

Jean-Paul Pinard, PhD, P.Eng.

President, JP Pinard Consulting Engineer
703 Wheeler Street, Whitehorse, Yukon, Y1A 2P6,
Tel: (867) 393-2977, Email: jpp@northwestel.net

Years with Firm: 20

Years of experience in energy field: 18

Engineer, scientist, teacher on renewable energy since 1996 • wind and renewable energy assessment in remote communities of Canada and Alaska • collaborating on renewable energy developments with Kluane First Nation • Energy modelling • energy data analysis • public relations • networking • fundraising • sought by media on energy issues.

LANGUAGES: English and French (fluent written, oral, and reading comprehension)

CITIZENSHIP: Canadian

LEVEL OF SECURITY CLEARANCE: no criminal record

RELEVANT LINK: [TEDxWhitehorse talk by Dr. JP Pinard](#),

EDUCATION

September 2000 – 2008: University of Alberta

- **PhD** on wind climate modeling of the Yukon.
- Published five peer-reviewed papers on wind climate analysis and modelling.

January 1999 – May 2000: University of Alberta

- **Master's Degree** in computational fluid mechanics applied to atmospheric boundary layer flows.

1984-1991: University of Waterloo, Waterloo, Ontario

- Honours Bachelor in Mechanical Engineering.
- Fourth year project thesis on a software (C-language) controller for robot arm.
- Member of Nordic ski team and Canadian Aeronautics and Space Institute.
- Up to 3rd year geological engineering with focus on numerical modelling.

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Remote Communities Advisory Committee at CanmetENERGY.
- Association of Professional Engineers of Yukon.
- Canadian Wind Energy Association
- Co-chair and organiser of the Yukon International Wind Conference, May 27, 2003.
- Organiser of the Canadian Wind-Diesel Workshop Ottawa, June 2009.

REFERENCES

- Mathieya Alatini, Chief Kluane First Nations, Burwash Landing, YT. 867-841-5501
- Cathy Cottrell, Energy Solution Centre, Whitehorse, YT. 867-393-7148
- John Maissan, Leading Edge, Whitehorse, NT. 867-393-2977
- Pippa Seccombe-Hett, Manager, Aurora Research Institute, Inuvik, NT. 867-777-3298

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EXPERIENCE WITH YUKON PUBLIC UTILITIES HEARINGS

I have participated in the interventions on 4 Yukon Utilities Board hearings. My participation has included research support, evidence presentation and oral hearing intervention:

- YECL 2013-15 GRA
- YEC 2012 GRA
- 2010 YEC Mayo B Application
- 2006 YEC 20 Year Resource Plan.

CONTRACT WORK EXPERIENCE

2011 – Present: YourBrook Inc., Queen Charlotte City, British Columbia

- Design, modelling and engineering support for a tidal-powered water wheel for IRAP-funded renewable energy project on Haida Gwaii Island.

2010 – Present: Kluane First Nation (KFN), Burwash Landing, Yukon

- Project Champion: developing a future wind energy project for 2015 at Kluane Lake. The wind farm is expected to displace 25% of diesel generator annually.
- Commissioned a 4.7 kW solar PV system in Burwash Landing for KFN for the first official net-metering in the Yukon.
- Successfully raised funds from EcoEnergy, Bullfrog Power, and others.
- Supporting KFN on other renewable energy projects for the Kluane community.

2010 – Present: Energy Solutions Centre (ESC), Whitehorse, Yukon

- Installation and maintenance of wind monitoring activities for off-grid proponents participating in ESC's community wind resource assessment program.
- Wind (and solar) data analysis, economic assessment and reporting.
- In 2013-14: assessing the technical feasibility of Electrical Thermal Storage (ETS) for maximizing solar and wind energy and peak shaving on Yukon grid.

