Fundamentals of Wind Farm Development & Financing

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Course Structure

The Course is made up of 10 core modules:

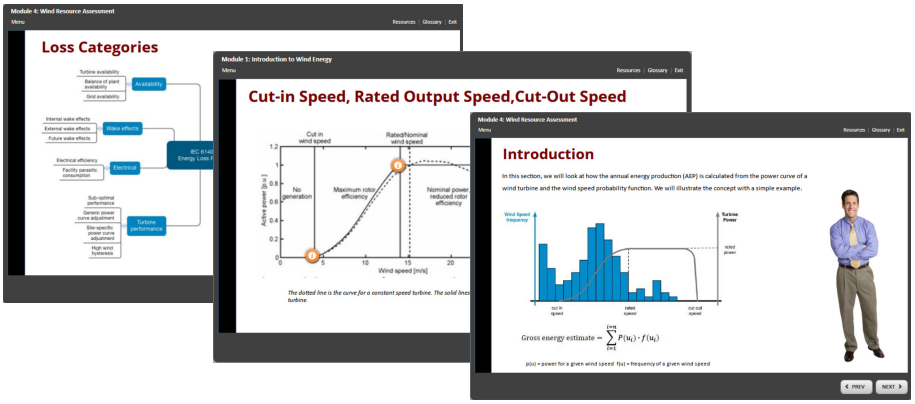
- Introduction to Wind Energy
- Wind Power Technology
- Economic Incentive Schemes
- Wind Resource Assessment
- Land Leases and Permitting
- The Financing Decision
- Power Purchase Agreements
- Construction Contracts
- O & M Agreements
- Raising Finance

Each module comes with a workbook, audio-visual content and other resources. Quizzes are used right through the modules to allow learners to test their understanding at each step of the learning process.

Who should take this Course?

- Project Sponsors and Developers
- Equity Investors
- Lenders to wind energy projects
- Law firms engaged in wind farm projects
- Investment Bankers
- Fund Managers
- Project Finance Consultants
- ECA's & Development Banks
- EPC Contractors
- Turbine Manufacturers

"Fundamentals of Wind Farm Development and Financing" comprehensively covers essential technical, commercial and financial knowledge required by those engaged in the development and financing of wind farms.



I have yet to come across a course in the market that comprehensively covers all three core areas of essential knowledge (technical, commercial and financial) required for anyone involved in the development and financing of wind farms. Most courses (depending on the background of the author) tend to favour one of the areas, leaving the learner to look elsewhere for the complete picture. This course brings together all these three core knowledge areas in a clear and concise manner. Completing this course will leave the learner with a thorough understanding of the technology and its drivers, the commercial trade-offs and the challenges that need to be overcome to conclude a successful financing. Over 10 modules, this course systematically builds essential knowledge - technical, commercial and financial, leaving the learner well equipped to engage with this exciting sector as a serious practitioner.

This course has been developed with the assistance of professionals involved in the development and financing of wind farms and includes inputs from sponsors, lenders and law firms. It is designed for anyone who is looking to become an active participant in this exciting and rapidly growing sector of the renewable energy industry.

It is my sincere hope that this course will prove to be a stimulating, efficient and effective learning experience.

