

## SITE C FORUM:

### *Considering the Prospect of Another Dam on the Peace River*

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MATTHEW EVENDEN

**S**ITE C MARKS A PLACE on the Peace River, seven kilometres southwest of Fort St. John. The name has no connection to First Nations history, settler narratives, or national or imperial history. It was invented in the 1950s by surveyors who were seeking to locate dam sites on the Peace River. Between Hudson's Hope and the Alberta border, five such sites were located, each bearing a different letter: A, B, C, D, and E. Site C was simply a surveyor's place marker, conveying a modern understanding of territory and development. The letters had no local significance beyond that.

For the next twenty years, Site C remained an abstract signifier better known on maps than on the ground. The Wenner-Gren Corporation, which conducted the initial surveys, abandoned plans to dam the Peace. When the province assumed the task in the 1960s as part of a broader hydroelectric development strategy encompassing the Peace and Columbia rivers, it focused on developing upstream sites, impounding the headwaters at Lake Williston, and passing the regulated flow through another dam completed in 1980 in the Peace Canyon. Over a few years, a vast northern river was reconstructed. Lake Williston flooded a huge territory to form the largest human-made lake in North America. The regulated flow altered the seasonal rhythms of the river, bearing consequences for the river and ecology downstream as far as the Peace-Athabasca delta.

In the late 1970s, Site C became the focus of a major debate about the future of hydroelectricity in British Columbia. BC Hydro, the provincial utility, wished to fulfill the logic of the Peace River projects and develop the next dam at Site C. Local interests reacted negatively. Earlier projects had caused considerable dislocation and hardship in the Peace River Valley, particularly for First Nations, and another dam seemed too much to bear. A local environmental group, the Peace Valley Environment Association, formed in opposition. In 1983, the Site C project failed to

gain the necessary energy project certificate from the newly formed BC Utilities Commission (BCUC). The reason was not due to the potential environmental or social impacts but, rather, because the BCUC judged that BC Hydro's demand forecasts were unreliable and that other alternatives had not been sufficiently explored. In some ways, the battle over Site C highlighted the controversial legacy of British Columbia's big dam era, underlined the new role of environmentalism in large infrastructure planning, and raised the possibility that future developments should be imagined and handled differently. These points were reinforced in the early 1990s when BC Hydro launched contingency investigations for a dam at Site C in the face of rising provincial demand. In the end, the corporation opted to pursue more aggressive conservation strategies and develop gas-fired generation.

Twenty years later, and the name Site C has taken on a new significance. Site C once reflected a modernist view of progress; now, in the Kyoto era, it is associated with clean energy. It sits at the centre of the BC government's Energy Plan, which aims to reduce dependence on imported electricity and to find new sources of emissions-free generation to meet the rising electricity demands of the province. BC Hydro has been instructed to investigate the possibility of a dam at Site C and to consult the public. Over two years, public meetings have been held about Site C, new opposition coalitions have formed, and sundry investigations have been launched.

Just what is at stake? What will be the effects of a dam at Site C? Who stands to gain and lose? What happens if no dam is built? What are the consequences of building or not building?

Despite considerable media coverage and BC Hydro's multi-million dollar consultation process, the potential Site C dam has yet to attract much sustained academic research or debate. To provoke discussion and learning, the Canadian Water History Project, part of the Network in Canadian History and Environment (<http://niche.uwo.ca/home>), organized a small invited workshop at the University of British Columbia in November 2008, bringing together academics who work on some aspect of power and public policy with a range of individuals from the Peace River Valley representing First Nations and environmentalists. The exchange was frank and useful but hardly unanimous. All participants were invited to submit an op-ed to be published in a special forum of this journal. About half responded. What follows are their attempts to make sense of Site C.

Those in attendance included:

Gerry Attachie, Councillor, Doig River First Nation, on behalf of Council of Western Treaty 8 Chiefs; Michael Church, Professor Emeritus, Geography, UBC; Laurie Dickmeyer, MA student, Geography, UBC; Nichole Dusyk, PhD student, Resources, Environment and Sustainability, UBC; Matthew Evenden, Associate Professor, Geography, UBC; Ken Forest, Peace Valley Environment Association; Marjorie Griffin Cohen, Professor, Political Science and Women's Studies, SFU; Tina Loo, Professor and Canada Research Chair, History, UBC; Jeremy Mouat, Professor, History, University of Alberta; Shona Nelson, Administrator and Director of Treaty and Aboriginal Rights Research, Treaty 8 Tribal Association; Alex Netherton, Professor, Political Science, Vancouver Island University; Adrienne Peacock, Professor, Biology, Douglas College; Jonathon Peyton, PhD student, Geography, UBC.

