



ECON8017

Climate Change, Energy and Environmental Economics

Session 1, In person-scheduled-weekday, North Ryde 2025

Department of Economics

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General Information

Unit convenor and teaching staff

Rohan Best

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Credit points

10

Prerequisites

(Admission to MSusDev or GradCertResBus or GradDipResBus) or ECON6049 or ECON6032 or ECON8091

Corequisites

Co-badged status

Unit description

This unit explores key ecological economics and environmental management issues, stressing the complex nature of the ecosystem within which economic activity is embedded and the constraints imposed on the scale of human economic activity. Topics covered may include sustainability and sustainable development, limits to economic growth, the definition and measurement of welfare and economic progress, and the development of energy and climate change policies for a closed and rapidly changing world. The unit makes significant use of case studies and has an individual applied research component.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Apply advanced terminology and concepts associated with the analyses of environmental issues from an ecological economics perspective.

ULO2: Evaluate ecological aspects of environmental problems, including key stakeholders and important incentive effects, and the role of ecological constraints.

ULO3: Critically analyse the major theoretical approaches to the ecological analysis of environmental issues, the assumptions on which they are based and their implications regarding the effects of changes in key parameters.

ULO4: Assess and compare policy alternatives to address issues of environmental sustainability from the perspective of ecological economics.

General Assessment Information

Late Assessment Submission Penalty (written assessments)

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical concern. For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for Special Consideration.

Assessment Tasks

Name	Weighting	Hurdle	Due
Content quizzes	20%	No	Weekly (Weeks 2 to 13)
Written reflections	20%	No	Week 4 and Week 10
Research assignment summary	20%	No	11/04/2025
Research assignment	40%	No	06/06/2025

Content quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Weekly (Weeks 2 to 13)**

Weighting: **20%**

There will be weekly online quizzes from weeks 2-13. Each quiz involves 10 multiple choice questions on course content and readings.

On successful completion you will be able to:

- Apply advanced terminology and concepts associated with the analyses of environmental issues from an ecological economics perspective.
- Evaluate ecological aspects of environmental problems, including key stakeholders and important incentive effects, and the role of ecological constraints.

- Critically analyse the major theoretical approaches to the ecological analysis of environmental issues, the assumptions on which they are based and their implications regarding the effects of changes in key parameters.
- Assess and compare policy alternatives to address issues of environmental sustainability from the perspective of ecological economics.

Written reflections

Assessment Type ¹: Reflective Writing

Indicative Time on Task ²: 10 hours

Due: **Week 4 and Week 10**

Weighting: **20%**

This task involves two reflective blog entries on course content. Students are to identify what the key points are from particular sections of the course, and explain why. Each 500 word blog is worth 10%.

On successful completion you will be able to:

- Apply advanced terminology and concepts associated with the analyses of environmental issues from an ecological economics perspective.
- Evaluate ecological aspects of environmental problems, including key stakeholders and important incentive effects, and the role of ecological constraints.
- Assess and compare policy alternatives to address issues of environmental sustainability from the perspective of ecological economics.

Research assignment summary

Assessment Type ¹: Qualitative analysis task

Indicative Time on Task ²: 8 hours

Due: **11/04/2025**

Weighting: **20%**

This task involves the submission of a written 200 word abstract for the major research assignment.

On successful completion you will be able to:

- Apply advanced terminology and concepts associated with the analyses of

environmental issues from an ecological economics perspective.

- Evaluate ecological aspects of environmental problems, including key stakeholders and important incentive effects, and the role of ecological constraints.
- Critically analyse the major theoretical approaches to the ecological analysis of environmental issues, the assumptions on which they are based and their implications regarding the effects of changes in key parameters.

Research assignment

Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 22 hours

Due: **06/06/2025**

Weighting: **40%**

Students are to select an observable problem of interest to them, and propose solutions based on what is covered in the unit. The word count is 3000 words.

On successful completion you will be able to:

- Apply advanced terminology and concepts associated with the analyses of environmental issues from an ecological economics perspective.
- Evaluate ecological aspects of environmental problems, including key stakeholders and important incentive effects, and the role of ecological constraints.
- Critically analyse the major theoretical approaches to the ecological analysis of environmental issues, the assumptions on which they are based and their implications regarding the effects of changes in key parameters.
- Assess and compare policy alternatives to address issues of environmental sustainability from the perspective of ecological economics.

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Classes

There is a weekly 2-hour class.

Recommended Texts

There is no required textbook. Some references include:

Thampapillai, D.J., and Ruth, M. (2024). Environmental Economics: Concepts, Methods and Policies (2nd ed.). Routledge. <https://doi.org/10.4324/9781003408574>

Perman, R, Ma, Y, Common, M, Maddison, D and Mcgilvray, J (2011). Natural Resource and Environmental Economics, Pearson, 4th edition.

Daly, H.E. and Farley, J. (2010). Ecological Economics: Principles and Applications, Second Edition.

Technology Used and Required: Unit Web Page

Class material as well as up to date information concerning any aspect of the unit, including any changes to the schedule, will be available to students by logging on to the unit web page at <http://ilearn.mq.edu.au>. You are strongly encouraged to regularly visit the website and use it as a resource centre to assist with your learning.

Unit Schedule

Part 1: Concepts and climate change

Topic 1: Introductory concepts

Topic 2: Introduction on climate change and economic concepts

Part 2: The energy context

Topic 3: Introductory energy concepts

Topic 4: Macroeconomic relationships explaining energy outcomes

Part 3: Microeconomic energy perspectives

Topic 5: Adoption of solar panels by households

Topic 6: Other small-scale energy outcomes

Part 4: The broader environmental and social context

Topic 7: Co-benefits of emissions reduction

Topic 8: Equity aspects for environmental contexts

Part 5: Policy responses

Topic 9: Policy principles and existing policy approaches

Topic 10: Carbon pricing impacts

Topic 11: Carbon pricing debates

Topic 12: Case studies of Australian energy policies and new policy proposals

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies](https://students.mq.edu.au/support/study/policies) (<https://students.mq.edu.au/support/study/policies>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit connect.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

The Writing Centre

[The Writing Centre](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Unit information based on version 2025.03 of the **Handbook**