

Case study: New technologies and partnerships to reduce our carbon footprint

As an energy intensive business, achieving our target of being fully powered by renewables by 2040 will require significant effort and a two-pronged approach. Orica is identifying reliable, renewable energy sources that are available now, while also investing in the research and development of new technologies with the potential to significantly reduce emissions in the future.

In 2022, we signed a Power Purchase Agreement (PPA) with Lightsource bp for renewable electricity generated by its Wellington North solar farm in New South Wales (NSW), Australia. The solar farm will supply around 50 per cent of our Australian electricity needs and reduce Orica's global Scope 2 emissions by over 60,000 metric tonnes of carbon emissions annually. This is equivalent to the power used by 19,000 NSW residences in a year. Once Wellington North is fully operational in 2025, around 30 per cent of the electricity Orica uses globally will come from renewables.

Looking to the future, Orica has formalised two partnerships in our Australian manufacturing regions to develop and deploy green hydrogen and ammonia technologies for hard to abate sectors.

The first is a partnership with Origin Energy to assess the viability of a green hydrogen production facility in NSW's Hunter Valley. Hydrogen is essential to making ammonia, which in turn is essential to manufacturing explosives. Right now, hydrogen is derived from natural gas, and the by product is carbon dioxide, a greenhouse gas.

The Hunter Valley Hydrogen Hub aims to safely deliver reliable, green hydrogen at a commercial scale in the Newcastle industrial and port zone. Under the plan, green hydrogen would be produced via electrolysis using sustainably sourced water and renewable electricity from Origin's portfolio, plus a grid-connected 55MW electrolyser.

Orica has also partnered with the H2-Hub™ Gladstone to contribute towards a master plan for a proposed multi-billion dollar industrial-scale green hydrogen and green ammonia production facility with export potential.

Manufacturing ammonia, a precursor to commercial explosives, is energy and emissions intensive and hard to abate. Green ammonia is an exciting prospect but one that isn't commercially viable as yet, at scale. Our partnership will explore opportunities for green ammonia supplied directly to our Yarwun manufacturing plant and the potential of a green ammonia export terminal at the Port of Gladstone.