2010 – Present: Yukon College, Whitehorse, Yukon

- Occasional lecturer on energy and renewable energy developments in the Yukon.
- Adjunct Faculty Appointment in 2011

2003 – Present: Aurora Research Institute-NWT Government, Inuvik, NWT

- Principal Investigator for wind energy research and development in the Northwest Territories.
- Assessment of renewable energy potential and GHG reductions in communities across the NWT.
- Installed and maintained wind monitoring stations in several communities.

2011: Wind Energy Strategic Network (www.wesnet.ca)

- Prepared for and taught computer-based mesoscale wind modelling course to Graduate students.

2005 – 2010: Treaty 8 Tribal Association, Ft. St. John, BC

- Pre-feasibility study and wind monitoring for wind energy in North-eastern BC.

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2005 – 2007: Selkirk First Nations, Pelly Crossing, Yukon

- Wind energy monitoring and analysis.

2005: Diavik Mine, Lac de Gras, NWT

- Analysis of wind data for wind pre-feasibility at the mine site.

2004: Bell Canada/ SNC-Lavalin / Nexacor Realty Management

- Wind energy feasibility at selected remote communication sites in northern Quebec.

2002 – 2009: Northwestel, Whitehorse, Yukon

- Planning for and installing two small wind turbines at remote communications sites.

1996 – 2004: Yukon Energy Corporation and Energy Solutions Centre, Whitehorse, Yukon

- Wind energy assessment of many potential sites in complex terrain.
- Installation and maintenance of wind monitoring stations across the territory.
- Installed remote energy systems to provide power to wind monitoring site.
- Measurement of icing potential and use of heated instruments.

REFEREED PUBLICATIONS

- 2009, Mesoscale Wind Climate Modelling in Steep Mountains, (first author).
- 2008, Wind Climate in Yukon Mountainous Terrain, PhD Thesis.
- 2008, Stakeholders' perspectives on barriers to remote wind–diesel.
- power plants in Canada, (co-author).
- 2007, Wind Climate of the Whitehorse Area, *Arctic* (sole author).
- 2006, Wind Energy Simulation Toolkit (WEST): A Wind Mapping System for Use by the Wind-Energy Industry, *Wind Engineering* (co-author).
- 2005, Wind Climate of the Mountainous Yukon, in *New Northern Lights* (sole-author).
- 2005, A WEST Wind Climate Simulation of the Mountainous Yukon, *Atmosphere-Ocean* (first author).
- 2001, “First- and second-order closure models for Wind in a plant canopy”, *J. Applied Meteorology* (first author).
- 2000, “Numerical simulation of wind in plant canopies”, MSc. Thesis, U of Alberta (sole-author).

NON-REFEREED PUBLICATIONS

- 2011, “Improvement to mesoscale wind climate modelling in cold climate steep mountains”, Presented at 2011 45th CMOS Congress. (co-author)
- 2003 to present, Several community wind energy assessment reports for the Aurora Research Institute, please see: www.nwtresearch.ca search “wind energy reports”
- 2003, Experience from use of heated wind sensors and rime ice detectors over the past 12 years, BOREAS VI, Pyhatunturi, Finland.
- 1999, “Computer modelling to assess Haeckel Hill for optimum site location for a wind turbine generator”, Report to the Yukon Energy Corporation, Whitehorse, Yukon.

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- 1998, “Wind energy assessment tools for complex terrain applied to the Yukon”, Report to the Yukon Energy Corporation, Whitehorse, Yukon.
- 1998, “Ultrasonic instrument for remote monitoring under icing conditions”, Proceedings: Wind Energy Production in Cold Climates, BOREAS IV.
- 1997, “Solar & Wind Energy Potential, Yukon College Northern Research Institute, Progress report on solar-wind hybrid demonstration laboratory”, Whitehorse, Yukon, BAEC.
- With Craig, D.B., 1996, “Wind energy potential, analysis of wind regimes in Haeckel Hill, Flat Mountain, and Sumanik Mountain”, Proceedings: Canadian Wind Energy Conference, Kananaskis, Alberta.
- I have also written several articles in the past for the Yukon News, a Yukon-wide newspaper. The articles are on renewable energy and energy efficiency.

