



Energy Utility Basics

Agenda

October 7-11, 2024

Hybrid Program

3.1 CEUs available for In-Person Attendance

2.9 CEUs available for Online Attendance

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 7, 2024
Electricity: Industry Structure; Industry Regulation

Time (Central)	Session Title	Speaker(s)
8:15 – 8:30 a.m.	Registration check-in	
8:30 – 8:40	Welcome Introductions	Lori Sakk <i>Director, Wisconsin Public Utility Institute (WPUI) University of Wisconsin-Madison</i>
8:40 – 8:45	Opening Remarks	Sarah Justus <i>WPUI Board Chair Public Relations Manager, kp environmental</i>
8:45 – 10:15	Overview of the Electric Industry Who is regulated, why, and how? The federal and state perspective – historically to today: <ul style="list-style-type: none"> • 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 	Brian Drumm <i>Director, Regional Policy and RTO Engagement, ITC Holdings</i> Davis Strobridge <i>Manager, Regulator Strategy, ITC Holdings</i>
10:15 – 10:30	Break	
10:30 a.m. – 12:00 p.m.	Utility Company Models – Presentations and Panel Discussion <ul style="list-style-type: none"> • 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? 	Moderator: Sarah Justus <i>WPUI Board Chair Public Relations Manager, kp environmental</i> Panel: Tyrel Zich <i>Regional Vice President, Xcel Energy</i> Andy Onesti <i>Chief Innovation Officer, Manitowoc Public Utilities</i> Ron Franz <i>Director, Resource and Energy Planning, Dairyland Power Cooperative</i>
12:00 – 1:00	Lunch	

1:00 – 2:30	The Public Service Commission – Roles and Rules, Balance of Power <ul style="list-style-type: none"> • A commission’s authority and jurisdiction • Organizational structure of the PSCW • The relationship between the utility and the regulator • A Case: Start to finish 	Cynthia Smith <i>Chief Legal Counsel, Public Service Commission of Wisconsin</i>
2:30 – 2:45	Break	
2:45 – 4:15	The Independent System Operator/Regional State Committee <ul style="list-style-type: none"> • History • Responsibilities • Areas of influence 	Tricia DeBleekere <i>Executive Director, Organization of MISO States</i> Kari Valley <i>Senior Director, State Policy and Strategy, Midcontinent Independent System Operator</i>
4:15 – 5:15	Welcome Reception with light appetizers	

Tuesday, October 8, 2024
Electricity: Industry Operations; Ratemaking

Time (Central)	Session Title	Speaker(s)
8:30 – 9:30 a.m.	Energy and Electricity <ul style="list-style-type: none"> • 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 	Erik Sonju <i>President, Power System Engineering</i>
9:30 – 9:40	Break	
9:40 – 11:00	Systems within the Electric Utility Business <ul style="list-style-type: none"> • Generation • Transmission • Distribution • Consumption • RTOs and Markets 	Thomas Dagenais <i>Director, System Planning, American Transmission Company</i>
11:00 – 11:10	Break	
11:10 a.m. – 12:00 p.m.	A Day in the Life of a Transmission Operator <ul style="list-style-type: none"> • Scheduling • Forecasting • Selling into the market • Good days and bad days • Transmission investment decisions • Meeting renewable portfolio standards • Planning and cost allocation 	Benjamin Rogers <i>Senior System Operations Technical Instructor, American Transmission Company</i>

12:00 – 1:00	Lunch	
1:00 – 1:45	A Day in the Life of a Distribution Company <ul style="list-style-type: none"> • The new responsibility (opportunity) • Physical characteristics • A typical day in 1994 • A typical day in 2024 	Matthew DeVlieger <i>Senior Engineer, Planning, We Energies</i>
1:45 – 1:55	Break	
1:55 – 3:05	Essentials of Costing and Pricing <ul style="list-style-type: none"> • Cost of service • Traditional rate design and static pricing • Innovative rate designs and dynamic pricing 	Bruce Chapman <i>Vice President</i> Michael Clark <i>Vice President</i> Nicholas Crowley <i>Vice President, Christensen Associates Energy Consulting</i>
3:05 – 3:20	Break	
3:20 – 4:45	Essentials of Costing and Pricing (continued) <ul style="list-style-type: none"> • Cost of service • Traditional rate design and static pricing • Innovative rate designs and dynamic pricing 	Bruce Chapman <i>Vice President</i> Michael Clark <i>Vice President</i> Nicholas Crowley <i>Vice President, Christensen Associates Energy Consulting</i>

