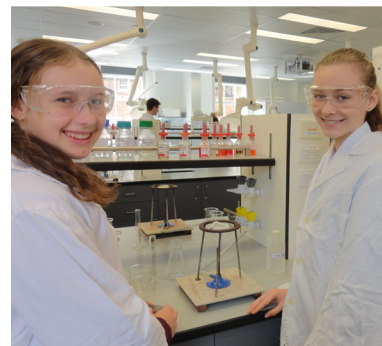
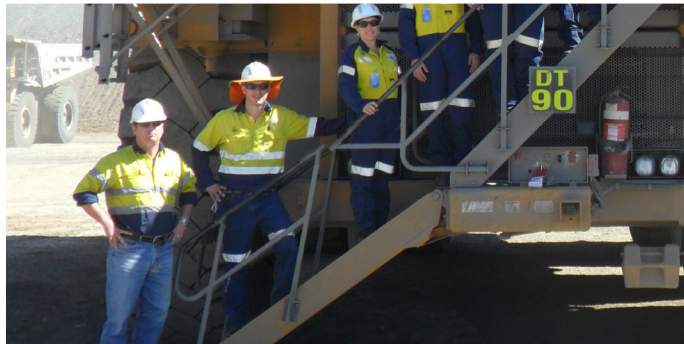


ANNUAL REPORT 2013



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2013 QMEA Highlights

With assistance from our sponsors, the QMEA continues to engage students and teachers across the Academy, and more widely, in a range of programs.

2013 highlights include:

- 23 students and five teachers recognised with awards by the Minister for Education, Training and Employment, the Hon John-Paul Langbroek MP
- 5214 students engaged in QMEA activities across the State, a 68% increase on 2012 engagement
- 2279 students, from year 7 - 12, involved in career cafe presentations
- 580 year 7 and 8 students engaged in industry-led workshops
- 505 students participating in pathway specific workshops in years 9 and 10
- 207 senior students receiving a trade-related certificate with assistance from the QMEA
- 50 students participating in site-based Engineering Challenges in Mount Isa and Moranbah
- 288 non-QMEA students being involved in QMEA outreach programs across the state
- 482 teachers involved in Teacher Professional Development (TPD) workshops in Science, Technology, Engineering and Mathematics (STEM) or Vocational Education and Training (VET) specialisations
- 200 pre-service education students involved in QMEA TPD activities

CHAIRMAN'S NOTE

At the Queensland Resources Council Annual Lunch this year, I reflected on the key issues for our sector and members during the past 10 years.

The key issues have changed very little during this time. Safety and health, environment, skills and education, indigenous and community engagement are all still high on the QRC agenda and if anything, increasing in their breadth and complexity as our next decade of industry advocacy begins.

At the lunch we also recognised the contribution of Charlie Sartain, awarding him with the QRC Medal for his work within the industry, but importantly for his enterprise and vision in establishing what has today become the Queensland Minerals and Energy Academy.

The QMEA, working with 34 schools, a number of sponsor companies and other supporters is the result of this vision. It provides young people with real career pathways beyond school, and their teachers with the knowledge and confidence to help get them there.

This annual report showcases successes that are achievable through genuine school-industry partnerships. It is a perfect vessel for promoting what our sector does well, making a positive contribution to the whole state, despite having only a small footprint concentrated in the regions.

I would like to take this opportunity to acknowledge the foundation and ongoing sponsors of the QMEA Partnership. Building on the success of the QMEA to date, 2014 will see the continuation of highly structured, genuine engagement activities for students and teachers from the academy, and the guidance of the QMEA Board and sponsors will be invaluable in ensuring the ongoing success of this partnership.

On behalf of the Board I would also like to recognise the contributions of Roger Atkins over the past six years in his role as Director. His vision and enthusiasm has seen the QMEA develop into a shining example of school-industry partnerships and we wish him well as he resumes his role with the Department of Education, Training and Employment.

Michael Roche
QRC Chief Executive and QMEA Board Chair



IT'S ALL ABOUT M.E.

In 2013 the QMEA introduced a new approach to engaging with schools.

