TURNING OFF-THE-GRID CUSTOMERS INTO GRID CONTRIBUTORS

By Don Horne

In the wilds of Northern Ontario, electricity meant the hum of a diesel generator.

The small hamlets and villages that dot the landscape of the Canadian Shield are, for the most part, all populated by First Nations peoples.

Living off the grid has been - and still is - a reality for the First Nations' peoples, but the realities of the modern world – primarily the need to create economic revenue while reducing harmful emissions – are becoming more of a fact of life for the thousands of residents of Northern Ontario.

Negotiations are currently under way with a number of First Nations' peoples to create an east-west transmission corridor from northern Manitoba across Northern Ontario to Sudbury. Tapping Manitoba's hydro-rich generation reserves is part of a larger effort to strengthen the east-west electricity interties across Canada (there are concurrent negotiations with Quebec and Newfoundland-Labrador to build similar transmission links into Ontario).

The obstacles to this new corridor (terrain, distance, an estimated cost of $2 billion) can be overcome (new building techniques, DC transmission and public/private investment), but the land rights issues may be the true sticking point.

For the aboriginal peoples, they want a level of participation and a benefit from the new transmission corridor. Years ago when Quebec launched the massive James Bay hydroelectric project, the Cree people in the area established a cadre of technically trained residents to help build and maintain the project. For Hydro One and, by extension, the province of Ontario, the distance between the communities and small population size makes creating a viable local workforce of properly trained individuals truly daunting in a short span of time.

The question of having the First Nations' peoples make a sizeable investment in the corridor is moot, considering that the vast majority of the various peoples still rely on hunting and fishing to provide an income. The great casino cash cows that are thriving among their fellow First Nations peoples to the south cannot be found here.

So that leaves a better, cleaner access to electricity for these isolated communities – freedom from the noisy, greenhouse gas polluting diesel engines currently running the lights, stoves and refrigerators in Northern Ontario.

Simply string a few lines along the corridor and all is well.

Except that the corridor will all too likely be Direct Current, not AC.

The sheer distance of the line necessitates using DC, eliminating the considerable voltage loss and higher cost of AC transmission lines.

For these small communities, it doesn't look likely that they will each have their own conversion station built at their doorsteps along the line, reaping the benefits of the hundreds of megawatts of power running past their homes.

Any savings that will be had using DC instead of AC would be quickly eaten up if conversion stations are constructed for all of the communities within proximity of the corridor. This would leave the First Nations people back where they started, except that now they would have a transmission line running through their lands.

One option that would be attractive to both the province's electricity provider and the First Nations' groups would be the construction and integration of the tens of thousands of megawatts of wind generation available in Northern Ontario.

Such wind power could supplement these communities with not just electricity, but money from the generation they would be putting into the grid. The staffing, maintenance and construction of these wind farms would also provide the First Nations' peoples with employment opportunities with much greater permanence than a one-off transmission corridor project.

Yes, the wind farm projects would be an additional cost to the entire project; but it makes more sense to put the money into more, cleaner generation on a local level than to just build countless conversion statements drawing power away from the grid.

Wind doesn't offer a stable power supply, but it does offer the First Nations a chance to participate and grow along with the corridor.