



MEET CONNOR

**MECHANICAL ENGINEER (Engine Development)
MES, BRISBANE, QLD.**

**STUDIED BACHELOR OF ENGINEERING
– EXTENDED MAJOR MECHANICAL
ENGINEERING, THE UNIVERSITY OF QUEENSLAND**

Tell us what you are working on?

We are currently working on reducing the emissions generated by large mining machines through the application of our dual fuel solution.

What's the simplest way to explain what this technology is?

We design fuel systems, engine control systems and gas storage packages which enable large diesel engines to operate on a mixture of diesel and natural gas, allowing for reduced exhaust emissions and other carbon reduction outcomes within the fuel supply chain. We work on engines up to 2700kW in mining haul trucks and stationary applications.

How is this technology making real change within the decarbonisation and sustainability context?

Other than reducing the exhaust emissions, coal mines can choose to pre-drain their coal seams of naturally occurring methane for use in equipment before it is released into the atmosphere during the mining process. This significantly reduces their impact on the environment by reducing methane release into the atmosphere and using otherwise lost energy in equipment.

How is this having a positive impact on a sustainable future?

This is work we can do to make a difference now! Today. We are part

of a small group of professionals helping to break the shackles from conventional diesel fuels and helping the resource sector deliver their stated emission reduction objectives by adopting alternative energy technologies.

What study was involved to secure your role?

Along with a Mechanical Engineering degree at The University of Queensland, lots of time working with engines and equipment at home or with our University's Formula SAE Team.

Establishing good hand on skills has enabled me to add value in the prototyping and testing phase of engineering design.

What is your role and how has your role prepared you to do this work?

I lead the Mechanical Engineering team within our Engine Development Department. This includes the design and testing of gas injection equipment, engine controllers and wiring harnesses, operation of engines during testing and calibration and in the field. Hands on work has always been essential for me and we do a lot of this in prototyping, testing and installation.

Local technology with global application has given me the opportunity to deliver projects in Australian and internationally.

Where do you think this work and your

role will take you in the future?

This role has put me in a position where I can make a difference to the way we use energy in the resources sector globally through our skill, predisposition for innovation and construction methodology. This does not have to be limited to internal combustion engine technology, energy usage concepts within the application remain the same.

Where do you see yourself in 5 years to 10 years?

There will always be an alternative just over the horizon, but the application to industry often lags. I would like to continually persist in reconstructing existing technologies to reach our highest potential today.

What message would you have to share with young people wanting to undertake a career in the energy sector?

The shifting dynamic in the resource industry is giving real opportunity for young professionals to make a difference in the sector today. Where there is room for growth we should always strive to do better. In Australia our resource sector is so important to us. Making change here extends much further than the port or the mine gate. We have opportunity to help communities, environment and atmosphere while responsibly supplying raw material and energy to manufacture and power much of what we interact with in our everyday lives.

**SHAPE INNOVATE
YOUR OUR
FUTURE WORLD**