



A Comprehensive Course on **Physical and Financial Energy Risk**

*In preparation for the Energy Risk Professional (ERP[®]) exam
issued by the Global Association of Risk Professionals (GARP[®])*

19-21 April 2012, Milan

**The course that will prepare you in the
best and fastest way for the ERP[®] GARP[®] exam**

Course Leaders

Alberto Berizzi, Politecnico di Milano
Mark Cummins, Dublin City University
Viviana Fanelli, University of Bari

Energisk





A Comprehensive Course on Physical and Financial Energy Risk

Welcome to this new course in Energy and Commodity Finance

Summary of the Course

The course topics covers physical energy assets and operations, financial modelling, and risk management across the entire energy and commodity value chain. All material has been developed in accordance with the topics outlined in the 2012 ERP Study Guide, and reflects the learning objectives defined by the GARP's Energy Oversight Committee (EOC). The content is designed with the objective of preparing participants to be tested on the required knowledge and tools necessary for professionals that manage risk in the energy industry.

Get Certified as an Energy Risk Professional (ERP®)

This course will be an excellent preparation for practitioners and professionals planning to take the Energy Risk Professional (ERP®) Exam as we are covering all the subject dealt with in the exam. Statistics says that 84% of Certified ERPs ® would prefer to hire a candidate with the ERP ® designation over one without the credential, creating a powerful, elite network.* <http://www.garp.org/erp/career-benefits.aspx>

You can of course attend the course without taking the exam.

Preparation for the Exam

The Energy Risk Professional certification Exam is a self-directed study program. For past exams, a majority of candidates report spending between 150 to 300 hours preparing for the exam. We offer this ERP ® Exam preparation course for candidates who benefit from a more structured and intensive test-preparation program.

Who should attend?

This course is applicable to mid-office staff such as risk managers and financial analysts wishing to strengthen their skills. It is also suitable for front-office positions including traders and sales requiring to improve their knowledge over the whole value chain of energy and commodity linked products. These professionals as well as back-office employees may all benefit from a career enhancement perspective.

About the ERP® Program

Get Certified as an Energy Risk Professional (ERP®)

The Energy Risk Professional (ERP®) Program is the first and only designation for global energy professionals. The objective is to assess an individual's comprehension of core concepts related to physical energy commodities and the financial energy markets, and aptitude for measuring and managing risk across the energy value chain.

Earning the Energy Risk Professional designation demonstrates your ability to bridge the gap between the physical and financial sides of the energy markets, which may be the reason why 92% of Certified ERPs® state the topics on the ERP® Exam were applicable to their current jobs.

The ERP® Program is guided by an Energy Oversight Committee (EOC) comprised of senior risk consultants, commodity traders, risk managers and quantitative analysts. It creates a unique link between the physical and financial energy markets. The ERP® designation is earned by passing a rigorous, practice-oriented exam designed to test fundamental concepts associated with the complex physical and financial risks inherent in the major energy markets. Becoming a Certified ERP® gives candidates a framework for thinking critically about the entire energy value chain.

FAST FACTS

- ▶ Since its inception, ERP® registrations have grown 99% year-over-year
- ▶ In 2011, ERP® candidates originated from 36 countries and over 450 organizations
- ▶ 163 organizations have been represented by three or more ERP® candidates since 2009
- ▶ 94% of those who sat for the November 2011 ERP® Exam said the Exam topics were applicable to their current jobs

For more information, please visit: <http://www.garp.org/erp/erp-program.aspx>

Programme

DAY 1

Financial Risk

Course leader: Viviana Fanelli

FINANCIAL PRODUCTS

Exam Weight | 20%

- ▶ Forward Contracts and Exchange Traded Futures
- ▶ Energy Swaps
- ▶ Energy Options
- ▶ Exotic Options
- ▶ Option Valuation and Risk Management
- ▶ Real Option Valuation
- ▶ Speculation and Spread Trading in Energy Commodities
- ▶ Hedging Energy Commodity Risks
- ▶ Weather Derivatives

MODELING ENERGY PRICES

Exam Weight | 10%

- ▶ Introduction to Energy Modeling
- ▶ Data Analysis and Essential Statistics
- ▶ Spot Price Behavior
- ▶ Forward Curve Modeling
- ▶ Estimating Price Volatility

