

LEARNING CENTER COURSE SYNOPSES

1. How to Reduce CDM costs

Course Instructor:

Bruce Chadwick, Assistant Professor of the Columbia University is an experienced research professional and consultant with over 15 years experience in private sector, government, public interest, and academic research. He has worked with world class organizations repeatedly over his career, including the Economist Intelligence Unit, the United Nations, the World Bank, Winrock International, the US Agency for International Development and others.

Synopsis:

With the Kyoto Protocol in force for just over a year and international support for carbon abatement efforts increasing, this presentation addresses practical issues in implementing the Clean Development Mechanism. These includes discussion of transaction costs in carbon trading and the Clean Development Mechanism, the integration of Certified Emission Reduction credits (CERs) with host country sustainable development objectives, and the challenge that host countries face in ensuring that transferred CERs are properly compensated and appropriately managed. With the Kyoto Protocol in force for just over a year and international support for carbon abatement efforts increasing, this presentation addresses practical issues in implementing the Clean Development Mechanism. The course will present a method of managing CERs in a portfolio of host country sustainable development objectives as a mechanism to assist host countries in managing the Clean Development Mechanism to the mutual benefit of itself and its implementing partners.

2. Strategic Environmental Assessment (SEA) – A Tool for Mainstreaming Sustainable Development into Development Planning

Course Instructors:

Maria Rosário Partidário, IST (Instituto Superior Técnico) at the Technical University of Lisbon. Her expertise lies at the crossroad of environmental impact assessment (EIA), policy and planning issues and sustainability. She has served as active President during 1997-98.

Brendan Barrett, Head of UNU Online Learning (Media Studio), has expertise in environmental planning and environmental impact assessment in both the private and public sectors, and has developed online educational materials on Strategic Environmental Assessment and EIA.

Sponsored by: UNU

Synopsis:

This course will introduce “What is SEA” and its multiple concepts, but in a simple and constructive way, linking it to cultural issues and economic realities, outlining the role of SEA in different types of economies and decision-making systems, as a cross-cutting tool for governance and technical assessment. It will also explore why SEA is important linking it to poverty reduction strategies, energy for sustainable development, climate change, biodiversity and to sustainable development in terms of the integration of environmental, social and cultural issues in sectoral and economic long-term planning.

The course will highlight how SEA can be used and its relevance for sustainability processes, in the context of national and sectoral sustainable development strategies, land-use planning,

overall national policies and budgets (e.g., currently Brazil is considering using SEA in the context of their national annual pluri-annual planning review which is basically their annual budget). Case summaries of SEAs in various sectors related to industrial development, air pollution, energy for sustainable development and climate change will be introduced to illustrate different opportunities and benefits related to SEA implementation. It may also be possible to explore a complete case, from a to z, if time permits. Interaction with the audience through Q&A would be included in the programme and a CD-ROM on Strategic Environmental Assessment would be provided (see current online content at <http://www.onlinelearning.unu.edu/sea/start.html>).

3. Urban Slum Electrification: Improving Electricity and Energy Services for the Urban Poor

Course Instructors:

Carlos Rufín is Assistant Professor of Management and Faculty Director of the Institute of Latin American Business at Babson College. He has worked as a consultant to developers, lenders, and investors in the restructuring of the electricity industry in Europe and the Americas. He has advised the Inter-American Development Bank on the sustainability of reform in the electricity sector in Guatemala and Colombia, and USAID on a similar assignment in the Dominican Republic.

Connie Smyser is a Partner and Owner of Smyser Associates, a consulting firm specializing in sustainable energy development, energy and environment, and climate change mitigation policies, programmes and projects. Ms. Smyser draws on over 25 years of experience in promoting sustainable energy on local, regional and international levels, including through the International Energy Agency, Inter-American Development Bank and the Electric Power Research Institute. Her recent work includes a fresh look at the problem of slum electrification in developing countries for USAID and technical assistance to the government of Dominican Republic on reforming its slum electrification programme. She is presently a subcontractor to Nexant Inc., a global technology and consulting firm taking a principal role in launching USAID's Slum Electrification and Loss Reduction programme in Brazil, as part of a Global Development Alliance partnership with the International Copper Association.

