

## Liverpool John Moores University

Title: RENEWABLES AND LOW CARBON FUTURES  
Status: Definitive  
Code: **6402NATSCI** (127331)  
Version Start Date: 01-08-2021

Owning School/Faculty: Biological and Environmental Sciences  
Teaching School/Faculty: Biological and Environmental Sciences

Team	Leader
Neil Simcock	Y
Ian Walkington	

**Academic Level:** FHEQ6      **Credit Value:** 20      **Total Delivered Hours:** 42  
**Total Learning Hours:** 200      **Private Study:** 158

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	20
Off Site	10
Workshop	10

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Report	A technical report written in an accessible style appropriate for a policy audience.	50	
Exam	Exam	Exam	50	2

### Aims

*To examine the relationship between energy systems, society and contemporary environmental challenges – especially climate change – and how a low-carbon energy future can be achieved. To understand the environmental and social benefits*

*and limitations of different kinds of energy generation resources and technologies. To critically evaluate global patterns of energy consumption and possible strategies to alter this. To outline the key factors in moving to a 'low-carbon' energy future in a way that is socially equitable and sustainable.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Explain how energy systems relate to contemporary social, political and environmental challenges, especially climate change
- 2 Explain the relative benefits and burdens of different forms of energy generation
- 3 Critically assess the causes and consequences of contemporary patterns of energy consumption
- 4 Evaluate different strategies for transitioning to a 'low-carbon' energy system, and the challenges these can encounter

## **Learning Outcomes of Assessments**

The assessment item list is assessed via the learning outcomes listed:

Policy report	3	4		
Exam	1	2	3	4

## **Outline Syllabus**

- *Defining 'energy' and its relationship to social change and its role in contemporary environmental challenges*
- *Benefits and drawbacks of different energy supply systems in terms of climate change mitigation and sustainability*
- *Social acceptance and conflicts around energy technologies and the causes of these*
- *'Justice' and 'fairness' in the energy system – what this means and how it can be achieved*
- *Understanding patterns of energy consumption and the causes and consequences of these*
- *Energy poverty and the 'under-consumption' of energy*

## **Learning Activities**

The module will include lectures that present key concepts and issues. Workshops will be used to foster discussion and critical reflection and analysis among students. Fieldwork activities will illustrate topics discussed in class. Case study material will be worked through individually or in small groups.

## **Notes**

This module will examine the relationship between energy systems, society and contemporary environmental challenges, and how a 'low-carbon' and equitable energy future can be achieved.