INTEGRATED RESOURCE PLANNING (IRP) SUMMIT

March 25 – 26, 2020
Hyatt Regency New Orleans
New Orleans, LA

“We often find ourselves hearing and reading material that only confirms our exacting views. EUCI brings together the experience and emerging approaches of industry leaders from around the world. Much of the value of these presentations stems from discovering what we did not know.”

Division Director, NW Power and Conservation Council

POST-CONFERENCE WORKSHOP I
Storage Forecasting, Modeling and Analytics for IRP
FRIDAY, MARCH 27, 2020

EUCI is authorized by IACET to offer 1.5 CEUs for the conference, 0.7 CEUs for each workshop.
OVERVIEW

Traditional utility integrated resource planning (IRP) modeling, analysis and preparation have been dominated by:

- Central station firm generation sited at specific locations
- Fueled mainly by gas, coal, oil, and nuclear
- With one-way transmission and distribution systems
- And well-established reliability and high resource capacity factors

This program will pivot to the new IRP paradigm. It is designed by integrated resource planners for integrated resource planners and will tackle several conditions throttling contemporary resource planning. Leading utility, power resource planning professionals and related industry experts will address the key elements associated with these emerging operational issues, environmental mandates, variable energy resources, regulatory policies, and uncertainty factors that now dominate IRP planning requirements, such as:

- Increases in variable large-scale renewable generation and distributed energy resources (DERs), with their fair-weather reliability and low capacity factors, fueled by sources that cannot be controlled
- Analytical modeling tools that often do not fully encompass the requirements necessary to develop sound resource plan generation portfolios
- Emerging battery energy storage systems, grid modernization considerations, and multi-directional transmission and distribution technologies
- Load-eroding drivers such as energy efficiency, demand response (DR), smart grid, smart cities, and customer choice
- Legislative mandates requiring environmental, technological, and policy compliance that don’t account for their complexity and implications

The conference will blend presentations from utilities, state regulatory staff/commissioners, non-utility SMES, service providers and others from all over North America. Case studies will provide a solid survey of “best practices” thinking and methodologies by a full range of utilities and subject matter experts. And feature panels will draw out collaborative concepts for further consideration and implementation.

LEARNING OUTCOMES

Attendees will gain practical skills and insights on how to:

- Develop resource plans that incorporate the full palette of supply and demand options
- Describe how IRP planners can analyze, model and incorporate storage in IRPs
- Determine the value of portfolio flexibility for resource planning and market operations
- Explore how resource planning can help utilities and competitive power businesses in a transforming utility business model environment
- Identify how to properly account for all variables when analyzing, modeling and planning portfolio decisions
- Review lessons learned to understand the range of different approaches across North America with regard to fully integrating distributed solar into utility planning
- Consider the broader range of inputs that future resource decisions should incorporate to map a pathway to the attainment of carbon-free generation resource outcomes
- Assess the portfolio effects of renewable energy resources

“EUCI’s IRP agenda is morphing with the industry.”
Senior Project Manager, Integrated Resource Planning, Southern California Edison

“Excellent conference featuring coast-to-coast perspectives and approaches to complex challenges and opportunities.”
Solutions Specialist, Atonix Digital
WHO SHOULD ATTEND

- Integrated resource planning
- Resource adequacy planning
- Strategic and long-range planning
- Forecasting and analysis
- Energy efficiency planning
- Demand response planning
- Generation and load planning
- Transmission planning
- Reliability planning
- Intra-hour operations analysis and modeling

- Renewable energy planning
- Environmental and GHG planning
- State regulatory and commission staff
- Carbon/emissions management teams
- Carbon/emissions market consultants and advisors
- Environmental compliance groups
- Regulatory affairs
- Asset management
- Financial analysis

WHAT PAST ATTENDEES HAVE SAID

“Excellent conference with top-level attendees from various companies and all regions of the country.”
Director – Strategy & Planning, PSEG Long Island

“A great overview from a wide cross-section of industry experts.” – Energy Resource Analyst, EWEB

“This is a perfect forum to share, learn and take home a better/broader understanding of the issues facing our industry.” – Director – Energy Supply Planning, Northwestern Energy

“Outstanding survey of topics for planners…” – Resource Planner/Economist, Central Minnesota Municipal Power Agency

“Extremely educational and accessible – well organized!” – Project Manager, Portland General Electric

“Excellent conference featuring coast-to-coast perspectives and approaches to complex challenges and opportunities.” – Solutions Specialist, Atonix Digital