Course Practitioner:

Antonio Pinhel, Commercial and Market Superintendent of Coelba – Electric Utility with 3.8 million customers in the northeast region of Brazil. He has worked on issues related to market development and sustainability, financial aspects, energy purchase, market forecasts and designing an implementing energy efficiency projects.

Sponsored by: USAID

Synopsis:

The objective of this course is to provide policy makers, government officials and donors with the basic information needed to assess the urgency of the electricity/energy service needs of the urban poor and to consider the applicability of a range of solutions to the problem within their country/city contexts.

This course will be presented by both technical experts and practitioners in the field from country projects in Brazil, South Africa, and Morocco and will provide an overview on how to assess electricity/energy service needs of the urban poor and to demonstrate a range of solutions.

4. Energy Efficiency for Sustainable Development

Course Instructors:

Richard Ottinger, Pace University School of Law, Chair of the Energy, Conservation and Power Subcommittee of the U.S. House of Representatives 1975-1985 and presently is Chair of the Energy Law and Climate Specialists Group of the IUCN Commission on Environmental Law

Steven Nadel, Executive Director of the American Council for an Energy Efficient Economy (ACEEE), the premier energy efficiency organization in the United States.

Sponsored by: IUCN Commission on Environmental Law, Energy Law and Climate Specialists Group, the American Council on an Energy Efficient Economy and the Pace University School of Law

Synopsis:

The objective of the course would be to educate participants in CSD-14 on the potential of energy efficiency to contribute to development needs, particularly of developing countries. The course materials will be based on the UNEP Handbook for Draftsmen of Energy Efficiency and Renewable Energy Legislation (publication pending), organized and edited by Dean Richard Ottinger. It will include the potential for energy and economic savings of energy efficiency in industry and business, transportation, residences and appliances and associated reductions in CO2 and pollution emissions. Supplementary materials may also be utilized and distributed.

5. Sustainable Development Law on Climate Change

Course Instructors:

Marie-Claire Cordonier Segger, Director and a Fellow of the Lauterpacht Research Centre for International Law (LRCIL) at Cambridge University Faculty of Law in the United Kingdom. She is currently working on a new book on sustainable development law on climate change.

Robert O'Sullivan is a lawyer specializing in legal and regulatory issues associated with the Kyoto Protocol's Clean Development Mechanism, Joint Implementation, and International Emission Trading. Robert has extensive experience structuring, documenting, and negotiating complex carbon finance transactions and providing expert advice on carbon finance opportunities and asset management. His experience covers diverse project types and structures, including temporary crediting under afforestation and reforestation projects, pooling, bundling, early and late crediting, and green investment schemes. Prior to joining Climate Focus Robert worked as a lawyer in the World Bank's Carbon Finance Business.

Other instructors will include: Richard Janda, Senior legal research fellow, CISDL; Markus W. Gehring, Lead Counsel for Sustainable International Trade, Investment and Competition Law with the CISDL; Sébastien Jodoin, CISDL; Heather McCready, CISDL; Eleonore Derome, Manager, CISDL; Marie Bourdeau, CISDL

Synopsis:

This course updates participants on recent advancements in sustainable development law, with a focus on climate change. Participants will examine sustainable development law principles as they are reflected in the UN Framework Convention on Climate Change and its Kyoto Protocol, and in potential post-Kyoto regimes, receive an update on the conclusions of the Montreal COP 11 / MOP 1 meetings, to review recent trends in sustainable development law related to the clean development mechanism, emissions reduction and trading regulatory regimes, and to become updated on innovative legal instruments, including those for carbon financing at the national and international levels. Participants will, through hypothetical exercises, have the opportunity to consider cutting-edge legal issues which might arise in the negotiation of a CDM contract or the

findings of a human rights commission on impacts of climate change on indigenous peoples in the North. The course touches on examples from common law and civil law traditions, and draws upon expertise from diverse fields. It is also interactive, conducted through a combination of roundtable discussions, brainstorming, case studies and hypothetical problems that can be solved in interdisciplinary groups which combine legal and non-legal expertise.

6. Energy Indicators for Sustainable Development

Course Instructor:

Alan McDonald is with the Nuclear Energy Department of the International Atomic Energy Agency (IAEA). He is a contributing author to the World Energy Assessment 2004 Update and the IPCC's 2000 Special Report on Emissions Scenarios (SRES), and has published on the future of nuclear power, innovation, technological learning, gas infrastructures in Eurasia, international scientific cooperation, and interactions between climate change and acid rain policies.