## *Change and Adaptability*

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MICHAEL CHURCH

I HAVE TRAVELLED along the Peace River regularly ever since the Bennett Dam was completed. My purpose has been to monitor the ongoing change of the riverine environment set in train by the dams. What has struck me most, among a wide range of changes, is the proliferation of river beavers. They are everywhere. They fell large trees across my survey lines. To me, they are a nuisance. To many other people they are, no doubt, an object of wonder at the ingenuity of nature. The reason for their post-dam abundance is apparently the relative stabilization of water levels. The modulated water level protects river beavers from winter predation at their dens and from the dangers posed by a full freshet.

Many people regard major human manipulation of the environment as unfortunate: we automatically think and speak of the “environmental degradation” – or destruction – associated with major resource development projects. Certainly, many aspects of the prior environment suffer, but new environmental qualities and new resources may emerge as well. What has happened along the Peace River in consequence of the dams? The seasonal flow regime in the first one hundred kilometres has been inverted from a late spring freshet and winter low flow to a winter high, early summer low pattern. Even below the first major tributary (Pine River), the flow regime has been severely modulated: the effect is measurable all the way to the Peace-Athabasca delta, 1,200 kilometres downstream. Winter ice occurrence has been changed: in most years there is no ice at all in the first one hundred kilometres. The former flood plain of the river is now a dry terrace, and former bar tops are coming to be covered with poplars: the river edge is growing a fringe of alder and willow. The river, as far downstream as the confluence with the Smoky River (at the town of Peace River, Alberta) no longer regularly moves its gravel bed as it formerly did.

The changed flow regime has undoubtedly affected fish populations along the river. On the other hand, seasonally warm, semi-stagnant water in the still-flooded downstream ends of former high-flow channels may benefit certain fishes and amphibians. The flood plain provides superior habitat for ungulates. The changing riparian forests have benefited some bird populations but not others. The river itself offers changed

travel opportunities – more difficult to navigate in early summer, more easy in the shoulder seasons. This is not an environment destroyed, it is an environment changed. It is a different environment than it was before, lacking certain of its former features and resource opportunities but offering some new ones.

Why do we so easily adopt the language of degradation and destruction? The problem, I think, lies with we humans. We become used to exploiting certain resources in an environment, either as part of our economy or as part of our personal lives. We come to rely on the constancy of the background of our lives, which certainly includes the consistency of our surrounding environment. We are not very adaptable. When the environment is changed, consistency and, with it, certain of those resources disappear. Our economy and our personal lives are disrupted. We reason that the problem is the changed environment, and we regard the change as destructive of our habit of living or of our livelihood. Change may continue for many years. But there are probably new resource opportunities to be found if we could but adapt to exploit them.

Sometimes the problem is geographical. After the closure of the Bennett Dam, a sequence of relatively low-water years in the Peace-Athabasca delta caused a severe decline in muskrat populations and severely disrupted a local trapping economy. The delta people suffered some lean years. The proliferating beavers upriver might have been a substitute resource, but both geography and trapping habits prevented people from taking advantage of this potential resource substitution. The dam was, of course, blamed for the problem. But, after some decades of study, it became clear that a series of relatively mild winters and below average ice development, leading to much below normal ice jam activity and reduced spring flooding, was the real problem. This “problem” had also occurred in centuries gone by.

One must be careful how far one pushes this perspective. There are industrial developments that are sweepingly destructive. It is difficult to imagine that the environment produced by exploitation of the tar sands will be of much utility to humans until many decades, or even centuries, have passed. Mine sites and factories are the source of a wide range of polluting materials and so are everyday social activities. We need, however, to become much more discerning in our assessment of the environmental consequences of economic and social development. We need to differentiate the unquestionably bad from that which changes the scene but does not necessarily create a “degraded” environment or preclude other uses of it. We need to become much more shrewd in weighing the benefits and non-benefits of resource developments that create significant changes to the environment around us.

## *The Inertia of Energy Systems*

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NICHOLE DUSYK

CONTRARY TO the common framings of the issue, the decision whether to build Site C is neither a choice about how to best fill the anticipated electricity gap in British Columbia nor a simple question about the immediate impacts and benefits of a single infrastructure project. Whether or not to build Site C is a pivotal decision about the form and character of the province's energy system. In many ways, building Site C would be to follow the path of least resistance and to help solidify large-scale hydroelectric generation as the province's future rather than just its past.