“Outstanding group of speakers! Informative and thought-provoking.” – Resource Planning Manager, American Electric Power (AEP)

“Very insightful on how companies are dealing with all the industry change.” – Principal, Cadmus Group

“Valuable insights on the evolving topics of battery storage, integrated generation/transmission/distribution planning and others.” – Director – Corporate Analytics

“There was great discussion and real-world applications. Very helpful content and networking opportunities.” – Senior Market Analyst, NextERA Energy

“This conference was very relevant. I will come again.” – Director – Research & Energy Technologies, Vectren

“I benefitted from attending this summit in multiple ways: namely, high quality speakers, content and topics that are current and relevant, and high value networking.” – Senior Project Manager, Southern California Edison (SCE)
AGENDA

WEDNESDAY, MARCH 25, 2020

7:45 – 8:15 am  Registration and Continental Breakfast

8:15 – 8:30 am  Overview and Introductions

8:30 – 10:00 am  Survey of Utility and State Efforts to Favor Renewable & Low Carbon Energy Resources
• Historical development
• Current landscape
• Forward trends
• Legislative vs regulatory commission imposition and governance
  Autumn Proudlove, Senior Manager – Policy Research, North Carolina Clean Energy Technology Center
  Joseph Ferrari, General Manager – Utility Market Development, Wärtsilä North America, Inc

10:00 – 10:20 am  Morning Break

10:20 am – 12:00 pm  Preparing IRP Documentation for Regulatory and Stakeholder Review and Engagement
• Impact of transition to renewable energy on prudency requirements
• Resilience
• Integration of DER
• Grid investment optimization
• Modeling scenarios
• NARUC/NASEO Task Force
• Interpreting the mandated requirements
• Re-calibrating the IRP and/or other short- and long-term planning documents
• Confirming internal, stakeholder and regulatory buy-in
• Institutionalizing the process and outcome
• Balancing infrastructure utility with environmental and social objectives
  Laura Nelson, Energy Advisor/Executive Director – Office of Energy Development, State of Utah (invited)
  Matt Michels, Director – Corporate Analysis, Ameren
  Danielle Sass Byrnett, Director – Center for Partnerships & Innovation, National Association of Regulatory Utility Commissioners (NARUC)

12:00 – 1:00 pm  Group Luncheon

1:00 – 2:15 pm  Impact of RPS & Clean Energy Standards on IRPs
• Considering new and different value streams of energy resources
• Energy prices and the importance of transmission
• The proper positioning of storage resources
• Weighing the economic value of energy vs conservation vs green attributes
• Thermal generation asset re-configuration
• Differentiating price forecasts for green versus unspecified energy
• Resource development — build and own vs reliance on PPAs
• Impact of transition to renewable energy on prudency requirements
  Phillip Popoff, Manager – Resource Planning and Analysis, Puget Sound Energy
  Scott Martin, Director of Resource & New Business Strategy, Sacramento Municipal Utility District (SMUD)
AGENDA

WEDNESDAY, MARCH 25, 2020 (CONTINUED)

2:15 – 3:45 pm  Dispatches from the Energy Transition Front: Using Analytics to Build Consensus and Find Win-Wins for Future Resource Portfolios
Across the US, utilities are grappling with difficult decisions on how to replace retiring thermal assets and build clean and renewable portfolios for the future. Planning has become much more complex with resource options like renewables and batteries, as well as the need to consider distributed resources and transportation section impacts. In this presentation, related work using advanced analytics and modern planning techniques to build stakeholder consensus for balanced, clean, reliable, and affordable energy resource portfolios will be examined from utilities across very different parts of the U.S.
Dr. Gary Dorris, President, Ascend Analytics

3:45 – 4:00 pm  Afternoon Break

4:00 – 5:30 pm  Integrated Resource Planning to Achieve 100% Renewables
The drive towards 100 pct renewable energy is accelerating. Twelve states and more than a hundred cities have imposed 100 pct renewable or clean energy policies or laws. In addition, a growing number of large corporations and other large power loads within utilities’ service areas are actively implementing renewable and clean energy measures. For utilities and other LSEs to remain viable power providers, they must 1) adapt their integrated planning processes to move renewables to the top of the stack, 2) retire older conventional plants and 3) enable distributed renewables – all while maintaining required system reliability. This segment will explore and inform IRP planners:
• What new planning methodologies and solutions are needed?
• What are the challenges and limitations of achieving a 100 pct portfolio?
• What other sectors must be tapped to enable full achievement?
Paul Maxwell, Managing Director, Black & Veatch Management Consulting LLC
Denny Yeung, Principal Consultant, Black & Veatch Management Consulting LLC