Synopsis:

The course on Energy Indicators for Sustainable Development (EISD) will cover four main issues: definition and classification, guidelines for implementation, examples of country case studies and the need for comprehensive analysis. The EISD set developed by a multi-agency expert group will be discussed in detail. This will include definitions and corresponding methodologies, and classification according to the main themes, sub-themes and dimensions relevant to sustainable development. The guidelines for implementation will cover approaches for the use of the EISD set in assessing trends in relevant energy and environmental issues and in defining the status of a country's energy system. Also, approaches for evaluating current policies and for formulating sustainable energy strategies will be explored. The course will conclude with examples of country case studies undertaken using the EISD set and with discussions on the need for elaborating comprehensive country profiles that link indicators' analysis with important qualitative issues and with future energy scenarios developed with modeling tools.

7. How to Reduce Air Pollution with Cleaner Fuels and Vehicles

Course Instructor:

Michael Walsh is one of the recipients of the 2005 MacArthur Fellows Programme award*. Mr. Walsh is an engineer and policy analyst specialized on vehicle emissions. He works as an independent technical consultant advising governments and industries worldwide on vehicle emission standards.

Synopsis:

Reducing the pollution that comes from vehicles will usually require a comprehensive strategy. Generally, the goal of a motor vehicle pollution control programme is to reduce emissions from in-use motor vehicles to the degree reasonably necessary to achieve healthy air quality as rapidly as possible or, if for reasons of impracticality, to the practical limits of effective technological, economic, and social feasibility. A comprehensive strategy to achieve this goal includes four key components: increasingly stringent emissions standards for new vehicles, specifications for clean fuels for the purpose of meeting vehicle emission standards, programmes to assure proper maintenance of in-use vehicles, and transportation planning and demand management to reduce vehicle usage. These emission reduction goals should be achieved in the most cost effective manner available.

8. Climate Change Mitigation

Course Instructor:

John P. Holdren is Professor of Environmental Policy and Director of the Programme on Science, Technology, and Public Policy, as well as Professor in the Department of Earth and Planetary Sciences at Harvard University. His work has focused on causes and consequences of global environmental change, analysis of energy technologies and policies, ways to reduce the dangers from nuclear weapons and materials, and the interaction of content and process in science and technology policy

Synopsis:

Following a brief introduction to the character of the climate-change challenge and the roles of mitigation and adaptation in responding to it, we will turn to what the most recent scientific findings tell us about the pace and climate change efforts. We will then survey the principal technical options for mitigation – reducing the carbon dioxide emissions from energy use, reducing carbon dioxide emissions from land-use change, reducing human emissions of non-CO₂ greenhouse gases and soot, reducing natural emissions of climate-altering substances, accelerating the removal of such substances from the atmosphere, and geotechnical engineering to offset climate-disrupting influences. Finally, we'll survey the policy measures available to governments and international bodies to promote mitigation, concluding with a brief discussion of which of these measures are already being embraced and which are most promising for the future.

9. Integrating Energy Considerations into MDG-based Development Planning

Course Instructors:

Vijay Modi is Professor and Chair of Mechanical Engineering at Columbia University. His expertise is in the fields of Energy sources and conversion, heat/mass transfer and fluid mechanics. His current areas of research interest are related to: energy infrastructure, CO₂ sequestration, Fuel cells, distributed sensing/control of flow and heat transfer.

Thomas B. Johansson is Professor of energy systems analysis and Director of the International Institute for Industrial Environmental Economics (IIIEE) at the University of Lund, Sweden, and Senior Advisor on Energy and Climate Change to the United Nations Development Programme (UNDP).

Minoru Takada, Sustainable Energy Programme Specialist, UNDP.

Sponsored by: UNDP

Synopsis:

The objective of this course is to provide participants with a basic understanding of the methodologies/tools available for conducting energy needs assessments and energy costing, as built upon by the work of the UN Millennium Project. The tools are meant to assist planners, energy analysts and general development practitioners in assessing energy considerations within MDG-based national development strategies. This course will explore practical tools for conducting energy needs assessments, including the establishment of energy targets, data collection, and costing. It will focus primarily on three areas of energy access: (1) fuels for cooking; (2) electricity for public services; and (3) mechanical power for productive uses. The course will explore elements of successful energy needs assessments through the use of case studies from Kenya and Senegal. The course will result in an increased understanding of

energy's importance to the MDGs and how to cost out energy interventions necessary to achieve the MDGs at the national level.

