



CELEBRATING 25 YEARS

DTE



Hosted by **DTE Energy** and **The Engineering Society of Detroit**

**MICHIGAN ENERGY EFFICIENCY
CONFERENCE + EXHIBITION**

MAY 7, 2024

The background features wireframe-style illustrations of wind turbines and solar panels in shades of blue and white, set against a dark blue background.

May 7, 2024 | Suburban Collection Showplace • 46100 Grand River • Novi, Michigan



CELEBRATING **25 YEARS** Hosted by DTE Energy and The Engineering Society of Detroit

MICHIGAN ENERGY EFFICIENCY CONFERENCE + EXHIBITION 2024

DTE Energy's Energy Efficiency Awards

The Energy Efficiency Awards are presented in four categories: Education, Impact, Innovation and Leadership. These awards recognize companies that have made the most effective contribution towards energy efficiency initiatives. The Education award focuses on educating others about energy efficiency. The Impact award recognizes a company that has reduced energy by implementing a significant energy project. The Innovation award will be presented for developing or implementing a new and innovative program, idea or product. The Leadership award is presented to an organization for championing energy efficiency at their company.

Luncheon Keynote Presentation

Energizing Tomorrow: Exploring the Past, Present, and Future of Energy

Join us for a panel discussion as we journey through the dynamic landscape of energy—from its origins to its transformative role in shaping our present world and its promising prospects for the future. Our panelists will offer diverse perspectives on energy efficiency and discuss the challenges and opportunities presented as well as offer insights gleaned from their extensive research and real-world experience.

Join us while we peer into the future of energy, exploring groundbreaking innovations, disruptive technologies, and visionary solutions. This session will enlighten, inspire, and spark meaningful conversations about the past, present, and future of energy.

MODERATOR:

Knox Cameron, Director, Renewable Solutions, DTE Energy

PANELISTS:

Feras Karim, CEM, PMP, Program Manager/Solution Architect, Leidos

Kristen Cetin, PhD, PE, LEED AP, Director MSU Industrial Assessment Center and Associate Professor, Civil & Environmental Engineering, Michigan State University

Nicholas Thornton, PE, CEM, Senior Energy Engineer, PES Group/DTE Energy

DTE



MAY 7, 2024

SUBURBAN COLLECTION SHOWPLACE
NOVI, MICHIGAN

Conference Schedule:

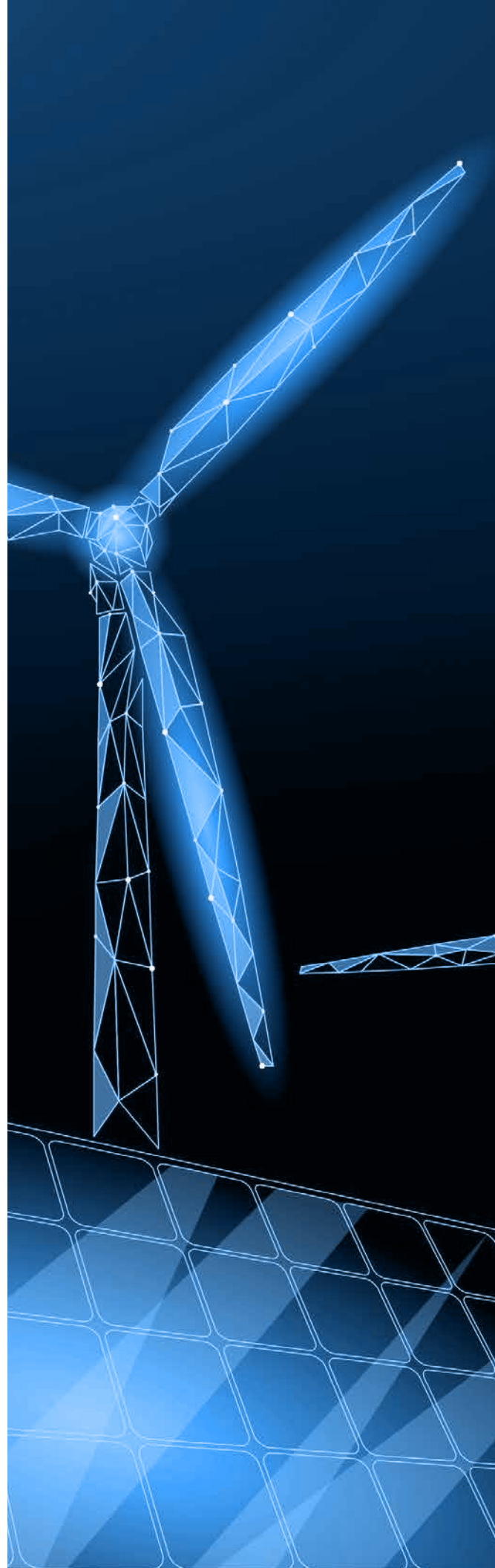
7:30 AM	Registration & Continental Breakfast
8:00 AM - 9:00 AM	Exhibits Open
9:00 AM- 11:50 AM	Concurrent Educational Sessions
10:10 AM - 10:40 AM	Break/Visit with Exhibitors
12:00 noon	Luncheon featuring DTE Energy's Energy Efficiency Awards
1:00 PM	Keynote Panel Discussion— Energizing Tomorrow: Exploring the Past, Present, and Future of Energy
1:30 PM	Dessert and Visit with Exhibitors
3:00 PM	Conference Adjourns/Exhibits Close

