The Forty First Industrial Energy Technology Conference

Prelim Program

Hosted By:

ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

www.ietc.tamu.edu
979-862-8480
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Industry is the largest and most diverse energy-consuming sector in the United States, utilizing one-third of the total energy used. Many energy-intensive industries, such as petrochemicals, aluminum, steel, refining and forest products are limited in their mix of energy sources and raw materials that can be used in their processes. Many opportunities exist, or must be found, to reduce energy usage and feedstock issues in order to sustain this wide range of industrial manufacturing operations. Come to the IETC and be a part of the solution as these problems are confronted and solved by industry leaders.

The Industrial Energy Technology Conference (IETC) is a national conference 41 years in the running that provides answers to energy and related environmental concerns affecting industrial facilities and processes. The conference kicks off with the 27th Energy Managers Workshop and continues with featured speakers during two days of technical presentations.

Coffee and meal breaks on both conference days and an evening reception on Wednesday, June 19 provide additional opportunities for informal interaction. One-on-one discussions with speakers, panelists, and other attendees frequently lead to sharing of experiences where you can find out what works, what does not work, what to watch out for, and how to improve your company’s bottom line.

The IETC Exhibit space is in the 10th floor of the hotel, next to the registration and coffee break area, and the luncheon ballrooms, and will be open all hours of the conference and especially during the coffee breaks! Come by and visit and see what our exhibitors have to show you.

The IETC staff and your hosts are committed to providing you with timely, practical and useful energy-related information. We want to help you expand your knowledge and increase your value as an employee or independent consultant. We want you to profit from the technical expertise and experience of our speakers and gain meaningful insights by discussing your interests and concerns with other professionals. That’s what the IETC is all about. It is very unique technically and has been described by hundreds of previous attendees as “the one industrial energy technology conference you cannot afford to miss!”

James A. Eggebrecht, PE, Executive Director
Industrial Energy Technology Conference
## Conference Schedule

### Tuesday, June 18th
- **Energy Manager Workshop**  
  8:00 am - 5:00 pm

### Wednesday, June 19th
- **Opening & Plenary**  
  8:00 am - 9:00 am
- **Technical Sessions # 1-4**  
  9:10 am - 11:45 am
- **Luncheon & Keynote Address**  
  12:00 pm - 1:30 pm
- **Technical Sessions # 5-8**  
  1:45 pm - 5:00 pm
- **Hosted Reception**  
  5:30 pm - 7:30 pm

### Thursday, June 20th
- **Plenary**  
  7:45 am - 8:40 am
- **Technical Sessions # 9-12**  
  8:50 am - 12:00 pm
- **IETC Awards Luncheon**  
  12:00 pm - 1:30 pm
- **Technical Sessions # 13 -14**  
  1:45 pm - 3:25 pm
How to contact us:

General conference information, presentations, speakers
James A. Eggebrecht
Executive Director
Phone: (979) 845-1508
Email: jegge@tamu.edu

Other information, including registration
Kimberly Greer
Conference Manager
Phone: (979) 862-8480
Email: kimberlygreer@tamu.edu

Get updated IETC information at http://ietc.tamu.edu/

Hotel Information
IETC 2019 will be at the beautiful Loews New Orleans Hotel located three blocks from the historic French Quarter in New Orleans, Louisiana. The reduced IETC conference rate is $194/night single or double occupancy. The hotel deadline for this rate is May 15, 2019. The Loews New Orleans Hotel is located at 300 Poydras Street. Valet parking rate at the hotel is $45/night.

Make your hotel reservations through the IETC website: http://ietc.tamu.edu/


You may also contact the hotel by:
(504) 595-3300 voice
(855) 669-5110 reservations
300 Poydras Street
New Orleans, Louisiana 70130

Visit the New Orleans Convention and Visitors Bureau site http://www.neworleanscvb.com to learn more about New Orleans’ history, culture, tales of the city, and the various festivities taking place at the time of the conference.

