compelling rationale for why British Columbia should deregulate its electricity supply. While experience elsewhere has shown that deregulation has failed to deliver on its promises, for B.C. the promises do not even apply. B.C. has among the lowest electricity rates on the continent. And more than 90% of B.C.'s electricity comes from low-pollution hydroelectric production. As well, B.C. Hydro is a revenue-generating asset, one that last year contributed \$790 million in revenue to the province and local governments, and \$904 million the previous year.

The B.C. government argues that deregulation is necessary to ensure that Independent Power Producers will build “much-needed” new power generation capacity. But, as noted by the Energy Task Force itself, major new generation capacity is not expected to be needed until 2010. As well, when new capacity is built, BC Hydro can provide it at less expense to the consumer than can the private sector. Any investment, private or public will require borrowing funds, and with its top notch credit rating and healthy debt to asset ratio BC Hydro can raise financing at lower interest rates than can the private sector – meaning lower cost production. Moreover, the most cost-effective way to meet increasing demand is through conservation programs, which, as discussed, can be best implemented through a regulated system.

British Columbia's energy policy is at a crossroads. The transition to a sustainable, non-environmentally destructive energy supply will require changes in how electricity is priced to reflect the full environmental and social cost of power production, the development of renewable and sustainable sources of electricity such as tidal and wind power, and a renewed emphasis on efficiency and conservation. BC Hydro is ideally positioned to form the base from which this transformation occurs and to make British Columbia a world leader in sustainable power production. BC Hydro's reach throughout the province and its existing base of high-capacity hydroelectric production means that the transition costs of this progression can be spread across the power system so that no one consumer or sector of consumers faces a rapid hike in power prices.

The alternative outlined by the Energy Policy Task Force interim report would mean increased environmental degradation and incidences of respiratory disease, a significant increase in the province's contribution to global warming, higher prices and price volatilities, and economic disruption. At its root, it is a shift from a system where the public has influence over how our electricity is generated, delivered and developed to one where such decisions are left solely to the business decisions of multinational corporations. Ensuring a socially and environmentally healthy electricity future begins with the rejection of the Task Force's vision for B.C.

Introduction

DESPITE A PRE-ELECTION PROMISE TO “PROTECT B.C. HYDRO AND ALL OF ITS CORE assets including dams, reservoirs and power lines under public ownership,”¹ the B.C. Cabinet is right now considering a report titled *Strategic Considerations for a New British Columbia Energy Policy* that may completely reshape the electricity production and supply system in B.C.² Produced by the Task Force on Energy Policy, the final version of the report has not been made public as of the time of writing. However, the Task Force produced an interim report with draft recommendations in November 2001 that gives a good indication of the probable contents and conclusions of the final report.

The Task Force consists of top provincial bureaucrats from B.C., including a deputy minister to Premier Gordon Campbell and the deputy minister of Energy and Mines, and private sector power market consultants. Tasked by the Premier with developing recommendations for a new provincial energy policy, it held meetings with select industries and organizations before producing its final draft for the Minister of Energy and Mines.

The recommendations from the interim report envision a radical reshaping of B.C.’s energy market, focusing on four key areas:

1. *Industry Restructuring*: the Task Force advocates breaking up B.C. Hydro into separate entities handling electricity generation, transmission and distribution, and a focus on meeting future power demand through private Independent Power Producers (IPPs).
2. *Increased market “competition”*: the break up of B.C. Hydro is necessary to let private power producers enter the market and “compete” in a deregulated power market.
3. *Fossil fuel based power generation*: in a departure from B.C.’s history of hydro-electric based power production, the Task Force emphasizes coal, natural gas and coal-bed methane as the preferred fuel sources for the future. It also calls for government support of sustainable energy sources such as wind and tidal power.
4. *Price increases*: as private power companies cannot compete with B.C. Hydro’s low rates, a substantial increase in the price charged for power is necessary to permit the power market to develop. The Task Force recommends a minimum of a 30% increase, with a 60% increase not out of the question. If the market is taken as the western U.S., the Task Force’s own figures would indicate increases of 100% for residential users and up to 200% for industrial ones.³

This report examines the implications for British Columbians of implementing the Task Force’s recommendations. It reviews the record of power market deregulation in California, Alberta and elsewhere and points to some troubling conclusions regarding the negative impacts of deregulation. It will begin by describing the power market status quo in B.C. and what deregulation means, and then examine the impacts of deregulation on the environment, the marketplace and the consumer.

Electricity production and supply in B.C.

The great majority of electricity in British Columbia is supplied by the crown corporation BC Hydro. The only other major supplier is B.C. Utilicorp Networks (formerly West Kootenay Power and Light Company), a private utility owned by the U.S. corporation Utilicorp that services southeastern B.C.

The provision of electricity has three major components: the *generation* of electricity at power plants; its *transmission* across a network of high voltage power lines to where it will be used; and its *distribution* to homes and businesses through low voltage lines at the local level. BC Hydro is a “full service” electricity provider: it generates, transmits and distributes the electricity that powers residences and companies in British Columbia.

The B.C. Utilities Commission regulates the price BC Hydro charges for power. This agency also controls the construction of new generation assets in B.C. through a permitting system for proposed electricity generation plants (“certificates of convenience and necessity”). Approval of new generation assets at a provincial level ensures – in theory – that power plant construction decisions include the consideration of the location of electricity demand as well as economic, environmental and social costs. One downside of “regulated” systems in places other than B.C. has been that proponents of approved plants are generally guaranteed a profitable return – meaning that the public is often stuck paying the cost of uneconomic investment decisions, such as nuclear reactors.

BC Hydro is one of the largest electric utilities in Canada serving an area containing over 94 per cent of British Columbia’s population. Depending on prevailing water levels, the utility generates between 43,000 and 54,000 gigawatt-hours of electricity annually, which is delivered through a network of more than 74,000 kilometres of transmission and distribution lines. There are 32 hydroelectric facilities, two gas-fired thermal power plants and two combustion turbine stations. Over 90% of the electricity generated by BC Hydro comes from hydroelectric facilities (and more than 80% is produced by major hydroelectric generating stations on the Columbia and Peace rivers alone).⁴

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What is electricity deregulation?

In general, “deregulation” of the power market requires substantially eliminating a regulatory role in the planning and construction of generation plants, along with “break-ups” of existing full service electricity providers into separate companies providing generation, transmission and distribution functions. “Competition” in the area of generation (and, to a lesser extent, distribution) is usually introduced. Private proponents of generation facilities are allowed into the market by ensuring that these players have access to the transmission system and the ability to sell their power (either under contract or through a “power pool,” a clearinghouse system). The total or partial sale of publicly-owned assets is generally a component of deregulation.

Prices in deregulated systems are set through private contracts or through fluctuating prices determined at the power pool level. The touted benefits of a deregulated market are that paying the “actual cost” of power encourages conservation (or consumption of power at different

times), that introduced competition drives prices lower, and that power generators receive correct “market signals” indicating when and where power generation should be built. However, as discussed later in this report, the purported benefits of deregulation have been slow to materialize.

Perhaps tellingly, even though deregulation is supposedly good for the consumer, the demand for electricity deregulation is coming from suppliers. In B.C., both residential and industrial power consumers have vociferously condemned the proposals in the Task Force Report. This mirrors the experience in the U.S. where Federal Energy Regulatory Commissioner James Hoecker noted surveys

finding consumers content with electric service providers and remarked that the public’s general silence in terms of demanding customer choice was “positively deafening.” After encountering substantial public opposition, the Texas-New Mexico Power utility withdrew its restructuring plan – entitled “Customer Choice” – causing a utility spokesperson to lament: “We’re trying to give our customers something that would be good for them, but this is apparently something they don’t know they need.”⁵

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Electricity deregulation and the environment

Part 2

Pollution from power generation

Electricity production from fossil-fuel combustion

Continently, power generation is a major source of pollution. Pollutants produced from fossil fuel combustion by the electricity sector include nitrogen oxides (NO_x), sulphur oxides (SO_x), particulate matter (PM), mercury (Hg), and carbon dioxide (CO_2).