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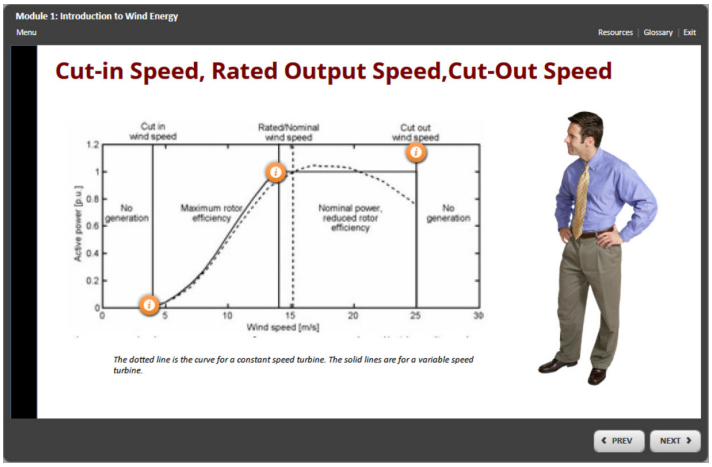
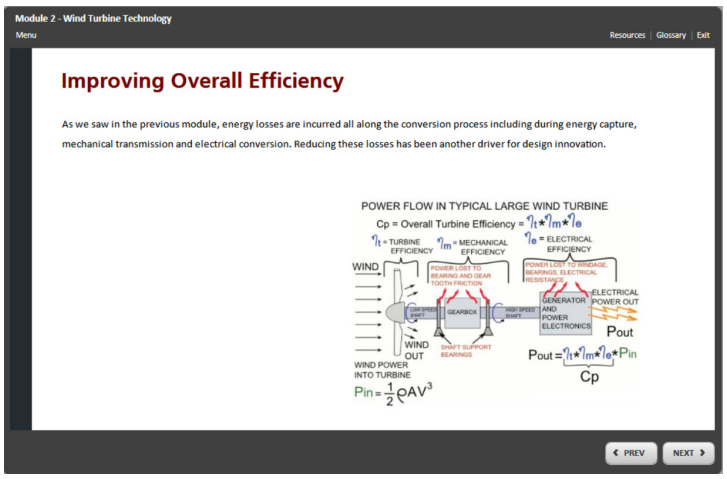
01 Introduction to Wind Energy

Objectives: The objective of this module is to introduce the learner to the world of wind energy. It provides the learner with the context required to understand the trajectory along which this sector is developing.

Topics Covered: History of wind energy; how does a wind turbine work?; differences between on-shore and off-shore wind farms; is wind power competitive with other sources of energy?; current state of play around the world; key trends & challenges in the development of wind energy.



02 Wind Power Technology



Objectives: The objective of this module is to provide the learner with a thorough understanding of all the different components of wind power technology, the reasons for their adaptation and likely future trends.

Topics Covered: Key design considerations; design innovation and trends in relation to rotor size, rotor height, drive trains, number of blades, orientation of blades, tower designs for on-shore and off-shore wind farms, control mechanisms etc.

03 Economic Incentive Schemes

Objectives: The objective of this module is to introduce the learner to various economic incentive schemes that have been deployed around the world to support the development of wind energy and highlight their pros and cons.

Topics Covered: Price based schemes such as "feed in tariffs" and "feed in premiums"; volume based schemes including capacity tenders and market-based schemes such as ROC, REC's etc.; tax based schemes e.g. PTC's, ITC's and accelerated depreciation; pros and cons of various schemes and stage of market development at which different schemes are appropriate.

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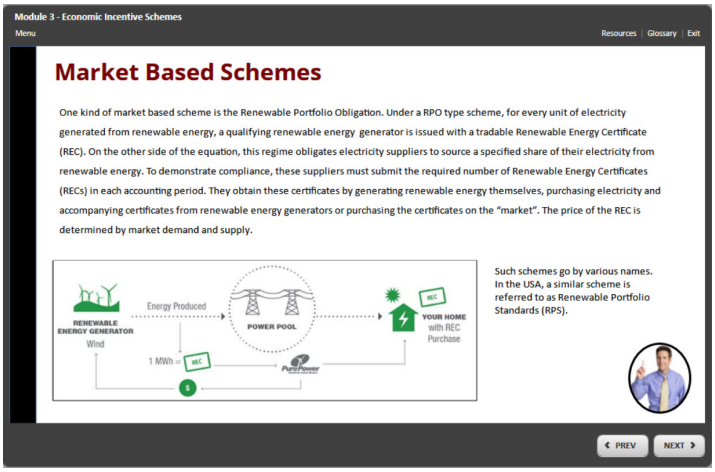

04 Wind Resource Assessment

Objectives: The objective of this module is to provide the learner with a comprehensive understanding of the science and art of wind resource assessment as well as its limits and pitfalls.

Topics Covered: Requirements for creating a bankable wind resource assessment (WRA); stages of the wind resource assessment process including large scale analysis, site selection, wind measurement at site, long term extrapolation, horizontal and vertical extrapolation, micrositing of turbines, estimation of gross AEP, estimation of Net AEP, uncertainty analysis.

