



Energy Utility Basics

Agenda

October 5-9, 2026

Hybrid Program

CEUs (Continuing Education Units) will be available

In-person location:

The Pyle Center

702 Langdon Street

University of Wisconsin-Madison Campus

Madison WI

Energy Utility Basics is an intensive course on the fundamental concepts critical to being conversant in today's energy industry.

WPUI has proudly presented this exceptional course each fall since 1982.

Participants will gain a comprehensive understanding of the history of the electric and natural gas industries, attain insights into the regulatory decision-making process, as well as analyze and discuss current issues facing the energy industry.

Attendees will obtain practical knowledge of the operations and technology of the natural gas and electric industries from extraction, whether from the ground or renewables, to the customer's bill.

Monday, October 5
Electricity: Industry Structure; Industry Regulation

Time (Central)	Session Title
8:15 – 8:30	Registration check-in
8:30 – 8:40	Welcome Introductions
8:40 – 8:45	Opening Remarks
8:45 – 10:15	Overview of the Electric Industry Who is regulated, why, and how? The federal and state perspective – historically to today: • Why a monopoly • What is a public interest? • The role of federal-level commissions • Drivers of restructuring • Wholesale markets and open access • Renewables and energy efficiency • Pricing and rate changes • Current trends
10:15 – 10:30	Break
10:30 – 12:00	Utility Company Models – Presentations and Panel Discussion • Why was this type of public service company formed? • What do you own and operate? • How are you regulated or managed (differences for transmission, generation etc.)? • Who are your stakeholders (stockholders for IOUs)? • How do you secure power? • How do you sell power (retail only, wholesale customers, etc.)? • What other services do you offer your customers? • Who are your customers?
12:00 – 1:00	Lunch
1:00 – 2:30	The Public Service Commission – Roles and Rules, Balance of Power • A commission's authority and jurisdiction • Organizational structure of the PSCW • The relationship between the utility and the regulator • A Case: Start to finish
2:30 – 2:45	Break
2:45 – 4:15	The Independent System Operator/Regional State Committee • History • Responsibilities • Areas of influence
4:15 – 5:15	Welcome Reception with light appetizers

Tuesday, October 6
Electricity: Industry Operations; Ratemaking

Time (Central)	Session Title
8:30 – 9:30	Energy and Electricity • Energy and its natural sources • Measuring the quantity of energy • Energy produced and consumed in the U.S. • Converting energy to electricity • Fundamental characteristics of electricity • Electric generation and electric use in the U.S. • Difference between electric energy and electric demand
9:30 – 9:40	Break
9:40 – 11:00	Systems within the Electric Utility Business • Generation • Transmission • Distribution • Consumption • RTOs and Markets
11:00 – 11:10	Break
11:10 – 12:00	A Day in the Life of a Transmission Operator • Scheduling • Forecasting • Selling into the market • Good days and bad days • Transmission investment decisions • Meeting renewable portfolio standards • Planning and cost allocation
12:00 – 1:00	Lunch
1:00 – 1:45	A Day in the Life of a Distribution Company • The new responsibility (opportunity) • Physical characteristics • A typical day in 1996 • A typical day in 2026
1:45 – 1:55	Break
1:55 – 3:05	Essentials of Costing and Pricing • Cost of service • Traditional rate design and static pricing • Innovative rate designs and dynamic pricing
3:05 – 3:15	Break
3:15 – 4:30	Essentials of Costing and Pricing (continued) • Cost of service • Traditional rate design and static pricing • Innovative rate designs and dynamic pricing

Wednesday, October 7

Ratemaking; Utility Stock Prices; the Consumer Advocate; Customer Expectations

Time (Central)	Session Title
8:15 – 9:15	Strategies for Addressing Fixed-cost Recovery Issues
9:15 – 9:25	Break
9:25 – 10:40	Performance-Based Regulation • Rationale for PBR • Salient PBR options • Recent PBR developments
10:40 – 10:50	Break for In-Person Attendees Online Attendees have break until 12:45 pm
10:50 – 12:30	Optional In-Person Tour of the UW-Madison's Charter Street Heating & Cooling Plant <i>Bus to plant; tour plant; bus back to Pyle Center</i> Long pants and closed-toe shoes required!
12:30 – 12:45	Break In-Person Registrants pick up boxed lunch
12:45 – 1:45	What Drives Utility Stock Prices? • How do investors value utility stocks? • What is changing about the utility business climate for earnings growth? • What are the implications of those changes on future stock values? • How does risk affect stock prices?
1:45 – 1:50	Stretch Break
1:50 – 2:50	Role of the Consumer Advocate in Utility Regulation • History • Purpose • Key issues
2:50 – 3:05	Break
3:05 – 4:00	One Utility's Response to Changing Customer Expectations
4:00 – 4:30	Overview of Madison Gas and Electric's Renewable Projects Learn about three of MGE's renewable projects that include providing wind, local solar for specific programs/customers and utility scale solar for all MGE customers. The projects demonstrate how MGE partners with other utilities to realize the cost benefits of constructing and operating large-scale projects.

Thursday, October 8
Natural Gas; Smaller Carbon Footprint

Time (Central)	Session Title
8:30 – 10:00	What Everyone Ought to Know about Gas • Where does natural gas come from? • What is unconventional gas? • How does the near-term supply look? • What about the future? • Typical composition of a gas molecule • How natural gas is normally used – by time of day, by coincident hourly demand, by month and by industry type • How efficient is natural gas as an energy source, and how clean is it compared to other fossil fuels? • What is the natural gas production break-even point (basin production cost per MMBtu)? • Big picture of historical natural gas prices
10:00 – 10:15	Break
10:15 – 11:15	Natural Gas Markets and Prices • What do customers pay for in a therm of gas – production, pipeline and distribution? • Driving factors in gas prices • General outlook for supply • How has the gas market changed in the past 5 years? • The role of storage • New LNG markets and their effect on domestic pricing • Short- and long-term pricing implications • Price outlook caveats
11:15 – 11:20	Stretch Break
11:20 – 12:00	A Day in the Life of a Gas Company
12:00 – 1:00	Lunch
1:00 – 4:30	Getting Work Done with a Smaller Carbon Footprint and Enabling Technologies – • Biogas • Electrification 2:45 – 3:00 Break • Energy Efficiency • Wind

Friday, October 9
Smaller Carbon Footprint; Legal Issues; Nuclear Power

Time (Central)	Session Title
8:30 – 10:45	Getting Work Done with a Smaller Carbon Footprint and Enabling Technologies (cont'd) – • Energy Storage • Solar • Distributed Energy Resource Integration
10:45 – 11:00	Break
11:00 – 11:45	Legal Issues Facing the Utility Industry
11:45 – 11:55	Stretch break In-Person Registrants pick up boxed lunch
11:55 – 1:00	Nuclear Energy in a Shifting Landscape
1:00	Adjourn – Thank you for joining us!
1:00 – 2:30	Optional Tour for In-Person Registrants: UW-Madison's College of Engineering Nuclear Reactor

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