10. The Gender Face of Energy: Gender Tools for Energy Projects

Course Instructors:

Wendy Jill Annecke, Gender and Energy Research and Training, South Africa

Joy Sheila Clancy is Reader/Associate Professor in Technology Transfer at University of Twente, The Netherlands. Research interests cover the use of renewable energy resources and energy management in developing countries, with a particular emphasis on biomass, small-scale industry, environmental impacts, and gender issues. She has also worked as Director for Capacity Building and Regionalisation, ENERGIA; Co-convenor of Gender & Development Group, EADI; Member of Advisory Committee World Council on Renewable Energy.

May Christine Sengendo, East African Energy Technology Development Network, Uganda. She currently holds a position within Makerere University as a lecturer and senior gender trainer within the Department of Gender Studies.

Sponsored by: ENERGIA International Network on Gender and Sustainable Energy

Synopsis:

The course aims to provide participants with a set of gender tools for use in energy planning which can easily be adapted to diverse situations. The course outline is as shown below.

Units	Title	Learning goals
1	Introduction	To introduce the course: instructors, objectives, outline, methodology, and time frame.
2	Gender analytic tools	After completing the topic the participants should have an understanding of: <ul style="list-style-type: none"> the purpose of using gender analytic tools: the strengths and weakness of gender analytical tools in energy sector the distinction between the two types of gender analytical tools
3	A framework for gender analytic tools	After completing the topic the participants should have an understanding of the framework for gender analytic tools and be able to justify its use in planning to fellow professionals.
4	A worked example of the framework	After completing the topic the participants should be able to understand the use of the framework
5	Using the framework	In the previous section the framework has been illustrated in a case study from Sudan. This unit also focuses on data sources to answer the questions in the framework.
6	Participatory data gathering methods	At the end of this unit, participants should have an understanding of how to: <ul style="list-style-type: none"> use all the PRA methods described devise other sorts PRA methods which could be used in village energy data collection

Units	Title	Learning goals
7	Making an action plan	After completing the topic the participant should have an understanding of how to initiate the integration of the tools into their own work situation

11. How to Ensure Sustainable Development using Hydrogen

Course Instructors:

Thorsteinn Sigfusson is Professor of Physics at the Science Department of the University of Iceland. He currently chairs Icelandic New Energy Ltd., the company responsible for the creation of the hydrogen economy in Iceland and he has been leading the effort of bringing Iceland on track to becoming the first Hydrogen Economy. He is also co-chair of the International Partnership for the Hydrogen Economy. He is currently Chairman of the Educational Group on University Education, which was founded by the Hydrogen and Fuel Cells Advisory Council of the European Union. In 2004, he was awarded Knighthood by the President of Iceland for his research.

Jon Bjornsson, CEO of Iceland New Energy Ltd.

Graham Pugh, Director of IPHE

Sponsored by: Government of Iceland

Synopsis:

The Course “Renewable Hydrogen for Sustainable Energy Economy” is designed to provide a basic introduction to hydrogen as an efficient and clean energy carrier. The International Partnership on Hydrogen Economy, IPHE, is accelerating hydrogen development through international cooperation. Hydrogen is not a primary energy source, but its introduction as an energy carrier extends the use of localized energy resources, which can be used for hydrogen production. Hydrogen projects in Iceland are an integral component of Iceland’s sustainable energy policy, which aims at increased use of hydropower, geothermal energy, wind and other renewable energy resources. The wider acquisition of affordable hydrogen technology will decrease the dependency of the world economy on fossil fuels and enable developing countries to make the fullest use of local energy resources.

12. How to Apply for GEF Projects – Focus on Energy

Course Instructors:

Frank Pinto has served as Global Environment Facility (GEF) Executive Coordinator since Oct. 2001 and manages a \$4 billion portfolio comprising 2,400 projects and activities in over 140 countries. From 1991 to Sept 2001, he managed UNDP's global programme under the Montreal Protocol for the Protection of the Ozone Layer. Mr. Pinto received his bachelor's and master's degrees in economics from the University of Bombay and a graduate degree in finance and economics from the Wharton School of Finance, U. of Pennsylvania. He has over seventy publications comprising reports and papers and has co-authored books in the economics, development, energy and environmental fields.

