

SUSTAINABILITY LEADERSHIP IN THE PROCESS INDUSTRIES



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TRAINING CENTER



Introduction

Sustainability Leadership in the Process Industries Training Course prepares leaders in chemicals, refining, cement, and manufacturing to reduce environmental impact without undermining safe, reliable operations. Participants learn how to set credible targets, govern decarbonization, and report performance that withstands scrutiny. The program combines ESG frameworks with process safety, energy management, and circular economy practice. As a result, learners gain a method for making sustainability decisions that fit the realities of continuous process plants. Furthermore, the course strengthens emissions accounting, capital justification, and stakeholder trust.

Sustainability Leadership in the Process Industries Course Objectives

- Apply ESG concepts and the triple bottom line to process industry operations.
- Conduct materiality assessments using the GRI Standards framework.
- Apply the GHG Protocol scope 1, 2, and 3 emissions accounting to plant operations.
- Set science-based targets and net-zero pathways for energy-intensive sites.
- Apply the TCFD recommendations to climate risk disclosure and governance.
- Assess decarbonization levers: energy efficiency, electrification, hydrogen, and CCUS.
- Apply circular economy principles to feedstocks, by-products, and waste.
- Integrate sustainability with process safety and HSE leadership.
- Justify sustainability capital projects with NPV, IRR, and marginal abatement cost curves.
- Measure sustainability performance with KPIs, baselines, and targets.

Course Methodology

- Interactive sessions built on real process industry sustainability cases.

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- Workshops on materiality, emissions accounting, and abatement planning.
- Group work on target setting, capital cases, and governance models.
- Hands-on practice with marginal abatement cost curves and KPI sets.
- Simulation of sustainability reviews and regulator or investor scrutiny.
- Facilitator feedback and peer review on sustainability strategy proposals.

Who Should Take This Course

- Plant, operations, and site directors in process industries.
- Sustainability, ESG, and environmental managers.
- Process safety, HSE, and energy managers.
- Engineering and capital project leaders.
- Finance and reporting professionals supporting ESG disclosure.
- Consultants advising process industries on decarbonization.

Sustainability Leadership in the Process Industries Course Outlines

Day 1: Sustainability, ESG, and Process Industry Context

- Sustainability and corporate responsibility concepts for heavy industry.
- The triple bottom line applied to chemical and manufacturing sites.
- ESG ratings, investor expectations, and lender requirements.
- Materiality: what matters for a process plant and its community.
- Regulatory landscape, carbon pricing, and emissions trading exposure.



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- Global frameworks: GRI, TCFD, SDGs, and the Paris Agreement.
- Case study: a plant's sustainability turnaround assessed.

Day 2: Emissions Accounting and Climate Targets

- GHG Protocol scope 1, 2, and 3 emissions accounting basics.
- Energy balance, fuel use, and process emissions measurement.
- Setting baselines and emissions inventories for sites.
- Science-based targets and net-zero pathway design.
- Marginal abatement cost curves for option prioritisation.
- TCFD recommendations: governance, strategy, risk management, metrics.
- Workshop: building a site emissions inventory and reduction plan.

Day 3: Decarbonization, Energy, and the Circular Economy

- Energy efficiency audits and waste heat recovery.
- Electrification, renewable power purchase agreements (PPAs), and green hydrogen.
- Carbon capture, utilization, and storage (CCUS) fundamentals.
- Circular economy: recycled feedstocks, by-product synergy, and waste reduction.
- Water stewardship and effluent management.
- Sustainable supply chain and responsible sourcing.
- Exercise: designing a site decarbonization roadmap.

Day 4: Governance, Risk, and Capital Justification

- Board oversight and sustainability governance structures.
- Enterprise risk management with risk registers and climate risk.



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- Process safety leadership integrated with sustainability goals.
- Justifying sustainability capital with NPV, IRR, and payback.
- Internal carbon pricing and shadow pricing practice.
- Assurance, verification, and avoiding greenwashing claims.
- Simulation: presenting a sustainability capital case to a board.

Day 5: Measurement, Reporting, and Sustainability Leadership

- Sustainability KPIs: emissions intensity, energy intensity, and water use.
- Baselines, targets, and progress tracking.
- Reporting aligned with the GRI Standards and TCFD disclosure.
- Community engagement and social licence in industrial settings.
- Leading sustainability change and building site capability.
- Strategy review, targets refresh, and continuous improvement.
- Capstone: presenting a process industry sustainability leadership plan.

Conclusion

By successfully completing Sustainability Leadership in the Process Industries, participants will gain a practical command of emissions accounting, decarbonization planning, and sustainability governance in heavy industry. They will acquire skills in target setting, capital justification, circular economy practice, and credible disclosure. Gentex Training Center designs the program to help leaders cut environmental impact while keeping plants safe, compliant, and competitive.





FAQs

Q1 What is the "Sustainability Leadership in the Process Industries" course about?

It prepares leaders in chemicals, refining, and manufacturing to reduce environmental impact without undermining safe, reliable operations. The course spans ESG frameworks, emissions accounting, decarbonization levers, circular economy practice, governance, and credible disclosure.

Q2 What are the key benefits of the "Sustainability Leadership in the Process Industries" course?

You gain a method for making sustainability decisions that fit real plant constraints. The course strengthens emissions measurement and target credibility, improves capital justification, integrates sustainability with process safety, reduces greenwashing and regulatory risk, and builds board and investor confidence.

Q3 What skills will I gain from the "Sustainability Leadership in the Process Industries" course?

You will develop four core skills: process industry sustainability and ESG strategy, emissions accounting with science-based target setting, decarbonization and circular economy planning, and sustainability governance with capital justification and reporting.



Q4 What tools, methods, or standards are covered in the "Sustainability Leadership in the Process Industries" course?

The course covers the GRI Standards, the TCFD recommendations, the GHG Protocol scope 1, 2, and 3 emissions accounting, science-based targets, net-zero pathway design, marginal abatement cost curves, energy efficiency audits, waste heat recovery, renewable power purchase agreements (PPAs), green hydrogen, carbon capture, utilization, and storage (CCUS), circular economy practice, water stewardship, risk registers, NPV and IRR appraisal, internal carbon pricing, and sustainability KPIs such as emissions intensity.

Q5 How is the "Sustainability Leadership in the Process Industries" course applied in real-world practice?

Participants apply it to real work such as building a site emissions inventory, designing a decarbonization roadmap, justifying a sustainability capital project, and preparing a sustainability report for investors and regulators. The same methods support carbon pricing responses and community engagement plans.