

## EGEE 497 – SUSTAINABLE ENERGY IN NEW ZEALAND

### Beginning and End of Course/Travel

**Begin:** Auckland Airport, New Zealand, 1200h Monday March 4, 2019 (at McDonalds – to the left as you leave customs/immigration and enter the arrivals concourse.)

**End:** Auckland Airport, New Zealand, 1200h Saturday March 9, 2019

### Contacts

*Derek Elsworth*      [elsworth@psu.edu](mailto:elsworth@psu.edu) - +1.814.441.8308 [24h emergency contact - voice]

### Clothing and Baggage

From the evolving itinerary, you will get a feel for the kinds of activities we will undertake. Remember that we will be actively walking and in transit for much of the time, so wear comfortable footwear and clothes – perhaps not much different to what you wear on campus. You will need closed toed shoes and covered arms for at least one of the visits. New Zealand will be in late summer in March so bring layers and raingear. Long pants, and polypro/fleece would be appropriate. Boots or closed toed shoes are necessary. The sun may be strong this far south in the southern hemisphere so sunscreen/hat may be useful.

We will be spending our overnights in hostels, usually with dormitory accommodation. These are typically moderately secure for baggage and valuables (often small shared and lockable rooms) but other options will be to leave these in the vehicle(s) or on your person. A secure location, on your person, for your money and travel documents is often useful. I usually keep my passport with my wallet in my (cargo) pant pocket – for the duration. It is sometimes useful to keep a **photocopy of your passport** in your baggage or email yourself a scan of the front page and keep it on your webmail.

For travel in the vans, it is preferable to pack in soft bags, and to travel as light as is comfortable. Remember sunscreen, hat (sun), and sunglasses, if needed and raingear (jacket).

I plan to wear what I wear on campus every day - light hiking boots, shirt and fleece for most of the trip, and to have an extra fleece layer and waterproof/windproof shell. Swimwear will be fine (there are geothermal pools) and bring a light towel as the hostels don't supply them. If you are not checking your bag on the international flight remember that liquids in your toiletries (sunscreen, toothpaste, shampoo) should be in small containers and available for inspection.

### Passport

You **MUST** have a valid passport. You should obtain any visa/documentation necessary for your travel. If you are traveling on a US passport, you will not need a visa for New Zealand.

### Your Out-of-pocket Expenses

We will pay for your accommodation (hostel fees), and for in-country travel. You will need cash for your meals and other incidentals or credit or debit cards. Most hostels will have self-catering facilities, and you will have the opportunity to pool resources to group-cook, should you wish. You will purchase your own air travel.

### Miscellaneous

Remember to bring some method (small notebook or tablet (electronic or paper)) to keep a journal. One that fits into your pocket or pack may be most convenient. Bring a camera or smartphone for photos. You will be able to find Wi-Fi at all hostels if you don't have a phone plan. Wi-Fi is available at coffee shops, restaurants and hostels but is neither as ubiquitous nor as cheap as in the US. Remember to keep any phone on airplane/non-roaming mode to avoid disastrous (\$100s-\$1000s) roaming charges. An ATM card or Visa/Mastercard/Amex/Diners will likely be the best method to transport cash. You may wish to notify your credit card company that you will travel to New Zealand as sometimes they suspend cards with suspicious activity – this is easily rectified with an email or logon to your account website after the fact. The voltage is 230V and you'll need a plug (definitely) and voltage converter if your recharger is not dual 110/230V (most are).

