



Future Energy Scenarios and Strategic Planning Course

9 – 13 August 2027
Barcelona

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Overview

Future Energy Scenarios and Strategic Planning Course is a 1-week course for energy strategy, sustainability, policy, investment, innovation, operations, and project professionals who leave with a Future Energy Scenario and Strategic Response Portfolio. Participants compare demand, supply, technology, infrastructure, policy, market, and investment pathways under critical uncertainties. The course replaces a single-point forecast with tested scenarios, signposts, implications, and response options. Agile Leaders Training Center delivers this course on future energy scenarios and strategic planning.

Who Should Attend

- Teams responsible for energy strategy, transition planning, and portfolio direction.
- Functions responsible for technology, infrastructure, and market intelligence.
- Groups responsible for investment appraisal and capital allocation under uncertainty.
- Operations and project teams responsible for system capability and delivery choices.
- Sustainability and policy functions responsible for transition pathways and performance signals.

The course assumes participants can interpret energy-market and project information at work, and leaves out introductory energy technology theory and deterministic price forecasting.

Departments and Industries

The course supports strategic energy decisions across infrastructure and energy-consuming sectors.



- Strategy, planning, economics, and market analysis
- Sustainability, policy, risk, and investment
- Power generation, utilities, and grid operations
- Oil, gas, renewable energy, and clean fuels
- Transport, manufacturing, buildings, and digital infrastructure

Learning Objectives

By the end of this course, participants will be able to:

- Analyze energy-transition drivers and critical uncertainties.
- Build contrasting demand, supply, and technology scenarios.
- Evaluate grids, storage, flexibility, and firm-capacity needs.
- Compare investment, policy, security, and affordability implications.
- Prioritize strategic options across alternative pathways.
- Apply signposts and triggers to adaptive decisions.



Course Agenda

Day 1: Drivers and Uncertainties

- Energy System Driver and Dependency Map
- Demand, Demography, and Economic Activity Assumption Sheet
- Policy, Market, and Technology Uncertainty Register
- Energy Security, Affordability, and Emissions Tradeoff Matrix
- Scenario Planning Question and Time-Horizon Brief

Day 2: Demand and Technology Pathways

- Electrification and Energy Efficiency Pathway Map
- Renewable, Firm, and Dispatchable Supply Portfolio
- Energy Storage and Clean Hydrogen Use-Case Matrix
- Transport, Buildings, and Industry Demand Model
- Technology Cost, Maturity, and Deployment Assumption Log

Day 3: Systems and Infrastructure

- Generation, Load, and Storage Balance Model
- Transmission and Distribution Expansion Needs Map
- Demand Response and System Flexibility Option Table
- Fuel, Supply Chain, and Resource Constraint Register
- Reliability and Resilience Stress-Test Method

Day 4: Strategy and Investment

- Scenario Implication and Exposure Matrix
- Asset Stranding and Portfolio Resilience Review
- Investment Option and Real-Options Decision Tree
- Strategic Response and No-Regret Action Map
- Scenario Signpost, Trigger, and Monitoring Dashboard

Day 5: Scenario Strategy Practice

- Suggested Exercise: Critical Uncertainty and Driver Prioritization
- Suggested Exercise: Contrasting Energy Pathway Construction
- Suggested Exercise: Infrastructure and Flexibility Stress Test
- Suggested Exercise: Strategic Option and Signpost Design
- Capstone Exercise: Future Energy Scenario and Strategic Response Portfolio

Practical Exercises

The course uses suggested activities to integrate scenario logic, system implications, and adaptive strategy.

- Suggested activity: rank energy drivers and critical uncertainties by impact and uncertainty.
- Suggested activity: construct contrasting pathways for demand, technology, supply, and infrastructure.
- Suggested activity: test grid, storage, flexibility, security, and investment implications.
- Suggested activity: define no-regret actions, options, signposts, and decision triggers.

FAQs

Who suits future energy scenarios and strategic planning, and what does it assume?

Energy strategy, sustainability, policy, investment, innovation, operations, and project professionals suit the course. It assumes participants can interpret energy-market and project information, while introductory technology theory and deterministic price forecasting remain outside scope.

How does future energy scenario planning differ from energy forecasting?

Scenario planning develops several plausible pathways around critical uncertainties and tests strategic responses, while forecasting estimates a more likely outcome from selected assumptions and historical relationships.

Which forces shape the future of energy systems?

Future energy systems are shaped by demand growth, electrification, efficiency, technology cost and maturity, policy, finance, fuel availability, infrastructure, supply chains, security, consumer behavior, and the pace of project delivery.

Why do future energy systems need grids, storage, and flexibility?

Grids, storage, demand response, flexible generation, and operating practices help balance changing generation and load patterns, connect new resources, manage constraints, and maintain reliability across different energy pathways.



How should organizations use future energy scenario signposts?

Organizations should connect observable market, technology, policy, investment, demand, and infrastructure indicators to predefined thresholds, review cycles, option choices, and escalation decisions.

Conclusion

Participants take back a Future Energy Scenario and Strategic Response Portfolio linking drivers, uncertainties, pathways, infrastructure, investment choices, signposts, and actions. The portfolio improves coordination among strategy, investment, sustainability, operations, policy, and projects. It replaces one forecast with a traceable set of adaptive decisions.