The electricity sector is the single largest source of toxic emissions in Canada and the U.S. U.S. emissions from the electricity sector include: 25% of national NO_x emissions, 70% of national SO_2 emissions and 25% of national mercury emissions. The sector is also responsible for 35% of that nation's emission of CO_2 , the primary greenhouse gas.⁶

In Canada, the electricity sector emits 122,000,000 tonnes of CO_2 , 648,411 tonnes of SO_2 , and 239,137 tonnes of CO_2 . Electric utilities accounted for 43% of total toxic air releases in the US and Canada in 1998.⁷

Burning fossil fuels to produce electricity also gives rise to a host of toxics, including heavy metals, hydrochloric acid, sulfuric acid and hydrogen fluoride.

As well as damaging lung tissue and causing respiratory disease, NO_x and SO_x contribute to acid rain. Nitrogen oxides also nitrogenate soils and can eutrophy lakes, leading to algae blooms. They are a precursor to ground-level ozone (O_3), the major component of smog. Elevated levels of ground-level ozone are linked to damage to lung tissue and can harm vegetation and crops.⁸

There is mounting evidence of the serious health impacts of unburned carbon particles emitted upon combustion of fossil fuels. Coarse particles, known as PM_{10} , are 10 microns or smaller in diameter; fine particles, known as $\text{PM}_{2.5}$, are less than 2.5 microns in diameter. (By comparison, the width of a human hair is about 100 microns.) The latter particles are inhaled deep into the lungs and have a high rate of deposition – up to half of the particles breathed in are not breathed out again. The result can be degenerative lung disease, asthma, pneumonia, weakening of the immune system and premature mortality. As is often the case with air pollution, those most affected are children, the elderly and people already suffering from lung and heart conditions. Many studies show that there is no known safe limit for exposure to fine and ultra-fine particulates.⁹

Mercury is a heavy metal released when coal is burned, and is one of the most toxic substances known. Its deposition in lakes and streams has led to fish consumption advisories across North America. Even in very small doses, mercury can cause neurological and

developmental damage to fetuses and young children. Coal-fired power plants are the largest airborne source – and the largest unregulated source – of mercury pollution in North America.¹⁰

Carbon dioxide is the most important greenhouse gas. There is powerful evidence that anthropogenic sources of greenhouse gases are already significantly impacting the earth's ecosystems. British Columbia's climate has warmed 0.6 to 1.0 degree centigrade over the past 100 years, and this trend is predicted to continue, with negative impacts on B.C.'s air quality, salmon runs, and forests.¹¹

Such pollution exacts a heavy toll: each year 16,000 people die prematurely from air pollution in Canada.¹² One in five Canadians has some form of respiratory distress, and respiratory illness is now the leading cause of hospital admission for children under 10. Globally, anthropogenic CO₂ emissions are changing the world's climate with potentially disastrous results.

Hydroelectric generation

Hydroelectric production is certainly not without environmental effects. The construction of large-scale reservoirs for hydroelectric plants has been definitively linked to the endangerment of freshwater fish and other species, the destruction of habitats, as well as emissions of mercury, methylmercury and greenhouse gasses. Specific impacts of hydroelectric facilities include changes to water quality (including temperature), destruction or alteration of aquatic habitat, and incidents of dewatering of fish habitat due to changes in reservoir and river levels.

One of the most important types of damage from hydroelectric facilities arises from the operational regime of the plants. Reservoir based hydroelectric dams can dramatically change the timing and quantity of river flows with significant effects to river health and species as a result. These effects can be moderated through ensuring the provision of “minimum stream flows” and moderating the rate of water release fluctuation below a facility. However, since these measures come at a cost to the overall profitability of hydroelectric operations, they are frequently not undertaken unless required.

There is often a distinction drawn between large hydroelectric generation plants with associated reservoirs, and smaller “run-of-the-river” power plants that do not impound large quantities of water or alter the natural flow regime of a river. In most jurisdictions, the smaller run of the river plants qualify as “green” or “sustainable” electricity while larger facilities do not. Green power can command a higher price on a continental basis.

Though reliance on hydroelectric power has caused significant aquatic impacts, it has also meant that B.C. has escaped the dramatic pollution impacts of the electricity sector. It appears that the B.C. government's vision of deregulation is to bring us into the power pollution fold.

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The environmental effects of electricity deregulation

The Task Force's vision for B.C.'s electricity future is one of high-impact, high-pollution production based on coal, natural gas, and coal bed methane. What will be the environmental consequences? Consider the following:

Coal

- Burning coal to produce electricity releases CO₂, NO_x, SO_x, PM₁₀ and PM_{2.5}, mercury, lead (a nerve toxin) and five cancer causing substances, including arsenic, chromium and cadmium.
- Coal combustion is the largest source of mercury emissions in North America.¹³
- The top 15 utility releasers of toxic pollutants in U.S. are coal plants.¹⁴
- Every megawatt of coal-fired power produces approximately 8,500 tonnes of greenhouse gases per year. Coal power produces about 2.5 times as much CO₂ for the same amount of energy output as does a combined cycle natural gas plant.¹⁵
- Three large coal-fired power plants produce 83% of all the harmful air pollutants from Ontario's electric-power sector.¹⁶

Natural gas

- Combined cycle gas turbines (CCGTs) create large amounts of CO₂ – 1.9 kilograms per cubic metre of gas.
- They also produce other greenhouse gases: nitrous oxide (N₂O) (which is 310 times more potent in its greenhouse effect than CO₂) and methane (21 times more potent than CO₂)
- Though cleaner than coal, gas plants also produce NO_x, CO, SO_x, PM₁₀ and PM_{2.5}, and trace amounts of heavy metals and other pollutants.
- Although gas turbines can emit only 10% of the fine particulates of the best coal-fired plants, they are of a size that gives rise to the highest concern for human health – 77% of CCGT particulate emissions will be PM_{2.5}.¹⁷

Coal bed methane

- In the U.S. coal bed methane extraction has depleted aquifers and contaminated groundwater.
- Coal bed methane is held in place by water pressure. Releasing the gas from coal aquifers requires pumping out the water. In the Powder River Basin in Montana and Wyoming 18,000 gallons of sodium-enriched water is dumped on the land every day. The practice is depleting local aquifers, eroding topsoil, and changing the region's ecology. It is estimated that it will take two centuries to replenish the aquifers.¹⁸
- In La Plata County, Colorado, development of coal bed methane led to “uncontrolled seeps of flammable and toxic gases, underground coal fires, large-scale vegetation die-off and contamination of groundwater, domestic wells, and homes.”¹⁹

- Gordon Campbell, Premier of British Columbia: “There’s not a region [in B.C.] . . . that does not have coal-bed methane available for exploitation. We think that’s an enormous economic opportunity.”²⁰

But could electricity deregulation be good for the environment?

Some advocates of electricity deregulation argue that it is an environmentally beneficial policy. Although proponents often promise reduced prices as the reward for deregulation, deregulation is also promoted on the opposite ground. Market forces, so it is contended, establish price signals that reflect the true costs of production and hence encourage conservation. With the possibility for government subsidization removed from the price of electricity, consumers and industry have an incentive to become more efficient and to conserve.²¹ A further claim is that deregulation promotes the introduction of new efficient technology that displaces old “dirty” production technology, resulting in less overall pollution. As will be seen, these twin claims are flawed – both in theory and in practice.

