Renewable Energy Supply Chain Management Training Course

Professional Development Training Course Outline

Category	Renewable Energy	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Renewable Energy Supply Chain Management Training Course is designed to equip professionals with the strategic, digital, and operational capabilities required to build resilient, sustainable, agile, and data-driven renewable energy supply chains. As solar, wind, battery storage, and other clean-energy technologies scale, organizations face increasing challenges involving critical minerals, supplier concentration, logistics volatility, geopolitical risk, procurement costs, traceability, cybersecurity, and regulatory compliance. Recent industry and research developments highlight supply chain diversification, digitalization, AI, predictive analytics, storage integration, recycling, reshoring, and resilience as increasingly important capabilities for renewable-energy organizations.

The course provides a practical framework for managing the complete renewable-energy value chain from strategic sourcing and supplier qualification through procurement, inventory, transportation, project delivery, operations, maintenance, reverse logistics, and end-of-life management. Participants explore AI-powered supply chain management, digital twins, IoT, blockchain-enabled traceability, demand forecasting, risk analytics, circular economy, carbon management, ESG, and net-zero supply chains. Research published in 2025–2026 indicates that digital supply-chain transformation can strengthen coordination, sustainability performance, and energy resilience, while AI can support predictive risk management and data-driven decision-making.

Programme Curriculum

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Course Duration

5 days

Course Objectives

By the end of the training, participants will be able to:

1. Develop resilient and agile renewable-energy supply chain strategies.
2. Apply strategic sourcing and sustainable procurement principles.
3. Identify and mitigate supplier, geopolitical, climate, and logistics risks.
4. Use AI, machine learning, and predictive analytics for supply-chain decisions.
5. Apply digital twins, IoT, and real-time visibility to renewable-energy operations.
6. Design demand forecasting, inventory optimization, and capacity-planning systems.
7. Improve supplier relationship management, supplier diversification, and localization.
8. Optimize multimodal logistics, transportation, warehousing, and project delivery.
9. Integrate ESG, carbon accounting, traceability, and sustainable sourcing into procurement.
10. Apply circular economy, recycling, reverse logistics, and lifecycle management principles.
11. Strengthen business continuity, supply-chain resilience, and scenario planning.
12. Evaluate renewable-energy supply-chain KPIs, cost drivers, and operational performance.
13. Build an actionable digital and sustainable supply-chain transformation roadmap.

Target Audience

1. Renewable energy supply chain and procurement managers
2. Solar, wind, battery, and energy-storage professionals
3. Project managers and EPC professionals
4. Logistics, transportation, and warehouse managers
5. Strategic sourcing and supplier relationship professionals
6. Sustainability, ESG, and carbon-management specialists
7. Operations, maintenance, and asset-management professionals
8. Energy-sector executives, consultants, analysts, and entrepreneurs

Course Modules

Module 1: Renewable Energy Supply Chain Strategy & Ecosystem

- Map the **end-to-end renewable energy value chain** across solar, wind, storage, and enabling technologies.
- Analyze supply-chain structures, cost drivers, bottlenecks, and strategic dependencies.
- Assess **critical-material and supplier-concentration risks**.
- Develop supply-chain segmentation and strategic sourcing priorities.
- **Case Study:** Analyze a renewable-energy manufacturer facing component shortages and redesign its sourcing strategy using **supplier diversification and resilience planning**.

Module 2: Strategic Procurement, Sourcing & Supplier Management

- Build **sustainable procurement and strategic sourcing** frameworks.
- Conduct supplier qualification, evaluation, due diligence, and performance management.
- Apply **total cost of ownership, should-cost analysis, and value engineering**.
- Develop alternative sourcing, localization, and supplier-development strategies.
- **Case Study:** Evaluate competing suppliers for solar modules and balance **cost, quality, carbon footprint, delivery reliability, and geopolitical exposure**.

Module 3: Supply Chain Risk, Resilience & Business Continuity

- Identify **geopolitical, climate, cyber, financial, regulatory, and operational risks**.
- Build renewable-energy supply-chain risk registers and heat maps.
- Apply scenario planning, stress testing, and business-continuity methods.
- Design **multi-sourcing, safety-stock, alternative logistics, and contingency strategies**.
- **Case Study:** Respond to a simulated disruption affecting battery materials and create a **resilient recovery and continuity plan**.

Module 4: Digital Supply Chains, AI & Industry 5.0

- Explore **AI, machine learning, IoT, blockchain, cloud platforms, and digital twins**.
- Apply predictive analytics to demand, inventory, supplier, and logistics decisions.
- Examine real-time supply-chain visibility and data integration.
- Develop **human-centric Industry 5.0** approaches combining technology and workforce capabilities.
- **Case Study:** Design an **AI-enabled predictive supply-chain control tower** for a utility-scale renewable project

Module 5: Inventory, Warehousing & Renewable Energy Logistics

- Optimize inventory policies for high-value and long-lead-time components.
- Apply **demand forecasting, safety stock, ABC analysis, and inventory segmentation**.
- Plan transportation, warehousing, customs, last-mile delivery, and project logistics.
- Manage oversized equipment and time-critical renewable-energy components.
- **Case Study:** Develop a logistics plan for transporting wind-turbine components from international suppliers to a remote project site while minimizing **cost, delay, emissions, and handling risk**.

Module 6: Sustainability, ESG, Carbon & Circular Supply Chains

- Integrate **ESG, sustainable procurement, carbon accounting, and lifecycle thinking**.
- Measure and reduce supply-chain **Scope 3 emissions**.
- Apply **circular economy, reverse logistics, recycling, refurbishment, and resource efficiency**.
- Strengthen traceability and responsible sourcing of critical materials.

- **Case Study:** Create a circular supply-chain model for end-of-life solar modules or batteries using **recovery, recycling, material traceability, and lifecycle value creation**.

Module 7: Performance Analytics, Cost Optimization & Governance

- Establish renewable-energy supply-chain **KPIs, dashboards, and performance scorecards**.
- Analyze procurement costs, logistics costs, inventory carrying costs, and supplier performance.
- Apply **data-driven decision-making and scenario-based optimization**.
- Develop governance frameworks for compliance, transparency, cybersecurity, and accountability.
- **Case Study:** Build a supply-chain performance dashboard that identifies **cost leakage, delivery bottlenecks, supplier risk, inventory exposure, and carbon hotspots**.

Module 8: Future-Ready Renewable Energy Supply Chain Transformation

- Develop an integrated **digital, sustainable, and resilient supply-chain transformation roadmap**.
- Examine emerging trends in **energy storage, smart grids, AI, automation, localization, recycling, and supply-chain intelligence**.
- Align supply-chain strategy with business growth, energy security, and net-zero objectives.
- Develop implementation priorities, investment cases, KPIs, and change-management plans.
- **Case Study:** Prepare a five-year transformation roadmap for a renewable-energy company combining **AI, supplier diversification, circularity, digital visibility, storage, and low-carbon logistics**.

Training Methodology

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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