The 'It's All About M.E. (Minerals and Energy)' program incorporates a range of activities that allow for development of genuine links between industry and schools. Offered across the Academy and delivered in three distinct phases – influential, informational and engagement – the suite of activities are designed to increase student awareness of careers in the minerals and energy industry and also form part of the strategy to address the skills shortages faced by the resources sector, promote industry diversity and ensure sustainability of the industry. Care has been taken to ensure the activities align with the Australian Curriculum currently being implemented in schools.

Throughout the year we are pleased to have seen our programs delivered to over 5200 students statewide. In addition, 482 teachers took part in one or more professional development activities.

Within the influential phase, just over 1000 students participated in at least one career cafe, while over 200 students participated in the Energy for the Future Forums at five regional locations. Informational phase programs delivered to 300 year 9 and 10 students have been well received and a pattern of engagement at a year 10 level is assisting us to identify our future senior QMEA leaders. Our new approach to targeting senior students has allowed us to identify M.E. team and crew members and from this group draw our first delegation of QMEA student ambassadors.

Within schools, teachers are becoming increasingly proficient at contextualising the industry within the classroom thanks to professional development workshops in Science, Technology, Engineering and Mathematics (STEM) and Vocational Education and Training (VET).

The QMEA continues to provide a wealth of opportunities for genuine school-industry engagement. We are grateful for the ongoing in-kind support of industry mentors and sponsors, the Queensland Department of Education Training and Employment, QMEA teachers, students and the many other stakeholders who ensure the success of our activities.

I have no doubt, with your continued support, 2014 will bring a wealth of opportunities for all involved.

Roger Atkins
QMEA Director



2013 QMEA Student Scholarship Recipients

The 2013 QMEA Student Scholarship recipients,

Emily Braithwaite	Tannum Sands State High School
Marc Duvel	Moura State High School
Tom Evetts	Biloela State High School
Katie Lynn	Moranbah State High School
Dean Shepherd	Pioneer State High School
Adam Yarrow	Bundamba State Secondary College

have proven to be worthy of their awards.

Selected based on a genuine interest in pursuing a career in the minerals and energy industry, high performance in one or more subjects related to their chosen career pathway and participation in industry-related and QMEA activities, the students have all been positive role models for other students within QMEA schools.

We wish them well in their future endeavours.

'The balance between corporate and site operations is now clearer following visits to the head offices'



2014 QMEA Student Ambassadors

From 2014, QMEA will engage a group of students to participate in an ambassador program.

Student ambassadors will be provided with opportunities to increase their understanding of the resources sector, network with other students and industry representatives and develop leadership skills.

2014 Professional Student Ambassadors

Niki Cheng	Wavell State High School
Elaine Elevera	Wavell State High School
Bradley Fuller	Toolooa State High School
Thalia Jones	Moranbah State High School
Banjo Kimber	Emerald State High School
Hannah Kitching	Blackwater State High School
Ryan Kyriazis	North Rockhampton State High School
Natasha Leway	Alexandra Hills State High School
Madison Matschoss	Moura State High School
Beatrice Urbuda	Spinifex State College

2014 Trade Student Ambassadors

Jocelyn Anderson	Tannum Sands State High School
Nicholas Curmi	Kirwan State High School
Erin Dearden	Tannum Sands State High School
George-Ellis Kaisara	Kirwan State High School
Jake Fing	Pioneer State High School
Peter Mayfield	Spinifex State College
Matt McKillop	Moranbah State High School

'These young people represent the best and brightest from our QMEA schools. They are a credit to our industry.'

INFLUENTIAL PHASE

Year 7 and 8 students from QMEA schools engage in activities to increase their awareness of the resources sector and the range of careers that exist within the minerals and energy industry.

- 2280 students, from year 7 - 12, involved in career cafe presentations
- 580 year 7 and 8 students engaged in industry-led workshops



Career Cafes

Delivered to almost 2300 students in 2013, the QMEA Career Cafe program, presentations delivered to students in their schools, has been designed to address Australian Curriculum outcomes while also showcasing innovative technologies being implemented within the resources sector.

Guest speakers from a number of industries engaged not only with the students, but also their teachers demonstrating industry applications of common theoretical concepts. Enhanced classroom experiences resulted from these interactions.

In addition to career cafes, almost 380 year 7 and 8 students were invited to take part in curriculum linked activities including water testing and industrial separation tasks.

'Real-life links to classroom studies allow for deeper understanding of concepts.'





