Our isolated hydro grid requires thermal for reliability

Temporary Diesels

Our 2016 Resource Plan shows that we have a gap in capacity. Under certain emergency situations, we may not have enough power to ensure uninterrupted service. To address this last winter, we rented four portable diesel generators. They were our insurance policy against potential rolling winter blackouts.

This winter we are doing the same. We are leasing six portable diesel generators (two megawatts each) that will be available from December to next April to use if necessary. They will be located in Whitehorse, beside our diesel plant.

We are working with the Yukon Development Corporation and the Yukon government to find more permanent solutions to addressing the capacity gap. However, energy projects can sometimes take five to ten years to plan and build. It is crucial that we have a temporary solution in place now.

Low Water at Aishihik

Running a hydro operation means being at the mercy of available water. Last winter we had lower than normal water levels at our Mayo generating facility. As a result, we had to burn additional LNG.

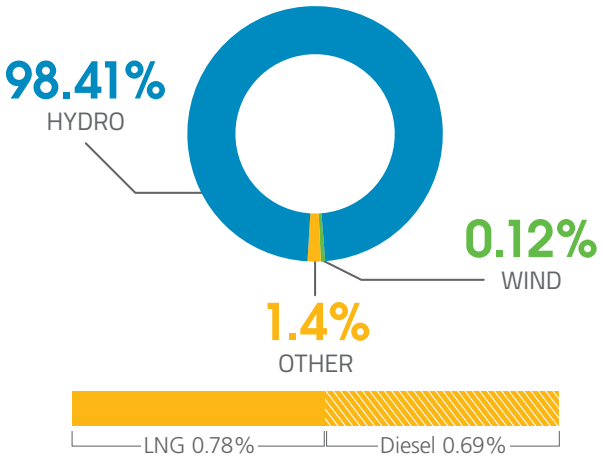
This winter, we are facing a similar situation at our Aishihik plant (the water is one metre below usual levels). To ensure we can continue to meet electricity demand, we will run our LNG generators to fill the gap that can't be met by Aishihik hydro. On an isolated grid such as ours, the ability to use thermal during low water years is key to ensuring reliable, sustainable service to Yukoners.

New Renewables

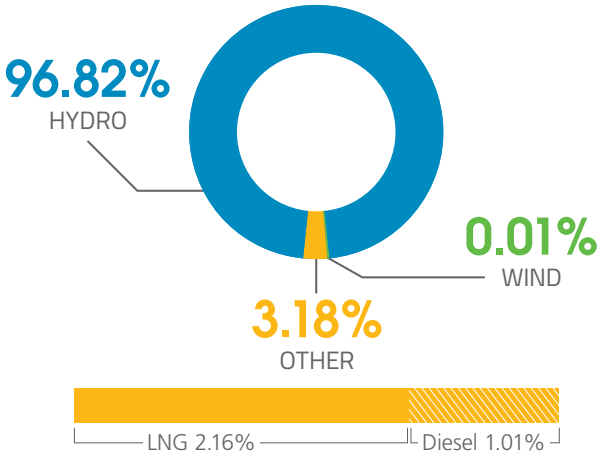
There are some new renewable projects on the horizon. The Yukon government has committed to launching its Independent Power Production policy early next year. This will allow us to purchase renewable power from third parties. As well, our 2016 Resource Plan identifies a number of renewable projects that are worth further consideration. This includes new hydro, enhancements to our existing hydro facilities, and – under certain scenarios – building a wind farm.

However even with a mostly renewable system, thermal remains an important part of our electricity mix, ensuring reliability and cost-effectiveness.

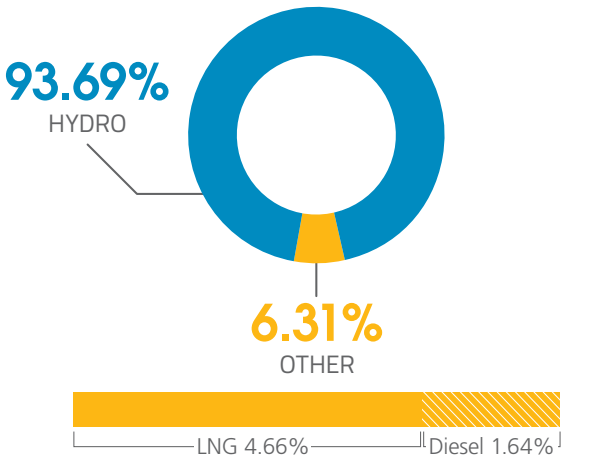
GENERATION BY TYPE 2016



GENERATION BY TYPE 2017



GENERATION BY TYPE 2018



Questions

When will the portable diesels be used…only for emergencies or at other times too?

We will certainly use these portable generators in the event of an emergency. We may also use them to meet daily peaks during the coldest months, since they will create fewer air emissions than our diesel units, all of which are from the 1960s to the 1980s. We expect these portable units will also be more efficient than some of our older diesels, meaning they will be less expensive to run.

Why are these portable diesels needed? Wasn't the LNG plant that Yukon Energy built a few years ago meant to do away with diesel?

The two LNG generators that we installed in 2015 were to replace two diesel units that had reached end of life. The third LNG engine being added this fall is to replace another diesel generator that will be retired shortly. That means the LNG facility hasn't added new capacity; it has replaced existing capacity.

Why did Yukon Energy choose portable diesels instead of portable LNG units?

We chose diesel over LNG units because there were no natural gas rental units available.

Why not invest in a new renewable energy project to fill the capacity gap instead of adding more thermal?

Renewables can't be relied on 100 percent of the time, so are not a good choice for emergency situations.

How much will the portable diesels cost to rent?

The cost to rent the portable units this winter is expected to be just over $1.5 million. This will be covered under Yukon Energy's 2018 and 2019 operations budgets.

yukon energy

yukonenergy.ca
janet.patterson@yec.yk.ca
867.393.5333