Master of Energy Studies

Domestic Students

FOUNDATION MEMBERS

The University of Queensland Australia
The University of Western Australia
The University of Newcastle Australia
Glencore
Choosing the right postgraduate program and university is a major life decision. At the International Energy Centre (IEC), we give you the option of studying at not one, but three leading universities - The University of Queensland, The University of Western Australia and The University of Newcastle. All three boast rich energy portfolios, while two are in the top 100 universities in the world and are members of the global Universitas 21 Alliance.

As a student enrolled in an IEC postgraduate program, you can tailor your degree and specialisation to suit your interests and work schedule, while learning from industry and international experts, participating in site visits, industry dinners and networking events across Australia.

A range of scholarships are available to eligible students wishing to undertake the Master of Energy Studies, and I encourage you to explore these scholarship opportunities, including the Glencore Energy Leader Scholarships.

I look forward to welcoming you to our Master of Energy Studies program.

Tim McLennan
CEO International Energy Centre
The Master of Energy Studies (MES) is an innovative program developed by the International Energy Centre (IEC).

The MES is co-taught, co-delivered and co-badged by a network of three leading Australian universities, with extensive industry participation.

The Energy Studies programs are highly interactive and challenging, offering an opportunity for individuals to grow professionally and personally through novel teaching approaches and transdisciplinary learning.

The IEC coordinates the Master of Energy Studies, co-delivered by all three foundation member universities.

Co-taught
The teaching team comprises academics from all three member universities and experienced industry experts. Students learn directly from leading scientists and researchers, and internationally acclaimed practitioners in the energy sector. Guest presentations by industry experts and regular professional events provide valuable networking opportunities.

Co-badged
Graduates receive a co-badged Master of Energy Studies testamur from The University of Queensland, The University of Western Australia and The University of Newcastle.

Co-delivered
Courses are delivered across all member universities, giving students the opportunity to experience campus life at three of Australia’s finest universities and engage with industry across Australia.
**Professional Benefits**

The IEC’s strong links with industry, government and international partners ensure that the education programs are both world-class and industry-relevant. Students gain:

- **Solid theoretical foundation** in the transdisciplinary principles of sustainability science and practice through exposure to a number of case studies and site visits.

- **Advanced practical knowledge and skills** in the areas of technology, economics, social risk and engagement, strategic business management, policy and regulation, finance, and innovation.

- **An understanding of the broad range of technological** and social measures that can be implemented to move toward a low carbon economy and the challenges involved.

- **Capability to develop appropriate solutions** that take into account the particular social, environmental, economic, political and geographical contexts in question.

- **Skills to effectively communicate** and interact with colleagues and leaders from a variety of disciplines and cultures.

- **A global professional network** of alumni, lecturers and institutions with access to a pool of shared expertise and opportunities for continuing professional development.

**Career Outcomes**

The program is ideal for individuals looking to accelerate their career development, or focus their field of expertise, and create new opportunities.

A new generation of talented professionals is required to accelerate the transformation to a low carbon economy. This will require a new multidisciplinary skill set. In order to reduce greenhouse gas emissions, companies will need to review, assess, and develop a range of new technologies and solutions to meet energy demands and social needs.

After completing the MES program, graduates will be equipped to take on leadership and management positions in a variety of environments, including industry, consultancy, government (policy/legislation/regulation) as well as NGOs and international agencies.

The MES develops professionals with skill sets that are in demand across all industries and sectors, introducing a wide array of career opportunities for graduates.

Graduates will be able to pursue high-level careers in a range of professional areas associated with energy including:

- project finance
- investment
- carbon and energy trading
- legal sector
- regulatory and government affairs
- energy economics
- change management
- HR
- project management
- technology development
- innovation

“The MES provides the perfect balance between the technical and non-technical climate change/energy issues.”

Emma Fagan
Consultant | Energetics Australia

“The MES has equipped me with the knowledge, practice & expertise needed for the energy industry”

Geoffrey Ndegwa
Energy Consultant | PWC Kenya

Find out more:
internationalenergycentre.com/education/mes
**STUDY OPTIONS**

The IEC offers several study opportunities for professionals wishing to take the next step in their careers.

Each program is designed to strategically address challenges posed by a carbon-constrained economy, and position candidates to take on advanced management and leadership roles. Applicants come from a wide range of backgrounds including law, finance, engineering, science, economics, and policy.

### Master of Energy Studies

The MES program is aimed at professionals looking to obtain a unique qualification that prepares them to strategically address the challenges posed by a carbon-constrained economy, positioning them to take on management and leadership roles in a field of growing importance.

Each program pursues a transdisciplinary approach in order to expose students to science and technology, business management, policy and economics in the context of clean energy generation and carbon management.

### Pathways to MES

Professionals can progress to the MES and begin with a Graduate Certificate or Graduate Diploma.