Energy for the Future

The QMEA Energy for the Future Program targets year 8 students and reinforces curriculum studies related to energy generation and sustainable use of energy resources.

Over 200 students participated in five forums statewide, where they were required to interpret and analyse provided data, to investigate energy technologies and with assistance, propose solutions for given scenarios, pitching these to industry mentors.

The program was delivered to students from Toolooa, Gladstone and Tannum Sands state high schools, Chanel College, Wavell, Nanango and Alexandra Hills state high schools, Bundamba State Secondary School, Anglican Church Grammar School, Miles State High School, Taroom and Wandoan state schools, Moura State High School and Biloela State High School.



'A day designed to challenge and engage students with current energy issues.'

'Great to see some of our future leaders thinking dynamically about future energy solutions.'



INFORMATIONAL PHASE

- 505 students, from 20 QMEA schools across the state participated in pathway specific workshops in years 9 and 10



'This activity confirms that wherever you want to go, Science will take you there'



Extended periods of engagement with industry within the informational phase leads to greater depth of understanding of the resources sector.

Year 9 students were invited to participate in the Expand Your MINeD program, while year 10 students were encouraged to begin to engage in pathway specific programs including the Kids Rock, Science Olympiad and Toolkit for Schoolkids programs. In addition, industry professionals worked with teachers to develop contextualised curriculum for delivery in the classroom.

Expand Your MINeD

Expand your MINeD combines a number of challenge based activities designed to stimulate interest in science, technology, engineering and mathematics (STEM).

The tasks, designed in consultation with industry and tertiary engineers, allow identified high achieving year 9 students the opportunity to work collaboratively to problem solve, plan, diagnose, analyse and construct solutions to given scenarios.

In 2013, 205 year 9 students participated in one of six full-day programs offered across the academy.

Kids Rock

More than 80 students participated in QMEA Kids Rock workshops to coincide with International Earth Science Week.

Working with mentors from industry, research and tertiary institutions, the year 10 students gained a greater knowledge of common geological principles and an appreciation of how important an understanding of earth and environmental science is when predicting the effects of geological processes into the future.

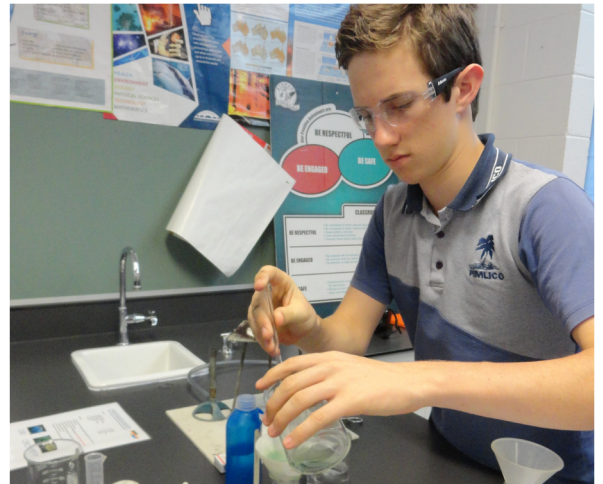
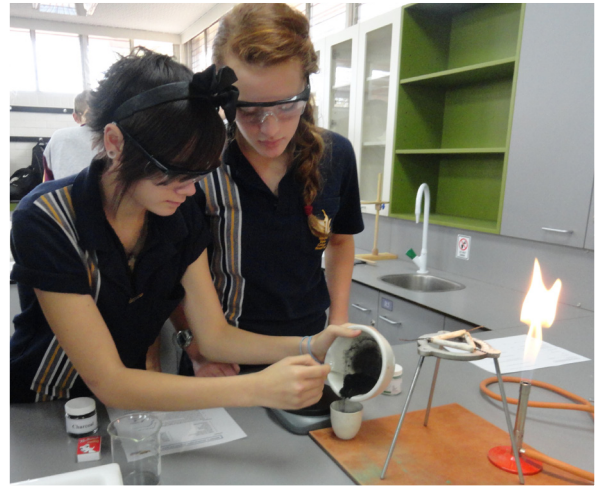
'This was a practical, interactive and fun activity, and a good chance to engage with students'

Science Olympiad

A full day of challenges was undertaken by over 100 year 10 students as part of the Science Olympiad program.