Airport Shuttle Information
Website found at http://www.airportshuttleneworleans.com/

If purchasing your ticket(s) at the airport, proceed to the baggage claim area on the ground level. After you have retrieved your luggage, proceed to the Airport Shuttle Ticket Desk, located across from all baggage claim carousels. Tickets from the airport and back are $48 round trip, per person.

Conference Registration
You can register on-line at http://ietc.tamu.edu
## Program at a Glance

### Tuesday, June 18 – Energy Managers Workshop

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 am – 5:00 pm</td>
<td>Registration and Information</td>
</tr>
<tr>
<td>8:00 am – 5:00 pm</td>
<td>Energy Managers Workshop</td>
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<tr>
<td>12:00 pm – 1:00 pm</td>
<td>Energy Managers Workshop Lunch</td>
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### Wednesday, June 19 – Day 1 of Conference

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:00 am – 5:00 pm</td>
<td>Registration and Information</td>
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<tr>
<td>7:15 am – 7:50 am</td>
<td>Conference Authors/Presenters Breakfast</td>
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<tr>
<td>8:00 am – 8:15 am</td>
<td>Opening Welcome</td>
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<tr>
<td>8:15 am – 8:30 am</td>
<td>American Chemistry Council Recognition of Energy Awards</td>
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<tr>
<td>8:30 am – 9:00 am</td>
<td>Opening Plenary Address by Thomas Harris, Louisiana Department of Natural Resource</td>
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#### Technical Sessions 1 - 4

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:10 am – 11:45 am</td>
<td>1 – American Chemistry Council Award Winners 1</td>
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<td>2 - Steam Plants &amp; Equipment</td>
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<td>3 – The Energy Management Journey: From Nothing to ISO 50001 and Everything In Between (Panel Discussion)</td>
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<td>4 – Equipment Energy Issues</td>
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<th>Time</th>
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<tr>
<td>10:15 am – 10:40 am</td>
<td>Break Time - Join Everyone for Snack &amp; Refreshments</td>
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<tr>
<td>12:00 pm – 1:30 pm</td>
<td>IETC Luncheon &amp; Keynote Address</td>
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#### Technical Sessions 5 - 7

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:45 pm – 5:00 pm</td>
<td>5 – Compressed Air</td>
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<td>6 – Data Analysis Methods 1</td>
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<td></td>
<td>7 – Evolution Of Renewables Energy Purchasing (Panel Discussion)</td>
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<td>8 - Combined Heat &amp; Power - Strategic Energy Resources</td>
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<th>Time</th>
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<tr>
<td>2:50 pm – 3:20 pm</td>
<td>Break Time Sponsored by KBC Advanced Technologies</td>
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<tr>
<td>5:30 pm – 7:30 pm</td>
<td>Reception</td>
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### Thursday, June 20 – Day 2 of Conference

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:45 am – 3:25 pm</td>
<td>Registration and Information</td>
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<tr>
<td>7:45 am - 8:40 am</td>
<td>Thursday Morning Plenary</td>
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#### Technical Sessions 9 - 12

<table>
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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:50 am – 12:00 pm</td>
<td>9 – American Chemistry Council Award Winners 2</td>
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<td>10 – Data Analysis Methods 2</td>
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<td>11 – ISO 50001 - The Value of Energy Management</td>
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<td>12 – Water and Energy: The Deep Connection</td>
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<tr>
<td>9:55 am – 10:20 am</td>
<td>Break Time - Join Everyone for Snack &amp; Refreshments</td>
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<tr>
<td>12:00 pm – 1:30 pm</td>
<td>IETC Awards Luncheon</td>
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#### Technical Sessions 13 - 14

<table>
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<th>Time</th>
<th>Event</th>
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<tr>
<td>1:45 pm – 3:25 pm</td>
<td>13 – Building Energy Efficiency and Smart Manufacturing, a Convergence! (Panel Discussion)</td>
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<td>14 – Better Plants Steam Working Group (Panel Discussion)</td>
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Mr. Thomas Harris
Secretary of Louisiana Department of Natural Resources