5:30 – 6:30 pm  Networking Reception
THURSDAY, MARCH 26, 2020

7:45 – 8:15 am  Continental Breakfast

8:15 – 9:45 am  How IRPs Must Be Adjusted to Reflect Vertically Integrated Utility Participation in an Energy Imbalance Market
Vertically integrated utilities and balancing areas across the western interconnect have migrated steadily in the past five years into market services platforms operated by ISOs to offer energy balancing services. The resulting access to additional grid resources has shifted some requirements addressed in traditional IRPs. This panel discussion will evaluate what forecasting, modeling and analytical changes this has triggered in IRPs and what additional changes may occur if additional market services options emerge from these transmission system organizations.

Panel Discussion

9:45 – 10:00 am  Morning Break

10:00 – 11:30 am Addressing De-carbonization in an IRP / Case Study
Several states and utilities in the U.S. have announced goals for a totally carbon-free generation mix over the next two to three decades. While such announcements provide broad guidance, any utility’s resource portfolio strategy to meet such targets will be influenced by its individual load shape, the available technology options, and the market and regulatory environment in which the utility operates. This presentation will address several resource planning considerations associated with a potential carbon-free future in the context of a practical case study.

James McMahon, Vice President – Energy Practice, Charles River Associates (CRA)
Patrick Augustine, Principal, Charles River Associates (CRA)

11:30 am – 12:15 pm  Formulating and Optimizing IRPs for Multiple Jurisdictional Operational Utilities: AEP Case Study
In 2019, American Electric Power (AEP) filed IRPs in five different regulatory jurisdictions for discrete operating utilities. This presentation will discuss in greater detail the uniqueness and similarities of the IRPs following aspects:
• Stakeholder processes
• Modeling
• Resource alternatives evaluated
• Results
• 5-Year Action Plan
• Filings
• Next Steps
The segment will also address how the actual approved plans differ from the submitted plans, so you will “now know the rest of the story…”

Mark Becker, Resource Planning Manager, American Electric Power (AEP)

“Conference had solid content with engaging speakers discussing timely issues. Good opportunity to discover a common set of shared concerns from other planning groups, and to get some fresh ideas about how to tackle these challenging issues.”

Senior Manager – Capacity Planning, TVA

“Excellent agenda, and list of speakers. Right on target with issues I’m dealing with right now.”

Manager of Resource Planning, Puget Sound Energy
THURSDAY, MARCH 26, 2020 (CONTINUED)

12:15 – 1:15 pm  Group Luncheon

1:15 – 2:45 pm  IRP Involvement in Resource Procurement Evaluation
IRP staff, because of their analytical skills, are increasingly being consulted and brought in to contribute to the resource procurement process — especially in the bid evaluation phase — at their utilities. This session will consider best practices associated with process and evaluation methodology regarding the solicitation of eligible energy resources through Requests for Proposals (RFP):
- Request for Proposal (RFP) process
- Conducting Economic and non-economic analysis of bids
  - Assumptions including price forecasts
  - Renewable energy standard compliance
  - Capacity expansion modeling
  - Production cost modeling
  - Avoided cost and net incremental cost/(benefit) analysis
  - Sensitivity analysis for top ranked bids
  - Non-economic evaluation criteria analysis

Justin Briggs, Resource Planning Manager, Black Hills Corp
Diane Crockett, Principal Consultant – Advisors Consulting, ABB

2:45 – 3:00 pm  Afternoon Break

3:00 – 4:30 pm  Accurately Modeling the Penetration and Impact of DER Resources
A few short years ago the increasing penetration of distributed energy resources (mostly in the form of wind and solar generation) — and the resulting distribution system and grid impacts — was felt in maybe a handful of utility service areas. No longer is that the case! The advance of DERs is occurring aggressively and rapidly across the gamut of utility and balancing area systems. While the immediate impact is felt most acutely in the control center, the repercussions are rippling into the long-term IRP planning realm. This session will explore what tools are available to obtain greater system awareness for understanding the influences exerted by exogenous resources. It will also provide insight as to how planners can improve their systems’ long-term flexibility and resilience to accommodate these dynamic variables.

Matt Michels, Director – Corporate Analysis, Ameren
Scott Martin, Director of Resource & New Business Strategy, Sacramento Municipal Utility District (SMUD)

4:30 pm  Summit Adjournment

“EUCI has once again brought together an excellent team of industry experts to deliver a very informative and wide-ranging look on the IRP planning process.”

