

OPERATIONAL AND FINANCIAL RISK MODELING FOR RENEWABLE ENERGY

Risk

August 21-22, 2017
Hyatt Regency Crystal City
at Reagan National Airport
Washington DC



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OVERVIEW

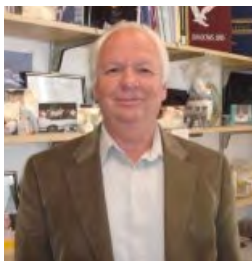
With increased energy load support required from renewable energy, new strategies must be undertaken to monitor both financial and operational risks utilities take for new renewable projects. In the upcoming **Operational and Financial Risk Modeling for Renewable Energy** course, we will examine new strategies to measure these risks as conventional analysis fails by relying on averages, ignoring the volatility of renewable energy output. We will use risk models to determine effective pairings of variable and dispatchable power to match the uncertainty of renewable energy output with the uncertainty of electricity demand. The objective is to effectively decrease the risk taken on renewables, and maximize their efficiency with a smaller impact on the utility's bottom line.

This program will be tailored to new users of any modeling software to demonstrate the power of simulation in analyzing operational uncertainty, and in determining the amount of debt a utility can safely load for a new project. We will cover all the common risk exposures that affect utilities, and leave you with a real understanding of the practical applications of these models and the actionable decisions that accompany them.

LEARNING OUTCOMES

- Create a customized risk model and understand the practices associated with tailoring it to individual projects to assess their ultimate impact on the bottom line
- Analyze the uncertainty of renewables matching demand, and solutions for using them and other generation sources to their optimum level
- Evaluate effective risk mitigation techniques from a model outcome
- Outline common risk exposures utilities should keep in mind when deciding on new renewable projects or redevelopment investments
- Estimate minimum required cash flows and the ideal equity-to-debt ratio
- Develop the skills to draw actionable conclusions from internal risk analyses and utilize the data effectively

INSTRUCTOR



Roy Nersesian
Professor, Monmouth University

Roy Nersesian is a Professor with Monmouth University in the Management and Decision Sciences Department of the Leon Hess School of Business for over 30 years. He also taught for 13 years as an adjunct in the Center on Global Energy Policy at the School of International and Public Affairs (SIPA) at Columbia University in marine transportation, energy modeling, and global energy.

Professor Nersesian is a prolific author in his area of expertise. Just a few of his published works include *Energy Economics* (2016), *Energy Risk Management* (2013), *Energy for the 21st Century* (2007, 2010), *Corporate Financial Risk Management* (2004), and many more throughout his career.

He served in the U.S. Navy for 8 years on board nuclear powered submarines, and has held various positions working for corporations in the shipping field. He redirected his career when he joined the Monmouth faculty in 1985. He has an MBA degree from Harvard Business School and a B.S. degree in Physics from Rensselaer Polytechnic Institute.

AGENDA

MONDAY, AUGUST 21, 2017

- 7:30 – 8:00 am** **Registration and Continental Breakfast**
- 8:00 – 9:30 am** **Introduction to Risk and the Concepts of Risk Measurement**
- Fundamental shift in modeling renewables for utilities
 - Introduction to the concept of measuring risk
 - Overview of simulation software
- 9:30 – 10:00 am** **Networking Break**
- 10:00 am – 12:00 pm** **Developing Customized Risk Models**
- In-depth process for setting up a simulation for a solar installation
 - In-depth process for setting up a simulation for a wind installation
 - Combining solar and wind developments into a utility's energy portfolio
 - Breaking down the risk from each generation source and how they work together
 - Cover the interpretations of variations for a simulation output
 - Key concepts to apply this simulation process to any project
- 12:00 – 1:00 pm** **Group Luncheon**
- 1:00 – 2:00 pm** **Measuring Operational Performance Risk**
- Best practices for tailoring models to an individual project
 - Constructing models to lead decision making in solving the mismatch of supply vs. demand in renewables
 - Analyzing the implications of the model's outcome
 - Measuring excess and shortfalls in renewable energy
 - Quantifying the risk associated with renewables and electricity demand
 - Managing reliance on renewables at a utility scale operation
- 2:00 – 3:00 pm** **Utilizing Modeling for Portfolio Diversification**
- Quantifying electricity storage needs
 - Judging feasibility of various means of storage
 - Finding the most efficient use of renewables paired with base and variable load power
 - Building a model to measure diversification of renewables with base and variable load power
 - Determining the most efficient new project developments
- 3:00 – 3:30 pm** **Networking Break**
- 3:30 – 5:00 pm** **Risk Mitigation Techniques, and Overcoming Uncertainties**
- Means of risk mitigation
 - The future of the classical utility model
 - Natural gas pricing and other base load forecasting through the use of modeling
 - Setting up a financial model incorporating renewables, natural gas, and other base load power sources
 - Analyzing how to use this information to decide on a new project

AGENDA

TUESDAY, AUGUST 22, 2017

7:30 – 8:00 am

Continental Breakfast

8:00 – 9:00 am

Using Modeling for Price Forecasting

- Constructing a model to measure overall utility performance
- Determining the optimal debt load
- Examining supportable cash flow to debt load, and how to determine this with diversified energy sources

9:00 – 10:00 am

Analyzing Overall Financial Performance in a Combined Portfolio

- Determining the safe loading of debt for your combination of diversified power sources
- Finding the ideal equity-to-debt ratio that can be supported
- Measuring the financials in a diversified utility portfolio
- Determining the most effective combination for meeting consumer demand
- Evaluating which new projects can be supported in a utility's portfolio

10:00 – 10:30 am

Networking Break

10:30 – 11:30 am

Practically Applying Data in Decision-Making

- Using modeling for proactive asset management, and for measuring operational performance and financial projections
- A macro look at external financial developments influencing utility projects
- Outlining common risk exposures utilities must keep in mind

11:30 am – 12:00 pm

Course Summary and Wrap-Up

- Summary of the major topics covered throughout the course
- Feedback on other areas that could be covered in other sessions
- Final questions on the program
- Course wrap-up

INSTRUCTIONAL METHODS

PowerPoint presentations and classroom discussion will be used in this program.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

Participants must sign in/out each day and be in attendance for a minimum of four hours to be eligible for any continuing education credit.

IACET CREDITS



EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

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EVENT LOCATION

A room block has been reserved at the Hyatt Regency Crystal City at Reagan National Airport, 2799 Jefferson Davis Hwy, Arlington, VA 22202, for the nights of August 20–21, 2017. Room rates are \$109 USD, plus applicable tax. Call **1-703-418-1234** for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is July 20, 2017 but as there are a limited number of rooms available at this rate, the room block may close sooner. ***Please make your reservations early.***

REGISTER 3, SEND THE 4TH FREE

Any organization wishing to send multiple attendees to this event may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.



Please make checks payable to: "PMA"

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PLEASE REGISTER

OPERATIONAL AND FINANCIAL RISK MODELING FOR RENEWABLE ENERGY COURSE:

AUGUST 21-22, 2017 | WASHINGTON DC: US \$1395

Early bird on or before August 4, 2017: US \$1195

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

Print Name Job Title

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What name do you prefer on your name badge?

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City State/Province Zip/Postal Code Country

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List any dietary or accessibility needs here

CREDIT CARD INFORMATION

Name on Card Billing Address

Account Number Billing City Billing State

Exp. Date Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx) Billing Zip Code/Postal Code

OR Enclosed is a check for \$ _____ to cover _____ registrations.

Substitutions & Cancellations

Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before July 21, 2017 in order to be refunded and will be subject to a US \$195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCL event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCL's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at (201) 871-0474.