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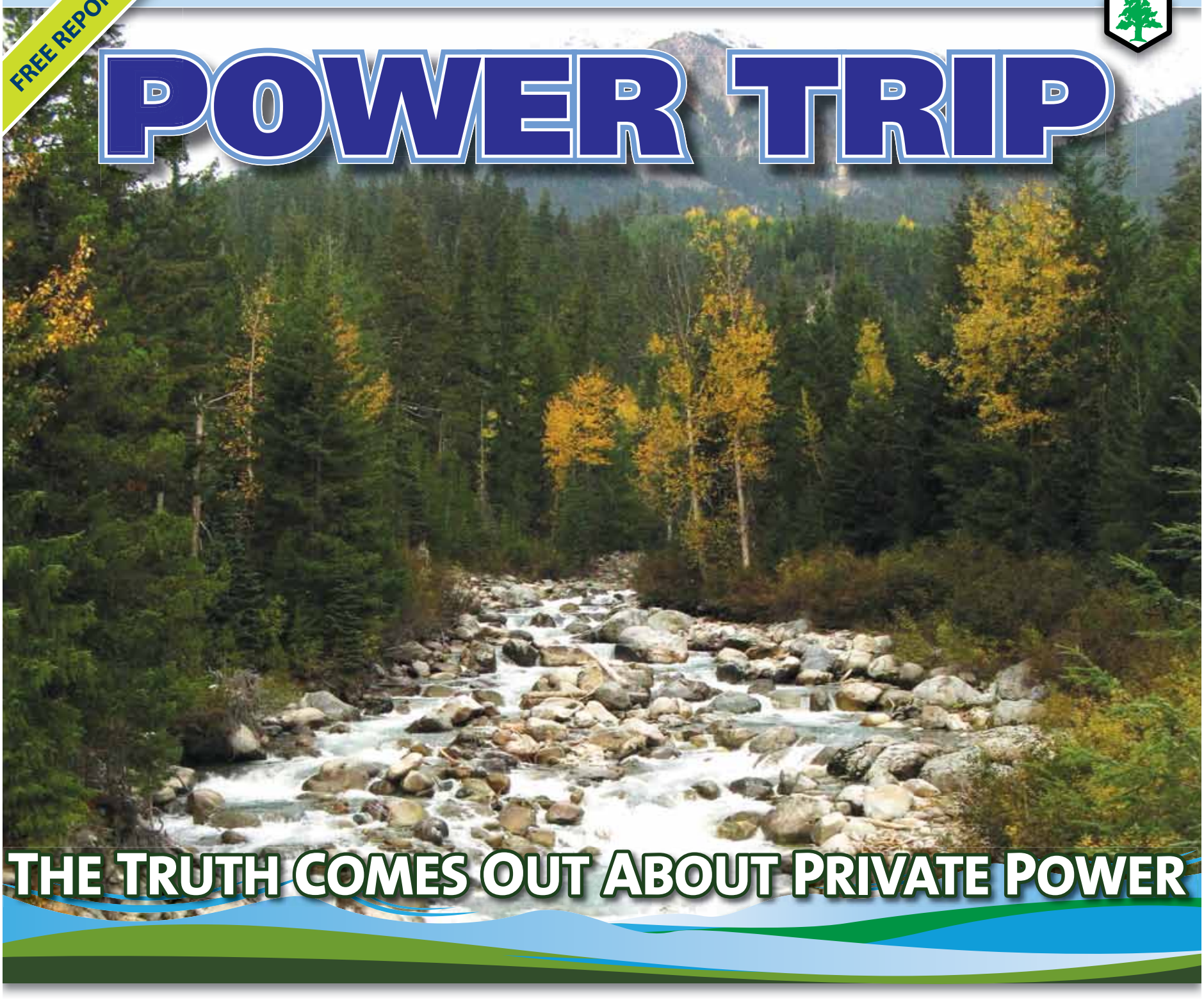
POWER TRIP



THE TRUTH COMES OUT ABOUT PRIVATE POWER

EXPOSING THE INDUSTRIAL IMPACTS ON BC'S WILD RIVERS

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When people talk about the rush to stake BC's rivers for private power development, the river that comes to mind is the Kokish on Vancouver Island, near Port McNeill.

