

# A Powerful Idea

*Hupacasath First Nation & the building of a micro hydro consortium*

*In May of 2002 I found myself wearing hip waders, exploring almost a dozen watersheds on Vancouver Island in the traditional territory of the Hupacasath First Nation. I was searching for the right balance of physical characteristics, stream flow, and location for a “run of river” power plant. Water diverted from a short stretch of river would drive a small hydroelectric turbine with minimal disruption of local ecology. My partner was Jonathan Dogeram of the Pembina Institute. Our job was to help project engineers determine the best location for Hupacasath’s first energy project. For Jonathan and I the big question was, which was more dangerous? Precipitous cliffs, bears, or whoever was inhabiting the skull-lined cave in the vicinity?*

BY DARREN WILLIS

Just over four years later, in October 2006, the Hupacasath hosted a Grand Opening ceremony for their newly operational 6.5 Megawatt (MW) capacity hydroelectricity generation project. Upnit Power Corporation was the limited partnership established to operate the project. The Hupacasath First Nation was the majority partner. The \$14.5 million development was a big milestone for the First Nation, for its Chief, Judith Sayers, and for all the other people who had a part in making Upnit a reality.

My presence at the opening ceremony acknowledged the small role that I played in helping the day become possible. As I looked around a room filled with over 100 people, I couldn’t help but be moved by two things. First, that the vision of a few people with no prior experience in the energy industry could be realized. Second, that the project would create wealth that could be measured in relationships as much as capital. Upnit Power was in business because Hupacasath’s leaders had allowed themselves to dream and built a team that would work and dream with them.

It was my great fortune to be part of that team early in the project. Having also accepted a job with Ecotrust Canada at the beginning of 2002, I was juggling my time between the two employers. Ecotrust would eventually contribute debt financing to the project so there was value to my balancing act.

An independent contractor again today (2008), I am helping Upnit staff draft an operations safety manual. It is a nice gift for me; another chapter in a book that has come to captivate me and a chance to see where it is all leading.

## Environment of Change

Upnit was the product of a changing political environment and thoughtful leadership.

The political environment in which Hupacasath was operating in the period from 2000-2002 was marked by great uncertainty. In the spring of 2000, Hupacasath’s membership had voted to break away from the 12-nation Nuu-chah-nulth treaty table and attempt to negotiate an agreement with the provincial and federal governments on their own.

Ironically, the future of treaty negotiations in B.C. was itself becoming uncertain.

In a contentious 1997 ruling (*Delgamuukw v. British Columbia*) the Supreme Court clearly expressed its preference that governments and First Nations negotiate complex comprehensive land claims together rather than rely on the Court to unravel the mess. Aboriginal title was confirmed but remained undefined. In 2001 a new provincial government took office promising a province-wide referendum on the existing B.C. treaty process. Together, these two developments did much to shift the burden of accommodating aboriginal rights and title onto the shoulders of private industry for the foreseeable future.

(photo) Water squirts from the turbine of the Upnit power plant. The plant has the capacity to meet the residential electrical needs of nearby Port Alberni, B.C. Additional developments may be able to supply industrial and commercial demand. Credit: Brandy Lauder, Hupacasath First Nation.

Uncertainty in the marketplace creates cost. The only way for companies to mitigate the uncertainty in British Columbia was to themselves negotiate agreements with individual First Nations. For First Nations, uncertainty in this case created opportunities – opportunities that might not exist once final treaties were signed. For Hupacasath, shifting the focus of internal resources (labour and capital) away from treaty negotiations and towards economic development was both practical and strategic.

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## Options to Spare

As practical and strategic as it was to shift the focus, the opportunities Hupacasath decided to pursue might well appear “outrageous.” The First Nation’s resources were very limited. Prior to 2000 it had little experience in economic development.

Despite this, Chief Sayers felt that this was a unique time to act. In short order the Hupacasath were negotiating economic agreements and developing plans for ventures in timber, tourism, and mining as well as energy. (See “A Nation’s Economic Catalyst,” *Making Waves*, 16,4:5-10)

Chief Sayers brought to economic development the same diligence and perseverance that she had to devoted to treaty negotiations and improving Hupacasath’s public profile. Once practically invisible to decision-makers, under her guidance the Hupacasath steadily built key relationships with other government bodies, the media, business and industry, and with the broader public. By 2001 they were active on both the Alberni-Clayoquot Regional District’s Board of Directors and the Alberni Valley Chamber of Commerce and had begun establishing a provincial profile as well.

