

Quantum Technology for Energy and Utilities

Quantum Technology

A four-hour course on quantum technology for utilities, grid operators and energy companies. We cover sensing for subsurface surveys, materials simulation, grid optimization and QKD, with the status of each use case and what to prepare now.

Duration

4 hours

Short professional course

Level

Executive

No prerequisites

On-demand fee

US\$399

Online on-demand

Evaluate use cases against field evidence.

What you will learn

- ✓ Explain what quantum computing, sensing and networking can and cannot do for energy and utilities today
- ✓ Judge a quantum optimization claim against Gurobi, CPLEX or another strong classical solver
- ✓ Assess quantum sensors for subsurface surveys and asset monitoring by their field results
- ✓ Identify the battery, catalyst and materials problems worth tracking
- ✓ Decide where quantum key distribution adds value on utility networks, and where it does not
- ✓ Plan pilots, skills and post-quantum migration for the next five years

Who should attend

Executives, strategy and innovation leads, grid and asset managers, R&D teams and program managers at utilities, grid operators, oil and gas companies and renewable developers. Also useful for engineering consultancies and investors in energy technology.

Prerequisites

None. No technical background is assumed.

Why Quantum Academy

Quantum Academy teaches from *Quantum Systems Integration*, written by the course author, and faculty experience with quantum engineering and integration teams. Hardware results, announcements and resource estimates are clearly distinguished.

What you will study

5 modules · 4 hours · No exam

01 Judging Quantum Claims – 45 minutes

Separate hardware results, announcements and resource estimates; distinguish physical from logical qubits. Test grid optimization claims against Gurobi and CPLEX, and distinguish roadmap commitments from targets.

02 Quantum Computing for Energy – 75 minutes

Cover battery and catalyst materials, fusion materials, grid optimization, hedging and forecasting. In a published unit-commitment study, a quantum hybrid solver had not yet matched Gurobi or CPLEX. We expect classical methods to lead through at least 2035. Compare pilots at equal solution quality and distinguish quantum-inspired classical methods.

03 Quantum Sensing and Networking for Utilities – 45 minutes

Assess gravity sensors, gravimeters and early diamond-sensor research against field results. Review QKD on utility fiber and why agencies recommend post-quantum cryptography first, with QKD at most an extra layer.

04 What Energy Companies Are Doing – 30 minutes

Review ExxonMobil, E.ON, EDF, Iberdrola, Aramco, EPB and National Grid programs. Distinguish hardware results, announcements and estimates.

05 Preparing Now – 45 minutes

Plan post-quantum migration for grid IT and operational technology. Set classical baselines for pilots, scope sensing against a cost-benefit case, build skills, and draft a one-page quantum brief for leadership.

Formats and fees

Online on-demand	US\$399
Live online	US\$599
In person	US\$799
Private team training	Custom quote

What is included

- Course handbook: full material with written instructor notes.
- Use-case table with sources and results labelled as demonstrated, announced or estimated.
- PDF copy of *Quantum Systems Integration*, written by the course author.
- 180 days of access to the online on-demand course.

Upon completion, you receive a Quantum Academy certificate of completion. It confirms that you completed the course and is separate from Quantum Academy's professional certifications.

Explore the course

See dates and enroll on the [course page](#).

quantumacademy.com/courses/quantum-technology-energy-utilities/



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