



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Kejuruteraan Awam

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FACULTY OF CIVIL ENGINEERING
UNIVERSITI TEKNOLOGI MARA





14 LIFE BELOW WATER

LIFE BELOW WATER: WHY IT MATTERS

WHAT'S THE GOAL HERE?

To support the protection of aquatic ecosystems by promoting responsible engineering practices related to water, waste, and environmental management.

TEACHING & LEARNING

Goal: To equip students with knowledge on protecting water bodies and reducing environmental impact on aquatic ecosystems.

Key contributions

- Integrate topics on water quality, pollution control, and environmental protection into coursework.
- Highlight the impact of construction and infrastructure on rivers, lakes, and coastal areas.

- Encourage projects that promote sustainable drainage and pollution reduction.
- Raise awareness on responsible waste and water management practices.

RESEARCH & PUBLICATION

Goal: To develop research that improves water quality and reduces negative impacts on aquatic environments.

Key contributions

- Conduct research on water pollution control, wastewater treatment, and environmental protection.
- Publish studies related to sustainable water management and ecosystem protection.

Nine
activities and
studies
supported
awareness on
protecting
rivers, lakes,
and aquatic
ecosystems

- Collaborate with agencies and industry on projects that improve water quality.
- Grants under SDG 13:
 1. Assessing Jetty Resilience In Malaysia: Evaluating Climate Change Impacts on The Performance Of Jetty (Lead: Dr Mazirah Mohd Apani)
 2. Research On Design Mixes Optimization Of Agincourt Tailing Sand As Supplementary Cementitious Material For Concrete Production (Lead: Prof Dr Mohd Fadzil Arshad)
 3. Machine Learning-Based Multi-Objective Optimization For Sustainable High-Strength Lightweight Concrete (HSLWC) (Lead: Dr Nurul Norazimah Mohd Pauzi)

Under SDG 14, the faculty secured research grants addressing protection of marine and aquatic environments through sustainable construction practices. The projects evaluated jetty resilience against climate change impacts, explored reuse of mining tailings to reduce marine pollution from cement production, and optimised sustainable lightweight concrete using advanced modelling. These studies support environmentally responsible coastal and marine infrastructure development.

OPERATION

Goal: To encourage environmentally responsible practices that reduce water pollution and waste.

Key contributions

- Promote proper waste disposal and pollution prevention in faculty activities.
- Support campus initiatives that protect water quality and reduce environmental impact.
- Encourage responsible laboratory and facility practices to minimise contamination risks.

COMMUNITY OUTREACH

Goal: To raise awareness and share knowledge on protecting rivers, lakes, and coastal environments.

Key contributions

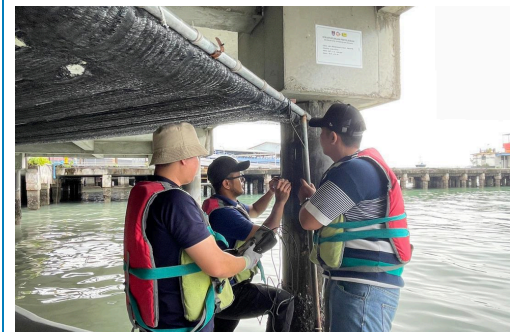
- Conduct environmental awareness programmes related to water pollution prevention.
- Share practical guidance on protecting local water bodies.
- Collaborate with communities on environmental clean-up and conservation activities.
- Engage students in volunteer initiatives supporting aquatic ecosystem protection.

STUDENT INITIATIVES

Goal: To involve students in environmental actions that help protect water ecosystems.