The decision to build a hydroelectric project on the Kokish River was opposed by thousands of British Columbians for many reasons, especially the fact that the river is home to five species of wild salmon and two endangered runs of steelhead. In fact, the Department of Fisheries and Oceans (DFO) categorized the Kokish as having "highly sensitive fish and fish habitat," and DFO biologists recommended that the project not go ahead.[1] Today, construction has finished on the Kokish and a river once famous for its fish has now been dammed and diverted to produce expensive intermittent electricity that BC doesn't need.

The story of the Kokish is a cautionary one. In British Columbia, over 800 rivers and lakes have been staked by private power producers, and 75 rivers and creeks – including Big Silver, the Upper Lillooet, Ashlu and Kwoiek – have already been industrialized or are imminently slated to be developed.[2,3]

The move to exploit BC's wild rivers has been fraught with controversy. Due to poor planning, a vast majority of river diversion projects are situated in fish habitat, and low environmental standards and lax government oversight has seen the industry beset by repeated environmental transgressions. Indeed, BC government staff revealed that as of January 2014, 18 of 24 river diversion plants in the South Coast region had "unsatisfactory" operating procedures.[4]

> "DFO has observed considerable non-compliance with managing flows for fish on operating projects."
>
> – Department of Fisheries and Oceans comment on the Kokish River[5]

The transgressions don't stop there: internal government documents obtained by the Wilderness Committee not only revealed a very high level of non-compliance at these projects, but also showed that government staff were unable to provide proper oversight due to cutbacks. "We have not had sufficient staff resources to monitor permit condition compliance," ministry staff stated in the documents, adding that the issue was "critical."[6]

Serious environmental impacts are coupled with disastrous financial implications.

The 2002 *BC Energy Plan*, which forbade BC Hydro from producing new sources of power[7], paved the way for the majority of private hydro development. The goal was to sell surplus electricity to the United States, but our southern neighbour doesn't consider river diversion energy to be green and isn't willing to buy this very expensive electricity. Today, this misguided policy has left British Columbians on the hook for billions of dollars' worth of unneeded energy that we can only sell at a loss on the market.

Fortunately, several recent (and surprising) developments have changed the dynamics around the race to dam and divert our wild rivers.

Photo top: Boulder Creek, one of three creeks being developed in the Upper Lillooet valley (Gwen Barlee), **above:** Keyhole Falls (Jeremy Sean Williams).

READ THIS PAPER TO FIND OUT:

- How many projects have been cancelled or deferred by BC Hydro
- What California said about BC's environmental laws and river diversion projects
- How many river diversion projects are actually located in fish habitat
- What BC's liquefied natural gas (LNG) industry means for our wild rivers
- How much money BC Hydro is losing selling surplus private hydropower on the open market

River diversion (a.k.a. "run-of-river") hydro projects are the most common type of private power project developed through contracts with BC Hydro. Other types of private power projects – also known as "independent power projects" or "IPPs" – may include wind and biomass.

AN INDUSTRY IN "REGULATORY DISARRAY"

River diversion projects in BC have been overrun by ongoing and chronic environmental non-compliance. Recently, government documents obtained through Freedom of Information requests by the Wilderness Committee revealed:

- 749 instances of non-compliance at 16 projects located in BC's South Coast region in 2010 alone[8]
- 90 per cent of river diversion facilities had "incidents" or "non-compliance" with environmental requirements
- Inadequate government staff resources to oversee compliance of river diversion projects
- In 2014, 75 per cent of projects operating in the South Coast region had "unsatisfactory operating procedures"[9]

Another major concern is the recent revelation that 97 per cent of river diversion projects are located in fish habitat for salmonid species, including salmon, trout, char, whitefish and grayling. This is alarming because in some cases, up to 98 per cent of the river's flow can be diverted for power generation. The minimal water left in the "diversion reach" (see diagram) – combined with "ramping" (where water levels can rapidly fluctuate due to plant operations) – damages and degrades habitat. These impacts have also resulted in lethal impacts to fish.[10]

Although most of the attention on environmental impacts centres on water and fish impacts, river diversion projects are also problematic from a land-based perspective. The developments come with transmission lines, new road networks, blasting, logging and a universal lack of planning. In addition to the fact that there has been no provincial planning for these projects, a bill introduced in 2006 – *Bill 30* – took away the rights of local governments across BC to protect their wild rivers.

