



PROGRAM IN ECONOMIC POLICY MANAGEMENT: Focus in International Energy Management and Policy

The world faces oil market insecurity, worldwide restructuring of natural gas and electricity systems, massive energy infrastructure requirements for economic development, and pervasive local and global environmental issues associated with energy production and use. These challenges demand a new generation of policy leaders, aiming to serve the public interest with an understanding of energy technologies, economics, institutions, and quantitative methodologies.

The PEPM–IEMP program, planned and administered in cooperation with the Center for Energy, Marine Transportation and Public Policy (CEMTPP) at Columbia University’s School of International and Public Affairs (SIPA), recognizes this demand and equips students with the essential tools to understand and address contemporary energy challenges.

The rigorous curriculum provides a thorough understanding of energy industry fundamentals, including the structure and operation of international energy systems and the business organizations involved in producing, transporting, and marketing energy products. It examines economic, environmental, and social policies applicable to energy development and consumption; political and strategic issues arising from the unequal distribution of global energy resources; and the impact of technological change on the future role of energy in the global economy.

The program is ideal for individuals from energy ministries, national oil companies, marine transportation organizations, energy-producing firms and others from around the world who prefer an intensive master’s degree program with a practical focus on the forces that shape

energy sector decision making. This is an unparalleled educational opportunity, thanks to CEMTPP’s close association with those at the highest levels of energy policymaking and business, SIPA’s broadly international population, Columbia’s outstanding faculty and facilities, and the University’s location in New York City—a quintessentially cosmopolitan learning medium and the financial capital of the world. Individuals who successfully complete the PEPM–IEMP sequence are awarded the degree of Master of Public Administration (MPA) from SIPA.

Admissions and Financial Aid

Detailed information regarding admissions and financial aid can be found in the PEPM brochure. All questions concerning admissions and financial aid should be directed to:

Columbia University School of International and Public Affairs

Office of Admissions and Financial Aid

Mail Code 3325

420 West 118th Street, Room 408

New York, NY 10027

Tel: 212-854-6216

Fax: 212-854-3010

E-mail: sipa_admission@columbia.edu

Web site: www.sipa.columbia.edu/admissions

PEPM–IEMP Course Sequence*

Summer 1

Credits: 10

Macroeconomics
Microeconomics
Computer Skills for Economic Policy Management
Mathematics for Economists
Introductory Statistics

Fall

Credits: 18

Macroeconomic Policy Management
Microeconomic Policy Management
Accounting and Finance
Econometric Techniques for Policy Managers
International Energy Systems and Business Structures
Economics of Energy

Spring

Credits: 18

Microeconomics
Macroeconomics
Public Management

Choice of two of the following:

- International Energy Project Development and Finance
- Petroleum Markets and Trading
- Electricity Markets
- Marine Energy Transportation Technology, Economics and Policy
- Energy Business and Economic Development
- Risk Management in Energy Business

Elective

Summer 2

Credits: 6

Internship

Total Credits: 52

*Subject to change. Please see the PEPM Web site for the most updated information.

IEMP Course Descriptions

International Energy Systems and Business Structures

Elucidating the co-evolution of the physical and transactional chains—the markets and the business—in international and domestic energy systems, this course surveys technology, market structure, and policy issues for petroleum, natural gas, electricity, and environmental concerns.

Economics of Energy

Consisting of weekly lectures and spreadsheet exercises; topics include energy accounting, demand modeling, oil market cartel, linear programming

models of transportation markets and electricity dispatch, electricity market congestion pricing and hedging, and corporate finance for project evaluation, including evaluating tied financing, resource taxation, and introduction to decision trees and real options.

Practicum in International Energy Management and Policy

One-credit weekly seminar featuring discussions by leading experts on the subject of redefining risk management for investors along the energy value chain. Provides an integrated perspective on risk management, paying special attention to recent developments in the relationship between companies and resource holding countries, and to the perception of and response to environmental and climate risks.

Petroleum Markets and Trading

A two-part course with part one treating the components of physical markets for petroleum, including the role of energy majors, crude oil markets, shipping, refining, and marketing, and supply coverage management. Part two treats paper trading, including an introduction to futures markets for oil, natural gas, and electricity, market structure and regulation, and the use of forward and futures markets to manage project and commodity risk.

Electricity Markets

Provides a detailed understanding of the fundamentals of electricity dispatch and market design issues for electric energy, capacity, and reliability. Explores policy issues in standard market design. Analyzes issues associated with market access for demand response and distributed generation. Examines and evaluates electricity markets in developed and developing countries.

International Energy Project Development and Finance

Introduction to the processes and issues involved in developing new energy projects in energy producing and consuming countries and in advanced and developing economies. Students examine the role of stakeholders (host governments, project developers, contractors, lenders, local partners, energy suppliers and buyers) and analyze techniques project managers use to mitigate and manage country and business risk.

Marine Energy Transportation Technology, Economics and Policy

Introduction to tanker transportation of crude oil and petroleum and liner service shipping of finished

goods. Covers marine transportation history, rate setting mechanisms, the forecasting process in bulk and liner service trades, chartering and commercial issues, ship finance and economics, operational quality assurance, and international maritime safety and environmental regulations.

Energy Business and Economic Development

Energy is a key input and a key business in economic development. The course first develops the current understanding of the economic development process, with a focus on the role of energy, and energy businesses and markets. Then we examine development problems and policies in resource-dependent economies, middle income reforming economies, and low income economies and conclude with a look at the interface between economic development and environmental protection.

Risk Management in Energy Business

The basic principle in risk management is to place the responsibility for risk mitigation in the hands of the most efficient stakeholder (who will require compensation). Managing risk in energy chains runs the gamut, including business structuring, partnering, government stakes and fiscal take, contract structuring, structured finance, and financial hedging of market risks.

Summer 2 Internship

The students' classroom training is complemented by an internship, lasting approximately three months, with a public or private energy sector organization. Students are required to write a paper on their internship experience, for review by a Columbia faculty advisor.

For More Information

PEPM Web site:
www.sipa.columbia.edu/pepm

Center for Energy, Marine Transportation and Public Policy: www.cemtp.org

SIPA Admissions:
www.sipa.columbia.edu/admissions

For Information on SIPA's Other Degree Programs
www.sipa.columbia.edu/