Wednesday, October 9, 2024

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

Time	Session Title	Speaker(s)
8:30 – 9:30 a.m.	Strategies for Addressing Fixed-cost Recovery Issues	Dan Hansen <i>Vice President, Christensen Associates Energy Consulting</i>
9:30 – 9:40	Break	
9:40 – 10:40	Performance-Based Regulation For the past 100 years, we have used a cost of service regulatory model. It used the costs of building infrastructure to cover the costs for the services that kept the lights on (reliability) at a competitively efficient, affordable cost. And for this goal, it has worked well. Now, with shrinking sales, less need for large infrastructure investments, and the additional goal of adding sustainability to the utility responsibility, it falls short. Today the regulatory/utility goal is to provide energy with a competitively efficient, affordable,	Mark Lowry <i>President, Pacific Economics Group Research</i>

	sustainable, and cleaner portfolio. Performance-based regulation is one route to this end.	
10:40 – 10:50	Break for In-Person Attendees	Online Attendees have break until 12:45 pm
10:50 a.m. – 12:30 p.m.	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	Working Lunch What Drives Utility Stock Prices? <ul style="list-style-type: none"> • 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? 	Steve Kihm <i>Regulatory Strategist-Economics and Finance, Citizens Utility Board of Wisconsin; Strategist, Narrative 804 LLC</i>
1:45 – 1:50	Stretch Break	
1:50 – 2:50	Role of the Consumer Advocate in Utility Regulation <ul style="list-style-type: none"> • History • Purpose • Key issues 	Corey Singletary <i>Director, Regulatory Affairs, Citizens Utility Board of Wisconsin</i>
2:50 – 3:05	Break	
3:05 – 4:00	One Utility’s Response to Changing Customer Expectations	Scott Schmitt <i>Director Customized Energy Products and Services, Madison Gas and Electric</i>
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 10, 2024
Natural Gas; Smaller Carbon Footprint

Time	Session Title	Speaker(s)
8:30 – 10:00 a.m.	What Everyone Ought to Know about Gas <ul style="list-style-type: none"> • 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 	Christopher Zahasky <i>Assistant Professor, Geoscience, University of Wisconsin-Madison</i>
10:00 – 10:15	Break	
10:15 – 11:15	Natural Gas Markets and Prices <ul style="list-style-type: none"> • 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 	Sarah Mead <i>Director of Gas Supply, WEC Energy Group</i>
11:15 – 11:20	Stretch Break	
11:20 a.m. – 12:00 p.m.	A Day in the Life of a Gas Company	Craig Piechowski <i>Senior Technical Trainer</i> Steve Scheffel <i>Gas Tech, Stoughton Operations Alliant Energy</i>
12:00 – 1:00	Lunch	

1:00 – 4:30	<p>Getting Work Done with a Smaller Carbon Footprint and Enabling Technologies – Intro Remarks: <i>Bethany Reinholtz, Project Manager, GDS Associates (1:00 – 1:15)</i></p> <ul style="list-style-type: none"> • Biogas: <i>Rebecca Larson, Professor, Nelson Institute for Environmental Studies, University of Wisconsin-Madison (1:15 – 2:00)</i> • Electrification: <i>Jeff Ihnen, CEO, Michaels Energy (2:00 – 2:45)</i> <p>2:45 – 3:00 Break</p> <ul style="list-style-type: none"> • Energy Efficiency: <i>Lisa Stefanik, Director, Focus on Energy (3:00 – 3:45)</i> • Wind: <i>James Tinjum, Associate Professor, Civil and Environmental Engineering, University of Wisconsin-Madison (3:45 – 4:30)</i>
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Friday, October 11, 2024

Smaller Carbon Footprint; Legal Issues; Nuclear Power

Time	Session Title	Speaker(s)
8:15 – 10:30 a.m.	<p>Getting Work Done with a Smaller Carbon Footprint and Enabling Technologies (cont'd) –</p> <ul style="list-style-type: none"> • Energy Storage: <i>Mark Anderson, Associate Professor, College of Engineering, University of Wisconsin-Madison (8:15 – 9:00)</i> • Solar: <i>Drew Vielbig, Senior Development Manager, Ranger Power (9:00 – 9:45)</i> • Distributed Energy Resource Integration: <i>Ashwini Bharatkumar, Graduate Student, Johns Hopkins University (9:45-10:30)</i> 	
10:30 – 10:45	Break	
10:45 – 11:30	Legal Issues Facing the Utility Industry	Kira Loehr <i>Partner, Perkins Coie</i>
11:30 – 11:35	Stretch break In-Person Registrants pick up boxed lunch	
11:35 a.m. – 12:35 p.m.	Nuclear Energy – The Base Load of the Future?	Paul Wilson <i>Professor, Nuclear Engineering and Engineering Physics, University of Wisconsin-Madison</i>
12:35 p.m.	Online Attendees Adjourn – Thank you for joining us!	
12:35 – 12:45	In-Person Attendees - Break Board bus for optional In-Person tour of the UW-Madison College of Engineering’s Nuclear Reactor	
12:45 – 2:30	<p>Optional In-Person Tour of the UW-Madison College of Engineering Nuclear Reactor <i>Bus to College of Engineering building; tour reactor facility; bus back to Pyle Center</i> ID required! Long pants and closed-toe shoes required!</p>	Corey Edwards <i>Reactor Supervisor, College of Engineering, University of Wisconsin-Madison</i>
2:30	In-Person Attendees Adjourn	

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