The historian of technology Thomas Hughes coined the term “technological momentum” to describe the course of large technological systems, specifically electrical networks, as they were established and grew in the early twentieth century.<sup>1</sup> The momentum he described was based on available technologies and previous decisions that determined the characteristics and limitations of the electrical grid. It was also based on institutional structures as well as access to capital, professional norms, and forms of expertise. The combination resulted in electrical systems that became more entrenched and difficult to change as they became more established – electrical systems with considerable inertia that, once set along a particular trajectory, gained momentum through time.

This type of momentum has been evident, over the years, in British Columbia's electricity system. In the 1960s and 1970s, BC Hydro ambitiously undertook the building of the hydroelectric infrastructure on the Peace and Columbia rivers. In doing so, it brought the majority of the province's current electrical capacity on line, established considerable expertise in hydroelectric infrastructure, and developed an institutional culture around supply-oriented planning on a large scale. In short, the provincial electrical grid gained significant momentum in the direction of large-scale hydroelectricity as both the norm and the reality. The initial review of Site C by the British Columbia Utilities Commission and its 1983 ruling to delay the project called this momentum into question. It did not actually reorient electricity planning in the province but it did allow us to pause and ask:

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<sup>1</sup> Thomas Hughes, *Networks of Power: Electrification in Western Society, 1880–1930* (Baltimore: Johns Hopkins University Press, 1983).

Do we really need Site C? In 1983, the answer was no.

Almost thirty years later, we are faced with a somewhat different set of circumstances. We no longer have an electricity surplus, and the provincial government is committed to reducing carbon emissions and to creating electricity self-sufficiency by 2016. This makes hydroelectricity, as a “clean” form of domestically produced electricity, an extremely attractive option. One argument is that Site C is the best option we have available to meet these requirements. Perhaps it is. But I think the question is bigger, and the decision more important, than how we meet the constraints as they are currently defined.

Momentum is created by provincial policy, by institutional culture, by technological infrastructure, and by framing problems in specific ways. These things can all be changed. It is possible to reorient our energy system if we consciously and collectively choose to do so. The fact that Site C is once again on the agenda – the same project to meet newly defined needs – is indicative of the momentum of the provincial energy system. As a province, we are still headed in the same direction – slowed, perhaps, but still moving towards the same solutions to our energy challenges. This is a product of momentum, but it is not inevitable; Site C is not inevitable.

The question is one of direction. Do we follow our current momentum or do we deliberately choose another direction? Arguably, large-scale hydroelectricity can help us move towards greater sustainability. But there are many definitions of sustainability and many options for our energy system. As a province, we have a choice to make. Do we want the kind of sustainability that rests on hydroelectricity exported from the North to the South? Do we want a society that chooses to produce clean electricity rather than to conserve?

My purpose here is not to answer these questions but to suggest we frame the issue of whether or not to build Site C in larger terms. This is not just an individual project to be judged on its own merits; rather, it is a choice about the momentum of the provincial energy system, a system that fundamentally shapes, for good or bad, the life of everyone in the province. Building Site C is a choice to follow, and to build, momentum along a particular trajectory. Will this help us build the kind of energy system that we want to have in British Columbia and the kind of sustainability we, as a people, wish to promote? Do we need to reorient the momentum of our energy system?

We will never know the answers unless we seriously and collectively ask the questions.

## *History and Inevitability*

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MATTHEW EVENDEN

**I**S THE SITE C DAM INEVITABLE? Many believe so. Critics of BC Hydro claim that the utility has already decided what to do on the Peace River. The consultations are window dressing. Proponents of Site C also invoke inevitability, but with a different purpose: given anticipated population growth, rising energy demands, and a lack of alternatives, they argue, new power generation must be found. Site C is the obvious, inevitable answer. On one side, inevitability gives rise to a sense of alienation, on the other to a sense of right. Despite its obvious currency in public discourse, the concept of inevitability draws attention away from the key choices and problems still at play in the debates about the river. Further, the concept does not take into account the kinds of surprises that, historically, have had an enormous influence on how British Columbia's rivers have been developed.

In the early 1950s, another river hung in the balance. As Vancouver's power demand increased after years of wartime restraint, the monopoly utility BC Electric rushed to find new sources of generation. First a tie-in across the border took off the pressure, then a dam was raised on the Bridge River in 1948. But the problem was not yet solved. BC Electric began to seriously investigate a mainstem dam on the Fraser River. It argued that the Fraser was the next logical source of Vancouver's power and that growth in the provincial economy would depend on a dammed Fraser River.

At about the same time, other interests moved in. Alcan developed a major upper basin project on the Nechako River, diverting water to the coast to generate electricity for a new aluminum smelter at Kitimat. Promoters looked at flood control dams and a series of mainstem dams that would turn the river into a regional power generator driving industrialization and progress. Although the Alcan dam would go ahead, none of the others would. In the early 1950s, a strong political coalition emerged bridging different interests to defend the Fraser as a salmon spawning habitat. This coalition delayed projects for about a decade, by which time some alternatives had arisen.