### Early exit and entry options

To complete the MES students are required to obtain 24 credit units. Based upon course selection, students may be able to exit with:

- Graduate Certificate in Energy Studies (#8)
- Graduate Diploma in Energy Studies (#16)

<table>
<thead>
<tr>
<th></th>
<th>Graduate Certificate</th>
<th>Graduate Diploma</th>
<th>MASTER's Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses</td>
<td>4</td>
<td>8</td>
<td>8 + 1 Project</td>
</tr>
<tr>
<td>Study Units</td>
<td>8</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Networking Opportunities</td>
<td>4</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Part-time Option</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Intensive Mode</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Travel to Each Campus</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Internationally Recognised</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Orientation Weekend</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Electives</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Professional Project</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Scholarship Available</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

**Graduate CERTIFICATE of Energy Studies**

For professionals wishing to extend their knowledge looking for a shorter program. This is a good basic start and students wishing to continue can utilise the Graduate Certificate to apply into the Graduate Diploma in Energy Studies.

**Graduate DIPLOMA of Energy Studies**

For professionals wishing to develop their careers but not ready to undertake full postgraduate study, the Graduate Diploma is an excellent option. Students wishing to continue their study can utilise the Graduate Diploma to apply into the Master of Energy Studies.
**PROGRAM HIGHLIGHTS**

**FLEXIBLE WORK/STUDY**

**Intensive Mode of Delivery**
Each course is delivered in intensive mode over five consecutive days at one of the three universities around Australia (see map page 9). Students also participate in online tutorials and seminars, with assessment items due in the six weeks following each intensive. This is a successful, flexible mode that fits with work demands and caters to learning needs of students.

**TAILOR YOUR STUDIES**

**Electives**
Students have the choice of selecting two electives from a range of available courses for their final two courses before commencing the Professional Project. The electives allow students to focus their learning activities in areas of personal interest, and structure their program to effectively build into the culminating project. Elective courses are run with a minimum of 10 students per course.

**PRACTICAL EXPERIENCE**

**Hands On**
Students attend site visits during each intensive teaching block. These visits are crucial for hands on, real-world learning and highlight current energy issues on Australia’s east and west coasts. Students are able to witness the changing role of traditional technologies. Site visits highlight themes such as the changing nature of energy generation, transmission, distribution, end use carbon management, and social licence to operate.

**MIX OF ASSESSMENTS TO DEVELOP SKILL SET**

**Assessment**
The MES program builds academic and professional capacity through a structured range of assessment types. Students develop skills in a range of areas including technical and research writing and financial and strategic analysis. Collaborative group work includes researching and solving problem based real life case studies with varied topics such as vulnerability assessments, adaptation strategies, carbon offset project designs, policy briefs, financial modelling, and technology trade-offs. Assessments in the MES are designed so that students assimilate and apply knowledge, assume a leadership role and work in multicultural and transdisciplinary teams.
Students attend a two-day orientation workshop in Gladstone, Queensland in February prior to first intensive. The workshop establishes the context for the MES program, and clarifies students’ basic knowledge and understanding, introduces transdisciplinary approaches and systems thinking, and builds teamwork and communication skills. Importantly, the workshop enables each new cohort to establish a foundation for supportive and collaborative working relationships.

Each intensive course has a set location in one of the three universities.

Each course is complemented with a networking event. Students gain access to high-level industry figures and engage with diverse professionals. Meeting and discussing current and emerging issues with representatives from a range of organisations provides valuable networking opportunities that are a central feature of the program design.

A cross-cutting program aimed at developing skills integral to the professional practice of energy leaders. Each course includes a tailored professional leadership component to build personal and professional leadership, skills and talents.

Although the program is delivered by all member universities, MES students are enrolled at The University of Queensland (UQ) St Lucia campus. You can therefore take advantage of the wide range of services and facilities that UQ offers students including the UQ Library.

“The information provided in the MES is contemporary and practical and is presented in an environment where interaction between students and staff is encouraged.”

Rachel Powell
Energy Trader, Arrow Energy
WHAT YOU WILL STUDY

Master of Energy Studies students complete six (6) foundation courses, choose two (2) electives and complete the Professional Project. Students undertaking the Graduate Certificate complete (4) foundation courses only. Graduate Diploma students complete six (6) foundation courses and two (2) electives only.

FOUNDATION COURSES

ENGY7000: Energy and Technology Principles
A broad perspective of energy systems from generation to end use. Students are introduced to the key scientific principles that underpin energy generation. Students develop an understanding of topics related to sources of energy and power generation, including supply and demand and future scenarios for 2050, and the operation of energy markets. Students will gain a comprehensive understanding of the suite of energy and technology options available. Location: The University of Queensland, St Lucia, Brisbane.