Cost to attend:

\$110	ESD Member
\$140	Non-Member
\$189	Non-Members attend and join ESD at a discounted rate (offer available to new first-time members only)
\$45	Student Rate (Applies to full-time student)
\$1,200	Exhibit Booth (10' x 10') (includes four conference registrations)

To register, visit esd.org/energy
or call 248-353-0735.

Attendees may be eligible for Continuing
Education Credits based on hours of
instruction time. Certificates of attendance are
available upon request.



Educational Sessions

9:00 AM – 9:30 AM

TRACK: CONTROLS

ZF Marysville Sustainability and Energy Management Journey

Jason Ross, Facilities Manager for ZF Marysville, and Joe Monsur, Energy Advisor for the DTE Strategic Energy Management Program (SEM), will discuss the facility's journey of installing equipment and programs to monitor electricity and natural gas usage, control key high energy consuming equipment in the facility through automation and management systems, and unite key data sources under one dashboard to be able to calculate and report out accurate energy savings to compare to annual targets. The presentation will also highlight the process of creating an Energy Team, the process of receiving rebates for operational savings through the DTE SEM program and prescriptive rebates for two large capital projects through the DTE Energy Efficiency Program for Business.

Speakers: Joe Monsur, Energy Advisor, Leidos and Jason Ross, Facilities Manager, ZF Axel Drives of Marysville LLC

TRACK: HOT TOPICS & TECHNOLOGY

Opteon Innovation: Transforming HVAC Efficiency with XL41 (R-454B) and Beyond

The core of our discussion will revolve around the distinct attributes of Opteon XL41, elucidating its thermodynamic properties that contribute to superior heat transfer efficiency and system performance. Attendees will gain valuable insights into how XL41, as well as other Opteon products, play a pivotal role in reducing energy consumption, lowering operational costs, and minimizing the environmental impact of HVAC systems.

Speaker: Bobby Dean, Technical Service Senior Specialist, The Chemours Company

TRACK: LEED & FINANCE

Ypsilanti Community Schools: The Migration Path to Energy Efficiency

This presentation will discuss the integration, migration, and upgrade of an Energy Management System on a stretched budget. You will discover how Ypsilanti Community Schools effectively leveraged their energy savings and rebates to upgrade both their building automation system and overall learning environment. You will learn the holistic approach to energy efficiency in addition to next steps for future sustainability. Owners of all vertical markets can explore this budget-neutral process with financial mechanisms specific to your market. In addition, we will cover how the federal tax incentives can help the overall bottom line.