Myth 1: The market sends right price signals, encourages conservation

Whereas increased prices arising from deregulation can create conservation incentives, arguments that deregulation promotes conservation fail to consider that markets and competition act to increase consumption. For a regulated utility, responding to increasing demand by increasing supply means facing the high start-up costs of bringing new production on line. A more cost-effective solution is to encourage conservation through demand-side management. Hence, most public utilities established programs to encourage conservation and efficiency – BC Hydro’s Power Smart is one example. Economic reality is such that these programs represent by far the most cost-effective way to deal with increasing demand.

However, the *raison d’être* of a power producer in a deregulated system is to maximize profits through ever-increasing production and consumption – the very opposite of conservation. In the deregulated continental market that is emerging in North America, energy producers can (in theory, at least) sell power wherever they can get the best price. Conservation programs, should they continue to exist, now take on a different cast. Consumption is reduced at home so that more electricity can be sold into high-priced markets. BC Hydro has already started to buy-back energy it promised to large industrial producers in order to sell it at a higher price in the U.S. The intent of conservation is no longer to reduce overall demand, but to increase sales where prices are highest.²²

The environmental picture under deregulation worsens once another basic feature of market economics is considered: new power will be produced in the cheapest form possible. Bringing large hydroelectric power on-line typically requires very high capital costs. Consequently, large hydroelectric projects are almost never undertaken without significant government involvement. In contrast, because of the subsidization of fossil fuel production – through such measures as accelerated depreciation and written-off government loans, grants for exploration and research and development, and the ability of producers to “externalize” the costs of

pollution (see Section 3) – the market provides the cheapest power in the form of coal and, secondarily, natural gas. The risk of this happening in B.C. is confirmed by the Task Force report, which emphasizes growth potential in both areas.

In its report, the Energy Policy Task Force laments that coal is not used to produce electricity in British Columbia and quotes the Ministry of Energy and Mines estimate that approximately 15 billion tonnes of British Columbia's coal resources could be used for thermal electricity production, of which approximately 3 billion tonnes could be mined economically with available technology.²³

The report also includes among the reasons for interest in expanded coal production the desire of coal mining companies to diversify their markets and produce value-added electricity, the ability of Independent Power Producers to sell electricity in export markets, and the existence of highly profitable spot-market prices for electricity in western North American markets. It might be noted that such profitable markets prompted Cominco to shutdown its smelter at Trail for several months in 2001 and 2002, so that it could sell the power from its hydroelectric facilities to the U.S.²⁴

The Task Force recommends that the “provincial government take a direct role in assessing coal as a growing source of energy across North America” and that a “final emission guideline” be developed “for coal thermal generating plants as soon as possible and no later than June 30, 2002.”²⁵

Regarding natural gas, the Task Force report advocates increased infrastructure development and subsidies for exploitation of new reserves. As well, it highlights B.C.'s “significant potential” for development of coal bed methane (natural gas from coal seams).²⁶ The B.C. government has since introduced a royalty regime for coal bed methane, which “provides a framework for the expeditious and orderly development of the industry.”²⁷

The raison d'être of a power producer in a deregulated system is to maximize profits through ever-increasing production and consumption – the very opposite of conservation.

Myth 2: Introduction of new technologies will displace old “dirty” pollution technology

While Independent Power Producers and energy traders argue for deregulation on the justification of cleaner and cheaper electricity through competition, once the market is deregulated they tend to focus on the least expensive, rather than the cleanest, method of generation. In a deregulated system, the primary determinant of production decisions is not environmental impact, but cost.

Technological change – notably the introduction of combined cycle gas turbines, which have made smaller-scale investor-owned production more viable – has provided some impetus for deregulation, notably in the U.K., where natural gas has significantly displaced coal-fired plants.

Alberta still addicted to ‘coke’

Post-deregulation, there is little indication of electricity generation in Alberta shifting away from its traditional dependence on coal. Total Alberta generating capacity for 2001 was 11,588 MW, of which 5,663 MW is coal (49%), 3,972 MW is natural gas (39%), and 1,003 MW (8.7%) is renewables. According to Alberta government figures, 5,627 MW of new generation will be added between 2002 and 2006. The largest source of new generation is coal, 2,580 MW-worth or 46% of the new capacity. This is followed by cogeneration at 1,723 MW (30.6% of new production). New natural gas generation will total 886 MW (15.7%), and 438 MW of planned production increases will be from hydro, wind or wood waste (7.8%).²⁹

And one motivation for deregulation in California was a desire to replace nuclear power with safer and less costly gas production. However, the environmental gains of a move from coal and nuclear to natural gas do not apply in B.C., where the great majority of power comes from comparatively low pollution hydroelectric dams. Rather than displace existing dirty sources of power, new CCGT plants would add directly to the net pollution of the energy sector in B.C.

Moreover, the evidence shows that in North America deregulation has not led to the predicted displacement of dirty power sources by cleaner ones. This is true in two ways. First,

new fuel sources themselves are not necessarily cleaner than old ones, i.e., coal remains a top choice for new production. Second, new power generation has not replaced existing generation but has been additive: more pollution has just been added on to existing pollution. Consider post-deregulation Alberta: despite massive natural gas reserves, the three largest new power projects currently proposed or in construction are all coal-fired.²⁸

U.S. agencies predict that steadily increasing electricity demand will be met through coal and natural gas. Between

1999 and 2010, annual US demand for natural gas is expected to grow from 603 billion m³ to 794 m³, a 32% increase. At the same time, U.S. coal consumption is expected to increase 21.5%, from 923 million tonnes to 1,122 million tonnes.³⁰ CO₂ emissions from U.S. coal-fired power plants rose 18% between 1990 and 1999, a trend that will continue as production increases. Such trends are consistent with energy models of production under deregulation, some of which predict that coal consumption by utilities will increase by as much as 30% directly because of price-based competition related to restructuring.³¹

The increasing emphasis on coal-fired generation in Canada is evident in recent forecasts by Natural Resources Canada of an 8% increase in greenhouse gas emissions from coal power plants over 2000 levels by 2010. Compare this with Natural Resources Canada's 1999 forecast of a 6% *decrease* in coal-fired electricity production emissions over the same period.³²

Market preferences for coal and gas production accord with the recommendations of the Task Force's report, which, as already noted, emphasizes these sources as the preferred option for B.C.

For British Columbians, the environmental consequences of electricity deregulation will be increased pollution, worsening air quality, increased respiratory disease and deaths, and a significant increase in the province's contribution to global warming.

Lost opportunities

For British Columbians, the environmental consequences of electricity deregulation will be increased pollution, worsening air quality, increased respiratory disease and deaths, and a significant increase in the province's contribution to global warming. However, we are not bound to follow this path. BC Hydro's endowment of dams that reliably produce cheap power creates an invaluable opportunity to implement conservation and green power measures. Marginal increases in cost that may result can be spread out across the system, minimizing impacts on any one group of consumers. By making the market the sole adjudicator of supply and price, however, we lose our ability to exercise democratic control over environmental policy and to ensure that future power demand is met in a manner that protects the environment.

Problems with electricity markets

Part 3

“We’re in deep doo-doo.”

— Ken Malloy, CEO of the Centre for the Advancement of Energy Markets and one of the foremost advocates of energy deregulation on the continent, commenting on the results of electricity deregulation in North America to date.³³

“Free markets in electricity go berserk because they aren’t really markets, aren’t free and can’t be. Electricity isn’t like a dozen bagels; it can’t be frozen, stored or trucked where needed. And while you can skip your daily bagel, homes and industry will not do without their daily electricity.”