In 2000, Hupacasath’s environmental values had come to the fore when BC Hydro, the province’s major public utility, pushed a plan to build a natural gas-fired electrical generation plant in Port Alberni. The project was necessary, Hydro asserted, to meet the rising demand for electricity on Vancouver Island and to offset the decommissioning of high voltage power lines from the mainland. The Hupacasath and a wide range of local groups stepped up in firm opposition to the proposal for a number of reasons, its likely effect on the Valley’s air quality being a major one. The project was quashed.

The Hupacasath were not opposed to the energy sector *per se*, but they did see the need to make the environment a primary consideration of any new development. This ethic would define all of their economic development efforts and was why I found myself in hip waders less than a year later – checking out the potential for small hydropower on Hupacasath traditional lands. Far from supporting energy development so long as it occurred in “somebody else’s back yard,” the Hupacasath were pursuing positive alternatives with conviction and vigour.

With the attacks of September 11, 2001 in New York the vulnerability of big, centralized power sources to terrorist action

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## Résumé : Une idée puissante

En octobre 2006, la Première Nation Hupacasath a ouvert Upnit, une usine hydroélectrique de 6,5 mégawatts de 14,5 million \$ sur leurs terres ancestrales près de Port Alberni, C.-B. Ils ont accompli ceci malgré leur petit nombre, aucune expérience en énergie renouvelable, et que peu d’expérience en développement économique.

Comment cela est-il arrivé? En 2002, il était à la fois pratique et stratégique pour la Première Nation de consacrer plus de ressources au secteur de l’énergie. Le processus de négociation des revendications territoriales était mis en doute, ainsi que la sécurité du gros réseau électrique national centralisé. BC Hydro, le service public le plus

important de la province, était intéressé par des sources d’énergie plus petites et plus soucieuses de l’environnement. Le leadership de la Cheffe conseillère Judith Sayers a aussi été important. Elle avait passé des années à créer des relations avec d’autres paliers de gouvernement, les médias, les entreprises et l’industrie ainsi qu’avec le grand public.

Alors, lorsque BC Hydro a demandé des devis pour 800 GWh/année d’énergie alternative, Hupacasath a pu agir rapidement. Ils ont trouvé dans Sigma Engineering, l’Institut Pembina et la Ville de Port Alberni des partenaires avec l’expertise et les données nécessaires pour une

proposition de haute qualité. Avec un contrat de BC Hydro en main, Hupacasath est allé à la recherche de fonds pour bâtir Upnit. Vancity Capital Corporation a aidé à organiser 9 \$ millions de crédit. Un autre 5 \$ millions en équité et autres contributions ont complété le portrait. À force de marchandage judicieux et de résolution de problème, Hupacasath a tout de même pu garder une majorité (72,5%).

Upnit peut maintenant répondre aux besoins électriques de chaque maison en ville, et de nouveaux projets énergétiques sont en cours. Ça a créé de la richesse qui peut être mesurée en relations autant qu’en argent. ■

became apparent, as did the relative security of distributed power generation. BC Hydro was ready to get serious about making smaller projects a reality.

In sum, the intersection of energy security issues, environmental issues, and political opportunity made this a very opportune time for the Hupacasath First Nation to get involved in renewable energy.

## Finding Upnit

During the natural gas protests, Trevor Jones had been part of a BC Hydro team in consultation with Alberni Valley leaders (including Chief Sayers) over water use planning. It became clear that Trevor and the First Nation were on the same wavelength. Soon after, Hupacasath hired him away from BC Hydro and immediately began to explore both resources and partners to help evaluate their renewable energy options. 2001 really became a time to get our heads around the possibilities. For Chief Sayers, Trevor, and myself it was an interesting time.

Wind was an early consideration. BC Hydro's new Green and Alternative Energy Division issued a Request for Proposals in June 2001 for a joint venture partner in a wind energy development project on the island. Since one of the sites chosen for monitoring was located in Hupacasath traditional territory, we began looking for potential partners to back in a submission.

We began researching leading operators and had talks with Axor (Le Nordais Wind Farm, Gaspé Peninsula, Québec) and with Suncor/Endbridge (SunBridge Wind Farm, Saskatchewan). At the time, Axor was Canada's largest producer of wind power, while Suncor, a major tar sands developer, had just decided to invest \$100 million in renewable energy initiatives.