Tom Harris is the Secretary of the Louisiana Department of Natural Resources and a member of the State Mineral and Energy Board, the Oilfield Site Restoration Commission and the Water Resources Commission. He earned his Bachelor of Science in Biochemistry from Louisiana State University and a Master of Science in Environmental Toxicology from the Tulane University School of Public Health. Tom was previously the Director of the Technology Assessment Division at DNR since 2014 and also worked at the Louisiana Department of Environmental Quality, for 19 years. At LDEQ he served as Administrator overseeing the remediation of contaminated sites from 2005 until early 2014.

Ms. Maria T. Vargas
Senior Program Adviser, U.S. Department of Energy

Maria T. Vargas serves as a Senior Program Advisor at the Department of Energy. Ms. Vargas is also the Director of DOE’s Better Buildings Initiative. Thru Better Buildings, DOE works with leaders in the public and private sectors to make American buildings at least 20 percent more efficient in the next decade. Hundreds of chief executive officers, University presidents and state and local leaders are partners and are upgrading buildings across their portfolio and sharing innovative solutions and strategies as models for others to follow.

Prior to her work at DOE, Ms. Vargas was the Brand Manager for the ENERGY STAR program for almost 20 years while at the US Environmental Protection Agency. Vargas also served as the Director of the Green Lights Partnership. She has been involved in policy work on the issues of ozone depletion, global climate change, and related environmental and energy issues since 1985.

Ms. Vargas received a Bachelor’s degree from Swarthmore College (Swarthmore, PA) in Political Science and Economics and a Master’s degree from the University of Oregon (Eugene, Oregon) in Public Affairs and Urban and Regional Planning.
Energy Managers Workshop Schedule
Energy Management: Strategies and Successful Applications

Tuesday, June 18
8:00 am - 5:00 pm, lunch included

Learn the strategies that all energy managers must know about NOW and learn how successful managers have applied what they have learned. Managers, who are doing just that, will be the instructors.

Confirmed topics and speakers are:
• Energy Management, Where to Begin, Thomas R. Theising, Sustainable Energy Solutions, LLC.
• Energy Projects: Barriers to Implementation, Mike Stowe, Advanced Technologies.
• Industrial Integrated Portfolio and Site Energy Master Planning - Creating a Roadmap to Breakthrough Energy Productivity, Peter Garforth, Garforth International.
• Strategic Planning Considerations for Energy Efficiency Upgrades of Fan Systems: Do you go with Retrofit or New?, Vern Martin, FlowCare Engineering Inc.
• Role of industry in climate emissions and the opportunities for reductions through energy efficiency, R. Neal Elliott, American Council for an Energy Efficient Economy.
• Tools to Evaluate Steam Load Changes on Operating Plants, Jim Robinson, DES Global, LLC.
• DOE’s MEASUR Tools, Tom Wenning, Oakridge National Laboratory.
• What You Can Learn from Review of Your Electrical Energy Bills, James Eggebrecht, Texas A&M University Industrial Assessment Center.

More up-to-date information on the remaining speakers is found at http://ietc.tamu.edu
Wednesday Morning, June 19

7:00 am - 5:00 pm    Registration
7:15 am - 7:50 am    Conference Authors/Presenters Breakfast
8:00 am - 8:15 am    Opening Welcome by Conference Hosts
8:15 am - 8:30 am    American Chemistry Council Recognition of Energy Awards
8:30 am - 9:00 am    Opening Plenary Address by Thomas Harris, Louisiana Department of Natural Resources
10:15 am - 10:40 am  Break Time - Join Everyone for Snacks & Refreshments

9:10 am - 11:45 am  Sessions 1 - 4

Session 1 – American Chemistry Council Award Winners 1

Invited speakers from the American Chemistry Council Responsible Care Award Winners for 2018.