After the Second World War, the United States had placed increasing pressure on Canada to cooperatively develop the upper Columbia

Basin. By building storage dams in Canada, American hydro facilities downstream could be made more efficient and generation could be expanded. It would also be possible to diminish the threat of floods. Critics charged that, if the scheme went forward, Canada would become a mere drawer of water. General McNaughton, the influential Canadian member of the International Joint Commission, which investigated transboundary water issues, argued that Canada should develop all the available power north of the border and divert the Columbia into the Fraser through Eagle's Pass. After years of inquiry, public debate, and diplomatic wrangling, a compromise emerged in the early 1960s. Canada would develop storage dams and some power projects. But it would also receive financial benefits from the United States for the so-called downstream benefits of power generation and flood control. After considerable debate, the Canadian government also granted British Columbia the right to export power to the United States.

The Columbia projects made possible another large dam to the north on the Peace River. One of the great political levers in the Columbia debate emerged when Premier W.A.C. Bennett announced in 1958 that his government would bypass the Columbia negotiations entirely and develop power in the north. No matter that the existing transmission technologies argued against this possibility. No matter that the major utility, BC Electric, refused to get involved because it saw the scheme as a losing proposition. With the funds received under the Columbia River Treaty, the BC government moved to construct the massive Bennett Dam on the Peace River, generating more power than the province could possibly absorb and so laying the foundations for the export contracts of the future. The BC government then completed the performance by nationalizing BC Electric as a new provincial utility, BC Hydro. A mere decade after the Fraser had seemed like the logical next step for hydro development in southern British Columbia, the river continued to flow as it had.

History does not yield easy answers or clear analogies for the present or future. Many aspects of the current electricity market are radically different from those prevailing even a few decades ago. Alternatives are gauged less in terms of other rivers and more in terms of new forms of generation, such as geothermal and wind power. While electricity pricing policies in the 1950s were stimulative, today a broad range of conservation instruments seek to lower our collective demands. Political coalitions were effective in the 1950s in shaping the debate over the Fraser, and they will also have a role to play on the Peace today. First

Nations and northern environmentalists are giving the Site C issue some profile, but it remains to be seen whether they can engage an audience beyond the region and build alliances with potential southern supporters. Hydro was once viewed as an engine of growth; now, in the Kyoto era, it has morphed into green energy. So much is different, but contingency remains.

There can be few sentiments more corrosive to open and respectful public debate than inevitability. When something is taken to be decided, there is little need to learn or to get involved. A sense of inevitability gives rise to conspiracy theories for those who feel shut out and to arrogance for those who feel their position is ascendant. We should put aside a sense of inevitability and remember that choices about Site C still must be made, that people can influence the decision-making process, and that the history of dam development in British Columbia provides many instances of things turning out differently than expected.

## *Money in Place of Food: A Good Deal?*

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KEN FOREST

**P**LANS NOW BEING DEVELOPED would eliminate the ability of Peace River country residents to grow their own garden produce. Site C dam would exchange profit in the form of electrical power used to supply air conditioners and hot tubs in the United States for agricultural land and local food production by residents of the Peace River Valley. Ignoring the other implications of dam construction, such as the loss of heritage, wildlife, recreation safety, and tourism, destruction of British Columbia's only high-class northern agricultural land would be disastrous.

In the 1970s, when a Site C dam was first proposed, the Peace River Branch of the Institute of Agrologists analyzed its potential effects on agriculture. They presented a summary report, addressed to the BC Cabinet, which pointed out that approximately 18 percent of British Columbia's Class 1 agricultural land occurs within the Peace River Valley.<sup>1</sup> More recently, a Site C Agricultural Resources Inventory conducted in the early 1990s indicated a total area of approximately 4,005 hectares of Class 3 or better agricultural capability within the projected Site C reservoir area. Close to two hundred hectares of this land is a part of the only Class 1 land in the north.<sup>2</sup>

The agrologists' report indicated that further damming the Peace River would forever remove any possibility of market garden self-sufficiency in the region. The report stated: "The flooding of the Peace River Valley will condemn Northern British Columbia and points further north to the role of net importers of vegetable and root crops."<sup>3</sup> The currently proposed Site C dam would have broadly similar effects. How reasonable is this? Not only would crops of onions, tomatoes, cucumbers, beets, beans, lettuce, and potatoes be lost but so, too, would

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<sup>1</sup> British Columbia Institute of Agrologists, *Peace River Branch, Concerns over Proposed Flooding of Agricultural Lands in the British Columbia Peace River Valley: Presentation to Cabinet* (Fort St. John, 1976).

