

## WHY IS THE WESTERN GREEN ENERGY HUB PROJECT TAKING PLACE?

November 23

Western Green Energy Hub (WGEH) wants to play a role in reducing the impacts of climate change – generating clean energy without the need for greenhouse gas emissions and negative environmental effects. As an ultra-scale project, lasting for decades, WGEH will assist Australia to be a major global player in a zero-emissions future, as well as positively influence local, regional and national stakeholders over many generations.

## WHAT IS RENEWABLE ENERGY?

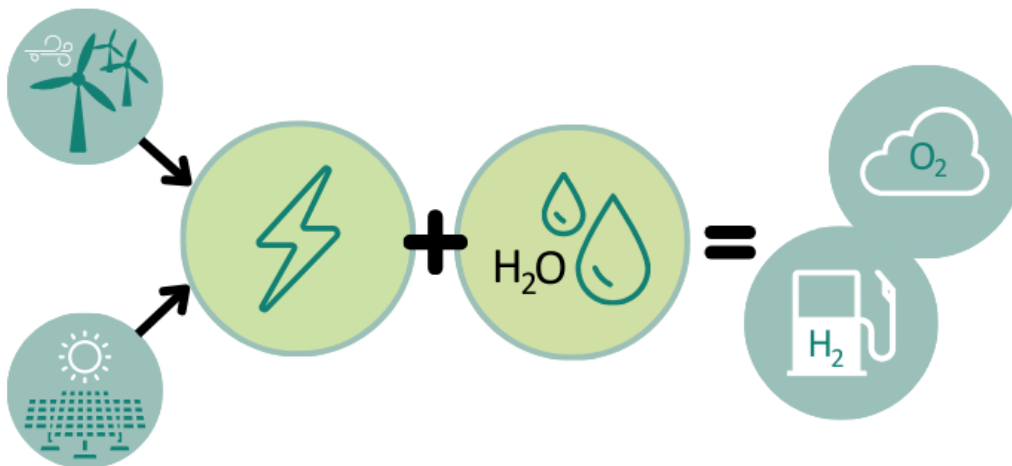
Renewable energy is made from resources that nature will replace, like wind, water and sunshine. Rooftop solar panels and wind turbines are examples of this type of energy production. Renewable energy is also called "clean energy" or "green power" because it doesn't pollute the air or the water.

WGEH will combine the large-scale use of wind turbines and solar panels to produce very large quantities of green power. Through a process called electrolysis, this power will, in turn, be used to produce green hydrogen.

## WHAT IS GREEN HYDROGEN (H<sub>2</sub>) AND HOW CAN IT BE PRODUCED?

Hydrogen is the most common chemical element in the universe but must be separated from compounds that it links with to be used as an energy source. Most commonly, hydrogen is processed from water (H<sub>2</sub>O) by electrolysis, where an electric current splits H<sub>2</sub>O into O<sub>2</sub> (oxygen) and H<sub>2</sub> (hydrogen).

WGEH will produce green hydrogen - using renewable energy (wind and solar) to generate the electric current required to split the hydrogen from the water. Using renewables to produce hydrogen results in zero carbon emissions generated throughout the process.



Green hydrogen has a wide range of uses, including fuel cell electric vehicles and shipping fleets; in fertiliser; and to decarbonise the steel industry (green steel).

## GOING FORWARD

It is important that national and international emissions goals are very quickly realised. Due to its ultra-scale and its renewable energy focus, the WGEH project is well-placed to assist both the pace and value of the developments required to achieve these goals.