Trevor arranged for Hupacasath to be kept abreast of the wind energy site, and for a couple of Hupacasath members to be paid participants in the installation of the monitoring tower. When the wind resource proved poor, our focus shifted to small hydro.

Chief Sayers and I traveled to Vancouver to meet Andrew Pape-Salmon of the Pembina Institute. It quickly became a partner and helped prioritize and organize our efforts. BC Hydro had recently released a Request for Quotation for 800GWh/year of Green Power Generation, with a submission deadline for the fall of 2002. Andrew immediately identified the RFQ as a target for our work.

Up to this time in BC Hydro's history, calls like this were rare. If Hydro liked your submission, it signed a contract with you and you had an assured revenue stream. This RFQ had the additional sweetener of a pricing premium (an additional \$2/MWh) for projects located on Vancouver Island. If the Hupacasath were going to get into the renewable energy business, the time was now. A purchase agreement with BC Hydro would be the primary leverage for financing construction of any project.

Early in 2002 the Nuu-chah-nulth Economic Development Corporation provided Hupacasath with a grant to begin an organized and comprehensive evaluation of local green energy resources. The funding was only half of what had been applied for, so the project team quickly discarded its plan to do a comprehensive analysis of all varieties of renewable energy resources in the territory; we focussed specifically on viable economic options for meeting the BC Hydro call, which meant small hydro.

Where to go for assistance in identifying hydro resources? Andrew recommended Ryan Hanson of Sigma Engineering, a division of Synex Energy (Vancouver) and a recognized leader in small hydro in B.C. Before going into the field, however, we acquired two comprehensive sources of information on local small hydro opportunities. The first, from the City of Port Alberni, was the stream flow and precipitation data on China Creek, a municipal water source five kilometers south of town.

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The second was a 1999 feasibility study by Sigma Engineering that looked at converting a now obsolete dam owned by a pulp mill into a power generating facility.

Both showed potential, but we needed to know if other options should take priority. Sigma Engineering identified over a dozen water catchment areas worthy of investigation. Jonathan and I then set off on our woody excursion, gathering the data that would help engineers and business analysts make choices.

Volume and consistency of water flow and the height of the water's vertical drop over the length of a hydro power project are the key factors in determining power generating capacity. To calculate economic feasibility though, a number of different factors come into play. Distance to existing transmission infrastructure. Nature and complexity of terrain. Fishery values. Where should the water intake be located in order to maximize generating capacity? All of these factors turn the relatively simple math of calculating energy generation capacity into a bit of an art form.

When all was said and done, China Creek became the leading candidate for the submission to BC Hydro. Extensive data enthusiastically provided by the City Engineering Department, headed by Ken Watson, really backed up Sigma's analysis. A significant waterfall located below the projected project site also helped allay fears of conflict with fishery and recreational values. These assumptions were confirmed by subsequent studies by Adam Lewis of Ecofish Research Ltd.

Hupacasath had identified their project. Not only was the project a good one from economic and environmental perspectives, but with the First Nation leading the effort, it was good politically. BC Hydro signed a power purchase agreement with the Hupacasath First Nation. Now the project just had to be built.

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## Green Light

Completing independent power production projects has been historically difficult in B.C. One division of the crown corporation would sign the contract but it would take a second contract with the transmission division to get the power to market. So while the First Nation now had a purchase agreement, the reality of funding a \$14.5 million project posed real challenges.

In working through these challenges, the members of the Hupacasath Economic Development Committee demonstrated a different attitude than the one I had encountered in 2000, when I was first introduced to them. At the time, challenges were construed as obstacles fashioned deliberately to prevent the First Nation from participating in the economy. Now, the First Nation was learning how to develop partnerships and solutions that would move them steadily towards their goal.

When it came to money, the Hupacasath were committed to retaining a controlling interest in the project by the time it was complete. This meant equity. Some, smaller quantities came from several agencies and sources, including:

- \$100,000: Indian and Northern Affairs Canada (INAC) Development Funding

- \$90,000: Nuu-chah-nulth Economic Development Corporation Development Funding
- \$90,000: Federation of Canadian Municipalities' Green Municipal Enabling Fund
- \$250,000: Aboriginal Northern Climate Change Action Program

The big equity kickers were INAC's Equity Matching Program, which contributed \$2 million, and another \$1.8 million from other partners. Synex Energy and the Ucluelet First Nation were the major contributors. Accessing these monies took considerable perseverance, political will, and good decision-making.