A series of hands-on activities including experimental and problem-based challenges were presented to participants intent on pursuing an academic pathway of study in year 11 and 12. The participants work collaboratively with industry mentors and other students and are encouraged to begin developing their professional networks.

'Real life links to classroom studies allow for deeper understanding of concepts'



Toolkit for Schoolkids

QMEA Toolkit for Schoolkids workshops provide students with an insight into the onsite role of a tradesperson in the resources sector.

The activities are designed to expose participants to a number of trade experiences and encourage a more informed career choice. In 2013 students completed welding, electrical, mechanical and hydraulic tasks.

Offered to year 10 students, they incorporate basic health and safety inductions, training, hands-on activities and a chance to develop networks with industry.

As students begin to consider school-based traineeships and apprenticeships, these are the perfect opportunity for industry to get to know the students within local QMEA schools.

In 2013, 120 students participated in the day long program in Biloela, Brisbane, Emerald, Mackay, Wandoan and Moranbah.

In addition, with assistance from the QMEA, 14 students from Moranbah State High School participated in the BMA Jumpstart program which included basic training for students over a 10 week period.

'I now know that I want to work in the mining industry!'



ENGAGEMENT PHASE

The engagement phase of the program targets year 11 and 12 students who have demonstrated a genuine interest in a resources sector career. Students participating in this phase of engagement have completed activities within the influential and informative phases. Students will have opted for either a professional pathway of learning and be part of the M.E. team, or a trade pathway and be part of the M.E. crew. In 2013,

- Almost 210 senior students received a trade-related certificate with assistance from the QMEA
- 50 students participated in site-based Engineering Challenges in Mount Isa and Moranbah

'A great opportunity to allow students a taste of on-site operations while experiencing life in mining communities'

M.E. Crew

M.E. crew members are generally completing a combination of academic and VET subjects as part of their study, which may incorporate the completion of courses such as Certificate I Resources Infrastructure Operations (RIO) and Certificate II Resources and Infrastructure Work Preparation (RIWP) and/or QSMART.

M.E. crew members complete the QMEA Apprentice Aptitude Test and Training Package (AATTP), and are invited to participate in 'Make it now in trades' (MINT) Challenges.

The 2013 Mount Isa Mines (MIM) MINT Challenge provided 16 participants a chance to work with MIM trainers in the North West Queensland Mining and Engineering Trade Training Centre. Skills centre and workshop tours familiarised the students with the industry standards and the breadth of site operations. The students were challenged to design and build a motorised bike, utilising skills developed over a four-day period.

QMEA M.E. crew members are encouraged to start studying towards trade qualifications. In 2013, 117 students completed Certificate I RIO and 90 students achieved their Certificate II in RIWP through courses of study supported by the QMEA.



'A fantastic example of industries engaging with students and inspiring their career choices'

M.E. Team

M.E. team members are senior students who are completing an academic program of work, are OP-eligible and are considering a range of careers in areas including engineering, geology and spatial sciences among others.

These students are invited to take part in QMEA 'Make it now in engineering' (MINE) Challenges held throughout the year.

MINE Challenges provide high achieving year 11 and 12 students the opportunity to work alongside site engineers to solve genuine problems. In 2013, 34 students attended a MINE Challenge.

The Mount Isa Mines MINE Challenge saw 21 students work collaboratively with site engineers to propose solutions to problems linked to reducing water usage across various aspects of the Mount Isa Mine operations, and proposing solutions to the problems the mine may encounter if they moved from an underground operation to an open-cut super pit.

In September the BMA MINE Challenge saw 13 senior QMEA students experience life on site and in a MAC camp as they completed a task related to design and costing a box cut. They were also provided with a chance to tour various aspects of the Goonyella and Saraji operations with site engineers.



LNG ENGAGEMENT

The QMEA /LNG Partnership sees four schools from Gladstone engage with LNG companies APLNG, Arrow Energy, GLNG and QGC.

Based on the QMEA model, the activities allow students from Chanel College, Gladstone State High School, Tannum Sands State High School and Toolooa State High School to develop an understanding of the LNG industry while also becoming more aware of the application of curriculum concepts and careers within an LNG context.