<sup>2</sup> Norecol Environmental Consultants Ltd., *Site C Agricultural Resources Inventory: Status of Information and Recommendations for Further Study* (Vancouver: BC Hydro, 1991).

<sup>3</sup> British Columbia Institute of Agrologists, "Concerns over," 5.

fruit, including apples, cantaloupe, melons, blueberries, and plums. The annual commercial value of the land, if properly developed, would be in the many millions of dollars.

Understand that the loss of the valley's unique climate and soil conditions, which result in excellent growing conditions, would be in exchange for only seventy to one hundred years of generating power. Then what?

According to the 2007 Peace River Site C Hydro Project report, the electricity generated at Site C would amount to only 8 percent of British Columbia's current annual production.<sup>4</sup> All of it would be exported south or for sale in the United States. Further, BC Hydro's 2008 *Annual Report* shows that it recently imported 34,020 gigawatt hours at off-peak prices while exporting 37,450 gigawatt hours at peak prices.<sup>5</sup> The BC government, then, exports electricity for profit, not out of necessity.

As well, conservation in the form of BC Hydro's Power Smart program has reduced provincial electrical demand. Notably, the last decade of provincial doom and gloom forecasts of brownouts has not materialized; nor need it materialize, as British Columbia's Independent Power Producers can testify.

And forget the carbon-saving hundred-mile diet. Trucking market garden produce north, over distances of a thousand kilometres or more, must be economically viable. If the capacity of the marketplace to move garden produce from Vancouver to the Peace country (Fort St. John, Dawson Creek, Chetwynd) became prohibitively expensive, then it would have to be subsidized or eliminated.

To state it in another way, in a future unsettled perhaps by an economic recession, a potential pandemic, or southern crop reduction brought on by drought-producing climate change, the ability to transport produce could be severely curtailed.

Further, there is no way to guarantee a continuous supply of fuel for uninterrupted long-distance trucking. Tight fuel and economic conditions would raise the question of who subsidizes the added transport costs. In exchange for a dam, would BC taxpayers be willing to forever guarantee market garden supplies to the north?

How can agriculture in such a critical growing-area be ensured, while providing British Columbia with sustainable power? How could the \$6 billion for a dam, funded for decades by BC ratepayers or taxpayers, be otherwise spent?

<sup>4</sup> BC Hydro, *Peace River Site C Hydro Project: An Option to Help Close BC's Growing Electricity Gap. Summary: Stage 1 Review of Project Feasibility* (Vancouver: BC Hydro, 2007), 8.

<sup>5</sup> BC Hydro, *Annual Report* (Vancouver: BC Hydro, 2008), 56.

One possibility would be for our provincial government to formulate a different energy policy, one that would allow BC Hydro to plan clean, abundant geothermal generation. Base generation from geothermal could be developed closer to where it is needed. And it would not affect agriculture. Nor would there be the over 10 percent power-loss in transmission from Site C to Vancouver.

Flooding a valley for short-term, low percentage electrical gain from a very expensive dam with large transmission loss is not worth the costs to agriculture. Apart from the difficult issue of removing people from land to be flooded, the value question is whether or not the trade-off of Class 1 land for profit through power is ethical.

In today's world of food shortage, it is unconscionable to flood thousands of hectares of prime growing land simply for added provincial profit. To destroy eighty kilometres of a beautiful northern valley while compromising the ability of thousands of BC residents to locally grow their own food is a value decision that needs to be thoroughly and properly examined.

## *Out of the Closet on Site C*

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MARJORIE GRIFFIN COHEN

**O**VER THE YEARS, governments in British Columbia seemed to have agreed that no new large-scale dams would be built. When I was on the BC Hydro Board of Directors in the mid-1990s I supported this approach. In order to ensure that future governments could not reverse this decision, our board, on the instigation of a member from the Peace region, passed a motion that all government land-holdings associated with Site C should be sold. The provincial government, however, did not carry through on the board's recommendation.

The BC Hydro Board was against building Site C, or any other large dams, for three main reasons: (1) they have a negative effect on people; (2) they cause environmental damage; and (3) there was no crucial need for new large-scale electricity projects (except to increase exports). Building the big dams on the Peace created misery for the First Nations people who were dispossessed of the land they needed in order to survive. Many others also lost farms and houses. For decades, some First Nations who were deprived of their livelihood did not even have the advantage of receiving the electricity generated from the system. The human toll was awful. And the two very large dams that were built (Site A [the Bennett Dam] and Site B [the Peace Canyon Dam]) changed the river and its ecosystem forever.