DAY 2

Financial Risk

Course leader: Mark Cummins

RISK MANAGEMENT FUNDAMENTALS

Exam Weight | 15%

- ▶ Value-at-Risk (VaR) and Stress Testing
- ▶ Credit and Counterparty Risk Management
- ▶ Enterprise Risk Management
- ▶ Case Studies in Risk Management Failure

Physical Risk

Course leader: Mark Cummins

HYDROCARBON RESOURCES

Exam Weight | 25%

- ▶ Exploration and Production
- ▶ Crude Oil and Refining
- ▶ Synthetics
- ▶ Natural Gas, LNG and Shale Gas
- ▶ Coal

DAY 3

Physical Risk

Course leader: Alberto Berizzi

ELECTRICITY

Exam Weight | 10%

- ▶ Electricity Generation
- ▶ Hydroelectric and Nuclear Power
- ▶ Fundamentals of Electricity
- ▶ Distribution and Trading
- ▶ Load Forecasting

RENEWABLE ENERGY

Exam Weight | 10%

- ▶ Economics, Financing and Investment in Renewable Energy
- ▶ Sustainable Energy and Biofuels
- ▶ Current Trends in the Carbon Market
- ▶ Emissions Trading Models in the European Union

The remaining 10% of Exam Weight are current issues in Energy.
Exact references will be distributed during the course.

COURSE LEADERS

Alberto Berizzi **Politecnico di Milano**



Alberto Berizzi, PhD, is a Full Professor of Electrical Power Systems at the Department of Energy, Politecnico di Milano. His publication

record includes more than 130 articles covering a variety of fields within Electrical Engineering; these range from power quality and security analysis, from short-circuit studies to mathematical problems related to sparsity. Alberto Berizzi is also an active consultant on power systems and head projects with EDF, Edison, ENEL, Siemens, and Terna. He regularly participates to research projects sponsored by the Italian Ministry of Research.

Mark Cummins **Dublin City University**



Mark Cummins, PhD, is a Lecturer in Finance at the Dublin City University Business School. He holds a PhD in Quantitative Finance, with specialism in

the application of integral transforms and the fast Fourier transform (FFT) for derivatives valuation and risk management. Mark has previous industry experience working as a Quantitative Analyst within the Global Risk function for BP Oil International Ltd., based in London. Primary responsibilities included derivatives and price curve model validation and development, with a global remit across BP's oil, gas, power, commodities and carbon emissions activities.

Viviana Fanelli **University of Bari**



Viviana Fanelli, PhD, is a Professor of Finance at the University of Bari "Aldo Moro" and regular Lecturer in Energy Finance at MIP Business School in

Milan. She has a Ph.D in Mathematical Methods for Financial and Economic Decisions. Her research interests cover energy finance, commodity finance, interest rate theory and applications, derivative securities pricing, quantitative finance techniques, and innovation diffusion models. She regularly publishes in academic journals, including Nonlinear Analysis RWA and European Journal of Operational Research. Since 2008 she has been appointed as a course leader in the Advanced Program in Energy Finance at MIP.

PRACTICAL INFORMATION

MILAN COURSE

DATES

19-21 April 2012

LOCATION

Milan (downtown), Italy

FEES FOR PROFESSIONALS (*)

Early Bird 2400 € + VAT (before 16 March)

Standard Price 2800 € + VAT

20% discount for those who have attended an AIGET event since 2010-01-01

(*) FEES FOR PRIVATE INDIVIDUALS: Special tariff (please contact us)

ABOUT THE ORGANIZERS

ENERGISK

Energisk is a consulting and development company in all areas of energy and commodity finance. A team of highly ranked academics and practitioners works around conception and implementation of tailor-made ready-to-use solutions for a variety of problems encompassing real-time risk assessment, risk mitigation, model building, scenario simulation, physical and financial asset valuation. Energisk developed the new striking technology of FloRisk® that boosts industrial and financial risk monitoring of energy and multi-commodity positions.

GARP Disclaimer

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LANGUAGE

The workshop will be delivered in English.

SCHEDULE

Each day starts at 09.00 and finishes at 18.00hrs, including breaks.

REGISTRATION

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MULTIPLE REGISTRATION DISCOUNT

Register two or more people from the same company and receive an additional 10% discount.

ORGANIZING INSTITUTION

Energisk (Paris) with Qfinance SrL (Milan)

FOOD AND BEVERAGE

Food and beverages will be provided to the participants during the day. Specific wishes can be submitted to the organization.

DOCUMENTATION

Participants receive documentation in a self-contained and comprehensive manual.