Yannick Glemarec, GEF

Sponsored by: UNDP

Synopsis:

This course will include a presentation of the strategic priorities of the Global Environment Facility (GEF), an overview of the UNDP GEF programme, and a brief review of key procedures to apply for GEF resources. Participants will also be given the opportunity to deepen their understanding of GEF procedures through directly working on specific case studies.

13. Energy and Sustainable Development – Issues for Public Action: Bringing the Message Home through Journalists and Opinion Leaders

Course Instructors:

James Sullivan is founding member of the Energy Markets Group (EMG), a Washington D.C. based consulting practice focused on energy sector restructuring and reform in developing countries. Prior to his work with EMG he served as an Associate Assistant Administrator to USAID (1998–2000), responsible for environmental, energy and governance issues in developing and transition countries. As such he helped to develop strategy and design foreign policy for U.S. energy and environment assistance programmes abroad. He authored the “Energy and Development Handbook for Journalists” and has a keen interest in the role journalism plays in improving governance within the energy sector.

Newton Sibanda, with over 13 years of media experience, is assistant features editor at the Zambia Daily Mail. He also writes for the Norad newspaper Bistandsaktuelt and MS (Danish Association for International Cooperation) magazine Globalt Kontakt. In addition to these assignments, Mr. Sibanda currently serves as secretary of the Press Association of Zambia (PAZA), and is a member of the International Federation of Environmental Journalists (IFEJ) and the Water Media Network.

Charles Mangwiro is assistant editor of Radio Mozambique – English Branch – and also serves as foreign correspondent to Media 24/South Africa a print and web media outlet. He is responsible for reporting, sub-editing, programme production, writing and reading news and broadcasting. Mr. Mangwiro has over nine years of experience in the media world and has focused his reporting efforts on politics and developing economies.

Sponsored by: USAID

Synopsis:

Media and opinion leaders can and do play a crucial role in informing the public of energy sector developments. Greater public awareness increases transparency in national and local decision-making and contributes to creating a better enabling environment for sustainable economic, social and private sector development. Yet, journalists in developing economies face a series of obstacles in their attempt to provide accurate and in-depth reporting on the complex issues surrounding energy development. Supporting journalists in their attempt to cover the energy sector can yield positive returns for sustainable development efforts.

USAID's “Energy and Development Media Handbook” will form the basis of this course. This Handbook is a useful information resource for journalists and other non-energy specialists. It focuses on explaining energy sector concerns with a perspective on how they impact the lives of the average citizen -- linking energy concerns to other important development sectors, suggesting new angles for reporting on energy, and questions to ask in assessing new developments, etc. The Handbook incorporates a helpful Glossary of Terms and a description section of common energy units and measures. It is available in English, Spanish and Portuguese.

The course will present:

- The potential constructive role of journalists in increasing awareness and improving national discourse on energy sector concerns;
- The obstacles faced by journalists in developing countries, such as: (i) lack of time to invest in gaining in-depth knowledge of the subject -- it is rare to see journalists with a specialized “energy beat;” (ii) lack of access to reliable data with which to analyze information and claims; (iii) complexity and inconsistency of energy data, not easily translated into a form easily digested by the public, and; (iv) need for editors to stay focused on stories that “sell,” which often means focusing on more visible concerns such as HIV, poverty, political scandals and sensationalistic-oriented stories.
- the viewpoints of three journalists who have participated in the media workshops sponsored by USAID in LAC, Asia and Africa over the last three years. Their experiences, challenges and successes in reporting on energy.

14. The RETScreen Training Seminar: Assessing Clean Energy Project Opportunities (Séminaire de formation RETScreen: évaluation des opportunités des projets d’énergies propres) – a bilingual course

Course Instructors:

Gregory J. Leng is Head of the RETScreen® International Clean Energy Decision Support Centre located at the CANMET Energy Technology Centre in Varennes, Quebec, Canada and the principal author and co-creator of the RETScreen Software tool. He has been working in the renewable energy and efficiency energy fields for the past 18 years.

