# CONNECTION

#### QUALITY WIND PROJECT (QWP)

100 - 10551 SHELLBRIDGE WAY, RICHMOND BC V6X 2W8



#### **Dear Friends and Neighbours**

Construction of the Quality Wind Project (QWP) is now well-advanced. This summer, the excitement really builds with the assembly of the 79 wind turbines for one of British Columbia's newest sources of clean energy. We'll also be busy completing the Operations and Maintenance building and the project substation. This all builds on the work we completed in 2011, including constructing project roads, transmission and collector line structures and pouring turbine concrete foundations.

As with all of Capital Power's projects, safety is our top priority. The QWP site is on provincial Crown land. In and around the project area, there will be significant heavy equipment hauling turbine components to the site. Trained personnel are dedicated to protecting the environment and keeping the site safe for workers and the public. More information about opportunities for public viewing will be provided as we progress into summer.

Components for the QWP's 79 Vestas wind turbines are arriving via rail in Rycroft, Alberta. The storage area was selected due to its proximity to the project site and ability to accommodate the large volume of equipment.

Currently being manufactured in Colorado, each turbine is made up of nine large components: four tower sections, one nacelle, one hub and three blades. The components will be stored until needed for the turbine assembly scheduled throughout this summer. Vestas is responsible for transportation of the wind turbines to the QWP site. (More information on wind turbines is included in the pullout section of this newsletter.)

We appreciate feedback from the community, and look forward to hearing from you as we move forward with construction of the Quality Wind Project.

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STEVE OWENS, Project Manager Capital Power Corporation



On February 4, 2012, a Vestas turbine base is transported via Schnabel trailer down Highway 2 (just outside of Edmonton, Alberta) en route to the Quality Wind Project site.



The next day, the turbine base nears the Quintette Mine on Hwy 52.



This will be the scene in Tumbler Ridge throughout the summer, as wind turbine components arrive for assembly. (Source: Eye For Detail Photography)

#### A Look Back: Foundations, Transmission Poles and Roads – Oh My



Project roads (northern portion) were constructed by IDL. The southern portion was constructed by Duz Cho (McLeod Lake Indian Band) and Dunne Za (West Moberly First Nations).

Despite the late start, the civil construction phase of the Quality Wind Project proceeded very well and, literally, paved the way for the turbine assembly scheduled this summer.

To reach this stage of the project, a significant amount of pre-construction work had to occur:

- Surveying and flagging of areas to be cleared
- Clearing and stump removal (grubbing) of project footprint, including right-of-ways for roads, transmission and collector lines, turbine foundations and substation area
- Harvesting merchantable timber; disposal of nonmerchantable timber and waste; mulching debris
- Geo-technical investigation bore hole drilling at each turbine location
- Held job fairs in the region prior to start of civil work

"I TOURED THE CAPITAL POWER SITE AND WAS PLEASED TO NOTE HOW MUCH ATTENTION THEY ARE PAYING TO THE ENVIRONMENT."

#### -FORMER MAYOR LARRY WHITE, TR News (Feb 2011)

In 2011, the following construction activities occurred:

- Culvert installations
- Site roads construction
- Concrete batch plant construction
- Transmission line and collector line construction
- Excavation, concrete pouring and backfill for turbine foundations
- Start of construction of project substation
- Start of construction of Operations & Maintenance building in Tumbler Ridge

#### Wind Turbine Generator Concrete Foundations

#### **Stages of Installation**

From start to finish, the process for installing a concrete foundation takes approximately four weeks, with each foundation using approximately 40 truckloads of concrete. During the peak pouring period in 2011, Mortenson had two crews consisting of 12 people each working simultaneously to pour 77 foundations in time before winter set in to the Peace Region. Placing a foundation involves 8 steps:





Excavation.

Mud mat installation (to provide a level surface for the rebar).





Anchor bolt cage installation.

Base rebar installation.



Rebar cage installation.



Pour the base concrete.



Pour the pedestal concrete.

During construction, a number of inspections are completed to ensure compliance with strict engineering standards. Examples include inspections of the ground conditions prior to pouring, checking the rebar layout, and strength testing of concrete samples.

Backfill.

Due to challenging soil conditions encountered just prior to freeze-up, two of the 79 concrete foundations remain to be completed in the spring. Detailed plans are in place to complete these foundations as soon as Mother Nature will allow.

