



MONASH
University

MONASH
ENGINEERING

Master of Advanced Engineering (Energy and Sustainability) – Energize Your Future!



SCHOOL OF
ENGINEERING

Master of Advanced
Engineering
(Energy and Sustainability)



Education – Snapshot

- Over 1,300 students now enrolled in Engineering
- **Common 1st year** followed by **five** undergraduate branches
 - Chemical Engineering (CHE)
 - Civil Engineering (CIV)
 - Electrical & Computer Systems Engineering (ECSE)
 - Mechanical Engineering (MEC)
 - Mechatronics Engineering (TRC)
- **An increasing population of postgraduates**
 - Master & PhD (*by Research*)
 - Students benefit from a strong research environment

Master of Advanced Engineering (Energy & Sustainability)

■ Master of Advanced Engineering

- Clayton offers this in traditional branches
- Malaysia offers multi-disciplinary Energy and Sustainability

■ Energy and Sustainability

The Master of Advanced Engineering (Energy and Sustainability) is designed for **working engineers and engineering graduates** with an ambition to lead. Addressing the pertinent demands in **sustainable energy development**, the course guides students to greater applicable knowledge in this area of specialisation and to succeed in complex problem solving methods.

Master of Advanced Engineering (Energy & Sustainability)

- **Area of Study**

- Build a core competency in **energy and sustainability area**, while developing your **entrepreneurship** and **data analysis** skills!
- **Core units:** Data Analysis, Engineering Entrepreneurship and Research Method
- **Specialization units:** Principles and Practices of Sustainable Development, Energy Efficiency and Sustainability Engineering, Sustainable Energy Technologies, Green Building
- **One elective unit:** Choose one unit from Environmental and Air Pollution Control or Smart Grids

- **Research Option**

This program offers a research pathway option as an alternative route for students to progress from a coursework master's program into a **PhD program**. The research option requires the recommendation of the Associate Head of School (Graduate Research) and approval from the Faculty/ MGE (Monash Graduate Education).

Why Energy and Sustainability?

Humanity's Top Ten Problems for next 50 years

1. ENERGY
2. WATER
3. FOOD
4. ENVIRONMENT
5. POVERTY
6. TERRORISM & WAR
7. DISEASE
8. EDUCATION
9. DEMOCRACY
10. POPULATION



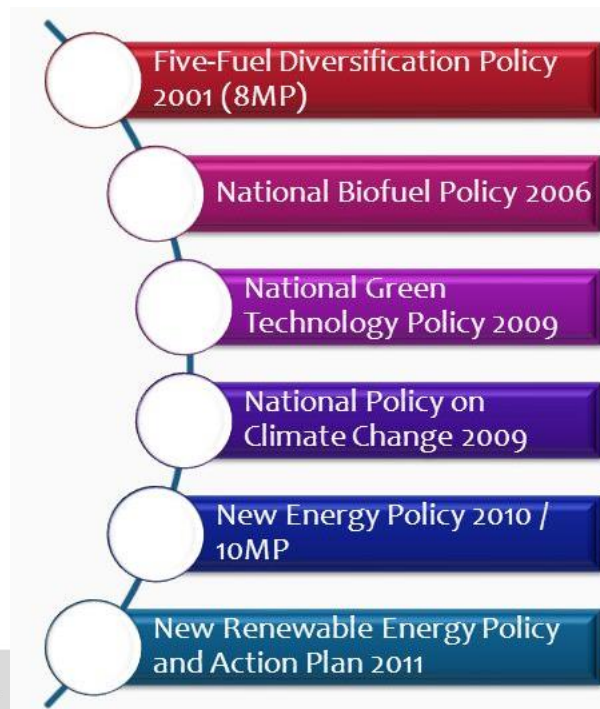
2004	6.5	Billion People
2050	~ 10	Billion People

..... R. Smalley, Rice Univ.

Why Energy and Sustainability?

Align to Malaysian national key priority area

- Renewable Energy Act of 2011
- Sustainable Energy Development Authority (SEDA)
- National Renewable Energy Policy
 - Achieving 20% Renewable Energy (RE) Capacity Mix By 2025
- Malaysian Energy Commission



8th Malaysia Plan (2001 - 2005)

9th Malaysia Plan (2006 - 2010)

10th Malaysia Plan (2011- 2015)

11th Malaysia Plan (2016-2020)

Renewable Energy Development in Malaysia

- RE introduced as the 5th Fuel
- Implied 5% RE in energy mix

- Targeted RE capacity to be connected to power utility grid: 300 MW – Peninsular Malaysia; 50 MW - Sabah
- Connected to the utility grid: 61.2MW (17% from 9th MP target through Small Renewable Energy Programme (SREP))

- Achieved total of 332 MW RE installed capacity (FiT)
- 2015: Energy mix 43% coal, 40% gas, 14% large hydro, 2% RE, 1% oil

- Target energy mix of 53% coal, 29% gas, 15% large hydro, 3% RE.
- Target RE (FiT) capacity of 2,080 MW
- Introduce Net Energy Metering (NEM)

Job Prospects

■ Possible Jobs

- Consultant
- Policy Analyst
- Senior/Project Manager
- Energy manager
- Competency renewable engineer

■ Possible Sectors

- Oil and Gas
- Electricity Subsector
- Construction
- Green Energy companies
- Industries
- Renewable energy companies



IOI PROPERTIES



Entry Requirements

Four-year engineering degree

- 70% average or equivalent
- 65% average or equivalent and five years working experience

Three-year engineering degree

- 70% average or equivalent and two years working experience
- Not a top-up for candidates seeking registration with Board of Engineers Malaysia

Others

- English Language requirements

Duration and Fees

Course Details

- 1 year full-time OR
- 2 year part-time
- Mostly evening classes

Fees

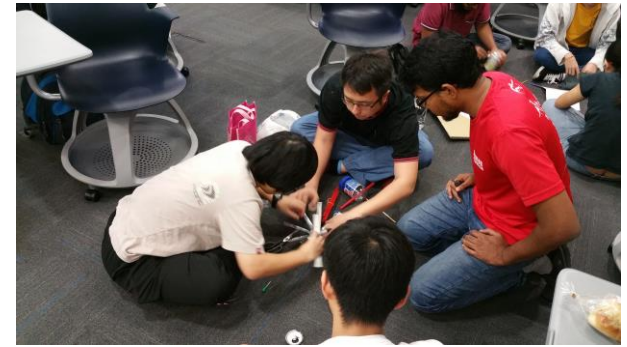
- RM 49,000 for Malaysians
- RM 53,900 for international students

Limited scholarship available

Industrial visits



We believe in active learning!!



Industry Engagement

Field Trips

Case Studies

Industry Training

Industry Advisory Panel

Engineering and IT Leadership Program

Research Projects

Scholarship for PhD





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Thank you

Q&A