— Gregory Palast, *Washington Post*³⁴

PROPOSERS OF POWER DEREGULATION IN B.C. ARGUE THAT “FREE MARKETS” IN electricity deliver net social good through lower cost generation, expanded consumer choice and the most efficient and modern power choices. The reality of deregulation as experienced elsewhere, however, has been quite the opposite: dramatic price increases, price volatility (price spikes), service disruptions, and increased reliance on dirty power.

The failure of electricity deregulation to deliver on its promises is linked to flawed assumptions about the nature of electricity markets: that they reflect the true costs of production and that, through competition, they promote efficient and lower cost generation and a stable supply. In reality, markets are distorted by the ability of producers to externalize costs, by government subsidization of dirty power, and by outright market manipulation.

Externalized costs and subsidies

The true costs of fossil fuel-based power production are not borne by producers. An example of what economists refer to as “market failure,” energy producers are able to externalize the cost of environmental degradation and impaired public health on to society at large and future generations. Polluters do not pay a fraction of the cost of the harm caused by pollution – the costs of climate change, acid rain, cancer, neural impairment, respiratory disease, crop damage – these are instead inflicted on the public, making dirty production technology “cheap” in the language of the market.

A study of two New England coal-fired plants demonstrates how the externalization of costs amounts to a public subsidy of dirty power. The study found that emissions from these two plants were responsible for 159 premature deaths, 1,720 emergency room visits, 44,300 asthma cases, and 298,000 daily cases of respiratory symptoms. Reductions in emissions levels to bring the plants in compliance with US federal emission standards would reduce health damages by US\$810 million.³⁵ A study of air pollution from utilities targeted in federal lawsuits during the

Clinton administration found that these eight utilities cause an estimated 5,900 deaths a year, 140,000 asthma attacks and 14,000 cases of acute bronchitis see footnote comment.³⁶

Dirty power production is further subsidized by direct and indirect government spending. As the Canadian federal Standing Committee on the Environment and Sustainable Development has stated, the “playing field in the energy sector is far from level,” with most federal tax policies biased in favour of “conventional, carbon-intensive energy industries at the expense of energy efficiency and renewables.”³⁷ While there are projects and policies in support of energy efficiency and cleaner generating technology, they pale before the extent of fossil-fuel subsidization.

Government support for the Alberta oil sands development alone is 10 times greater than all federal government energy efficiency and renewable energy support schemes.³⁸ The federal

government makes available an average of \$12 million in total funding for renewable energy each year. Compare this to the \$55 million it provides to the fossil fuel industry just for research and development.³⁹ Further, since 1970, the Canadian government has written off \$2.8 billion in loans to the fossil fuel industry.⁴⁰

Externalized costs and subsidization of fossil-fuel generation hinder the development of sustainable clean power. A study published in the journal *Science* found

that accounting for the 2,000 deaths from coal production and the \$35 billion paid out in compensation for black lung disease makes wind power as cost-effective as coal.⁴¹ A major European Commission study of 15 countries found that when the cost of direct subsidies as well as health care, environmental clean-up, and road construction are factored in, the cost of generating electricity from coal is up to 120 times more expensive than wind and 10 times more expensive than generation from solar voltaics.⁴²

When the cost of direct subsidies as well as health care, environmental clean-up, and road construction are factored in, the cost of generating electricity from coal is up to 120 times more expensive than wind and 10 times more than solar voltaics.

Fixing the power: Enron’s market manipulations

Recently released internal documents of the now-bankrupt Enron Corporation reveal that the company used a plethora of strategies to manipulate the California power market and drive up prices during the state’s power crisis. The strategies – which bear names like Fat Boy, Load Shift, Get Shorty, Wheel Out and Ricochet – involve such things as submitting “dummied-up” power-delivery schedules, the submission of “false information” to the state, and the effective increasing of costs to all market participants by “knowingly increasing the congestion costs.”

One basic approach was to deliberately over-schedule energy delivery and then sell the excess for high prices on the spot market. A variation, known as Load Shift, allowed Enron to generate \$30 million in profits in 2000 using techniques that included creating “the appearance of congestion through the deliberate overstatement” of power to be delivered.

Enron took advantage of California’s imposition of price caps meant to clamp down on soaring costs, buying desperately needed California power at the capped price and then selling it for as much as five times higher out of state. The corporation also engaged in “megawatt laundering,” in which it bought power in California, resold the power out of the state and then re-bought the power and resold it back into California – thus circumventing the price caps. An internal Enron legal memo opines that “this strategy appears not to present any problems other than a public relations risk, arising from the fact that such exports may have contributed to California’s declaration of a Stage 2 Emergency yesterday.”

The documents, released as part of a Federal Energy Regulatory Commission investigation, describe how Enron traders created and then “relieved” “phantom Congestion” on California’s electricity grid. Describing a strategy known by traders as “Death star,” one memo states, “the net effect of these strategies is that Enron gets paid for moving energy to relieve congestion without actually moving any energy or relieving any congestion.”

Importantly, although Enron may have been on the vanguard of power market manipulation, it seems other energy traders quickly adopted their tactics. The documents state that other power companies used similar techniques to distort the market and increase prices.⁵⁰

Non-competitive markets and market manipulation

Competitive markets are characterized by numerous small firms, none of which is powerful enough to independently set or change the price of a good. Price is determined by competition between firms to satisfy consumer demand and is the basis for (instead of the product of) production and distribution decisions. Outside of economic textbooks, markets that approach this ideal are rare and are best approximated in industries that – unlike the electricity sector – have relatively small entry costs.

In contrast, deregulated electricity markets are highly imperfect and dominated by a handful of major corporations who exhibit noncompetitive behaviour, while seeking to determine the price and supply of electricity through collusion and the exercise of market power.

A related factor is that without external intervention, competition in markets becomes self-eliminating as companies swallow each other up to increase market power and decrease competition. Power deregulation in the U.K. sparked a feeding frenzy of mergers and acquisitions by U.S. firms, quickly leading to U.S. ownership of two-third's of the U.K.'s regional electricity companies. Deregulation in the U.S. also led to rapid concentration in the industry, with the result that there are now 9% fewer (investor-owned) facilities and 20% fewer people working in the industry than in the early 1990s.⁴³ Thus deregulation can serve to *decrease* competition.

Increasing concentration of energy utilities creates a situation in which a private utility acquires monopoly power analogous to that of a public utility – but without any corresponding responsibility to the local economy or environment. A local illustration of such behaviour comes from Utilicorp, the giant multinational that took over West Kootenay Power and Light. The company recently moved 40 jobs in the Kootenays and Okanagan to a centralized call centre in Calgary and closed local storefront offices.⁴⁴

A major contributor to price distortion is the emergence of energy traders. In a deregulated market electricity generation is no longer confined to primarily servicing a particular jurisdiction: traders are able to buy electricity in one area and sell it in another. These middlemen are perfectly positioned to manipulate prices. According to California's electricity grid managers, over a 10 month period 98% of trading bids were driven up by noncompetitive patterns of behaviour.⁴⁵

Under a regulated system, the price of electricity is linked to the cost of production. Deregulation makes electricity a tradable commodity, whose value is whatever can be obtained in the market. Concentration of ownership in the sector and the complicated nature of electricity markets, in which prices fluctuate minute to minute, make electricity prices particularly susceptible to manipulation. In the U.K., where electricity deregulation was born, a small handful of powerful buyers and sellers turned “the daily auction into a fixed casino,” leading Britain's Office of Electricity and Gas Markets to conclude that “collusion and manipulation of the pool had become standard business practice.”⁴⁶

In California, a report by the managers of the state's power grid found that over a ten-month period in 2000 and 2001 “electricity wholesalers overcharged California \$5.5 billion.” The five companies offered electricity at prices that were double the cost of production.⁴⁷ During this period, Californians saw their electricity bills triple. At the same time, wholesale power prices soared to an average of \$1,000 per megawatt-hour (MWh) and spiked as high as \$1,500, a 3000% increase over 1999 levels. A study by economists Paul Joskow and Ed Kahn found that

Britain's Office of Electricity and Gas Markets concludes that “collusion and manipulation” of the power pool have become “standard business practice.”

market abuses were the likely explanation for California power prices being higher than can be explained by market forces.⁴⁸

There is also evidence that “power producers selling electricity to California’s fledgling deregulated market shared confidential data that allowed them to watch each other’s every move. This gave them leverage to drive up prices and helped launch the state into its energy crisis.”⁴⁹ The power industry and electricity wholesalers and utilities are now the subject of numerous investigations and lawsuits in California. BC Hydro’s subsidiary Powerex is one out-of-state company accused of inflating prices in the California market.