ENGY7001: Climate Science and Policy
Overview of the physical science of climate change, with discussion of climate models, projections, and impact scenarios. International policy frameworks for climate change are introduced, with discussion of climate change politics and psychology. The course also examines local impacts and planning responses to climate change effects. Students will gain an understanding of mitigation responses, vulnerability assessment, and adaptation strategies for organisations and communities. Location: The University of Newcastle, Newcastle and Sydney.

ENGY7002: Issues of Global Change
This course explores issues of energy and development, including equity; resources, population, and consumption; conflict, security, and migration; social impact assessment and social engagement; indigenous peoples and traditional cultures; and gender. Students will develop their understanding of international policy mechanisms and legal frameworks, and build skills in community engagement for energy development. Location: The University of Western Australia, Perth.

ENGY7003: Low Emission Technologies and Supply Systems
Students analyse current and emerging technology options to mitigate climate change. Key power generation and low emission technologies and their challenges, risks and associated supply systems will be examined, including renewable energy options, electricity storage and micro-grids, carbon capture and storage (CCS), gas, cogeneration and oil production. The course provides students with an advanced understanding of the numerous technologies and supply systems. Location: The University of Newcastle, Newcastle.

ENGY7004: Advanced Energy Investment and Development Appraisal
The theme of this course is investment decision-making under uncertainty. Students will gain advanced understanding of key financial concepts including cash flows, costs of debt and equity, and rates of return. Real options analysis will extend these core concepts, and students will develop skills in Visual Basic as a tool for options evaluation. This course incorporates extensive group work activities to explore and build applied practical skills. Location: The University of Queensland, St Lucia, Brisbane.

ENGY7107: Economics and Finance of Energy
This course provides students with an in-depth knowledge of the economic aspects of climate change and carbon and energy management. Some topics covered include project appraisal, methods for evaluating non-financial costs and benefits, and oil and gas sector economics (at macro and micro levels). The course also introduces concepts of carbon lock-in and issues of investment risk. Location: The University of Western Australia, Perth.

Key Learnings

Graduates of MES will gain knowledge of energy in a multidisciplinary setting.

Have a look at the learnings matrix to see which disciplines are covered by the courses.

Find out more: internationalenergycentre.com/education/mes
**ELECTIVE COURSES**

Eligible courses require a minimum of 10 enrollments.

**ENGY7200: Business Strategy and Innovation Management**

This course develops advanced business management skills in the areas of strategy analysis, formation, and implementation. Principles of managerial finance, corporate carbon mitigation, and risk management strategies are applied through case studies and interactive activities. The course focuses heavily on innovation management, from theory to practice, and students are engaged with industry practitioners in emerging areas of sustainable energy.

**Location:** The University of Western Australia, Perth.

**ENGY7201: Energy for Development**

This course explores the relationships between energy, poverty, and development with a focus on developing country contexts. Topics include barriers to energy access and affordability, critical perspectives on sustainability and development principles, and enabling policy frameworks. Building on previous knowledge and skills delivered in foundation MES courses, the course fosters targeted knowledge of international and local finance instruments and business models, and develops advanced skills in participatory engagement, finance management, and life cycle analysis.

**Location:** The University of Queensland, St Lucia, Brisbane.

**ENGY7300: Advanced Energy Systems**

In this course students learn how to comprehensively map an energy system from the facility level to network scale, and identify efficiency opportunities in thermal, electrical, and other utilities. The course includes generation, transmission, and distribution, and also covers important emerging areas including power from waste streams and nano-tech energy.

**Location:** The University of Newcastle, Newcastle.

**ENGY7301: Energy Efficiency Opportunities**

This course investigates the role that energy efficiency and low carbon solutions can play in reducing energy consumption and greenhouse gas emissions. Some topics covered include energy efficiency and conservation, sustainable energy use, smart grids, metering, the psychology of energy consumption, non-price barriers, regulatory drivers and public policy interventions.

**Location:** The University of Queensland, St Lucia, Brisbane.

---

**PROFESSIONAL PROJECT**

**ENGY7115: Professional Project**

Students design and undertake self-directed project work that consolidates and applies the concepts, principles, and methodologies developed through the program. Students are strongly encouraged to anchor their project on a focal issue of personal or professional development interest. The project will address a current, emerging, or forecast challenge facing the energy sector, or an energy related challenge in other professional contexts (e.g. finance, policy, technical, communications). Professional Projects can be conducted with organisational hosts, and bring integrated stakeholder and disciplinary viewpoints to bear to maximize beneficial outcomes. Students must negotiate the scope and outcomes of the project with IEC prior to commencing work. Academic advisors and industry practitioners are engaged to provide professional support through the project.

Four delivery options are available as follows:
- applied research
- professional placement
- desktop research project
- multi-media project

The Final Reports for Professional Projects are equivalent to a 14000 word Masters thesis.

