



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Energies and energy transition

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0284 · NQF Level 5 · 10 Credits · 5 Days

COURSE OVERVIEW

This course provides a comprehensive understanding of energy sources, the global energy landscape, and the transition towards sustainable energy systems. Participants will explore key concepts such as renewable energy, energy efficiency, and the socio-economic impacts of energy transitions, enabling them to contribute effectively to organisational sustainability goals.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0284
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Analyse the current global energy mix and identify key drivers of energy transition.
- Evaluate different energy sources (fossil fuels, nuclear, renewables) based on environmental, economic, and social criteria.
- Apply principles of energy efficiency and renewable energy technologies in practical contexts.
- Assess the impact of energy policies and regulations on organisational energy strategies.
- Design a basic energy transition roadmap for a specific sector or organisation.
- Demonstrate understanding of the role of innovation and technology in accelerating energy transition.

WHO SHOULD ATTEND

- This course is designed for professionals across industries seeking to understand energy dynamics and the shift to cleaner energy, including managers, engineers, policymakers, and sustainability officers.

COURSE OUTLINE

Day 1: Fundamentals of Energy and Sustainability

- Introduction to energy: forms, sources, and conversions
- Energy units and measurements (Joules, kWh, etc.)
- Overview of global energy landscape and trends
- Drivers of energy transition: climate change, resource depletion, policy
- South African energy context: coal dependence, load shedding, renewable targets
- Sustainability principles and the triple bottom line

Day 2: Conventional Energy Sources and Their Impacts

- Fossil fuels: coal, oil, and natural gas – reserves, extraction, and combustion
- Electricity generation from fossil fuels: power plant basics
- Environmental impacts: air pollution, greenhouse gas emissions, water use
- Social and economic impacts: health, mining communities, energy poverty
- Nuclear energy: principles, safety, waste management
- Limitations of conventional energy: depletion, inefficiency, externalities

Day 3: Renewable Energy Technologies

- Solar energy: photovoltaic and concentrated solar power
- Wind energy: onshore and offshore wind turbines
- Hydropower: large-scale and small-scale systems
- Biomass and bioenergy: feedstocks, combustion, biogas
- Geothermal and ocean energy: basics and potential
- Integration of renewables into the grid: intermittency, storage, and smart grids
- South African renewable energy projects and IPP programme

Day 4: Energy Storage, Efficiency, and Policy

- Energy storage technologies: batteries, pumped hydro, hydrogen
- Electric vehicles and their impact on energy systems
- Energy efficiency: lighting, HVAC, motors, and industrial processes
- Demand-side management and smart metering
- South African energy policy: IRP, NERSA, and carbon tax
- Just transition: job creation, community engagement, and equity
- Carbon markets and emissions trading

Day 5: Practical Integration and Future Outlook

- Case studies: Germany's Energiewende, South Africa's REIPPP
- Emerging technologies: green hydrogen, advanced nuclear, tidal power
- Energy modeling and scenario planning
- Group project: develop a transition roadmap for a South African municipality
- Presentation and peer review
- Course wrap-up and assessment

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **10 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 24,200.00	R 24,200.00
1	In-House	R 31,400.00	R 31,400.00
1	On-Campus (Pretoria)	R 36,200.00	R 36,200.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
17 Aug 2026	21 Aug 2026	On-Campus	Harare, Zimbabwe
17 Aug 2026	21 Aug 2026	On-Campus	Shenzhen, China
24 Aug 2026	28 Aug 2026	On-Campus	Bangkok, Thailand
24 Aug 2026	28 Aug 2026	On-Campus	Victoria Falls, Zimbabwe
31 Aug 2026	04 Sep 2026	On-Campus	Lusaka, Zambia
31 Aug 2026	04 Sep 2026	On-Campus	London, UK

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard AATICD-0284) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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