Advocates for deregulation contend that California’s energy woes actually transpired because California did not deregulate enough and because price caps prevented utilities from passing on the full cost of electricity to consumers through the free market. However, they neglect to mention that it was speculation in the “free market” that caused the spectacular increases in wholesale electricity prices. If all the costs were passed on to consumers, a residential consumer who paid \$55 a month before deregulation would have paid approximately \$600 a month when prices spiked in the winter of 2000.⁵¹

It is informative to compare how California’s publicly owned electric power systems fared during the state’s energy crisis. California’s 30 communities with municipally owned and controlled power consistently offered electricity at lower prices than private deregulated firms. The City of Los Angeles’ Department of Water and Power charged 20% to 25% less than comparable privately run utilities elsewhere in the state.⁵²

Before deregulation, Alberta electricity prices were on average the lowest on the continent and its electricity system was one of the most reliable in North America. Post-deregulation the province experienced regular brownouts and was the third most expensive jurisdiction in the U.S. and Canada, after California and Hawaii.

Alberta’s prices before and after deregulation illustrate the same point. Before deregulation, Alberta electricity prices were on average the lowest on the continent and its electricity system was one of the most reliable in North America. Post-deregulation the province experienced regular brownouts and was the third most expensive jurisdiction in the U.S. and Canada, after California and Hawaii.⁵³ In October 2000, Alberta Market Surveillance Administrator, Howard Ward, released a report stating that deregulation created an opportunity for market manipulation and an oppressive supply crisis.⁵⁴ This report was considered by the Power Pool Council of Alberta, the body that oversees the Alberta

Electricity Market. The Council found that suppliers did, in fact, manipulate the market, resulting in higher prices for consumers. However, its conclusions are revealing regarding what the Council believes consumers should expect of deregulation and “free” markets.

The Council held that deregulation did not create a fully competitive market and that the Alberta electricity industry “does not exhibit true competition.” It went on to state, however, that “during Alberta’s continued transition from a regulated market, it may be unreasonable to expect the Alberta electricity market to perform like a truly competitive market,” and that “some exercise of market power may have to be tolerated.”⁵⁵ Furthermore, “it is probable that consumers would hold the opinion that the result is ‘unfair’ to them. However, it must be remembered that this is no longer a truly cost-based market as it was under regulation and therefore consumer expectations that prices remain at, or close to, marginal cost at all times may be somewhat unreasonable.”⁵⁶ Thus it appears that the Council believes that market manipulation is an expected and acceptable practice and that the “reasonable” consumer should not object to paying artificially inflated prices.

In an attempt to create competition at the retail level, the Alberta government created Power Purchase Arrangements (PPAs). A buyer of a PPA obtains the exclusive rights to the output of a facility, which the buyer can then resell through the power pool. The PPA holder does not

acquire ownership of the power plant itself, only its output, and the PPA holder pays the owner of the plant the costs of producing the electricity. PPAs sever the fixed link between production and distribution and allow for the buying and reselling of electricity. The Alberta government sold PPAs through auction. Money raised would, in theory, compensate Albertans for their investments made in the regulated system of power production.⁵⁷

To be considered a success the auction, held in August 2000, needed to raise \$3 billion. But only \$1.1 billion was raised and only two-thirds of the generating capacity sold, to a handful of five large players (one of which was Enron). Rick Wallace, of the Parkland Institute, has analyzed how the prices paid for PPAs compare with the price of electricity in the Power Pool. An example is the Keephills 1 and 2 (one of the 8 PPAs sold), purchased by Enmax. The price paid for the PPA together with the production costs of the plants (which Enmax is required to pay) mean that Enmax acquired this output at an average cost of \$9.35 per MWh. The price of this electricity in the January 2001 average power pool was \$131.23 per MWh, meaning that Enmax would have made about \$121.88 per MWh on electricity from the Keephills plant that was sold into the pool, *a 1,400% profit*.⁵⁸

Wallace goes on to debunk the claims of the Alberta government that skyrocketing electricity price increases were not the result of deregulation but of high natural gas prices. He shows that increases in gas prices would have raised production costs in 2000 to a high of \$63.80 per MWh. Yet the actual pool price rose from \$46.46 MWh in January to a whopping \$181.91 per MWh in December.⁵⁹

This is not to say that the dramatic price increases that ensued in areas that have deregulated were in every case the sole result of gouging by power companies. Other factors, such as high natural gas prices and increasing demand contributed to increasing costs. But it is clear that deregulation allowed producers and energy traders to precipitate and then exploit energy crises at the expense of consumers. Contrary to the optimistic claims about competition and market efficiency, the reality of deregulation has been a delinking of the price of electricity from the costs of production and the establishment of a complex and non-transparent system of electricity trading that enables suppliers to inflate prices – and profits.

B.C.'s power supply

In promoting a deregulation agenda, the provincial government and the Energy Policy Task Force state that future energy demand is best met by the private sector. The government and Premier Campbell attempt to bolster this position by pointing out that “in three of the last ten years we’ve been power importers.”⁶⁹ However, B.C. has more than enough power for its present and immediate future needs. The Task Force report itself does not foresee a need for new power until 2010, and BC Hydro’s Integrated Electricity Plan (IEP) shows that BC Hydro does not predict a need for new power resources until 2007. On releasing this plan then-BC Hydro President and CEO Michael Costello stated, “This IEP demonstrates – unequivocally – BC Hydro has ample electricity now, and into the future to meet all of B.C.’s needs.”⁷⁰

B.C. Hydro’s power imports are driven by market strategy, not insufficient capacity. Using its large reservoirs, B.C. Hydro can import cheap power from states like Washington where utilities are required to release water for endangered salmon runs, while storing water in B.C. to generate power for export at higher prices later. The balance sheet of imports and exports does not, therefore, present an accurate picture of our domestic power needs.

When new resources are required, BC Hydro can provide them more cheaply than can Independent Power Producers. Any investment, private or public will require borrowing funds, and BC Hydro has a healthy debt to asset ratio⁷¹ and a top-notch credit rating of AA-. The private sector is charged higher interest rates, meaning more expensive production, costs which ultimately are passed on to the consumer. Moreover, the most cost-effective way to meet increasing demand is through conservation programs, which, as already shown, can be best implemented through a regulated system.

Deregulation and supply

Deregulation removes the public's ability to have input into the development of the electricity supply and places it solely in the hands of private corporations. Under a market system, information on the costs of power production or the rates at which it is sold is considered confidential commercial information and is not publicly available. The public's right to information regarding operations under a public system is lost. Oversight to ensure that there are sufficient energy reserves available is also removed: how much electricity is produced or not produced and whether there is any reserve capacity on-hand in the case of unexpected shut-downs is guided solely by the "invisible hand" of the market.⁶⁰ The results have been service disruptions (rolling blackouts and brownouts seen in Alberta and California), increased price volatility, and the inability to plan for the long-term development of the electricity supply to ensure that future demand will be met.

