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Dispatch Friday March 9, 2018 – Hydropower Potential on the South Island

During our last full day in New Zealand, it was primarily spent on the road driving back to Auckland. We left New Plymouth early Friday morning, but before concluding our Trip in Auckland, we stopped on the way at Piopio to discuss various topics about energy in New Zealand. Majeed started the conversation talking about the use of Coalbed Methane and coalseam gas in New Zealand. Mohammad led the conversation on a talk about Hydropower on the Waikato River. Robert talked about Taranaki and Stratford onshore oil field. Nick discussed the offshore oil and gas projects in New Zealand and the Methanex gas-to-liquids plant. Connor led the group on a talk about the government incentives in place at New Zealand for the reduction of carbon emissions. Matt presented information on the Cook Strait and potential plans for tidal power on the strait between the North and South Islands. Finally, I led the discussion on hydropower potential and utilization on the South Island.

From some of the topics that were discussed by my classmates and myself, we thought it was very impressive that New Zealand has the 4th highest renewable energy output in the world only behind Iceland, Norway, and Sweden. The renewable energy supply rose to 40.2% of the total country's energy mainly due to historic high rainfall which saw hydroelectricity up 5% from the previous year. This high percentage of hydro saw a direct impact in the coal and gas industry which reported record lows. In terms of hydropower on New Zealand, there are 5 major plants. There are Tongario and Waikato on the North Island and Manapouri, Clutha, and Waitaki on the South Island. The three major plants of the South Island produce 7600 GWh annually. While it was noted that there are many government incentives encouraging cleaner energy, there are also many government policies that prevent the growth of hydropower. There is concern over the environmental impact of hydroelectricity in New Zealand with problems such as flooding and migration problems of different species. Furthermore, there is opposition by the locals because "untouched" rivers are scarce and highly valued in New Zealand and they would like to leave the rivers the way that nature intended them. This dilemma is currently going on in the South Island since 98% of its electricity is generated from hydro. The North Island is tapped out of all potential resources of hydropower with the South Island the only place left in New Zealand for hydropower potential. As of 2014, there are currently 10 plants that are being applied for approval and all of them are in the South Island. For the country to meet its renewable energy goal of 90% by 2025, something will have to give in this debate on hydropower on the South Island. Since the South Island already produces enough energy for itself, all the additional hydropower projects that will be built will end up with the energy production being sent to the North Island while the landscape and "untouched" rivers of the South Island being changed forever. The group talked about the debate and gave their own thoughts on what New Zealand should do in terms of developing hydropower in the South Island before departing for Auckland to end our trip.