OTHER WORK EXPERIENCE

1992-1998: **Software Contractor/technician/instructor for:**

- Council for Yukon Indians, Whitehorse, Yukon
- Yukon Government, Whitehorse, Yukon
- Yukon Engineering Services, Whitehorse, Yukon
- Raven Recycling Society, Whitehorse, Yukon
- New Opportunities Inc., Whitehorse, Yukon
- Yukon College, Whitehorse, Yukon
- GL Electronics, Whitehorse, Yukon
- Total North Communications Inc., Whitehorse, Yukon

May-August 1990 and May to Sept. 1991: LYNX Geosystems Inc, Vancouver, BC
Software Developer: in HP-UNIX C, FORTRAN, and AutoCAD

September-December 1989: WESTON'S Bakeries Limited, Kitchener, Ontario
Engineering Assistant: Assembly line designing and troubleshooting

January-August 1988 and January-April 1989: Noranda Research Centre, Montreal, Quebec

Mining Software Modelling Technician: finite element modelling, AutoCAD, C-language

January-April 1986 and May-August 1987: Indian Minerals (East) Dir. (INAC), Hull, Quebec

Geologist Assistant:

- Assistant in the production of geological maps and reports and field surveying
- Catalogue of mineral potentials on Eastern Canadian Indian Reserves

September-December 1986: Whiteshell Nuclear Research Est. (AECL), Pinawa, Manitoba

Field Technician (hydro-geology):

- Field work with drilling rigs and installations of casings in surface bore holes
- studied and developed method of sealing leaks in down hole casings

June-August 1985: Sigma Mines (Quebec) Limited, Val d'Or, Quebec

Underground Miner-Labourer: academic study of rock blasting methods

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CIVIC AFFILIATIONS

- **President** of high school student council for two years (1981-83) at Saint Joseph's High School, Val d'Or, Quebec
- Member of Small Wind Committee for the Canadian Wind Energy Association from 2009 to 2011.
- A Big Brother for Big Brothers and Big Sisters of the Yukon 1995-2007.
- Board: Yukon Conservation Society/Energy Committee 1997-2008.
- Board: Yukon Science Institute since 2005.
- Board: President, Escarpment Parks Society since 2003
- Committee advisor: Science Adventures, Yukon College since 2000
- Volunteer for Innovators in the School & Annual Bridge Building Contest, since 1998.
- Board of Director: Kaushee's Place, a Whitehorse women's shelter. 2004 - 2007 and 2011 to Present.

INTERESTS, ACTIVITIES, OTHER INFORMATION

- Volunteered for the Canada Winter Games 2007.
- Volunteer with Skills Canada in Solar Car Challenge 2004-2006.
- Interview on wind energy with BBC International Radio: FiveLive, July 13th, 2003.
- Learning to play guitar.
- Nordic skiing, telemark skiing, travelling, cycling, hiking, and canoeing.
- Competed in bicycle racing for seven years (senior III & II level)

SCHOLARSHIPS, FELLOWSHIPS, AND OTHER AWARDS RECEIVED

- Gold medal in Northern Ontario Science Fair, 1984.
- Dawn Parenteau Memorial Award 1982, student & athlete of the year, high school.
- Community Development Fund, 1998: \$15500, including from Yukon Energy Corporation, \$6250 and from Champagne and Aishihik First Nations, \$3000. For wind monitoring station and energy feasibility study near Haines Junction, Yukon.
- Industrial Research Assistance Programme, 1997: \$3500, including from NORNET, \$500 and from Yukon Energy Corporation, \$500. Funding for supporting travel to Finland to attend and present a paper to the BOREAS IV conference on wind energy and icing in northern climates.
- NSERC – \$20,000 IPS for 2000 to 2002 and \$20,000 PGS 2 for 2002 to 2004
- NSTP – ~ \$2,000 in 2000 and 2001
- Environment Canada grant of \$25,000 to finish PhD and test their wind modelling tools.
- Community Safety Award, outstanding project – Betty's Haven, 2013