#### **Transmission and Collection Lines**

#### **Electrical Collection System**

- 34,500 Volts, four circuits each connected to about 20 wind turbines
- 602 wooden and steel pole structures supporting above-ground electrical and communications cables
- 79 underground connectors from each wind turbine to its electrical circuit

#### Electrical Transmission System

- 230,000 Volts
- 99 wooden pole structures supporting electrical and communications cables
- 1.2 km free span crossing of the Murray River



### MAIN ACTIVITIES THAT WILL OCCUR THIS YEAR

- Installation of substation transformer (complete)
- Finishing the electrical transmission and collector lines
- Completion of the Operations & Maintenance building (scheduled for May 2012)
- Completion of the project substation (scheduled for June 2012)
- Transportation and assembly of wind turbine generators (WTGs)
- Commissioning and commercial operation

\*See the pull-out section of this newsletter for detailed information about the turbine assembly process to occur during the summer 2012.



Main transformer installed at QWP substation site.



Construction of the O&M building in Tumbler Ridge.

#### **New QWP Wind Farm Manager**

Capital Power is pleased to welcome Brad Ketsa as our new Wind Farm Manager for the Quality Wind Project.

As a Red Seal Journeyman Electrician and Certified Field Safety Representative, Brad has over 25 years of electrical operations and managerial experience in wind, residential, commercial, oil and gas and pulp mill generation. "As an established resident of the Peace Region, I am truly excited to be a part of BC's newest wind farm that will provide clean, renewable power for the province and the rest of Canada," said Brad.

Over the last two years, Brad was involved in the commissioning and operation of the Dokie Wind Farm.



A QWP turbine blade passes through downtown Calgary en route to Rycroft, AB to be stored until needed for assembly.

#### Capital Power – Harvesting the Wind's Power

Capital Power has 487 megawatts (MWs) of owned wind generation capacity under construction or in advanced development in British Columbia, Alberta and Ontario.

Project	Location	Capacity (MW)	Number of Wind Turbines	Anticipated Commissioning
Quality Wind	Tumbler Ridge, BC	142	79	Q4 2012
Halkirk Wind	Halkirk, AB	150	83	Q4 2012
Port Dover & Nanticoke	Counties of Haldimand & Norfolk, ON	105	58	Q4 2013
K2 Wind Ontario	Township of Ashfield- Colborne- Wawanosh, ON	90*	142 (max.)	Late 2014

\*K2 Wind is a 270 MW project in which Capital Power holds a 1/3 ownership interest.

#### **CPC and Your Community**

CPC understands the importance of being a good neighbour and contributing to your community's well-being. We want to develop a project that is aligned with the interests of your community.

Capital Power was proud to support the following community groups in 2011:

- TR Reusable Bags Program ad purchase and support
- TR Search and Rescue Satellite Phone purchase of phone and air-time
- Community Garden and Composting Society funding for building gazebo
- Library Youth Summer Reading Program
- Grizfest face-painting tent
- Wolverine Nordic Mountain Society hiking trail improvements
- Fire Safety funding towards purchase of educational materials
- Tumbler Ridge News purchase of ad space throughout the year and printing/distribution of the QWP newsletter

#### **Working with Local Businesses**

Where economically feasible, Capital Power sources project materials and services locally. As of January 31, 2012, direct business with Tumbler Ridge firms was roughly \$3.85–5.0M\*.

\*Combined Capital Power and Mortenson local spending (not including hotels, restaurants, groceries or fuel); does not include contracting through First Nation businesses.

Some examples include: LaPrairie Crane, Southpaw Rentals, Dig-it Bobcat Services, Tumbler Ridge Sand and Gravel, Kodiak Ridge, Northern Metallic, PRM Camps and Catering, and many more...



Dr. Charles Helm, on behalf of the Wolverine Nordic and Mountain Society, accepts a donation from Quality Wind Project Manager Steve Owens for improvements to the well-used local area hiking trails.

We look forward to continuing to support the community throughout 2012 and into operations of the wind farm.

#### **Community Sponsorships**

All requests for support are received through Capital Power's online application system to be considered. We are unable to consider hard copy requests for support.

The online application is available at: **www.capitalpower.com** > In Your Community > Community Investment > Funding (bottom of page)



## CAPITAL POWER VALUES YOUR INPUT

Your feedback about the project is important and we value your input. We invite you to call, email or visit us with your comments or questions.

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