Session 2 - Steam Plants & Equipment


“Steam System Redundancy: Are You Really Operating at N + 1?” Ben Janvier and Marc Guerin, Enero Solutions.

“Steam Assisted Flares,” Mike Mabry, Spirax Sarco Inc.


Session 3 - The Energy Management Journey: From Nothing to ISO 50001 and Everything In Between (Panel Discussion)

Speakers:


Others to be Invited.
Session 4 - Equipment Energy Issues


“Air Preheater System Upgrade on Coker Heaters,” Harsh Ghuge and Ashutosh Garg, Furnace Improvements Inc.


12:00 pm - 1:30 pm - Luncheon & Keynote Address

Keynote Luncheon Speaker: Ms. Maria T. Vargas, Senior Program Adviser, U. S. Department of Energy

Maria T. Vargas, Director of DOE’s Better Buildings and Better Plants Initiative, will discuss this successful ongoing partnership with the manufacturing sector. She will highlight the latest in innovation and leadership as well as trends and new opportunities in the US manufacturing sector.

Wednesday Afternoon, June 19

1:45 pm - 5:00 pm  Sessions 5 – 8
2:50 pm - 3:20 pm  Break Time - Join Everyone for Snacks & Refreshments

Session 5 - Compressed Air

“Introduction to Compressed Air Management,” Thomas Theising, Sustainable Solutions, LLC.

“Using intelligent controls to reduce energy and create redundancy by allowing pressure dew-point to vary, a different approach to compressed air system design,” Mark Ames, John Henry Foster Company.


“Reducing Site Cost Through a Plant Leak Prevention Program,” James Nipper, Petro Chemical Energy.

Session 6 - Data Analysis Methods 1

“Power Quality and Reliability,” Austin Rogers, Texas A&M University Mechanical Engineering.

“Reducing Demand at a Chemical Plant,” Mike Stowe, Advanced Energy.


Session 7 - Evolution of Renewables Energy Purchasing (Panel Discussion)

“Why Corporations are Buying Renewable Energy and How to Structure a PPA,” Christen Blum and Emily Williams, Edison Energy.

Panel: Trends in Corporate Procurement of Renewable Energy
• Moderator – Emily Williams, Senior Director of Energy Markets and Sustainability

Panelists:
• Ryan Spies, Sustainability and Energy Manager, Saint Gobain North America.
• Invited, Head of Climate at Pharmaceutical Company.
• Tommy Greer, Director of Energy Sales and Origination, EDP Renewables.
• [Additional Panelist]


Session 8 - Combined Heat & Power - Strategic Energy Resources

“DOE Combined Heat and Power Program Updates,” Dr. Tarla T. Toomer, U.S. DOE.


“CHP Success story,” Industrial End-User speaker to be announced.

“New DOE CHP Tools and Resources,” Patti Garland, U.S. DOE.

“DOE Technical Assistance through CHP TAPs,” Isaac Panzarella, Southeast CHP TAP.

5:30 pm - 7:30 pm - Reception
Thursday Morning, June 20

Thursday Morning Plenary
The domestic and international communities are considering how to respond to the threat of climate change. Manufacturing is a major source of CO2 emissions, but represents perhaps the most challenging sector because of its energy intensity and complexity, and its essential role in domestic and international economic growth and stability. A panel of experts will discuss technology and policy paths that are available to acceleration reductions in the emissions from the sector, focusing on roles of energy efficiency, renewable energy, research and development, and carbon capture, utilization and storage. This panel will draw upon results from a recent international workshop on industrial decarbonization convened by the Aspen Global Change Institute.

Panel lineup is:
Rebecca Dell, Hewlett Foundation (moderator)
Dr. William Morrow, Lawrence Berkeley National Laboratory
Dr. Neal Elliott, ACEEE
Dr. David Allen, University of Texas (invited)

Session 9 - American Chemistry Council Award Winners 2
Invited speakers from the American Chemistry Council Responsible Care Award Winners for 2018.