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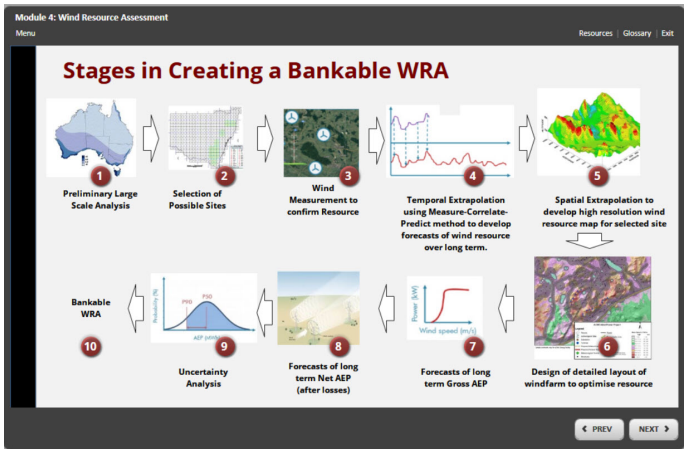
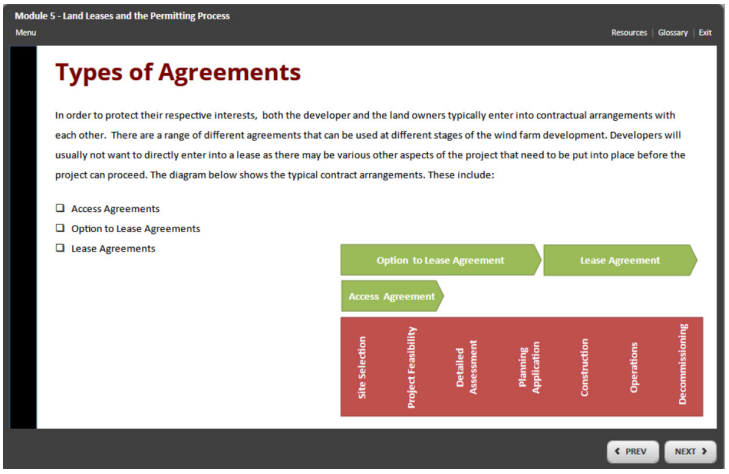


05 Land Leases and the Permitting Process



Objectives: The objective of this module is to provide the learner with an understanding of the different types of arrangements commonly entered into with land owners as well as the process and risks involved in the approval and permitting process.

Topics Covered: Access agreements; option to lease agreements; lease agreements; key commercial terms found in lease agreements; the permitting and approval process and roles played by federal, state and local authorities; When things go wrong - Cape Cod Case Study.

06 The Financing Decision

Objectives: The objective of this module is to introduce the learner to the various financing options available to different types of developers and the impact the financing decision can have on the development process.

Topics Covered: Corporate loans, project finance and tax based finance (partnership flips, sale and leaseback); pros and cons of different types of financing. Impact of financing decision on development process and contractual arrangements.

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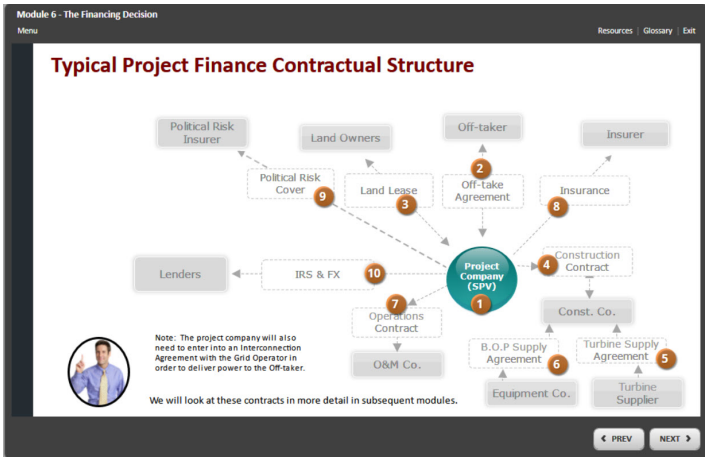
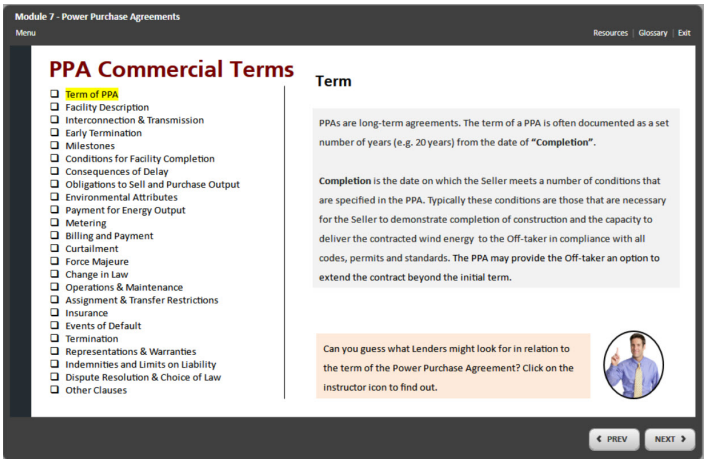