Deregulated, privatized energy markets create incentives to hold back production and under-invest in new production. Withholding production creates an artificial crisis which forces prices up, and profits along with them. And, as well as directly improving corporate balance sheets, minimizing outlay for capital-intensive new plants perpetuates supply shortages and thus high prices. The deliberate withholding of power likely caused California's energy crisis. During the summer of 2000, when electricity use in the state peaked at 43,000 MW, there were no blackouts. But when rolling blackouts were initiated on January 17, electricity demand was below 30,000 MW.⁶¹

It seems that the answer to the mystery of the California's disappearing power is that "generators are withholding generation to force the prices up higher."⁶² By selectively declaring plants out of service, producers can create artificial shortages and raise electricity prices. During some "shortages," a third of California's power plants were out of service, a proportion far higher than historical levels. A Union of Concerned Scientists study found that in New England in the year following deregulation of the wholesale electricity market, power plant outages increased by nearly 50 percent.⁶³ And Alberta's Market Surveillance Administrator reported that the same practice of shutting down production to keep prices high also occurred in Alberta.⁶⁴

"It is no longer clear that the prices consumers pay are going to be lower as a result of competition."

— Dale Hildebrand, Vice President of Optimum Energy Management Incorporated

The tendency toward under-investment in the production capacity can be seen in Alberta, where four new plants are needed to meet current demand, but the first of three scheduled new plants will not come on-line until 2005. Further, as Rick Wallace points out, the delinking of electricity prices from costs, means that even if capacity is expanded, there is no guarantee lower prices will follow. Dale Hildebrand, Vice President of Optimum Energy Management Incorporated, an energy industry consulting firm, puts it succinctly: "It is no longer clear that the prices consumers pay are going to be lower as a result of competition."⁶⁵

Under deregulation, when investment in new facilities does occur, it is made solely on the basis of (comparatively) short-term profit projections. And in an environment where electricity can be sold wherever they are paying the most, maximizing investment returns and meeting local needs may not be coterminous. The former, however, will always take precedence over the latter.

Inadequacies in power transmission capacity can also lead to higher electricity prices. A recent study by the U.S. Federal Energy Regulatory Commission (FERC) found that bottlenecks in the U.S. electricity transmission system added hundreds of millions to consumer power costs

during 1999 and 2000. The study found that summertime bottlenecks were worse in those states that had deregulated their retail markets. Power line capacity problems were worst in California and New York, two states that are leading the way regarding deregulation.⁶⁶

In the southeastern states, where regulated utilities predominate, power line capacity problems were least pronounced. The study found that the weak-link between West Virginia and the Carolinas increased wholesale prices as much as 88%. In 2000, choke points in transmission capacity cost New York consumers an extra \$724.7 million; congestion in Path 15 in California cost consumers extra \$20.6 million.⁶⁷ Companies in California have been accused of playing on the state's transmission limits, purposefully overscheduling power deliveries and then getting paid to not deliver.⁶⁸

NAFTA and free trade

The entry of U.S. power companies into a deregulated B.C. power market will engage the investor protection provisions contained in Chapter 11 of the North American Free Trade Agreement (NAFTA), which has implications for the ability of the provincial or federal governments to regulate the power market, or even return it to public ownership in the future.

Chapter 11 provides a broad set of investor protection and investment liberalization rights to U.S. and Mexican companies investing in Canada. Those rights include: treatment “in accordance with international law, including fair and equitable treatment and full protection and security” (Article 1105); and protection against direct or indirect “expropriation” or “a measure tantamount to nationalization or expropriation” of an investment (Article 1110). The protection against expropriation is subject to an exception where the expropriation is for a public purpose, done on a “non-discriminatory basis,” and complies with the duty of fair and equitable treatment in Article 1105. Compensation must also be paid.

An investing company can bring a claim directly against Canada for breach of those rights. For example, a company can claim compensation for alleged expropriation when it views a new law as substantially affecting the profitability of its investment. The claim is determined in a binding arbitration process and can result in an award of damages against the government. Typically the arbitration is secret, with no public access to the evidence or hearing process.

Chapter 11 gives rise to a variety of concerns for Canadians. It veils important challenges to public laws and governmental action in secrecy, and gives special rights to foreign investing companies that are not available to Canadians and Canadian companies. The most serious concern in the context of power market deregulation, however, is that it may make governments reluctant to regulate or act in the public interest, for fear of exposure to claims for compensation from companies whose business interests are affected.

A company's right to mislead

Chapter 11 may even protect the right of cigarette companies to create a false sense of safety in consumers of “light” and “mild” cigarettes. After federal health minister Allan Rock announced that he was looking at banning the use of those terms on cigarette packages, because they deceive smokers into thinking that the cigarettes are less harmful, Philip Morris International warned Ottawa that the ban would violate Chapter 11. The terms “light” and “mild” are industry trademarks, the company argues, and are therefore covered by the protection against expropriation contained in Article 1110.

More than seventeen claims have been brought under Chapter 11 to date, including some troubling cases in which legislation or decisions intended to protect public health and the environment have been directly targeted:

Metalclad v. Mexico: a U.S. hazardous waste disposal company successfully claimed \$16.7 million against Mexico, when a local government refused to issue a building permit for a hazardous waste facility with a history of problems.

Ethyl Corp. v. Canada: Methylcyclopentadienyl manganese tricarbonyl, or MMT, is a gasoline additive that vehicle manufacturers claim impairs vehicle emission technology, and that when burned produces a suspected neurotoxin. After Canada passed legislation banning the importation of MMT, the U.S. manufacturer of MMT, Ethyl Corp., brought a Chapter 11 claim that forced Canada to reverse the ban on the importation, issue a public statement to the effect that there was no evidence that MMT was harmful to human health (when in fact there was and is considerable evidence of such), and pay \$13 million in damages.

S.D. Meyers v. Canada: After a U.S. Environmental Protection Agency ban on the importation of PCBs was overturned in a court challenge, Canada enacted a temporary ban on the export of

PCBs to the U.S. until the U.S. decision was reversed on appeal, and the U.S. ban on imports reinstated. Canada and the U.S. are both parties to an international treaty on the transport of hazardous waste that expressly contemplates limits on the export and import of PCB contaminated waste. Nonetheless, S.D. Meyers successfully argued that the Canadian ban breached Chapter 11.

There have been a limited number of final awards made under Chapter 11 to date, and it is too early to accurately gauge its true impact. However, the claims brought to date create a real risk that Chapter 11 will discourage governments from introducing new

laws to protect public health and the environment if those laws create the risk of exposure to a claim by an investing company. Whether it is only the threat of a claim or an actual arbitration ruling that requires government to pay millions in damages, Chapter 11 gives investing companies powerful leverage over government policymakers.

U.S. power companies are global players, and they are already investing in B.C. Power market deregulation will further open up the electricity market to U.S. investment, and bring with it the limiting effects of Chapter 11. Under the present regulated system, in contrast, the government has the ability to regulate BC Hydro to achieve public goods, whether it be mandatory demand-side management and green energy programs or preferential “B.C. first” hiring policies. The inexorable result of deregulation will be an erosion of B.C.’s control over electricity production within the province.

Whether it is only the threat of a claim or an actual arbitration ruling that requires government to pay millions in damages, Chapter 11 of the North American Free Trade Agreement gives investing companies powerful leverage over government policymakers.

Only power companies favour deregulation

It is telling that power market deregulation receives its support from the private power and fossil fuel sectors, while consumers, seniors, municipalities, labour, and industry are all strongly opposed. A recent poll conducted for Citizens for Public Power found that 68.1% of British Columbians are opposed to the privatization and deregulation of BC Hydro and 76.1% are opposed to selling off the crown corporation to pay down B.C.’s debt.⁸⁴ Such broadly based opposition is not surprising: it is energy companies and traders that have everything to gain from deregulation – and the rest of us who have everything to lose.