> "We have not had sufficient staff resources to monitor permit condition compliance."
>
> – BC government hydrologist, Water Stewardship Division[11]

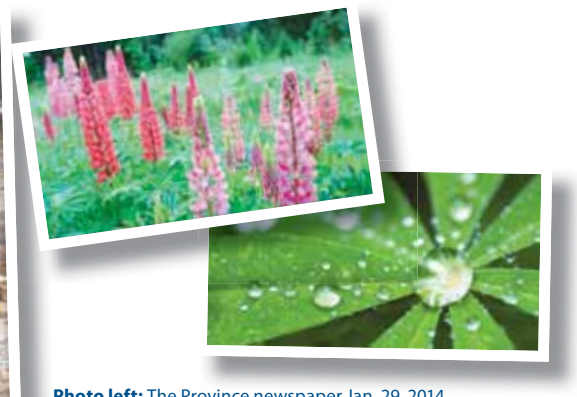


Photo left: The Province newspaper Jan. 29, 2014, **above:** Wild lupine and lupine leaf, BC (John E. Marriott).

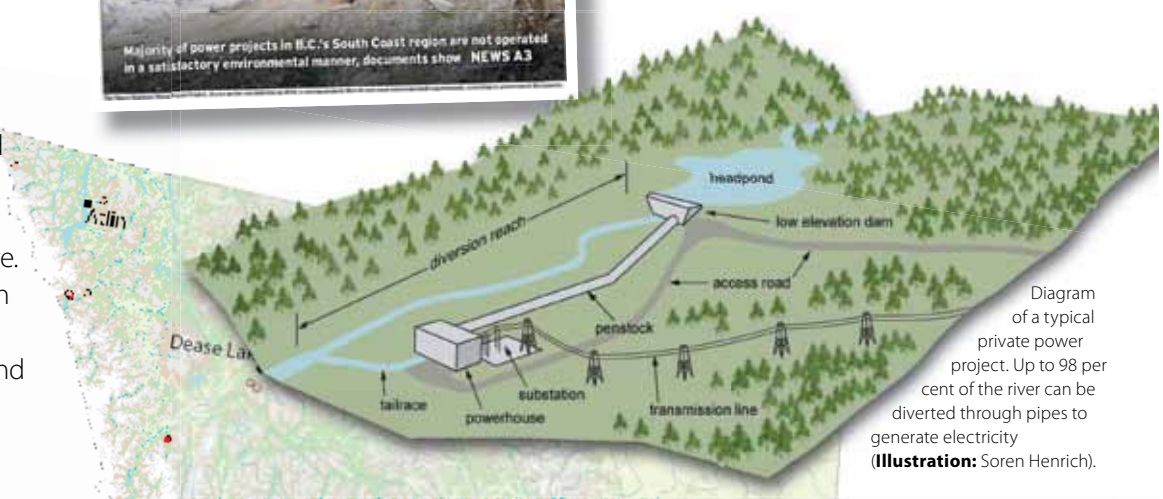
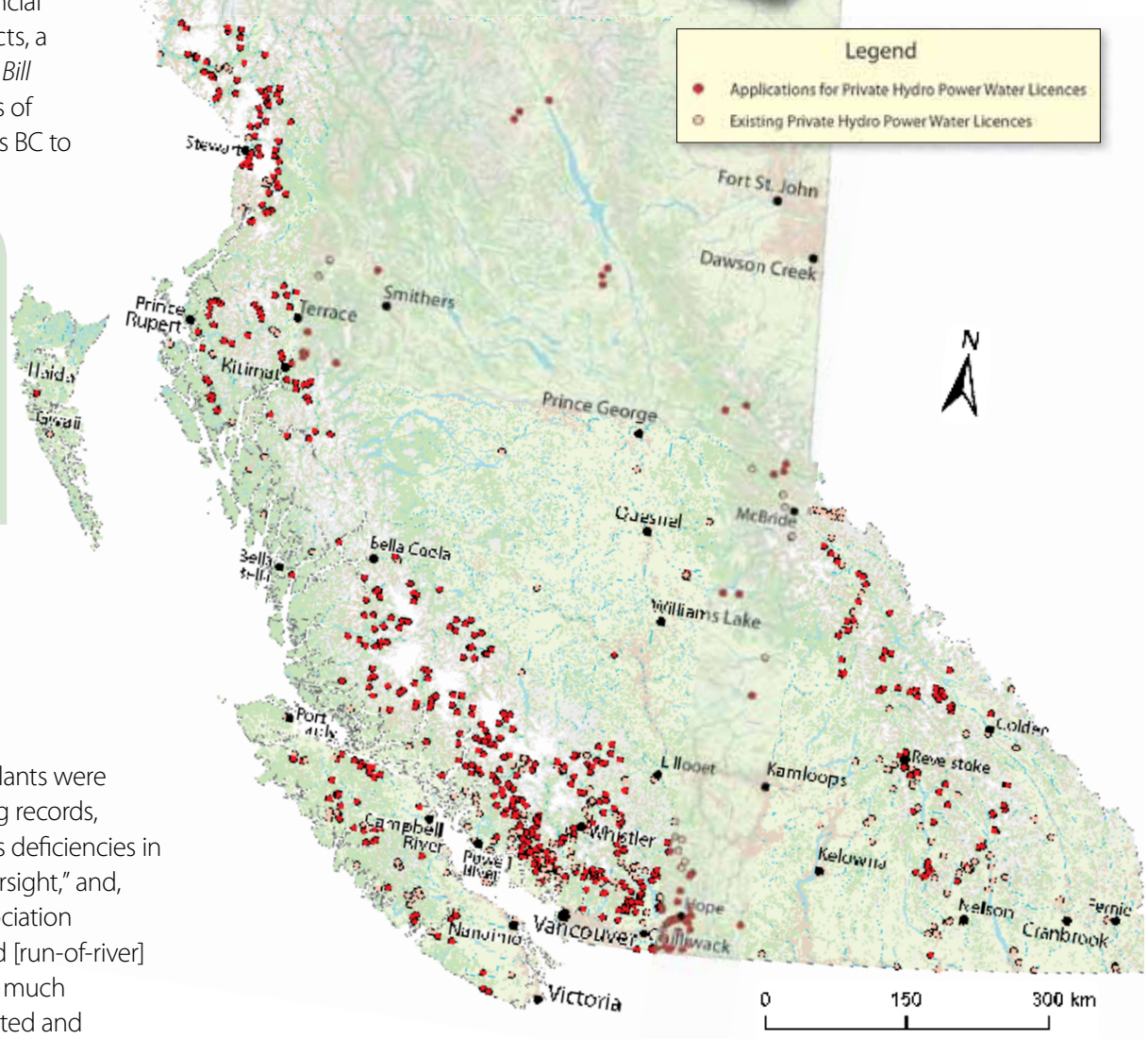


