Dispatch
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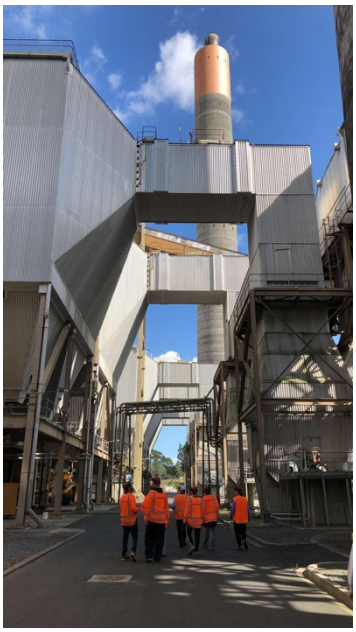
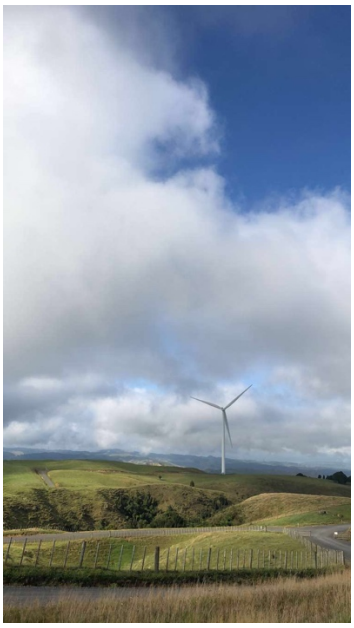
First Day 3/5/18, Auckland:
As planned the trip started from Auckland airport at noon. We drove to Huntly Power Plant near Auckland, around 30 min away. In the plant, we listened to a presentation about the history of the plant and what it does now. The plant is basically a coal-fired power plant with supporting gas turbines for ramping and making up in case coal falls short of meeting the demand. We had a tour in plant's control room and how all pieces of equipment are controlled. Then we climbed very high via an elevator and some grating stairs to the top of the plant building. From there, coal supply was clear and a picture of how the process goes was painted. Below are some pictures. Then we went to train-like hostels on the ocean near to Raglan.



Second Day 3/6/18, Raglan:
We departed from Raglan in the morning heading to a wind farm operated by Meridian Energy Limited near Raglan. The plant consisted of around 28 wind turbines, around 2 MW each. Each of these turbines has its own transformer. Around two turbines were out of service to install a new technology to improve efficiency (install small saw-like pieces at the edge of each of the three blades). We were escorted by a Meridian representative during the tour. She talked about some regulatory commitments the companies like Meridian go through to have investments privileges in the lands owned by indigenous residents. Then we drove to Taupo by the Waikato river. Below are some pictures.

On this day my talk was scheduled early on the morning to talk about Coalbed Methane (CBM) or Coalseam Methane (CSM). It was about what we saw in Huntly Power station and elsewhere about processing coal. The idea of using CBM or CSM is to extract methane gas from the pores of coal which are adsorped into coal surfaces with

relatively minimal penetration. The CSM is harvested by chemical and mechanical processes but mainly pressure difference by injecting water is the main method. New Zealnd has a large reservoir of CSM in the Waikato area. Its approximate size is around 750 PJ.
Then we drove to Taupo.



Third Day 3/7/18, Taupo:
In Taupo, we went to GNS which is a research and consultancy company employing highly educated workforce to do seismic and oil exploratory studies. We listened to a presentation on the methodologies they use.
We also went to Mercury, which is a utility company that is 100% renewable. They produce power from geothermal and solar. Justin, a Mercury engineer, accompanied us to a geothermal rig and to different plant auxiliary areas. He also presented on the activities they do and how they do it for around 40 minutes. Below are some pictures.

Fourth Day 3/8/18, New Plymouth:
We drove to New Plymouth on our way back to Auckland. We passed by Tokaanu Hydro Plant. We went via a pedestrian suspended bridge over the river and saw the dam and the generating plant at the bottom. I forgot to take pictures.

Fifth Day 3/9/18, Auckland:
The last day of the trip which included a long drive to Auckland, one stop for many of the group presentations. My flight back was in the same night.