Social and economic impacts

Part 4

“You folks need to stop and think this thing through and not be seduced by the words competition and deregulation... Electricity is something that you can’t do without for a nano second.”
— David Freeman, Senior Energy Advisor to California Governor Gray Davis, commenting on electricity deregulation in Ontario.⁷²

SOME HAVE ARGUED THAT DEREGULATION PRODUCES A NET ECONOMIC AND SOCIAL benefit through lower prices to consumers and businesses. However, as shown above, the actual effect of deregulation is to *increase* the cost of electricity. And, although B.C.’s Energy Policy Task Force attempts to sell deregulation on the claim that a “fully competitive energy market will attract private capital and bring more energy supply, thereby lowering our energy costs and increasing our energy security,” it at the same time calls for price increases of 30 to 60 percent.⁷³ Moreover, the Task Force’s own data suggest that if the “market rates” are taken to be those prevailing in the western U.S., than consumers could expect increases in the order of 100%; industrial rates might increase as much as 200%.⁷⁴ For British Columbia, the economic and social impacts of deregulation would be considerable.

Price

It is a poignant fact that the three jurisdictions with the lowest electricity rates in North America all have publicly-owned utilities. Manitoba is number one (the crown corporation Manitoba Hydro produces among the lowest cost electricity in the world), followed by Quebec and B.C. By way of comparison, a \$101 power bill in Vancouver would cost \$318 in San Francisco and \$376 in New York.⁷⁵ (See Figure 1.) Despite emergency measures enacted to control California’s skyrocketing rates, current prices remain 40% higher than before deregulation.⁷⁶ There is no doubt that deregulation would bring British Columbians’ enjoyment of cheap, stably-priced power to an end.

Deregulation in Alberta was promoted on the basis that it would reduce electricity costs. Then-Energy Minister Patricia Black stated that “the government’s objective is to retain and build upon the most positive features of our existing system, including reliability and consumer costs, while positioning the industry to become more competitive as we move into the next century.”⁷⁷ The Alberta experience, however, has been quite the opposite. Before deregulation Alberta had stable prices that were “on average the lowest on the continent.”⁷⁸ Between June and October of 2000, electricity prices in Alberta rose from 5 cents to 25 cents per kilowatt-

hour (kWh), a 500% increase. In response to such skyrocketing prices, a panicked Alberta government introduced price caps and electricity rebates to shocked consumers.

In May 2000, Alberta rates were higher than BC's by up to 30 percent. In January 2001, even with price caps in effect, Albertans were paying 1.9 times as much as their counterparts to the west. Without price caps they would have been paying 2.27 times as much.⁷⁹ While the \$2.3 billion in electricity rebates from the Alberta government are often portrayed as a gift from

“Santa Klein” to the citizens of Alberta, it should be remembered that the gift is really to the power companies, the true beneficiaries of this production subsidy, paid for with Albertans’ tax dollars.

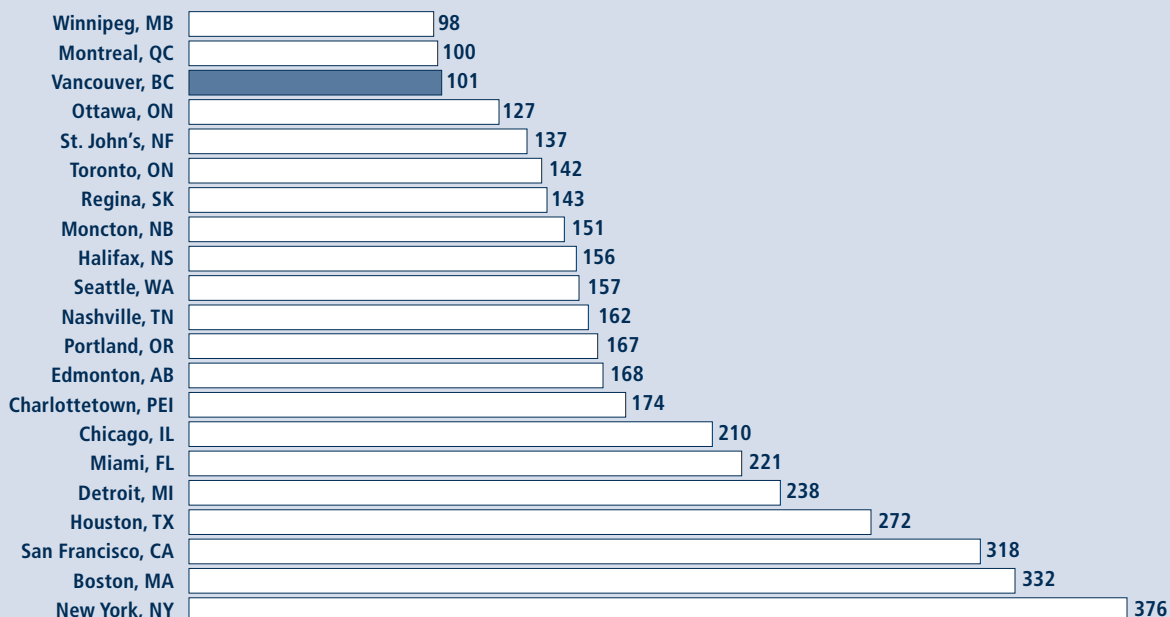
The same pattern is found in the U.S. From California to Chicago, New York and New Jersey consumers were promised lower prices from deregulation, only to be rewarded instead with skyrocketing prices and blackouts. In New York, for instance, customers watched their bills soar following deregulation, raising rates 43% for residential consumers and 49% for commercial users.

Wholesale electricity prices in Alberta have fallen since their peak in October 2000. But rates have started to go up again. Companies are now applying “rate riders,” so as to make up costs deferred by the imposition of price caps. Expected to be in effect for three years these surcharges add as much as 40% to a residential electricity bill.⁸⁰

In all likelihood, dramatically higher rates would not be a temporary condition in British Columbia either. Economic analysis demonstrates that joining markets with higher prices than our own leads to a convergence of prices to an equilibrium – their prices would gradually fall and ours would gradually rise, meeting in the middle. One economic estimate is that B.C.

After Alberta deregulated: prices rose from 5 cents to 25 cents per kWh, a 500 per cent increase; in May 2000, Alberta prices were up to 30 per cent higher than B.C.’s; and, even with price caps, Albertans still paid 1.9 times as much as British Columbians.

Figure 1: Comparative index of electricity rates for residential customers
1000 kW consumption, rates as of May 1, 2001.



Source: Hydro Quebec, North American Comparison of Electricity Prices

prices would rise to the average of Seattle and Los Angeles, at an annual cost of \$628 million to B.C. consumers and \$424 million to industrial users.⁸¹

Price increases will not necessarily be the same for all users. Large industrial interests have negotiating power that is not available to small businesses and residential customers. Such preferred customers are more likely to be aggressively solicited by power producers and can end-up securing lower prices on electricity. The Alberta government is enacting legislation that will allow power producers to cut deals with industrial users outside of the Power Pool and away from any public scrutiny. The government is formally entrenching a “two-tier” power system, in which residential and small-scale customers subsidize large industrial users.