Despite these reasons for being against Site C, my position on building the dam has changed recently. This is mainly because the damage that would occur through building Site C would be considerably less than the damage that now occurs to river systems and people as a result of the current government's energy acquisition plan. The Energy Plan of 2003 changed everything about electricity planning in British Columbia, much to the detriment of the environment and people.

Instead of the government's building new generating facilities, under the Energy Plan a system of presumably smaller private power projects were to be undertaken, including small "run-of-the-river" hydro projects. The three big problems associated with this relate to the private nature of these undertakings, the piecemeal planning for new energy development throughout the province, and the disjointed nature of environmental assessments for each individual project. Also, many turned out not to be small projects at all – just private ones.

Here is a comparison of Site C with the biggest private project currently under consideration at Bute Inlet. Site C would have a capacity of 900 megawatts, providing 4,600 gigawatt hours per year of energy. It would have a net reservoir area of 5,341 hectares, double the width of the current river for 83 kilometres, and affect 10,303 hectares of land. The transmission lines needed would replace the existing transmission lines, using the same right-of-way but with an increased width. Site C would have 30 percent of the capacity of the Bennett Dam, British Columbia's largest dam, with only 5 percent of the reservoir area. The environmental impact would be significant, but, because the site is located on a regulated river below two existing dams, it would be much less than what would be caused by creating new dams on undeveloped rivers. Also, the land is already owned by the province.

The Bute Inlet project, which is to be built by the private company Plutonic Power, would encompass three major drainage areas and seventeen interconnected hydroelectric facilities, with a total "nameplate" capacity of 1,027 megawatts. The projects will be connected to a substation through 216 kilometres of collector transmission lines on new rights of way. The substation will need an additional 227 kilometres of transmission to be connected to the electrical grid. Because of the enormous reconfiguration of the hydrology of these watersheds, the environmental devastation here will be huge. This project is now in the process of receiving government approval, and, according to the revised plan, Plutonic Power hopes to have an accelerated and streamlined environmental process so that building can begin quickly.

While the Bute Inlet project would be the largest cluster of hydroelectric projects ever built in British Columbia, all of the new private power projects, despite their label of being "green" energy, have a negative environmental impact. However, because they are assessed individually rather than as an interconnected system, they tend to receive environmental approval easily. While small-scale hydro plants (usually less than 30 megawatts) are normally defined as renewable and as preferable to large-scale hydro plants, size alone cannot determine environmental impact levels. According to a US-based group that evaluates the environmental impacts of different sources of electricity, size is an especially poor indicator of the environmental impacts of a hydro power facility. For example, small facilities that de-water river reaches and block fish passage can be more environmentally destructive than larger facilities designed and operated to reduce environmental impacts. Unfortunately, the size criterion, with the notion that small is

good and large is bad, has gained widespread political support. This means large dams are consistently opposed and small dams or run-of-the-river projects are supported. Both large hydro dams and run-of-the-river hydro projects can be “low impact” under certain circumstances; that is, when they are public utilities that are highly regulated to take into consideration the fish habitat, water, and land impacts of their operations.

According to BC Hydro’s 2008 Long Term Acquisition Plan, 8,242 potential sites for hydro electricity generation have been identified in the province. So far over five hundred applications have been made by private corporations for the water licences on these potential sites, and forty-six projects are now either built or under construction.

Because of the uncoordinated nature of the building for future electricity, the total environmental and cultural impacts of new electricity projects can only be assessed long after they have been built. There is no doubt that Site C will have a negative impact, but it is time that assessing this impact involved a comparison with the impact of creating electricity from other projects. Site C now makes sense – particularly if it obviates the environmental disaster that would occur through the implementation of projects like that at Bute Inlet. When new project building is totally within the public sector, it receives the oversight that is normal in a coordinated system. This includes transparency with regard to the total impact on the environment, local communities and resources, and Aboriginal people.

## *Site C: Déjà Vu or Something New?*

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ALEXANDER NETHERTON

**R**EADING OVER the BC Government's Site C policies leaves me utterly unconvinced as to the pressing necessity of the project and the appropriateness of the proposed agent. Hydro projects are huge enterprises that have lasting political, social, economic, and environmental consequences. They certainly aren't for the weak of heart and really need solid social, political, and economic grounding. In the past, we built dams as part of an industrial strategy that centred on cheap and reliable power. In the days when Aboriginal and regional interests could be marginalized, provincial utilities simply institutionalized a mega-projects-and-cheap-power regime. But that regime ended some time ago. In British Columbia, Site C was the flashpoint for that change. So what justifies introducing it again now? The same old? Hardly. Let me suggest that the real opportunity here is to build a new partnership among regional, Aboriginal, and metropolitan interests.