07 Power Purchase Agreements

Objectives: The objective of this module is to introduce the learner to the different types of power purchase agreements and the key commercial terms found in these agreements.

Topics Covered: Structure of the electricity supply industry, physical and virtual "Power Purchase Agreements"; key commercial terms found in a typical power purchase agreement and requirements for making the project bankable on a non-recourse/project finance basis.



08 Construction Contracts

Objectives: The objective of this module is to provide the learner with a thorough understanding of the different types of construction arrangements used in the construction of on-shore and off-shore wind farms.

Topics Covered: On-shore construction contracts; key commercial terms found in an EPC Contract; off-shore construction contracts and why these contractual arrangements are different; requirements for making the project bankable on a non-recourse/project finance basis.

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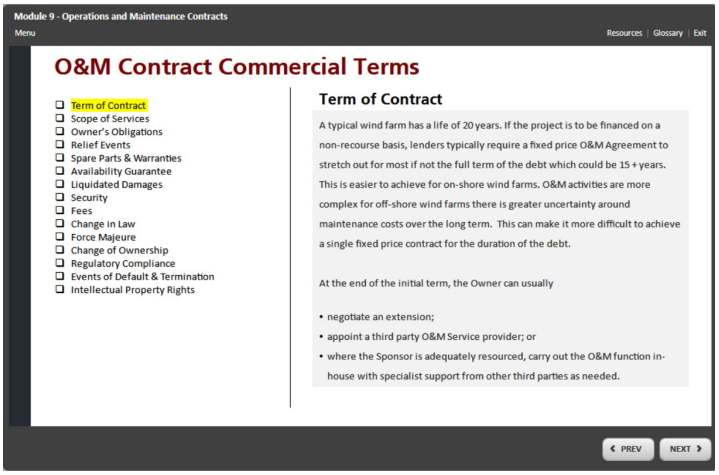
09 O&M Contracts

Objectives: The objective of this module is to introduce the learner to the different options available for operations and maintenance of the wind farm and their pros and cons.

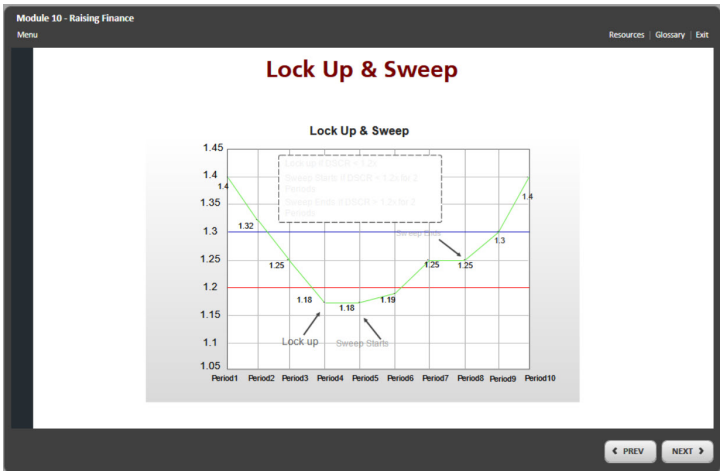
Topics Covered: Different options available in relation to the operations and maintenance function; key commercial terms found in operations and maintenance Contracts; requirements for making the project bankable on a non-recourse/project finance basis.

