Submission No 23

INQUIRY INTO DEVELOPMENT OF A HYDROGEN INDUSTRY IN NEW SOUTH WALES

Organisation: Tyagarah Green Energy Pty Ltd (TGE)

Date Received: 26 February 2021

Tyagarah Green Energy Pty Ltd (TGE) is currently developing a ~5MW solar farm/renewable hydrogen project located on in Byron Bay, NSW.

As an industry participant and project developer based in regional NSW, we look forward to the impending arrival of significant demand for renewable hydrogen as Australian transitions away from fossil fuels towards a zero-carbon future. Projects of a similar scale to TGE's project can lead the rollout of the renewable hydrogen production infrastructure, centred on regional communities providing the necessary foundation for consumers and industry to switch from internal combustion vehicles to fuel cell electric vehicles (FCEV).

Locating these projects in regional communities will provide employment and economic development opportunities helping to build resilient communities during the energy transition. In addition to the positive and direct impacts of building and operating such facilities in regional communities will have on the local economy and employment, there will be opportunities for regional communities to develop new skills and employment options associated with hydrogen. For example, there will be the need to provide necessary servicing of fuel cell electric vehicles (both heavy and small vehicles).

The interaction between small scale projects like TGE's and the local electricity transmission network presents a challenge and opportunity. The existing network could provide access to a substantial renewable energy resource during the day light hours from household roof top solar. However the cost to access that energy is currently prohibitive as project would be required to pay network charges for both importing and exporting energy. The opportunity associated with accessing this energy is that projects like TGE's could convert the day time renewable energy into hydrogen, which provides an effective storage mechanism of that energy. Through the installation of a grid scale fuel cell the hydrogen can be exported back to the market as electricity during peak demand periods which allows renewable generators to provide a firmed energy supply without adding batteries. This concept can also provide much need network support service to the transmission/distribution networks.

In addition to using the renewable hydrogen to provide energy and fuel FCEV, there are opportunities to locally produce renewable chemicals such as ammonia-based fertilisers reducing the need to transport the chemicals into the regions.