---

**“IEC’s continuing focus on the practical application of global best practice methodologies will ensure that students are well prepared for the unique challenges that lie ahead within this highly dynamic industry.”**

---

John Revie  
General Manager | UK/Europe  
Swann Gobal
**Logistics**

View the table to check what is covered by program fees and what are students required to organise and pay.

<table>
<thead>
<tr>
<th>Covered by Program Fees</th>
<th>Students to Pay &amp; Organise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses</td>
<td></td>
</tr>
<tr>
<td>Course Materials</td>
<td></td>
</tr>
<tr>
<td>Flight from Brisbane to Gladstone Orientation Weekend</td>
<td>✓</td>
</tr>
<tr>
<td>Accommodation in Gladstone</td>
<td>✓</td>
</tr>
<tr>
<td>Site visits</td>
<td></td>
</tr>
<tr>
<td>Networking Dinners as part of Intensives</td>
<td>✓</td>
</tr>
<tr>
<td>Networking Events as part of Intensives</td>
<td>✓</td>
</tr>
<tr>
<td>Accommodation near campus for Intensives*</td>
<td>✓</td>
</tr>
<tr>
<td>Transfers from airport to accommodation for Intensives</td>
<td>✓</td>
</tr>
<tr>
<td>Flights to Intensives</td>
<td></td>
</tr>
</tbody>
</table>

*if not your home city.

**Locations**

The MES is delivered at all three of the IEC’s member universities. Students travel interstate to complete intensive teaching blocks.
How to Apply

Students apply and enrol via The University of Queensland.

1. Prerequisites
Entry requirements for domestic students:
- An undergraduate degree from an internationally-recognised institution
- Three to five years practical experience in a related field
- English language skills as demonstrated by an officially recognised test of English language proficiency.

2. Apply online
- Apply online: olas.uq.edu.au/courses/5512.html

3. Closing date
- Students must apply via UQ to commence study in semester 1 by January 31 of the year of commencement.

The program commences in Semester 1 each year. There is no mid-year intake.
- Semester 1: February - June
- Semester 2: July - November

4. Program Costs
Domestic full-fee place for MES 2015
Indicative annual fee 2015: AUD$ 33280
Please note: The University of Queensland reviews tuition fees each year and these fees are indicative only and subject to change.

Calculate your cost via the UQ Fees Calculator: http://www.uq.edu.au/study/archive/fees_wizard_start.html

Fees include:
1. accommodation during 5-day intensive blocks
2. cost of site visits during 5-day intensive blocks
3. cost of industry dinners and networking events
4. course materials (e.g. learning guides, module readers)
5. networking opportunities with energy industry professionals

Note: Flights and travel to and from the airport are not included in tuition fees. Students must make their own travel arrangements to attend each intensive teaching block in Brisbane, Newcastle or Perth. Travel bursary may be available.

5. More Information
For more details about how to apply, visit the IEC website: www.internationalenergycentre.com/education

6. Application status
All applications are assessed by UQ. Any queries regarding eligibility and requirements should be addressed to UQ:
Online Enquiries: https://uqfuture.custhelp.com/app/home
Phone: 07 3365 1111
Email: AdmissionsEnquiries@uq.edu.au

Enquire on the progress of your application, please email: applicationstatus@uq.edu.au

Include your full name, date of birth, the date you submitted your application and your UQ student identification number (ID), if available.

Checklist

1. Check that you meet the entry requirements
Collect all supporting documents including certified copies of your undergraduate testamur and CV.

2. Apply
Complete the Domestic application form online: https://olas.uq.edu.au/courses/5512.html
Please note you can save an incomplete form and return later. After submitting your application, your Applicant Portal will be created. The Applicant Portal will allow you to track the progress of your application, submit supporting documents and receive messages from The University of Queensland (UQ), including any offers of a place at UQ.

3. Accept your offer
If you meet all entry requirements for acceptance into the Master of Energy Studies, UQ will send you an Agreement and Response of Offer (ARO) by email. Fill it out and send it back to UQ. Please be aware that you may be required to send additional documentation to satisfy conditions.

4. Confirm your enrolment
Once UQ receives your ARO, and provided you have met all conditions, UQ will issue you with information on what you need to do next and a list of important dates.

Want to know more?

+61 7 3014 0250
info@energycentre.com
internationalenergycentre.com
company/international-energy-centre
InternationalEnergyCentre
IntEnergyCentre
A range of domestic and international scholarships are available including:


There are also industry funded scholarships specific to IEC to support energy literacy development including:

- **Travel bursaries** may also be available to assist with travel.

For a list of scholarships available in Australia visit: [www.jason.edu.au](http://www.jason.edu.au)

International students may also be eligible for scholarships or financial aid available from their government.