



Module Specification

Renewable Energy and Carbon Futures

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Part 1: Information

Module title: Renewable Energy and Carbon Futures

Module code: UBGLW7-15-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Environmental Mgmt

Partner institutions: None

Field: Geography and Environmental Management

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: See Learning Outcomes.

Outline syllabus: The syllabus includes:

UK energy policy. UK energy regulatory framework.

Carbon accounting and management.

Emissions trading. Renewables obligation.

Renewable energy subsidies; the feed in tariff and the renewable heat incentive.

The code for sustainable homes.

The following power generation and supply systems: fossil fuel; nuclear; solar; wind; tidal and hydro; wave; biomass.

Information to include the history of development of the particular technology, the level of maturity and degree of penetration in the UK marketplace now, and its potential for the future, the technology itself including relevant energy equations and/or chemical interactions.

Design, installation and life cycle cost evaluation of micro-technologies.

Preparing for and presenting a defended poster.

Part 3: Teaching and learning methods

Teaching and learning methods: See Assessment Strategy

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Critique UK energy policy

MO2 Critically discuss and evaluate the regulatory framework in relation to electrical energy generation supply and demand

MO3 Demonstrate an understanding of current, and predict future, energy generation technologies

MO4 Demonstrate an understanding of approaches to carbon management and carbon pricing

MO5 Apply life cycle cost analysis to a range of energy technologies

MO6 Research and interpret data from a range of different sources

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 118 hours

Face-to-face learning = 32 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ubglw7-15-m.html) via the following link <https://uwe.rl.talis.com/modules/ubglw7-15-m.html>

Part 4: Assessment

Assessment strategy: Formative assessment

A field trip will form the basis of information from which a poster will be prepared and defended as a mock to the later summative assessed defended poster. Students will mark each other's work using the same marking schedule used to assess the summative defended poster. Verbal feedback will be also be provided by the tutors occurring as a set of recommendations for improvement of performance.

Summative assessment

Presentation (Defended poster) - The students will be required to undertake research on their chosen topic and prepare an individual poster for presentation. Poster outline guidance is provided both in booklet form and via academic and technical support. Students will have the opportunity of preparing and presenting a mock poster to their peers and the module leader for feedback purposes. The students, in presenting their posters, will have to demonstrate an in depth

understanding of their chosen sustainable technology, the relevant policy and law, and, show competence in key presenting, communication and analytical skills.

Report (2000-word) - Sustainability report. The students will be required to undertake research on their chosen topic and prepare an energy report which must be to professional technical standards with thorough source attribution and clarity in communication.

Resit Presentation - a similar brief to that described above, which may include some topic changes.

Resit Report - a similar brief to that described above, which may include some topic changes.

Assessment tasks:

Presentation (First Sit)

Description: Defended poster (10 mins)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Report (First Sit)

Description: Sustainability report (2000 words)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO3, MO4, MO5

Presentation (Resit)

Description: Defended poster (10 mins)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Report (Resit)

Description: Sustainability report (2000 words)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO3, MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Environmental Management [Frenchay] MSc 2023-24

Environmental Management [Frenchay] MSc 2023-24

Environmental Consultancy [Frenchay] MSc 2023-24

Environmental Consultancy [Frenchay] MSc 2023-24

Environmental Consultancy [Frenchay] MSc 2022-23