Nelson's Idea for Model Development

- **<u>Option 1 (use of message-ix South Africa)</u>**
- Develop other SSP variants/Scenarios for message-ix South Africa. Three Scenarios will be defined here using message-ix SA as the basic starting point.
    1. What will be the energy system configuration of a net-zero energy system (ES) for South Africa by 2070? The idea is to configure the model parameters, change settings in technology bounds, etc, to test the technology and cost requirements of a net-zero ES for South Africa by 2070. The objective will be to investigate how the energy system should evolve if one were to achieve a net-zero ES by 2070

    2. What will be the ES and cost configuration under an SSP3 or SSP4 (*not settled yet*) scenario

    3. For points 1 and 2, I intend to test the effects of changing technology cost parameters and particularly the effect of carbon tax on the objective solution. Is carbon tax an effective decarbonization strategy?

Nelson's Idea for Model Development

- **<u>Option 2 (develop message-ix Cameroon following message-ix South Africa, seems quite ambitions)</u>**
- In option 2, develop a message-ix Cameroon to model the evolution of the energy system (ES) under SSP1 scenario. Furthermore, one will test the sensitivity of carbon taxing mechanisms and other techno-economic parameters.
    - I think the way to proceed in this case is to first quantify relevant inputs like energy resource potentials, current capacity of technology, etc. Basically, replacing the message-ix South Africa excel with a message-ix Cameroon excel file and running the model.