Project Title: Socio-economic extensions to the UNSW climate model

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Synopsis: At the CCRC, we have been developing a simple climate model with a web interface to use for climate science education and research (http://www.itsquasar.com/ccrc-demo/#). Currently the interface has a range of physical forcing variables (greenhouse gases, solar input, volcanics, etc.), IPCC emission scenarios, and can provide a range of physical outputs (temperature, sea level, etc.). Version 2 of the model is currently under production and will allow for more advance use such as user created scenarios etc. A short term student project in relation to this would be a further extension such as adding in an energy, population or demographics model following a methodology from the scientific literature (provided). This could be used to build scenarios by looking at population growth, energy mix, energy efficiency/ conversion to CO2. Another possibility is for the student to tune the existing model to recreate results for different climate models to allow for quantifying projection uncertainty. Familiarity with Matlab or similar program necessary.

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