Diagram of a typical private power project. Up to 98 per cent of the river can be diverted through pipes to generate electricity (**Illustration:** Soren Henrich).



97% OF PROJECTS IN SALMONID HABITAT

In 2012, due to negative media coverage and increasing public concern, the private hydropower industry commissioned a study to look at the impacts of river diversion projects on salmonids.[12] The report was released in January 2014 and although the industry tried to message that river diversion projects had "minimal" impacts to salmonids, the study itself actually showed:

- 97 per cent of projects were situated in salmonid habitat,
- Incomplete data was collected by operators, especially in regards to ramping and downstream impacts,
- 18 river diversion plants were without monitoring records,
- There were "serious deficiencies in environmental oversight," and,
- "The extent of association with salmonids and [run-of-river] hydro facilities was much greater than expected and indicates a risk to salmonids that is not yet fully understood."

Salmonids are fish that belong to the family *Salmonidae*, including various species such as salmon, trout, char, whitefish and graylings.

Photo above: Grizzly bear, BC (Roberta Olenick), **right:** Sockeye salmon, Adams River, BC (John E. Marriott).

CALIFORNIA OR BUST?

The excess energy produced by private hydropower in BC was originally slated to be sold to the power-hungry state of California. But on January 15th, 2014, the California Energy Commission adopted a final report that excluded BC's river diversion projects from their Renewable Portfolio Standard (RPS).

Basically, the report confirms what we have known all along: that **BC river diversion projects don't meet California's environmental standards when it comes to producing electricity,** because of British Columbia's lax environmental laws and the significant impacts these projects have on rivers, streams and fish.

Specifically, the report stated, *"there are substantial differences between the levels of environmental protection required in British Columbia and California, including the fact that British Columbia does not have a stand-alone endangered species act. Facilities located in British Columbia would have great difficulty demonstrating that they are as protective of the environment as a similar facility would be if located in California, as current statute requires."*[13]

Not only did California reject the notion that damming and diverting wild rivers is green, but like other North American markets, they are not interested in paying a premium of $125 per megawatt hour (MWh) for this electricity.

