





Course: Sustainability, Energy and Change

Code	City	hotel	Start	End	price	Hours
501	Toronto (Canada)	Hotel Meeting Room	2024-10-21	2024-10-25	5950 €	25

Why Choose this Course?

This course provides insight into how engineering might change and how engineers can think differently about sustainability within their organisations, and about the challenges posed by ‘unsustainability’. It will enable participants to identify organisational risks and engineering changes required to increase organisational resilience, and to build prosperity, stability and security.

Future presents challenges and opportunities for engineers interested in sustainability and in achieving the capacity for long term continuity. Energy systems will look very different due to the impacts of constrained resources on nearly all aspects of life. Climate change also forces a consideration of different approaches to engineered systems.

This course will feature:

- Historical context of Sustainability, Unsustainability, and Energy systems
- Key challenges, risks and future scenarios for participants own organisations
- Fundamentals of the “Transition Engineering” approach
- Engineering tools for Transition Engineering
- Opportunities presented by sustainability for your own organisation

What are the Goals?

By the end of this course, participants will be able to:



- Articulate and evaluate key sustainability challenges to their own organisation
- Apply the Transition Engineering process to organisations or activities
- Identify business risks of unsustainable activities and external trends
- Evaluate the costs and benefits of transition products and services
- Use strategic analysis to develop business opportunities

Who is this Course for?

This course is suitable to a wide range of technical professionals but will greatly benefit:

- Those who are involved at any level in functions of engineering, quality or environmental management, or in any energy-dependent functions of the organisation
- Engineering and Technical Personnel involved in energy management, product development, logistics, procurement, transportation and energy efficiency.

How will this be Presented?

This course uses a variety of proven learning techniques to ensure maximum understanding, comprehension and retention of the information presented. This includes a course manual, suggested reading before and after the course, tutor presentations, individual and group exercises, video, group discussion and homework, and workshop of guided problem-solving for the participant's own organisations

The course will be highly interactive and will challenge delegates to think differently about sustainability and to change their frame of reference to transition. The tutor will facilitate and guide delegates to apply the learning, and their understanding of their own organisations, to synthesize solutions to old and new problems.

The Course Content



Day One

Introduction and historical background of Sustainability and Unsustainability

- Sustainability; the capacity for continuity into the long term future
- Safe operating spaces and “unsustainability”
- The importance of energy in human systems
- Historical background to current global challenges
- Historical responses to un-sustainability
- Overview of global problems of unsustainability

Day Two

Future Scenarios and Introduction to Transition Engineering

- EX The unsustainability challenges facing my organisation.
- Examples and use of future scenarios
- The challenge of energy return on energy invested (EROI)
- The problem of exponential growth
- The relative usefulness of existing future scenarios for my organisation
- Introduction to the Transition Engineering approach

Day Three

Engineering, Change, and thinking differently

- The role and responsibility of engineers in the change process
- Path break concepts; envisioning a sustainable future
- Sustainable models for economic activity and capital
- Achieving resilience to external change



- Examples of organisations that have made path-break changes for sustainability
- Back-casting – working out how to get to where you want to be

Day Four

Making it happen - planning a program of change

- System thinking for change towards sustainability
- The survival spectrum
- Sustainability Principles - The Natural Step
- Value Analysis
- Creating a vision of future success
- Trigger Events – external and internal events that help avoid undesirable inertia

Day Five

Tools for analysis and Action Planning, Assessment

- Core and non-core activities and how to treat them
- From “More newer faster bigger” to “better”
- Stakeholder analysis and engagement in change
- Strategic analysis of unsustainability risks
- Energy auditing – using the ISO 50001 model to assess vulnerability
- Assessment; multiple choice test



The Scandinavian Academy for Training and Development employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:

- **Theoretical Lectures:**

- We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.

- **Scientific Assessment:**

- We evaluate trainees skills before and after the course to ensure their progress.

- **Brainstorming and Interaction:**

- We encourage active participation through brainstorming sessions and applying concepts through role play.

- **Practical Cases:**

- We provide practical cases that align with the scientific content and the participants specific needs.

- **Examinations:**

- Tests are conducted at the end of the program to assess knowledge retention.

- **Educational Materials:**

- We provide both printed and digital scientific and practical materials to participants.

- **Attendance and Final Result Reports:**

- We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.

- **Professionals and Experts:**

- The programs scientific content is prepared by the best professors and trainers in various fields.

- **Professional Completion Certificate:**

- Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.

- **Program Timings:**

- Training programs are held from 10:00 AM to 2:00 PM and include buffet sessions for light meals during lectures.