Session 10 - Data Analysis Methods 2

“Inspection and Monitoring of Critical Plant Infrastructure with Drones Can Lead to Efficiency Gains,” Andrew Whitlock, American Council for an Energy Efficient Economy.


Session 11 - ISO 50001 – The Value of Energy Management


“ISO 50001 Certifications in DuPont,” Dave Lauterbach, DuPont.


Session 12 - Water and Energy: The Deep Connection


“Applied Water and Energy Integration,” Susanna Sutherland, Sutherland & Associates, LLC.

“Energy Efficiency Work at the City of Laredo Water Treatment Plant.” Edgar DeAnda, City of Laredo

“CHP & Wastewater,” Gavin Dillingham, Southcentral DOE Technical Assistance Partnership (TAP).

“Delta Diablo WWTP Energy Efficiency Journey,” Amanda Roa and Joaquin Gonzalez, Delta Diablo WWTP.

12:00 pm - 1:30 pm - IETC Awards Luncheon

Thursday Afternoon, June 20
1:45 pm - 3:25 pm  Sessions 13 – 14

Session 13 - Building Energy Efficiency and Smart Manufacturing, a Convergence! (Panel Discussion)

Building Energy Efficiency technologies have achieved amazing progress over the last few decades and have been fully integrated into the Internet of Things. Analytics to optimize the facilities abound and are having significant success. However, for manufacturers, facility energy efficiency is not a primary consideration because process load is considered “a must pay bill”. The advent of Smart Manufacturing changes this by using data to provide insights into the energy efficiency of the entire enterprise, not just the facility. By having data available from both the processes and the facilities, manufacturers can use both sets of tools to optimize their enterprise energy efficiency and performance. This session introduces the National Smart Manufacturing Institute (CESMII) and shows how building energy efficiency technologies can be married to process efficiency to achieve overall energy efficiency and productivity at the enterprise level.

Session 14 - Better Plants Steam Working Group (Panel Discussion)

The DOE’s Better Plants program will host a session for the Steam System Working Group, a peer-based working group in which partners can learn about innovation related to specific industrial technologies, exchange information/best practices and programmatic updates. This session will provide an in-depth demonstration of the new Steam System Modeling Tool that is part of DOE’s MEASUR tools suite.
IETC Staff
James A. Eggebrecht, Executive Director
Kimberly Greer, Conference Manager

Advisory Board
Joe Almaguer
Walter Brockway, Brockway Consulting
Neil Davies, Spirax Sarco, Inc.
Andre deFontaine, US Department of Energy
R. Neal Elliott, American Council for an Energy Efficient Economy
Peter Garforth, Garforth International LLC
Scott Harrison, Vistra Energy
Dave Lauterbach, DowDuPont
R. Bruce Lung, U. S. Department of Energy
Michaela Martin, ICF International
Vern Martin, Flowcare Engineering Inc.
Cynthia Mascone, Chemical Engineering Progress
Sharon Nolen, Eastman Chemical Company
Edward O’Brien, Louisiana Department of Natural Resources
Bryan Rasmussen, Texas A&M University
James Robinson, DES Global, LLC
Scott Rouse, Energy @ Work
Steve Schultz, 3M Company
Eric Soucy, Natural Resources Canada
Mike Stowe, Advanced Energy
Thomas R. Theising, Sustainable Energy Solutions, LLC
Vince Torres, Texas Industries of the Future
Eddy Trevino, Texas State Energy Conservation Office
Kirtan K. Trivedi, ExxonMobil Global Projects
Vestal Tutterow, Lawrence Berkeley National Laboratory
Thomas Wenning, Oak Ridge National Laboratory
Jay Zoellner, Edison Energy

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Texas State Energy Conservation Office
Energy Systems Laboratory, Texas A&M University

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