

## MODULE DESCRIPTOR

### Module Title

Economics Of Energy Transitions

Reference	BSM216	Version	5
Created	January 2024	SCQF Level	SCQF 11
Approved	May 2020	SCQF Points	15
Amended	March 2024	ECTS Points	7.5

### Aims of Module

To provide students with an advanced understanding of world energy markets and the evolution of, and challenges facing, the carbon economy. To provide students with a working practical knowledge of the role that economics of energy transition plays in the decision making within the energy industry. To enable students examine the direction and pace of the clean energy transition and sustainability.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Critically assess the economic concepts and principles of market demand and supply underlining operations of the global energy markets.
- 2 Critically reflect on and apply the principles of transition energy economics to decision making related to new energy options.
- 3 Evaluate the impact of greenhouse gas emissions and climate change as impetus for the transition away from burning fossil fuels.
- 4 Analyse how different energy sources compare in terms of cost and value.
- 5 Critically apply economic modelling approaches to risk and uncertainty in renewable energy context with focus on broader impact of transition risk.

### Indicative Module Content

The module is delivered in two parts. The first part explores the evolution of the carbon economy and energy markets. This section will also consider labour markets in the energy sector and basic macro and micro economic concepts, including the impact of digitalisation, decentralisation and automation on demand side driven net-zero transition. The second part of the module will consider cost analysis of renewable energy investments, cost comparison of alternative energy sources and development of alternative business models considering the energy storage.

**Module Delivery**

The module is delivered in blended mode by lectures, workshops, interactive group work, tutorials and directed self study. The module is delivered in online mode by self directed study learning from web based learning materials, facilitated by online tutorials and group work.

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	30	30
Non-Contact Hours	120	120
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	An Individual Coursework Report				

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

Component 1 comprises 100% of the module grade. To pass the module, a D grade is required.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	A
<b>B</b>	B
<b>C</b>	C
<b>D</b>	D
<b>E</b>	E
<b>F</b>	F
<b>NS</b>	Non-submission of work by published deadline or non-attendance for examination

**Module Requirements**

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 HACKETT, S.C., 2011. *Environmental and Natural Resources Economics: Theory, Policy and the Sustainable Society*. 4th ed., London: Routledge.
- 2 HARVEY, D., 2010. *Energy and the new reality 1: Energy efficiency and the demand for energy services*. London: Routledge.
- 3 HARVEY, L.D., 2010. *Energy and the new reality 2: Carbon free energy supply*. London: Routledge.
- 4 INKPEN, A.C. and MOFFETT, M.H., 2011. *The Global Oil and Gas Industry: Management, Strategy and Finance*. Tulsa: PennWell Books.
- 5 SLOMAN, J., GARRATT, D., J and JONES, E. 2022 *Economics for business* 9th Ed. Harlow: Pearson.
- 6 Other Resources: BP Statistical Review of World Energy IEA World Energy Outlook OPEC World Oil Outlook.