**Hostel destinations map:** <https://goo.gl/maps/Ei6MgWx9YMz>

**Hostels:** <http://www.yha.co.nz/> [scroll over map]

### Contact Details

HTH Worldwide (24/7) +1.610.254.8771

Penn State UP Police Services (24/7) +1.814.863.1111

PSU Risk Office - +1.814.863.8788

Mel White – Risk Analyst – 1.814.863.3989

**EGEE 497 – SUSTAINABLE ENERGY IN NEW ZEALAND**

|       |    | <b>Activity</b>   |   | <b>Hostels</b>   |
|-------|----|---|---|--|
| Mar 2 | Sa | <p><b>Emergency Contact: <a href="mailto:elsworth@psu.edu">elsworth@psu.edu</a>;<br/>+1.814.441.8308 (24/7 – NZ is 18h ahead of EST)</b><br/>Note: Contact details of those below are for instructor use only. Please respect their privacy and do not contact.</p>                                   | <b>Depart</b>   |  |
| 3     | Su | <b>In transit</b>   | <b>In transit</b>   |  |
| 4     | M  |   | <p><b>Course Begins: Auckland Airport, NZ<br/>1200h- International Terminal/Ground Floor/Outside Arrivals/McDonald's</b><br/><a href="https://www.aucklandairport.co.nz/information/airport-maps">https://www.aucklandairport.co.nz/information/airport-maps</a><br/>1200h – Depart Auckland Airport<br/>1400h Genesis Energy – Huntly Power Station (~2h)<br/>1400 - Simon Hurricks Predictive Maintenance Engineer <b>Genesis Energy</b>   Huntly Power Station</p> <p>Rotowaro Mine – Drive-by<br/><a href="http://www.solidenergy.co.nz/operations/rotowaro-opencast-mine/">http://www.solidenergy.co.nz/operations/rotowaro-opencast-mine/</a></p> | <p>Raglan Solscape<br/>611 Wainui Road<br/>Raglan<br/>+64 7 825 8268</p>                       |
| 5     | Tu | <p>Te Uku Windfarm – nr. Raglan<br/>1000 at site. Nr. Bridal Veil Falls.<br/>Toed shoes, covered arms/legs and warm raingear.<br/>Robyn Christie<br/><b>Meridian Energy Limited</b></p>   | <p>Travel to Taupo <i>via</i> Waikato River<br/>Arapuni Dam<br/>1500 - David Derecourt</p>  | <p>Taupo Finlay Jacks<br/>20 Taniwha St<br/>Taupo<br/>+64 7 378 9292</p>                       |
| 6     | We | <p>Nga Awa Purua (Genesis)<br/>0930 – Justin Pogacnik<br/><a href="https://en.wikipedia.org/wiki/Nga_Awa_Purua_Power_Station">https://en.wikipedia.org/wiki/Nga_Awa_Purua_Power_Station</a><br/>-38.611944, 176.193056</p>  | <p>GNS Taupo/Wairakei<br/>1400 - Greg Bignall</p> <p>Wairakei Terraces thermal pools<br/>Orakeiokorako or <u>Waiotapu</u></p>   | <p>Taupo Finlay Jacks<br/>20 Taniwha St<br/>Taupo<br/>+64 7 378 9292</p>                       |
| 7     | Th | <p>Travel to New Plymouth<br/>Tokaanu Hydro Plant<br/>-38.981, 175.7683<br/>Unguided – Cheal wells/oilfield<br/>-39.3755 174.3074<br/>-39.3674 174.2811</p>   | <p>New Plymouth<br/>Unguided - Maui Gas Field<br/>31 Tai Rd, Opunake 4681, New Zealand</p>  | <p>New Plymouth Sunflower Lodge<br/>33 Timandra Street<br/>New Plymouth<br/>+64 6 759 0050</p> |
| 8     | Fr | <p>Travel to Auckland<br/>Unguided - Methanex plant<br/>409 Main North Road, SH3, Motunui<br/>Unguided – McKee-Mangahewa oilfield<br/>McKee-Mangahewa Production Station<br/>1334 Otaraoa Road, Waitara<br/>Todd Energy Mangahewa Wellsites<br/>-39.080084, 174.284986<br/>-39.068465, 174.273370</p> | Auckland – Free time  | <p>Auckland International<br/>5 Turner Street<br/>Auckland<br/>+64 9 302 8200</p>              |
| 9     | Sa | Auckland  | <b>Course Ends: Auckland Airport, NZ<br/>1200h</b>  |  |
| 10    | Su | Arrive in US on Sa/Sun  |   |  |

**PARTICIPANT DELIVERABLES**

**Pre-Trip**

1. Review the Itinerary, inclusive of hotlinks, as an overview.
2. Complete background research for your assigned venue/topic (as assigned below) and be prepared to introduce this to the group. For your peers, consider what do they need to know about the locale? How is it relevant to the theme of our course? Is there an historical significance or context? Where is it (geographically)? Is there something related that we should see, either in addition or in preference? Introductions should give a Wiki-like overview of

the relevant pints, taking maybe 5 minutes, without visual aids, except maybe the view.

### During-Trip

1. Keep a journal of your activities and observations, related both to your planned topical presentation (final course deliverable) and to our daily activities. Bring a notebook/tablet (paper or electronic) that you can comfortably carry in a pocket or pack. Morning or afternoon dispatches are as identified below, **in red**.
2. On your assigned day:
  - a. Complete a brief electronic dispatch as a summary of the activities for your assigned morning or afternoon (**4a** is for morning of the 4<sup>th</sup> March) to be posted on our return. It should highlight observations relevant to the theme of the course. See some examples at: [https://www.ems.psu.edu/~elsworth/courses/egee\\_497/2017/index.html](https://www.ems.psu.edu/~elsworth/courses/egee_497/2017/index.html)
  - b. Be prepared to inform your colleagues of all you can discover about the following assignments and on the dates shown:

|                    |    |     |  |
|--------------------|----|-----|--|
| Mo 4 <sup>th</sup> | BB | 4pm | Rotowaro Mine and fuel supplies to Huntly power station    |
| Mo 4 <sup>th</sup> | AD | 5am | Coalbed methane(CBM)/coalseam gas(CSG) in NZ               |
| Tu 5 <sup>th</sup> | ND | 5pm | Hydropower on the Waikato River                            |
| Th 7 <sup>th</sup> | JL | 6am | Taranaki/Stratford onshore oil field                       |
| Th 7 <sup>th</sup> | PM | 6pm | Offshore oil/gas and Methanex gas-to-liquids plant         |
| Th 7 <sup>th</sup> | SP | 7am | Government initiatives for carbon reduction in New Zealand |
| Fr 8 <sup>th</sup> | NV | 7pm | Cook Strait tidal power potential and plans                |
| Fr 8 <sup>th</sup> | CW | 8am | Hydropower potential and utilization on the South Island   |

### Post-Trip

#### March 21 - class

1. Outline presentation topic in class. ~5 mins. Single ppt slide. Title/Objective/Approach/Expected-results
2. Submit your final electronic dispatch for posting (canvas).

#### April 11 - class

1. Final presentation (~15 min per person) on an investigative topic of your choice.