Head – Generation Special Projects, Jamaica Public Service Co

“Great speakers and excellent topics that are the current hot topics at most utilities.”

Senior Engineer, APS
POST-CONFERENCE WORKSHOP

Storage Forecasting, Modeling and Analytics for IRP

FRIDAY, MARCH 27, 2020

OVERVIEW

While specific practices vary by utility, integrated resource plans (IRPs) are mostly a highly technical exercise, and IRP processes generally make a number of simplifying assumptions. Because these processes were developed in an era of dispatchable, utility-scale generation, such assumptions often result in the undervaluation of scalable, flexible resources like energy storage.

This workshop will discuss the specific barriers that traditional resource planning practices create for energy storage and share a recent PNNL report that examined the degree to which utilities around the country are acknowledging those barriers and adapting their planning processes to more accurately value energy storage. It will provide an overview of emerging best practices in utility resource planning and policy efforts at the state level to facilitate the inclusion of energy storage in the electric grid. In addition, presentations will be made by three different segments of the storage analysis and modeling perspectives:

- A vertically integrated utility
- A project developer
- Multiple software solution providers will demonstrate their solutions for modeling, analyzing and prescribing storage applications in an IRP context

LEARNING OUTCOMES

- Assess the treatment of storage modeling and analytics in U.S. utility IRPs
- Identify emerging best practices in utility resource planning
- Evaluate storage cost assumptions and value streams
- Examine state policy options and their impact on activity associated with energy storage deployment
- Demonstrate a storage project developer’s approach to analysis and modeling of storage for utility deployment
- Demonstrate a vertically integrated utility’s approach to analysis and modeling of storage for IRP and utility deployment
- Demonstrate multiple service providers’ solutions for analysis and modeling of storage for IRP and utility deployment
AGENDA

FRIDAY, MARCH 27, 2020

8:00 – 8:30 am  Registration and Continental Breakfast

8:30 – 8:45 am  Overview and Introductions

8:45 – 10:15 am

I. Surveying the Treatment of Storage Modeling and Analytics in U.S. Utility IRPs
   A. Introduction to U.S. DOE’s Energy Storage program and the role of the national labs
   B. Integrated Resource Plans
      1. Structure and objectives
      2. Simplifying assumptions that undervalue energy storage
      1. Report objectives
      2. Outcomes for batteries and pumped storage hydro (PSH) in the IRPs studied
      3. Key findings – storage cost assumptions and value streams
      4. Findings and recommendations
   D. Planning and Policy Responses
      1. Emerging best practices in utility resource planning
      2. State policy options for energy storage

10:15 – 10:30 am  Morning Break

10:30 – 11:15 am

II. A Storage Project Developer’s Approach to Analysis and Modeling of Storage for Utility Deployment

11:15 am – 12:00 pm

III. A Utility’s Approach to Analysis and Modeling of Storage for IRP and Utility Deployment

12:00 – 1:00 pm  Group Luncheon

1:00 – 2:00 pm  Ascend Analytics

2:05 – 3:10 pm  Energy Exemplar

3:10 – 4:15 pm  Wärtsilä North America, Inc

4:15 pm    Workshop Adjourns
WORKSHOP INSTRUCTORS

Jeremy Twitchell
Energy Research Analyst, Pacific Northwest National Laboratory

Jeremy Twitchell is an energy research analyst at the Pacific Northwest National Laboratory, where he leads the lab's work on Equitable Regulatory Environment area of the Department of Energy’s Energy Storage Program. His research focuses on identifying the barriers to energy storage in traditional regulatory practices and developing and sharing alternative approaches. In that role, he also reaches out to states to provide technical assistance in incorporating energy storage into the regulatory process. He also assists in grid modernization programs at the lab. Prior to joining PNNL, Mr. Twitchell spent five years at the Washington Utilities and Transportation Commission. He holds a bachelor’s degree in Communications (Print Journalism) from Brigham Young University and a master’s degree in Public Service and Administration from Texas A&M University.

Scott Martin

Scott Martin is the Director of Resource and New Business Strategy at the Sacramento Municipal Utility District. In this position, he directs the development and implementation of SMUD’s long-term resource plan including GHG reductions, renewable expansion and development and integration of distributed resources. He is also responsible for development of new revenues through the use of SMUD’s intellectual property. Prior to this position, Mr. Martin was responsible for retail pricing, natural gas, electricity and environmental products hedging, and commodity budgeting. He has worked in the natural gas and electric industry throughout the western United States for nearly 30 years and holds a BA in Economics from the University of California, Berkeley and an MA in Economics from the University of Nevada, Las Vegas.

