The Queensland Government is committed to supporting Queensland’s world-class energy and resources industry to meet the challenges it faces in what is a highly competitive global environment.

Demands to reduce environmental and community impacts, increase the efficiency and productivity of resource operations and find ways to extract increasingly hard-to-access resources will require innovative and commercially viable solutions.

Queensland’s mining equipment, technology and services (METS) sector is a world leader in safety, mine site rehabilitation and remediation processes, knowledge and technology, contract mine servicing and project management. With the right partnerships, our METS sector, the energy and resources industry and research institutions have the opportunity to create the innovative, profitable and environmentally sustainable mines and gas fields of the future.

The Queensland METS 10-Year Roadmap and Action Plan outlines the Queensland Government’s vision for our METS sector to become a leader in the development of commercially valuable solutions for the energy and resources industry worldwide by 2027. The strategies and actions build on our strengths to address the challenges the sector faces and provides the groundwork for the sector’s next wave of growth.

The Queensland Government is delivering for the METS sector through the Advance Queensland initiative and in partnership with METS Ignited, the national METS Growth Centre.

Addressing the challenges

Queensland’s strengths
- Research institutions
- Natural clusters of expertise
- Transferable products, skills, services
- Training and workforce
- Proximity to supply chains
- Reputation for high standards

Challenges
- Limited collaboration
- Costs of doing business
- Links to technology drivers
- Business capability gaps

Strategies
- **Strategy 1**: Increase innovation and commercialisation
- **Strategy 2**: Increase collaborative business opportunities
- **Strategy 3**: Develop sector capabilities
- **Strategy 4**: Promote sector capabilities

Queensland’s strengths

Queensland’s strengths
Queensland Mining Equipment, Technology and Services – 10 Year Roadmap and Action Plan summary

**Vision**
By 2027, through innovation and collaborative partnerships, Queensland’s globally competitive METS sector will lead the development of commercially valuable solutions for the energy and resources industry worldwide.

**Strengths**
- World-class education and training facilities, and a highly skilled workforce
- Internationally recognised research institutions focused on energy and resources
- Natural clusters of expertise
- Highly regarded METS companies with readily transferable products, skills and service offerings
- Proximity to domestic and Asian supply chains
- Export opportunities for METS companies driven by Australia’s reputation for high standards for environmental protection and operational safety

**Challenges**
- Business capability gaps, particularly in data management, business systems, export skills and knowledge of international markets
- Cost of doing business in Australia compared to overseas competitors
- Limited collaboration between the METS sector, energy and resources industry and researchers
- Access to investment capital
- Links to technology drivers such as data analytics and software, automation and robotics

**Strategy 1**
Increase innovation and commercialisation
- Establish an accelerator pathway for Queensland METS companies seeking to commercialise new products or processes (with METS Ignited and other partners).
- Investigate development of a suite of facilities in Queensland for METS companies to test new products, processes or services through a stockpile of existing and potential test facilities (with METS Ignited).
- Pilot a Mackay Open Innovation Community of METS companies, Bowen Basin mining companies and researchers focused on addressing the specific challenges of Bowen Basin miners (with METS Ignited and local partners).

**Strategy 2**
Increase collaborative business opportunities
- Create an energy and resources technology networking series. These facilitated events will be held in different regions across Queensland and focus on sharing information about new technology for the energy and resources sector.
- Develop and promote clusters of expertise in safety, operational productivity, mineral processing, environmental protection, social performance and contract mining.
- Create opportunities for METS companies to identify and supply energy efficient solutions to the resource industry by working with the Coalition for Energy Efficient Comminution (with METS Ignited).

**Strategy 3**
Develop sector capabilities
- Support the establishment of a centre focused on developing management capabilities and business models (with METS Ignited).
- Deliver a pilot export and investment readiness training program to address identified business capability gaps (through TIQ) and review opportunities for further training with TIQ.
- Create a Concierge Service to assist Queensland METS companies identify the most appropriate local, state and federal government programs to support their business.
- Develop baseline information on the size of Queensland’s METS sector, the capabilities of individual METS companies and the extent to which METS firms collaborate (with METS Ignited).

**Strategy 4**
Promote sector capabilities
- Promote Queensland's METS sector in domestic and international markets by:
  - promoting the sector at national and international trade shows
  - sharing information about Queensland’s METS sector
  - utilising social media channels to encourage peer to peer learning within the sector
  - creating marketing material, case studies and videos to highlight the successes of Queensland’s high performing METS companies.
- Facilitate international trade opportunities for Queensland’s METS sector (with TIQ and Austrade).
- Develop an online portal to promote the specific capabilities of individual Queensland METS companies to potential customers.
With the world moving away from liquid fuels like diesel, Crestmead-based Mine Energy Solutions (MES) has created HDCNG™, an ‘end-to-end’ fuel solution that compresses, transports and delivers natural gas to mine sites and converts vehicles to dual fuel operation.

For the mining industry, HDCNG™ can deliver fuel cost savings of up to 30 per cent, reduce carbon dioxide emissions by up to 20 per cent and reduce diesel particulate levels by more than 80 per cent. HDCNG™ could also significantly reduce heavy transport of diesel on Queensland roads which could improve road safety and potentially reduce future road maintenance and upgrade costs.

MES is a joint venture between IntelliGas, a Queensland-based gas technology company, and Sime Darby, a large Malaysia-based multinational corporation with employees across 23 countries. Sime Darby is also one of the largest Caterpillar dealers in the world and employs 3500 Queenslanders at its wholly owned subsidiary, Hastings Deering.

The company worked closely with the mining industry to develop its dual fuel system to meet the needs of mine trucks. A HDCNG™ prototype was launched in May 2015 at a mine site training facility in Morayfield. After further research and development, in late 2016 a truck at the New Acland coal mine on the Darling Downs was fitted with a dual fuel mix of 85 per cent gas and operated under real mine conditions with a load of more than 200 tonnes of coal.

Graham Box, Business Development Manager at MES, reports that this truck exceeded all expectations with no reported loss in power, speed or performance. Having proved itself as a viable fuel alternative for heavy-duty trucks and other high-horsepower applications in mining operations, HDCNG™ is now in the early stages of commercialisation.

Case study: Mine Energy Solutions (MES)