For B.C., the Task Force recommends a transition to market rates through a system of blended prices, in which electricity produced by BC Hydro’s existing hydroelectric resources (its “endowment assets”) would be provided at below market rates. Consumers would be divided into classes (residential, small commercial, large commercial, industrial and other), each of which would be entitled to lower priced energy to a varying degree. The Task Force does not detail a mechanism for how the entitlement of each class would be determined other than that it would be based on historical consumption levels, likely meaning that large industrial users would benefit the most. In this way, residential customers would be effectively subsidizing industrial consumers.⁸²

As well, the effect of increased rates will have a differing impact across the population: low-income people will feel the effects hardest of all. Electricity deregulation will compound the effect of the B.C. government’s sharp reductions to income assistance, increased medical premiums, and a tax shift from upper to middle and lower income earners.⁸³

Seniors, already feeling the effects increased natural gas rates, and others on fixed income will be hit hardest by the large price increases and prices that vary from month-to-month.

Price increases may also vary across geographic area. In a system driven solely by profit, the higher costs of servicing customers in rural and remote areas will no longer be spread out across the system, meaning that some communities may face disproportionately higher rates or even the removal of service. While some may argue that an end to the subsidization of service to remote areas would be a positive development, the consequences for people in rural communities would be severe.

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Reliability

As was addressed in Section 3, deregulation creates incentives to increase profits by creating artificial supply shortages, potentially leading to the kind of blackouts experienced in California. The rule of the bottom line also means that electricity reserves will be kept to a minimum and that all aspects of operations that do not directly generate revenue will be cut as far as possible.

Preventive maintenance and safety programs would be one such target. A survey of electrical engineers conducted by the trade magazine *Electrical World* found that no utility engineer at any level claims that reliability will not fall under deregulation, and even pro-deregulation trade groups admit that a more competitive environment could be expected to produce blackouts.⁸⁵

Impact on the provincial economy

A direct impact of the privatizing of BC Hydro would be the loss of a significant source of government revenue. Unlike in a privatized system where dividends are paid to company shareholders, the profits of BC Hydro's operations flow to the residents of B.C. In 2000-2001, BC Hydro paid \$904 million⁸⁶ in taxes, fees and dividends to local and provincial governments, and in 2001-2002 it paid \$790 million.⁸⁷ That a government would consider divesting itself of such major revenue generator in a time of unprecedented provincial deficits is surprising, to say the least.

The Joint Industry Electricity Steering Committee represents the big industrial electricity users in B.C. – the 30 firms that make up the Committee and represent the pulp and paper, mining, and electrochemical industries together purchased \$484 million of electricity in 2000. The Committee has come out strongly against the Task Force's recommendations, calling the report "a dangerous piece of work, with dangerous consequences for the province."⁸⁸ They believe that the Task Force recommendation of raising electricity rates to "market rates," that is to say 30-60 percent above current rates, would create "serious economic dislocation, destroy the fundamental economic health of many [firms] and result in serious unemployment, community instability and reduced government revenues."⁸⁹

The Committee submitted a response to the Task Force report that systematically debunks each of the Task Force's rationales for deregulation. It states "[i]t is the view of the JIESC that the economic losses would exceed economic gains if the recommendations of the report were implemented."⁹⁰ As well, "the sale of BC Hydro monopoly assets is the wrong way to balance the budget. These are core infrastructure assets that do not require provincial subsidies and, in fact, provide ongoing returns to the province and an important competitive advantage for industry."⁹¹

The largest and most liquid electricity trade market in the Pacific Northwest is located in Washington and is called the Mid-Columbia, or Mid-C, hub. A "hub" is where many buyers and many sellers come together to trade a common product. The Committee points out that if Mid-C prices were a proxy for the electric power market in B.C., "electric power intensive industry will be exposed to huge risks typical of prices for any major commodity."⁹² It goes on to consider the effect this would have had on its members:

If prices in B.C. mirrored mid-C prices in late 2000 and early 2001, massive plant closings would have been the result. With electric power prices exceeding \$200 per megawatt hour, shutdowns would include the three electro-chemical plants, the three BCTMP mills, most of the newsprint manufacturing capacity, and all of the remaining metal mines except those with their own generation. Employee layoffs would exceed 6,000 persons. B.C. was able to avoid this type of disruption to employees, employers, communities and government because of the existing structure of cost-based, regulated rates. This is an advantage that should be maintained.⁹³

Energy efficiency and job creation

The inevitable shift to coal and gas based production following deregulation (described in Section 2) also would have economic drawbacks. A study conducted by the Pembina Institute found investment in renewables is of greater benefit to the economy. Investing one million dollars in energy efficiency creates 36.3 jobs, compared to 12.2 for the same investment in renewable energy, and only 7.3 jobs for conventional energy.⁹⁵

Increased electricity costs in Alberta have already caused many small businesses to close their doors. The chief economist with Canadian Manufacturers and Exporters, forecast that the “Alberta disadvantage” could eliminate 30,000 manufacturing jobs in 2002.⁹⁴

The economic effects of electricity deregulation will not just be felt through impacts to large industrial users. Businesses from coffee shops to pulp mills will feel the effect of increased electricity prices. Many of these costs will be passed on to the consumer through increased prices for goods and services, placing a drag on economic growth as money is siphoned from the citizens of British Columbia and (once deregulation reaches its natural endpoint) into the pockets of U.S. energy corporations. Increased electricity rates also would put a significant burden on school boards, hospitals, public transit and other public services; further worsening the effect of the B.C. government’s cuts to the public sector.

The provincial government’s nationalization of BC Electric in 1961 and the subsequent creation of the crown corporation BC Hydro enabled a program of electricity development that simply would not have been possible had production remained in private hands. British Columbians enjoy the benefits of that foresight in the form of a cheap, stable power supply. The presence of an advantageous and stable cost of power over the long term has been a driving force for industrial investment and the economic development of British Columbia, a force deregulation threatens to undermine.

Ironically, it is perhaps its very viability that will prove BC Hydro’s undoing. For a government such as the present, seemingly so committed to a blind faith in the inherent superiority of markets in all things, presiding over a publicly owned corporation that so clearly outperforms private sector utilities is an ideological embarrassment. The electricity supply is a fundamental component of the infrastructure of the economy, a foundation on which economic activity is based. Deregulation threatens to destabilize that economic foundation, with potentially dire consequences.

The presence of an advantageous and stable cost of power over the long term has been a driving force for industrial investment and the economic development of British Columbia, a force deregulation threatens to undermine.

Conclusions

EXPERIENCE SHOWS THAT ELECTRICITY DEREGULATION IN B.C. WOULD MEAN INCREASED pollution and electricity prices, price volatility, and decreased energy and economic security and environmental health. In contrast to a privatized, deregulated system, where the price of electricity is inflated by several layers of profit for producers, wholesalers, retailers and speculators, B.C.'s system of publicly-owned regulated production allows for cost-based, stable pricing. Fundamentally, deregulation would mean a loss of the ability to ensure that an essential service is delivered and developed in the public interest. What is more, the compensation provisions of NAFTA mean that once the policy decision is made and U.S. corporations move into power production in B.C., changing course would prove an extremely difficult and costly endeavour.

British Columbia's energy policy is at a crossroads. The transition to a sustainable, non-environmentally destructive energy supply will require changes in how electricity is priced so as to capture costs currently externalized, the development of renewable and sustainable sources of power such as tidal and wind power, and a renewed emphasis on efficiency and conservation. BC Hydro is ideally positioned to form the base from which this transformation occurs and to make British Columbia a world leader in sustainable power production. BC Hydro's reach throughout the province and its existing base of high-capacity hydroelectric production means that the transition costs of this progression can be spread through the system. The move to a socially and environmentally healthy electricity future begins with the rejection of the deregulation agenda for B.C. and the proposals of the Energy Policy Task Force.

Notes

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- ⁶⁰ In Alberta, for example, the government's 1994 amalgamation of the Public Utilities Board with the energy Resources Conservation Board (to form the Alberta Energy and Utilities Board), a lead-up to deregulation, eliminated both the public availability of information on the costs of production and government requirements that sufficient reserves be available.

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