

Energy Transition and Sustainability: Economic and Policy Perspectives (G910)



Tutor(s)

Brian Matthews: Independent Consultant, Founder and Managing Director of TerraUrsa

Overview

The aim of this course is to provide an overview of the economic and market opportunities of renewables in the context of European decarbonisation policies and targets.

Duration and Logistics

Classroom version: Two-day classroom workshop.

Virtual version: Option 1: One 3-hour interactive online session that would cover contents sections 1-4.

Option 2: Two 3-hour interactive online sessions would include content sections 1-6.

Level and Audience

Fundamental. The one-session course is aimed at non-technical staff and those who do not have a business background but want a basic introduction to the topic. The subject matter will be covered from very basic principles and will be of interest to staff from a range of departments. The two-session course is aimed at middle and senior managers who can influence strategy within the company.

Objectives

You will learn to:

1. Understand global and European energy demand trends to 2050.
 2. Explore the economic and market opportunities of renewables.
 3. Analyse primary energy supply projections and the role of different energy sources.
 4. Examine European decarbonisation policies and targets.
 5. Evaluate case studies to assess market context, policy drivers, and commercial strategies.
 6. Develop and assess a sustainability timeline.
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Course Content

Course Details
The one session virtual short course covers the key aspects of economic and policy perspectives for the energy transition and will give participants a fundamental understanding of the key aspects. Topics to

be covered include:

Section 1. Global Energy Demand and Projections to 2050 (Focus on Europe)

This section will cover the primary energy versus electricity demand trends, the transition toward electrification and sectoral energy consumption changes.

Section 2. Economic Aspects of Renewables

This section will explore renewable energy profitability, the scale of the opportunity and economic challenges.

Section 3. Global and European Energy Supply (Current and Future)

This section will analyse primary energy supply mix by source.

Section 4. European Climate Policy and Decarbonisation Targets

This section will look at:

- EU Targets (Green Deal)
- UK Targets
- Scale of Transition Required

A longer 2 session virtual course and classroom version will also allow the following to be included as part of a strategy workshop exercise:

Section 5. Case Study Options

Case Study 1: Offshore Wind Expansion in the North Sea – Policy Drivers and Economic Viability

Case Study 2: Hydrogen Developments in Austria and Germany – Role in Industrial Decarbonization

Case Study 3: Electrical Interconnectors – Linking Energy Markets

Case Study 4: Sustainable Aviation Fuel (SAF) – Scaling the Market

Case Study 5: Power-to-X Technologies – Enabling a Renewable Fuel Economy

Case Study 6: Circular Economy in the Petrochemical Sector – Chemical Recycling

Case Study 7: European Battery Supply Chain – Integration of Renewables and Storage

Case Study 8: PPA Agreements for Wind Energy – Economic Implications

Case Study 9: Large-Scale Solar Investments – Profitability and Impact

Section 6. Group Exercise: Building a Future Sustainability Plan (10-20 Year Outlook)

This exercise is designed to help participants collaboratively build a long-term sustainability strategy for the company (2030-2050). Groups will consider past progress, current trends and key European sustainability targets.

1. Review key European sustainability targets and policies, including:

- EU Net-Zero by 2050 and Fit for 55 (55% emissions reduction by 2030).

- Phasing out fossil fuel subsidies and increasing carbon pricing.
- Expanding renewable energy targets (42.5% by 2030, higher by 2040).
- EU Green Hydrogen Strategy (10 Mt domestic production by 2030).
- Circular economy and waste reduction mandates.

2. Develop long-term sustainability plan:

- Identify five priority sustainability initiatives for your company between 2030-2050.
- Address economic, technological, and policy challenges.
- Explore potential partnerships (EU-funded projects, industry alliances, research collaborations).
- Consider the role of innovation, digitization, and AI in sustainability.

3. Presentation and Discussion:

- Each group presents a 10-year road-map for the company.
- Discuss alignment with EU climate policies and feasibility.
- Compare different groups' ideas and identify common themes.

Debrief:

- Facilitator highlights key strategies and challenges identified by groups.
- Final discussion on how your company can lead in the European energy transition.
- Wrap-up with actionable takeaways.