

MODULE DESCRIPTOR

Module Title

Economics Of Energy Transitions

Reference	BSM216	Version	4
Created	September 2021	SCQF Level	SCQF 11
Approved	May 2020	SCQF Points	15
Amended	September 2021	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. It will include analysis of net present value and investment appraisal.

Module Delivery

The module is delivered in Taught Mode by lectures, workshops, interactive group work, tutorials and directed self study. The module is delivered in Distance Learning mode by self directed study learning from paper based or web based learning materials, facilitated by online support and group work.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	36	36
Non-Contact Hours	114	114
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: Weighting: Outcomes Assessed:
 Description:

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:
A	A
B	B
C	C
D	D
E	E
F	F
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module
 Corequisites for module
 Precluded Modules

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. 2019 *Economics for business* 8th Ed. Harlow: Pearson.
- 6 Other Resources: BP Statistical Review of World Energy IEA World Energy Outlook OPEC World Oil Outlook.