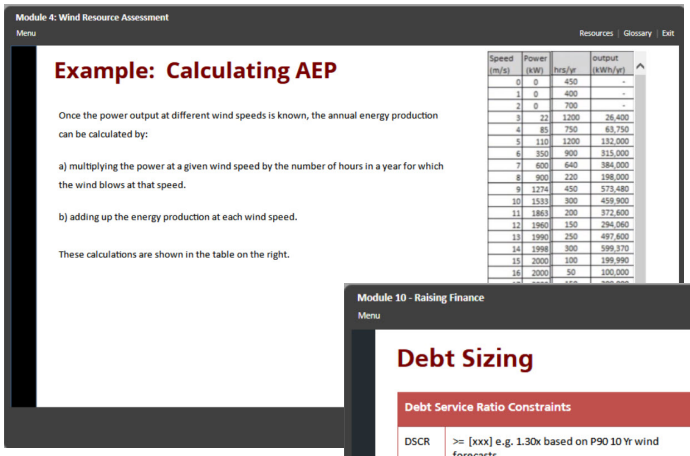


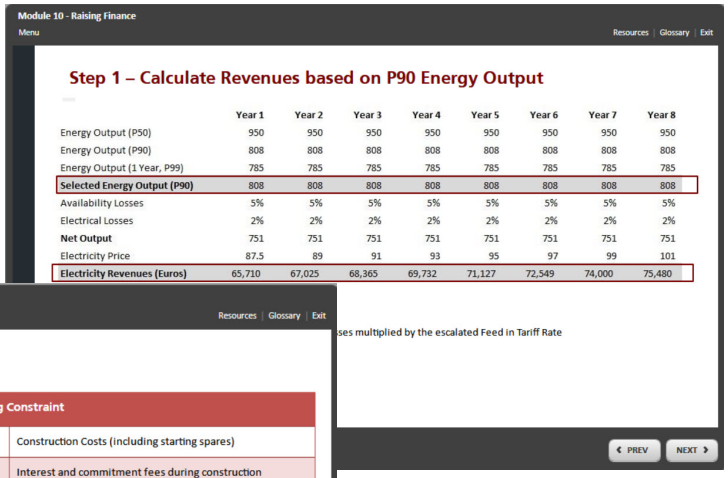
10 Raising Finance

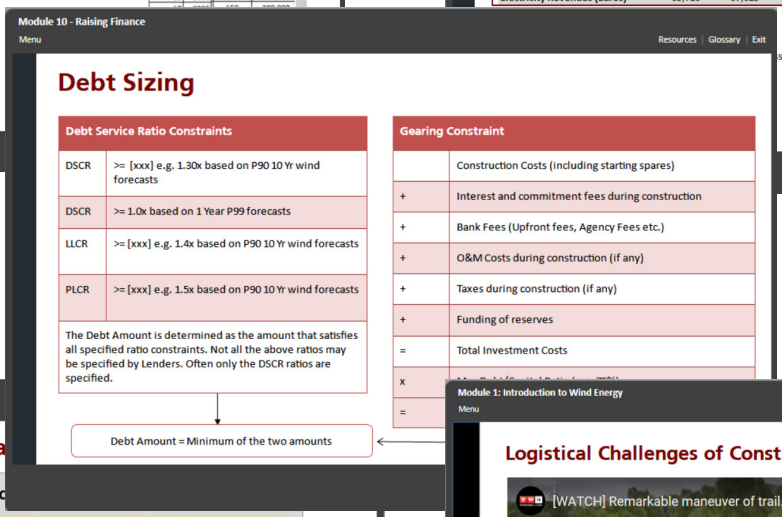
Objectives: The objective of this module is to provide the learner with a thorough understanding of all aspects of raising finance on a project/ non-recourse basis including risk mitigation, debt sizing, debt structuring etc.

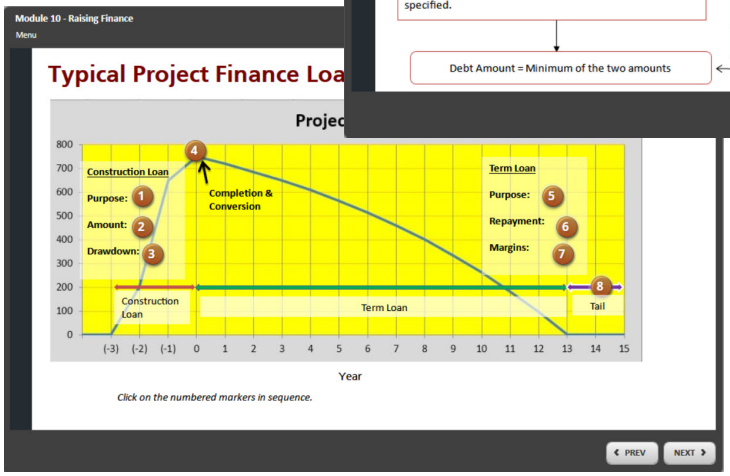
Topics Covered: Project risks, creating bankable cashflow, lender due diligence, project finance loan package, debt metrics, debt sizing, sources of finance, Gemini financing case study, financial adviser and the financing process, key commercial terms found in a project finance loan agreement.