- Over 1000 students attended at least one Career Cafe presentation
- Over 200 students participated in 'It's All About ME' careers days
- 20 year 9 Science students participated in QMEA Biodiversity Days
- Fully resourced LNG contextualised curriculum delivered to over 700 students



'The students were keen to ask questions about the sector, I only hope my responses inspired them.'

In 2013, over 200 students participated in career events such as 'It's All About ME', while almost 800 more took part in the GLNG Energy Bikes activity.

Specially developed units of work for year 7 - 10 Science, with complementary teacher professional development, were delivered in entirety to over 150 students at Chanel College, while the other three schools adapted the units to align with their current work programs.



'This was an amazing day, it was great to go in the field and experience real science'

The delivery of these materials are further supported by a number of field experiences and career cafes that utilise local personnel. The experiences are designed to ensure students have a thorough understanding of the LNG industry.

Twenty year 9 students were the second group to be involved in a cycad data collection task, linked to their biodiversity studies, in the pipeline right of way. The field component of the trip was mirrored with an adapted field experience for those students who were unable to attend the site.



Senior students were the beneficiaries of fully-resourced contextualised units in Biology and Engineering Technology. Drawing on student interest in Biology and the environmental aspects of the resources sector, this year senior Chanel College and Tannum Sands State High School students completed field work with industry along the pipeline right of way, collecting data that could be used as part of extended experimental investigations in class.

Senior students at Toolooa State High School experienced highly contextualised curriculum within Science and Technology subjects where there is a strong focus on automation. Gladstone State High School students also participated in unique Engineering Technology courses that draw on LNG contexts.

In all, specialised curriculum units with an LNG context were delivered to approximately 700 students in the Gladstone schools.

Students from Gladstone were offered a range of training. Invited senior students, including QMEA Scholarship recipient Emily Braithwaite, completed a three-day course with TNT Training and Drilling Skills Australia.

The 'Introduction to Safety and Professional Communication' course included a range of skills identified by the LNG Partners as being desirable in prospective employees.

Students in the region were also provided with additional resources-sector focussed activities including site tours to QER's Pilot Plant and career cafes from QER staff. Senior Chemistry students were gained an insight into the oil shale industry as they toured the operation, while over 500 year 8 students completed the QER 'Rock to Road hands-on workshop.

'Technology is becoming increasingly important. We need to engage young people with it and this has done exactly that!'



TEACHER ENGAGEMENT

QMEA's annual professional development (PD) program includes a range of activities and support for teachers.

The plan, informed by QMEA school input and industry innovation, focuses on STEM, spatial (GPS & GIS) technologies, QSMART and VET qualifications for teachers.

In 2013, 482 teachers from 20 QMEA schools were supported to attend and participate in a wide range of events.

The QMEA (STEM) PD program has been developed in response to identified needs of schools, to reflect implementation of the Australian Curriculum in Queensland Schools and to showcase innovative and emerging technologies in industry.

The overall aims of the project are to:

- Improve knowledge, pedagogy and engagement levels in STEM areas, as these subjects are closely aligned to the future workforce requirements for the industry.
- Ensure greater collaboration between QMEA schools and across QMEA regions.
- Improve teacher understanding of new and emerging technologies within the resources sector by providing opportunities for teachers to engage with industry representatives.

'An amazing experience and the opportunity to make invaluable newtorks with industry.'



Summary of professional development workshop activities:

- Maths Intensive - 3-day program
- Inquiry-based science
- Rock tour
- Geology field trip
- Site visit to Mynestart and QUT Cube
- Engaging through engineering
- Control systems programming
- Practical biology
- Robotics
- TESEP webinar series

'... the best science PD I've been on, excellent teaching tips and refreshing ideas.'

To further support young and inexperienced teachers in rural and remote QMEA schools, 2013 saw the introduction of a teacher mentoring program.

Experienced science teachers spent time planning and implementing science lessons from year 5 - 12. Support was also provided with the development of resources for the classroom.

In addition to the QMEA teachers who took part in PD activities, 200 pre-service teachers were engaged in workshops to increase their awareness of the sector and provide them with examples of engaging lessons to use within their classrooms.

The overall aim of the teacher professional development program is to establish and foster communities of learning with teachers from across the QMEA network.



'A wonderfully enriching experience!'



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