EXPORT MARKETS – GOING, GOING, GONE

Initially, the provincial government's stated rationale for signing contracts with private power producers was that BC was in an energy crisis and that the private sector could produce electricity more efficiently than BC Hydro. However, it quickly became apparent that BC did not need the extra electricity, and the enormous amount of power BC Hydro had contracted IPPs to produce – 12,400 gigawatt hours (GWh) per year since 2002[14] – was meant for export markets, particularly California.

Indeed, in the 2010 *Clean Energy Act* the BC government finally acknowledged that it wanted to develop IPP electricity primarily for export. The problem was that **export markets didn't materialize,** and due to a glut of natural gas, electricity prices stagnated.

Photo: Private power project on the Kokish River (Jeremy Sean Williams).

Energy Source	Cost per MWh
Latest contracts with private power producers[20]	$124
Wholesale market price	$25 to $40

With electricity forecast to sell on the open market for just $25 - $40 per megawatt hour (MWh) for the next 20 years, and BC Hydro being forced to pay private power developers at rates between $85 - $125 per MWh, the financial implications for ratepayers in BC are staggering.[15]

In 2013, BC Hydro had a surplus of 5,200 GWh of electricity from IPP contracts, which it was forced to sell on the open market. Assuming a conservative loss of $70 per MWh, the cost to BC Hydro would have been over $350 million – a loss that will be passed on to ratepayers across the province. These massive losses are expected to continue for years.[16] As the Association of Major Power Customers remarked, "Cumulatively the impact of these sales is transferring hundreds of millions of dollars per year from BC Customers to IPPs".[17]

AT A GLANCE:
Currently, BC Hydro has 127 power contracts,[18] known as energy purchase agreements (EPAs), with private power producers. 75 of those EPAs are for river diversion projects. There are 45 river diversion projects now producing power, and another 30 projects have contracts with BC Hydro and are in development.[19]

Right now, BC Hydro has a surplus of electricity after being ordered to buy too much electricity from private power producers.

How did this happen?

Simply put, export markets failed to materialize because California doesn't consider river diversion energy "green" and the power produced from IPPs was also far too expensive for an energy market awash in cheap natural gas.

These missing export markets have left the private power industry looking to BC's as-yet-unrealized liquefied natural gas (LNG) market. However, even if LNG terminals are built, experts consider it unlikely that they will use IPP energy because it is too intermittent and expensive to power the energy-intensive liquefaction process.

Photos from top: BC coastal waterfall (Mike Grandmaison), Private power project on the Kokish River (Jeremy Sean Williams), Kayaking on Ashlu Creek (above the dam) (Steve Arns | liquidlore.com)

"If those projects come online, we will have to take electricity produced at $100 or $125 MWh and sell it on the export market. Export markets are very unattractive right now. By deferring or terminating by mutual agreement some of these contracts, we are looking to resolve this issue."

– Doug Little, Vice President of Energy Planning & Economic Development for BC Hydro (2013)[21]

PRIVATE CONTRACTS DITCHED TO SAVE MONEY

The stark reality of this situation has resulted in BC Hydro and the BC government scrambling to cancel IPP contracts. So far, 10 contracts have been cancelled and another nine deferred in the hopes of saving ratepayers hundreds of millions of dollars annually in unneeded electricity.[22] BC Hydro is also planning to renew only 75 per cent of the river diversion contracts coming up for renewal in the next five years, and is looking to renegotiate IPP energy purchase contracts that are being renewed at dramatically lower prices.[23]

The move to defer or cancel these private power contracts comes on the heels of other government changes intended to reduce runaway IPP costs – including removing a bloated "insurance" and "self-sufficiency" requirement that forced BC Hydro to purchase way more energy than it needed. Together, these changes have reduced the amount of additional energy BC Hydro was going to purchase from IPPs by thousands of gigawatt hours – however, BC ratepayers are still on the hook for billions of dollars.[24]

Photo: Private power project on Ashlu Creek (Jeremy Sean Williams).

HYDRO RATES GOING THROUGH THE ROOF: Electricity rates are slated to increase by 28% over the next five years for residential customers in BC.[25] This coming rate shock highlights the folly of BC Hydro being forced to issue sweetheart contracts to IPPs for expensive intermittent energy that we sell at a loss south of the border.

Photos above: Logging at the Upper Lillooet Hydro Project (Gwen Barlee), Harlequin duck (Robert McCaw).

