Booklet

Practice-based Interdisciplinary Education and Training Courses

Advanced Certificate in Integrated Renewable Energy Management (Intensive Four Modules)

For further information for any of the modules, please contact

Email: contact@ecofellows.com

Eco Fellows Academy
Eco Fellows Ltd., Berlin, Germany
www.ecofellows.com

“Training for capacity building to design frameworks and how to use decision instruments which contribute to increase renewable energy use in economic diversification”

Course Basic

- **Duration:** 4 Weeks (each intensive module)
- **Fees:** €5,000,00 per module (Single registration)
  €16,000,00 for one-time/combine registration of all 4 modules
- **Location:** Berlin, Germany
- **Dates:** 1) September, 2019
  2) October, 2019
  3) November, 2019
  & All months in 2020 (date will be available)
- **Admission:** Open for any of the 1-4 modules, (Online registration)

A. Background:

The need for a sustainable energy supply is becoming more important with declining fossil energy resources, environmental pollution and climate change. However, it is increasingly evident that actions for renewable or clean energy based socio-economic development can no longer be possible by only taking initiatives in this sector alone. Or focusing only about technology and financial aspects for clean energy development but must cut across the different sectors to better manage trade-offs. Research has shown that proper management and behaviour changes alone can save energy up to 10-20%. According to Zobair (2016), technology alone will not be enough to carry forward the renewable energy mission. This transformation required the collective long-term commitment of all stakeholders, including government, citizens, financiers, private companies and international agencies. Now the question is: *how to integrate technology, management and behaviour and how to make everyone with a self-capacity of responsibility on rationale use of energy?*

In general context renewable or clean energy initiatives include mainly (i) energy conservation, (ii) energy efficiency improvement and (iii) promotion of renewable energy. Despite huge technological progress made to improve the efficiency of energy consumption and production and renewable energy technology, most potential are yet to be tapped because of number of
barriers. For instance, lack of information and awareness, inadequate knowledge, limited access to technology, high upfront cost, lack of human and institutional capacity.

Thus, to address these challenges (integrating of (i) energy conservation, (ii) energy efficiency improvement and (iii) promotion of renewable energy) Eco Fellows Academy in Berlin (Eco Fellows Ltd), has developed the Advanced Certificate program in Integrated Renewable Energy Management (IREM). The program will contribute to better capacity building of the participants with the ability of the promotion of renewable energy sources in energy transition countries and other developed-developing countries via a holistic renewable energy management concept.

The profile of the Advanced Certificate program in Integrated Renewable Energy Management (IREM) is PROBLEM-oriented, meaning that participants will be involved in dealing to explore the real problem-scenarios of the energy related topics. Thus, the aim is to provide the participants with an overview of the energy sector in general, to educate experts in the field of renewable energy management and sustainable development. This will help a diversification of their knowledge and leads to the capability of cross-linked thinking. They will be equipped with the understanding that the complex environmental and energy related problems requires environmental, social, economic and managerial competencies more than classical technical knowledge.

Integrated Renewable Energy Management program at Eco Fellows Academy in Berlin (Eco Fellows Ltd) is a combination of 4 intensive modules. Each intensive module is standalone, which are usually block-structured with exams and certificate. The IREM is developed in collaboration with field trips in Germany to understand the transition of energy landscapes, develop renewable energy management strategies by integrating:

- Multiple energy sources and Energy saving strategies
- Natural resource management strategies such as water and land,
- Urban greening and Green-city strategies
- Rural agricultural development strategies and
- Capacity building strategies for climate change and environmental adaptation strategies.

The aim is to equip students with contemporary knowledge and management capacities of renewable energy through an interdisciplinary lens. Through this innovative, new, interdisciplinary program that focuses on hands-on learning and industry-based research experiences, participants will gain with the valuable skills and experience they need to shape the future of energy via exciting new career opportunities.