Gary Dorris
President, Ascend Analytics

Gary Dorris, Ph.D., President, Ascend Analytics has been a thought leader in energy modeling and risk analysis for 18 years. He has led the development of over a dozen resource plans and pioneered new techniques for risk-based resource planning and portfolio selection. Dr. Dorris has developed new techniques in risk management that integrate uncertainty around both the physical and financial aspects of a utility’s portfolio. His analytic innovations have extended toward the development of over a dozen software applications used by over 50 energy companies. In 2001, Dr. Dorris won distinguished recognition from the IPE for contributions to the field of energy risk management.
Joseph Ferrari
General Manager – Utility Market Development, Wärtsilä North America, Inc

Joseph Ferrari is General Manager – Utility Market Development at Wärtsilä North America, Inc. His responsibilities include strategic market development, asset evaluations and portfolio planning for applications in the US and Latin America. He is an engineer and scientist with masters degrees in aerospace engineering and natural resource science. He has authored numerous articles on topics ranging from design of combined cycles, emission control systems, integrated resource planning, the impact of coal retirement and enabling renewables using flexible generation. Prior to assuming his current position, Mr. Ferrari worked at the University of Maryland for 5 years as a research scientist; 5 years at Wärtsilä North America, Inc. as a sales engineer for installation of over $1 billion in power plant projects in North and Central America; and 5 years as the Market Development Analyst for Wärtsilä in the Americas.

Carlos Romero
Principal – Solution Engineering, Energy Exemplar

Carlos Romero is Principal of Solution Engineering at Energy Exemplar. Before he joined the company in 2019, he was at ABB Inc for nearly seven years first as senior director of utilities, then as Vice President, Energy Portfolio Management. Mr. Romero has more than 17 years of experience in the design and implementation of regulatory framework, business strategies and solutions for generation management, smart grid commercial operations, portfolio optimization, hydro-thermal scheduling, bidding strategies and asset-centric trading operations. He earned his B.Sc. in Electrical Engineering from La Salle University and his M.A. in Financial Administration from Universidad EAN.

“EUCI does a super job of keeping streamlined conference experience with rich content; will be attending more conferences in the future.”
Senior Analyst, ScottMadden

“Well organized and well-run conference with a good cross-section of presenters representing their approaches on how to develop a thorough and defendable IRP.”
Supervisor
Strategic Transmission Analysis, Madison Gas & Electric

REGISTER TODAY! CALL 303-770-8800 OR VISIT WWW.EUCI.COM
INSTRUCTIONAL METHODS

PowerPoint presentations and case studies will be used in this program.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

Participants must sign in/out each day and be in attendance for the entirety of the conference to be eligible for 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.

EUCI is authorized by IACET to offer 1.5 CEUs for the conference, 0.7 CEUs for the workshop

EVENT LOCATION

A room block has been reserved at the Hyatt Regency New Orleans, 601 Loyola Ave, New Orleans, LA 70113, for the nights of March 24-26, 2020. Room rates are US $209 plus applicable tax. Call 1-504-561-1234 for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is February 24, 2020 but as there are a limited number of rooms available at this rate, the room block may close sooner. Please make your reservations.

REGISTER 3, SEND THE 4TH FREE

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

SPONSORSHIP OPPORTUNITIES

Do you want to drive new business through this event’s powerful audience? Becoming a sponsor or exhibitor is an excellent opportunity to raise your profile before a manageably sized group of executives who make the key purchasing decisions for their businesses. There is a wide range of sponsorship opportunities available that can be customized to fit your budget and marketing objectives, including: Platinum, Gold, or VIP Sponsor, Reception host, Networking break host, Tabletop exhibit, Workshop sponsor, Lanyard sponsor, Luncheon host and Breakfast host.

Please contact Stephen Coury at scoury@euci.com or 720-988-1228 for more information.
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 February 21, 2020 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 EUCI 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 conference cancellation, EUCI’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 303-770-8800.

EUCI reserves the right to alter this program without prior notice.

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

Print Name  Job Title

Company

What name do you prefer on your name badge?

Address  

City  State/Province  Zip/Postal Code  Country

Phone  Email

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.

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Energize Weekly is EUCI’s free weekly newsletter, delivered to your inbox every Wednesday. We provide you with the latest industry news as well as in-depth analysis from our own team of experts. Subscribers also receive free downloadable presentations from our past events.

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