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While traveling through New Zealand, we learned all about the different forms of energy used to meet the electricity demands of this country. Thursday morning, my assigned time for a summary dispatch, focused on hydro and geothermal activity as we traveled through the Taupō Volcanic Zone. We started the day in Taupō and stopped at several locations along our journey to Rotorua.

The first stop we made in the morning was at Huka falls, which is a waterfall along the Waikato River. At this stop, we saw firsthand an example of the powerful hydro force that can be found at some of the rivers in New Zealand. Huka falls has a massive amount of water flowing through it, with a volume of 220,000 liters flowing every second! In fact, it is this same river that powers the Arapuni Power Station that we toured earlier on in the week. In total, there are 9 hydro power stations on the Waikato River. Shown below is an image of Huka Falls:



Figure 1. Photograph of Huka Falls

After Huka falls, we made our way to the nearby thermal pools at Wairakei Terraces. This location consisted of pools that are heated geothermally. Apart from being a relaxing morning, Wairakei terraces uses the same basic concept behind geothermal heating that is utilized in the numerous geothermal power plants found throughout New Zealand. These thermal pools stay warm through heated silica-rich water that is brought up from depths over 1.5 kilometers deep. In fact, pipes transporting heated steam to the nearby Wairakei geothermal plant can be seen from the entrance to the thermal pools. As learned about during our site visit to Nga Tamariki on this trip, geothermal energy is a significant contributor towards this nation's power portfolio. Leaving Wairakei Terraces concluded our morning before we continued traveling towards Rotorua.



Figure 2. Pipe Carrying Heated Fluid to Nearby Geothermal Power Station Visible from Thermal Pool Entrance