B. Program Duration

- 4 weeks for each intensive module
- 16 weeks for full 4 intensive modules

**Examination:** Each intensive module is standalone with exam at the end and certificate
C. Course Content:

The intensive program in Integrated Renewable Energy Management focuses on (i) energy conservation, (ii) energy efficiency improvement and (iii) promotion of renewable energy in the line of sustainable development by integrating development strategies of other sectors energy production, energy saving and policies. With a deliberate energy system perspective, the focal area enables the students to analyse the linkages of technological and economic potentials of the technology choices by considering sustainable resource utilization like water, urban greening, rural agricultural and as well as other environmental repercussions in the natural environment. The program will provide students with the capacity in analysing the socio-economic and policy context to integrate in designing, planning and implementation of renewable management strategies in local, national and international levels. IREM students get acquainted with integrated renewable energy management related topics such as solar energy, wind energy, bio-energy, wave-energy and geothermal energy options.

D. Core (Compulsory) Module Descriptions

Advanced Certificate in Integrated Renewable Energy Management (IREM)

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<tr>
<th>Intensive Module 1: Certificate One</th>
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<tbody>
<tr>
<td>1 Energy resources, systems and energy transitions</td>
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<tr>
<td>- Integrated Renewable/Alternative/ Hybrid Energy Systems Planning and Management</td>
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<tr>
<td>- Solar, Wind, Waste to Energy (Biomass), Geothermal, Bioenergy and Hydro</td>
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<td>- Smart Grid</td>
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<td>2 Energy Policy, Legislation and Management</td>
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<td>3 Natural resources, Renewable Energy and Sustainable Development Nexus</td>
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<tr>
<td>- Water-Energy- Climate Change-Agricultural Food Security Nexus</td>
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<td>4 Renewable Energy-Rural-Urban Linkages &amp; Economic Diversifications</td>
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<td>5 Sociology of Renewable Energy</td>
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<td>- Awareness, Perception and Energy Efficient Behaviour Change</td>
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<td>6 RE Sustainable Model Design and Management: Practice-based group assignment (4-5 Students) link to a company</td>
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### Intensive Module 2: Certificate Two

**1. Renewable Energy Economics and Markets**
- Markets and Renewable Energy Supply Chain Management

**2. Energy Efficiency, Utilisation and Management of Renewable Energy**
- Industry and Corporate Energy Management
- Energy Saving Utilities (Bulbs, Machines and so on)
- Energy Efficient Buildings (Green Building)
- Energy Efficient Transport (Green Transport)
- Energy Efficient Irrigation (Clean Agricultural Development)

**3. Renewable Energy Project Design, Planning and Development**
- Steps of developing a renewable energy project
  Case: Solar, Waste to Energy and Wind in Bangladesh
- Renewable Energy- International Cooperation, Investment and Knowledge Transfer

**4. Sociology of Renewable Energy**
- Mass Communication and Education (vocational education) and Training for Clean Energy Management

**5. RE Sustainable Model Design and Management:**
- Practice-based group assignment (4-5 Students) link to a company

### Intensive Module 3: Certificate Three

**1. Renewable Energy Entrepreneurship**
- Plan and Management of Renewable energy-based business
- National/Local Capacity Building Initiatives
- Funding and state support

**2. Green Entrepreneurship in Renewable Energy in Across Product Supply Chain (Agricultural to Industrial Products Linkages)**

**3. Decentralized Energy Systems and Off-Grid Management Practice**

**4. RE Sustainable Model Design and Management:**
- Practice-based group assignment (4-5 Students) link to a company
## Intensive Module 4: Certificate Four

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<tr>
<th></th>
<th>Topic</th>
<th>Core</th>
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<tbody>
<tr>
<td>1</td>
<td>Green Entrepreneurship in Zero-Waste through the Nexus of ‘Renewable/Alternative Energy-Waste Management’</td>
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<tr>
<td>2</td>
<td>Green business in the Nexus of ‘Renewable Energy-Smart Cities’</td>
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<td>3</td>
<td>Natural resources, Renewable Energy and Sustainable Development Nexus-2</td>
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<td></td>
<td>• Clean Energy- Poverty Alleviation Nexus</td>
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<td></td>
<td>• Landscape, Nature Protection, Land use conflicts (Multi use of lands)</td>
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<td>4</td>
<td>Sociology of Renewable Energy</td>
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<td></td>
<td>• Environmental/ Green Education and Training Program</td>
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