So much of contemporary Site C policy has a *déjà vu* quality. The BC Energy Plan, for example, offers a series of objectives, such as a commitment to "negawatts" or to gaining new energy through conservation (half of new energy to be gained through conservation), the provision of cheap power (the traditional energy policy), and a promise of self-reliance. But the document does not really indicate how these objectives will be attained or how the obvious tensions among them will be resolved. What is real and what is rhetoric? The BC government has already fostered a cadre of private independent power producers to bring run-of-the-river electricity on line. Savings gained through conservation are not without cost. The days of "cheap" power are, it is hoped, over, and we ought to be thinking of "sustainable" power, of "smart" power, and contemplate paying the costs this will entail.

When Site C is introduced into the mix, all too familiar concepts about fulfilling an impending supply gap and providing meaningful consultation arise. This is such an old story. Who is kidding whom? Consultations does not mean sharing power to make any decision. Energy demand projections are notoriously unpredictable. Economic conditions and energy prices can change. Temporary sources of supply can always be found. Building more interconnections can obviate the need to be self-sufficient in such a hurry.

The idea of fulfilling a predictable supply gap is simply leverage to have BC Hydro, as an agent of the provincial government, develop the resources and also collect the economic rents from hydro. Given the increasing value of hydro as a sustainable fuel, the returns to the public sector will be significant. Revenues will also be gained from international trade. All in all, this is the traditional energy strategy.

What would be new? Why don't we use the project as a means to build a real partnership between Aboriginal and regional interests? Other jurisdictions have learned lessons from the past. For example, in the last series of projects in Manitoba, the affected Aboriginal peoples have been included as partners. They have equity and they share in decision making. Similarly, the James Bay Cree and Quebec government ended years of conflict over resource use with the "Peace of the Brave." More examples can be given. But the fact of the matter is that all the BC government offers are "consultations." What is needed is a new partnership.

One can certainly argue that First Nations are not the only regional social and economic interests to be considered. And rightly so. There is a broad regional interest. The Peace River country, after all, provides southern metropolitan interests with the energy – through its agent, BC Hydro – and has provided BC taxpayers millions of dollars. BC Hydro has also long served as a cash cow for the provincial treasury. The former NDP government recognized the importance of regional balance with respect to the Columbia River Treaty by awarding a regional Crown corporation, the *Columbia Basin Trust*, the mandate to exercise the province's rights within the treaty or, more broadly, to "create a legacy of social, economic, and environmental well being."<sup>1</sup> So why can't the present BC government set up a *Peace River Trust* with regional First Nations and other communities with a similar mandate?

What would really be new? Share the authority to commit on this project with the *Peace River Trust*. Let that *Trust* negotiate its own terms with the provincial government. After all, the present government no longer holds that hydro development is a matter solely for BC Hydro. The provincial government has offered private capital the rights to develop (and make a profit from) provincial water. Why should BC Hydro have the exclusive rights to develop Site C for the southern and urban markets? Shouldn't Peace River Aboriginal and regional interests have the same opportunity as private entrepreneurs? It would be a Peace River dam and it would serve regional and provincial purposes. The dam, therefore, could work as a bridge among northerners and become a vehicle for long-lasting economic development rather than a construction splash in a region whose economic development is largely left to external capital.

<sup>1</sup> See [http://www.cbt.org/The\\_Basin/?Columbia\\_River\\_Treaty](http://www.cbt.org/The_Basin/?Columbia_River_Treaty) (viewed 25 March 2009).

## The Case against Site C

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ADRIENNE PEACOCK

**C**ONSIDER THIS: would you be willing to destroy the last significant stretch of a wild river in British Columbia if the electricity was needed only to keep California's hot tubs rolling? The construction of the Site C dam on the Peace River is really about electricity exports, although government rhetoric would suggest otherwise. If built, the Site C dam would destroy the last magnificent wild stretch of the Peace River in British Columbia.

There are two related and important questions to ask: (1) is the Site C dam the best option to meet provincial energy needs, and (2) how does this requirement for energy balance with what will be lost if another dam is built on the Peace River?

The need for Site C power assumes continued energy growth. Yet the most cost-effective and environmentally benign energy is from energy efficiencies and conservation. Other green solutions, like geexchange systems and net metering, should be considered in projecting future energy needs.

Power from the Peace would not be considered green if social and environmental costs were properly examined. Perhaps it's time to assess the true cost of dam building.

WILL THERE BE BROWNOUTS  
IN BC WITHOUT SITE C?