Top 10 reasons to buy this Course

1. Practitioner oriented course covering technical, commercial and financial aspects of wind farm development and financing.
2. Available anytime, anywhere, on demand. No loss of productivity/ days out of office.
3. Fantastic value for money; volume discounts and savings on travel/accommodation make it very cost effective.
4. Learning is self-paced and material can be revisited multiple times to ensure all the concepts are clearly understood and retained.
5. Ensures consistency of training content and quality when deployed across large teams.
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7. Leverages multimedia to explain concepts; making them easy to understand and retain.
8. Great reference to have on your desk top when working on a transaction.
9. An efficient, engaging and effective learning experience.
10. Includes workbooks and other down loadable resources which can be used as an on-going reference.

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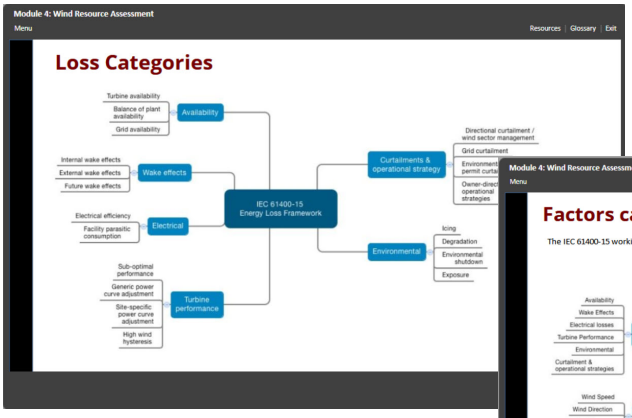
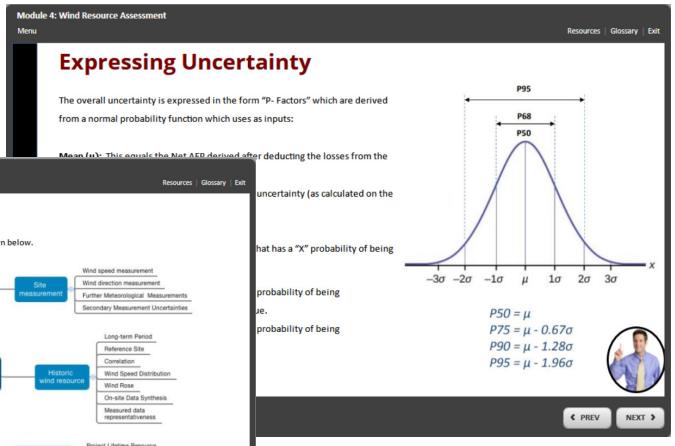
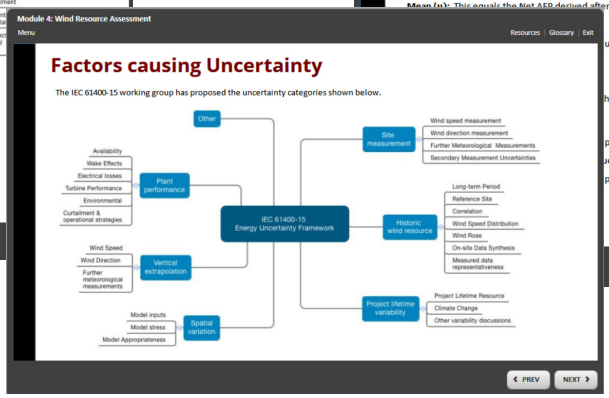
The Course Modules are available online, anytime, anywhere, via your browser. Once you log-in to our Site using the password provided, you can select the module you want to view and click on it. Our easy to navigate courses will guide you through from start to finish. You can start, stop and pick up right where you left off, whenever you want. Each module includes one to three hours of core content, but you can go faster (or slower) if you wish. From time to time, we will add new material to reinforce what you are learning. You will have access to any upgrades to the material for no extra charge for 12 months from the date you commence the Course.







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