River diversion projects have been heavily criticized because of their environmental footprint, rate impacts, high levels of non-compliance and significant impact to the financial viability of BC Hydro.

However, **these projects also produce very little "dependable" energy** (the power that can be generated 85% of the time during peak demand in January and December, when BC has its highest energy demands). A study by BC Hydro showed that river diversion projects have less than 10% dependable generating capacity![26]

BC UTILITIES COMMISSION – A TOOTHLESS WATCHDOG

The BC Utilities Commission (BCUC) is supposed to be BC Hydro's public watchdog, tasked with supervising and regulating the activities of public utility service providers in BC. Its mission is to protect the public interest by ensuring "that ratepayers receive safe, reliable, and non-discriminatory energy services at fair rates from the utilities it regulates, and that shareholders of those utilities are afforded a reasonable opportunity to earn a fair return on their invested capital." [27]

In 2010 the BC government weakened the BCUC and severely curtailed its ability to provide oversight and regulate key BC Hydro initiatives – including IPP contracts, the Site C dam proposal, the Northwest Transmission Line and the billion-dollar Smart Meter program. Additionally, the provincial government took away the BCUC's required approval of BC Hydro's electricity planning process, transferring it to the provincial cabinet. [28]

BC HYDRO – LET'S KEEP IT PUBLIC

For over 50 years, BC Hydro has provided British Columbia with reliable electricity, transparency, public ownership, accountability, long-term energy security and substantial financial dividends; **indeed, it is one of our best tools against climate change – delivering 93 per cent low-carbon energy.**

Unfortunately, our cherished public utility has been mismanaged for decades. Whether it's hiding billions of dollars of debt in "deferral accounts," paying excessive "water rental" rates to government, being unable to properly retrofit and update its electricity system or being forced to purchase tens of billions of dollars in unneeded and costly power from IPPs, BC Hydro is facing very challenging times in the years ahead.[29]

> "It is basically utility heaven. There isn't a state in the union that wouldn't give its eye teeth for a power system like BC Hydro. What on earth is it that your government is trying to improve?"
>
> – David Freeman, former chair of the California Power Authority[30]

Public good, high environmental standards and democracy are needed to protect our wild rivers and tackle climate change.

The call to protect BC Hydro, our watersheds, wild rivers and salmon from private power projects isn't a rejection of green energy. Rather, it is an affirmation of the value that conservation, proper planning, high environmental standards, democratic processes and public control of our electricity and rivers play in the fight against climate change.

While the BC government has finally started to take action to curtail the massive financial impact of private power projects, there is more that needs to be done. At the moment there are numerous river diversion projects that have contracts with BC Hydro but have not yet been built. **If these proposals go ahead they would devastate wild rivers, cost untold billions of dollars and further hurt the viability of BC Hydro.** To protect our wild rivers – and our pocketbooks – these projects need to be stopped, and existing IPPs (especially those with poor environmental compliance) must have their contracts opened up to see if they are in the public good.

We have the ability to do green energy the right way in BC. We can start by putting the public interest and our wild rivers ahead of private profits.

Photos above: Gwen Barlee at Glacier Creek (Lee-Ann Unger), Construction on Ashlu Creek (Gwen Barlee).

Photo: Grizzly bear (Roberta Olenick).

ADDRESSING CLIMATE CHANGE?

Some people believe that the BC government promoted private power and river diversion projects as a means of tackling climate change. In reality the 2002 *Energy Plan*, which prohibited BC Hydro from producing its own new sources of hydroelectricity, was introduced when the BC government was fighting against the implementation of the Kyoto Protocol and promoting electricity deregulation in BC.[31]

TAKE ACTION

The Upper Pitt River, and Glacier and Howser Creeks were protected because of people power – and together, we can ensure the same wild future for other threatened rivers in BC.

Your efforts to protect our rivers and BC Hydro have made a difference: the provincial government is listening and has started to take action. But more needs to be done.

Contact BC's Premier and ask for an immediate moratorium on IPPs and river diversion projects. Demand environmental compliance for projects that are operating, and urge the government to re-establish the watchdog role of the BC Utilities Commission.

Let's do green energy the right way in BC.

WRITE YOUR LETTER TODAY!

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☎ 250-387-1715 🖷 250-387-0087
✉ Premier@gov.bc.ca

Photo: Private power project on the Kokish River (Jeremy Sean Williams).

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