The answer is no. The need for another dam at Site C is driven by the provincial government's 2007 Energy Plan, and this seems to be derived from the government's desire for export revenues. According to a joint Pollution Probe and Pembina Institute report, British Columbia has been a net exporter of electricity in seven of the last ten years, 1995, 2001, and 2004 being the exceptions.<sup>1</sup>

Dr. Marvin Shaffer, an economist who has studied British Columbia's energy policy closely, argues persuasively that the provincial plan will

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<sup>1</sup> Pollution Probe and the Pembina Institute, *Maximizing Energy Efficiency and Renewable Energy in BC* (Vancouver: Pembina Institute, 2006).

result in “too much electricity supply at too high a price.”<sup>2</sup> He argues that the provincial Energy Plan mandates the building of a \$6.6 billion dam (which may be an optimistic estimate) because it grossly overestimates the amount of energy that will be needed. While the plan calls for energy conservation and efficiency measures, it extends *indefinitely* the policy of selling electricity at well below market prices. It also ignores the fact that rates dramatically affect the demand for electricity.

Under the Energy Plan, consumers will have minimal incentive to save energy. For example, only “voluntary policy and market measures” will be used to improve energy efficiency in new and existing buildings.<sup>3</sup> How much energy could be available if the Energy Plan required that electrical rates be set at market value, with the appropriate protection for those on low incomes?

Why is BC Hydro not promoting its net metering program (in which customers with generation facilities receive a credit when they produce more than they consume)? How much electrical home heating and cooling could be offset by efficient geoexchange systems? These programs should be costed and compared to the true cost of building new supply by damming more of the Peace River Valley.

Where are the economic analyses that allow comparison of spending \$6.6 billion building Site C, with its additional transmission costs and infrastructure, to investing in truly green conservation alternatives? Why are the downstream benefits under the Columbia River Treaty not considered as part of the available electrical supply? To destroy another precious irreplaceable section of the wild Peace River without such considerations is disrespectful to all British Columbians.

#### KEEPING THE PEACE:

#### WHY IS THIS RIVER SO IMPORTANT TO PRESERVE?

The flooding and destruction of a river valley ecosystem cannot be considered a green solution to meeting energy demand. The following are just a few of the many concerns about the construction of another dam on the Peace River in British Columbia:

<sup>2</sup> Marvin Shaffer & Associates Ltd. “Introduction,” *Lost in Transmission: A Comprehensive Critique of the BC Energy Plan*. Prepared for the Canadian Office and Professional Employees Union, Local 378 (Canadian Office and Professional Employees Union Local 378, June 2007), 5.

<sup>3</sup> Government of British Columbia, *The BC Energy Plan* (Victoria: Ministry of Energy, Mines and Petroleum Resources, 2007), 6.

1. The provincial government's Energy Plan states that "all new electricity generation projects will have zero net greenhouse gas emissions." The Site C reservoir will not have zero net greenhouse gas emissions. Reservoir creation results in methane production, a potent contributor to climate change.
2. Reservoir creation results in mercury bioaccumulation. To avoid large increases in both greenhouse gas production and methyl mercury accumulation, C.A. Kelly et al. recommend that areas of low relief and wetlands should not be flooded. Neither of these recommendations can be accomplished if the Peace River is flooded at Site C.
3. Building Site C will flood much of the only Class 1 farmland in northern BC, including land within the Agricultural Land Reserve. This is the only land capable of growing many vegetables that would otherwise have to be imported.
4. Further damming the Peace will destroy high-capacity wildlife habitat that cannot be replaced by other habitats in the northeast. The many islands with their back channels that make up this section of the Peace River Valley are vital to wildlife.
5. The Site C dam would destroy a favourite recreational area. If this project were proposed in the Lower Mainland, the public would never stand for the loss of such a high-quality recreational area.
6. Much of the area that would be flooded and otherwise affected by the Site C project includes First Nations traditional lands.

#### IN SUMMARY

The Energy Plan is flawed and has not allowed a serious examination of other greener ways to meet the province's energy needs.

There should be some areas that are just too precious to destroy. When this project was last examined, through a formal British Columbia Utilities Commission Hearing in 1982, it was rejected as unjustified.

Now, a quarter of a century later, when our ability to use energy efficiently is so much greater, as is our understanding of the value of river ecosystems, why is Site C the best option? Will there be an equivalent level of public scrutiny this time around? Surely such a unique valley cannot be destroyed without examining all the available options.

To quote the late Leo Rutledge, Peace Valley pioneer and long-time advocate for the Peace: "If a government has no respect for its land base, its very earth, then, it has no real respect for its people or anything else."<sup>4</sup>

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<sup>4</sup> British Columbia Utilities Commission, Site C Hearings, Evidence Exhibit 289K (Vancouver: British Columbia Utilities Commission, 1982), 4.