On the debt side of the financing equation, Hupacasath's traditional banking relationships were not yielding the commitments they hoped for. Lee Davis and his team at Vancity Capital Corporation helped change the situation. At \$14.5 million, the Hupacasath power project was going to need over \$9 million in debt financing. This represented a substantial portion of most lenders' portfolios, even big lenders.

For Vancity to help, it needed to spread the risk. It set up a debt syndicate to accomplish this. The offering turned out to be a very popular one and was substantially overprescribed. Nine credit unions and other lenders came on board to reach the \$9 million target. (The Vancity effort not only helped ensure that the project would become a reality, it helped establish a hungry market for these types of projects, a fact that would help the Hupacasath move beyond Upnit in the years to come.) Western Economic Diversification, through the guidance of Minister Stephen Owen, provided an additional \$900,000 in low-interest repayable funds to complete the financing of the project.

Now all that was needed was to reach an agreement with the City of Port Alberni. This would prove to be quite a challenge.

Originally envisaged as a 3MW generator, Upnit had been pushed up to a 6MW capacity. This involved moving the water intake on China Creek upstream from existing City of Port Alberni infrastructure. The City was not impressed. It had been looking forward to improving that infrastructure, but with the change to the location of the intake, the upgrade was unlikely. In addition, what would a new license holder upstream from the City's intake do to the residents' water supply?

After much discussion and brainstorming, the eventual solution was both engineered and partnered. The City would get a direct link into the Upnit pipeline, or "penstock," that transports water from the river to the turbine. That link could be used to divert water from the power project for City use whenever necessary, for example, if water levels started to fall too low. The City would also receive a 5% equity stake in the project for approving its construction.

Construction costs were another major issue in the effort to maintain Hupacasath's majority ownership position. Here the choice of turbines for Upnit was key. Tested turbines from

companies with proven track records in the industry were far more expensive than offerings from newer companies trying to break into the market. The difference (some \$450,000) could shift the ownership balance of ownership.

But the turbine decision was about more than just money. This was a decision that Upnit would have to live with for 50 years or more. Quality counted. So too did the timing of the decision. Ordering the turbines for a project needs to take place early on, so that they are built and ready for installation at the right time. This major decision had to take place before the bulk of the project funding had been secured. For Hupacasath's Chief and Council, the decision was a risky one. They were no longer in "traditional territory."

The choice to go with Chec-Summit, a supplier of Chinese turbines was a decision that contributed greatly to ensuring that the Hupacasath maintained a majority position. In the end, the partnership broke out as follows:

- Hupacasath First Nation           72.5% ownership share
- Synex Energy                         12.5%
- Ucluelet First Nation               10.0%
- City of Port Alberni                 5.0%

Upnit Power completed the construction of its project on China Creek on time and under budget, establishing the Hupacasath as capable leaders of major developments.



## Outcomes

Estimates had calculated operational revenues for Upnit Power to be upwards of \$1.2 million per year. In 2007 Upnit delivered on those expectations when it sold \$1.285 million worth of clean electricity to BC Hydro. Considering that the young operations team is still learning to get the most out of their new system, it has been a good start.

With two Hupacasath members (Burt Casavant and Al McAnerin) working hard with support contractors and Upnit CEO Trevor Jones and Upnit Chief Financial Officer Tara Denton, the Hupacasath are looking ahead to their next power project. Tiickin Power project on Corrigan Creek (one of the locations identified in our original survey back in 2002) will be a \$17.5 million, 7MW installation. It already has a power purchase agreement in place with BC Hydro and is set to break ground in May of this year.

Hupacasath's renewable energy dreams, which seemed audacious back in 2000, are now powering their economic future, and inspiring people like me to believe in the possibility of creating the futures they dream of.



DARREN WILLIS is also working with the Hupacasath First Nation on a \$4.4 million riverfront cultural tourism attraction located in the heart of Port Alberni which is set to break ground in the summer of 2008. For further information, contact him at [dwillis@thespeedstudio.com](mailto:dwillis@thespeedstudio.com).

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