Kevin Bourque, Technical Support, Training and Workshops, NRCan

Sponsored by: Government of Canada

Synopsis:

The objective of the 3-hour course is to demonstrate how RETScreen International helps to accelerate the development, dissemination and deployment of renewable energy and energy efficiency projects. Upon completion of the course, participants will be familiar with the tools to evaluate, plan, finance and implement clean energy projects. In addition to a discussion of clean energy project analysis and implementation process, demonstrations of the RETScreen Clean Energy Project Analysis Software will be made with a case study of a real project, including energy, cost, GHG, financial and risk analysis. The RETScreen training material, available for individual distance learning and for professional training seminars, is presently used for education in more than 70 universities and colleges around the world. This course material will be given to participants via the RETScreen CD-ROM together with the RETScreen International results and impact report which highlights results-to date and summarizes the present and future impacts of RETScreen International.

15. Financing Energy SMEs

Course Instructors:

Phillip LaRocco, E+Co’s founder and Executive Director and one of the pioneers of the enterprise centered approach to delivering modern energy to households, communities and services.

Eric Usher, Deputy Coordinator of UNEP's Energy Branch within the Division of Technology, Industry and Economics, and Head of its Renewable Energy and Finance Unit. His work focuses on new approaches to delivering cleaner energy services in regions without access and new means for financing cleaner energy infrastructure.

Synopsis:

Since 2000, UNEP has been working to scale up this approach through a Rural Energy Enterprise Development programme involving E+Co, the United Nations Foundation, a number of other foundations and bilateral donors, and a diverse group of local enterprise development partners. The general experience of efforts to date have shown that assisting entrepreneurs to take risks, to innovate the way they deliver goods and services, and to experiment and refine their business models, can be an efficient and effective way to develop and grow new sustainable energy markets. This course will focus on proven investment models for financing energy SME sector growth.

16. Innovative Energy Financing in Developing Countries

Course Instructors:

Steven Howlett, GE

Christine Ebs Singer, E+Co.

Jonathan Hoffman, InfroCo Ltd.

Larisa Dobriansky, United States Department of Energy

Sponsored by: USAID

Synopsis:

The objective of this course is to promote the use of private financing for energy and infrastructure-related projects. The course will be conducted as an interactive workshop on innovative strategies and mechanisms for mobilizing private-sector resources to support the local development and efficient use of energy-related services and operations. The course is intended for government and non-governmental representatives interested in learning about successful innovative financing mechanisms, as well as for CSD participants that are willing to share ideas from their own experiences.

17. Building an Innovation Economy: Incorporating Entrepreneurship into Industrial Development

Course Instructor:

Richard Bendis is President and CEO of Innovation Philadelphia, a public/private partnership dedicated to increasing the region's entrepreneurial capacity. He currently serves, or has served, as a member of several national initiatives: including the White House U.S. Innovation Partnership Advisory Task Force; the Council on Competitiveness; the National Governor's Association Science and Technology Council Executive Committee; the State Science and Technology Institute Executive Committee; the National Seed and Venture Capital Board.

Sponsored by: Innovation Philadelphia, Ltd.

Synopsis:

The Innovation Economy, the portion of the economy driven by creation processes in the sciences, is becoming more important as regions or nations compete for stature in the overall global economy. There are many components necessary for a region or nation to effectively develop a sustainable technology-based economic development strategy. These include a strong focus on industrial development; partnerships between industry, government, and academia; financial support; and the existence of both physical and technological support infrastructure.

The course will cover the importance of all of the above-mentioned components and will outline global trends in the technology-based economic development (TBED) arena. The difference between life science greenhouses, centers of excellence, incubators, innovation and commercialization centers, science parks, and research parks; describing the differences and evaluating which programmes would work best in specific regions and nations will also be highlighted.

Current gaps in both public and private sector programmes will be addressed as well as examples of how these programmes such as cluster analysis (analysis of geographically close groups of interconnected companies and associated institutions in a particular field, linked by common technologies and skills), peer benchmarking (how a nation or region performs in the various selection criteria in relation to other nations), and asset mapping (identifying the strengths, weaknesses, and gaps of a given city, region, or nation) have been implemented by the United Nations, developed nations, and developing nations.