Key contributions

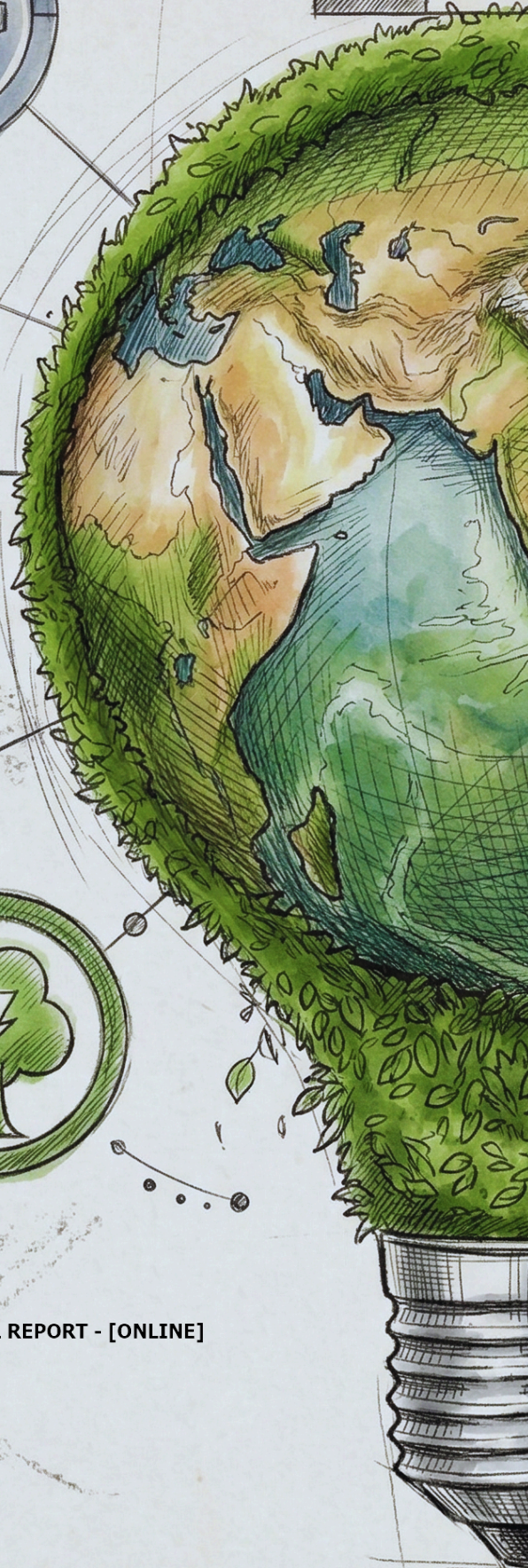
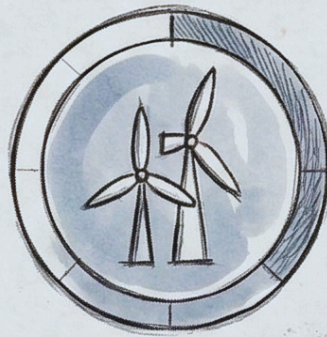
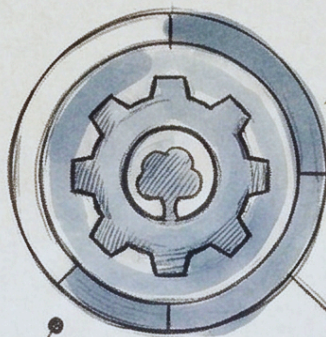
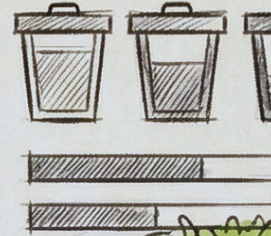
- Organise student-led environmental and river or beach clean-up activities.
- Participate in awareness campaigns on water pollution and conservation.
- Support sustainability projects focused on protecting natural water resources.
- Encourage peer awareness on responsible environmental behaviour.



Through field studies and outreach activities, the Faculty of Civil Engineering promotes awareness on protecting rivers, lakes, and aquatic ecosystems. Students and researchers conduct water quality monitoring, ecological observation, and environmental assessments to understand human impacts on natural water bodies.



SUSTAINABLE DEVELOPMENT GOALS



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