Speakers: Gwen Pettit, Comprehensive Energy Solutions Business Development Manager, Trane Technologies, Aaron Rose, Director of Facilities, Ypsilanti Community Schools, John Burchwell, Director of Facilities, Ypsilanti Community Schools and Brent Detrich, Senior Controls Integrator, Trane Technologies

TRACK: OPTIMIZATION

Implementing a High Performance, Energy Savings Approach to Compressed Air System Management

Industrial compressed air trends include an increase in the retirement of skill system operators and managers, and the lack, to either replace or train the new personnel. Combined with the continued rise in electricity prices, and a corresponding increase in compressed air related costs—the result is an increased cost to operate compressed air systems deprived of any internal expertise to improve the facility's compressed air efficiency. This has led to a number of facilities moving to a compressed-air-as-a-service or “over the fence” arrangement.

These trends will be discussed along with opportunities that have been created to implement a high-performance approach to compressed air system management, deliverable reliable performance and energy savings through intelligent control strategies, actionable data, and demand-side pressure management. Gain a better understanding of the tools and technologies available to maximize the performance of a compressed air system whether it is a highly managed, over the fence system, or a legacy system with older equipment and a facilities manager without time to manage it.

Speaker: Reed Lawless, Compressed Air Specialist & Business Development Manager, Bay Controls, LLC

TRACK: PROGRAM

DTE RCx Program-Customer Experience Perspective - Commercial & Industrial Program

The presentation will focus on the benefits of the DTE RCx (retro-commissioning) Program and common energy-saving opportunities that we explore for commercial and industrial customers. We will highlight a commercial case study and an industrial case study and include actual testimony from a large industrial customer that recently participated in the program. Copies of written case studies will be available as handouts for interested attendees.

Speakers: Jennifer Barnes, Reliability Manager, Constellium, and Jiawei Bu, Senior Engineer, Energy Sciences

9:40 AM – 10:10 AM

TRACK: CONTROLS

Navigating Building Controls with DTE's Energy Efficiency Program

The DTE Energy Efficiency Program for Business offers various ways in which Commercial & Industrial (C&I) companies can reduce their energy usage. This presentation explores building management systems and how the program offers rebates for incorporating or upgrading controls for your buildings. Through this presentation, attendees will gain a thorough understanding of how to identify what types of building controls are eligible for a rebate. We will review completed building management control projects that have received rebates through the program.

Speakers: Elijah Young, Energy Engineer, Walker-Miller Energy Services and Andrew Johanns, Energy Advisor II, DNV

TRACK: HOT TOPICS & TECHNOLOGY

Navigating Operational Excellence with KODE OS: Insights from the DTE Pilot

In this session, KODE Labs showcases the success of their DTE pilot project, leveraging KODE OS to drive operational efficiency and sustainability in building management. Discover how ML-based optimizations and predictive maintenance transform energy management across sectors, offering a faster path to energy ROI. Gain insights into practical applications of building control systems, alongside global success stories of LEED-certified projects. Learn about the strategic adoption of technology for regulatory compliance and operational excellence towards a more sustainable future.

Speaker: Nicolas Theoret, Director of Channel Sales & Sales Engineering, KODE Labs

TRACK: LEED & FINANCE

How to Pursue LEED Certification with a Historic Building

Learn the process of LEED certification for a historic building. As energy standards with LEED become more stringent, projects that include a mix of new construction and existing buildings present nuanced challenges. In this presentation we share lessons and information on this process.

Speakers: Dominique D. Dowd, Energy Manager, Dunamis Clean Energy Partners, and Cassandra Whitlow, Energy Manager, Dunamis Clean Energy Partners

TRACK: OPTIMIZATION

Learn How Modular, On-Demand Boilers Are Leveraged For Decarbonization and to Meet ESG Goals While Reducing Energy Costs By 20% or More, Reducing Environmental Impact, Reducing Capital Expenditure and Reducing Life Cycle Costs

In this session you will learn the principles of operating modular, on-demand steam boilers in parallel in a cost-effective and reliable means to provide high-capacity steam loads for large facilities, such as, hospitals, manufacturing plants, food and beverage processing facilities and campus facilities. You will learn: How to right size the system, the principles of parallel operation and how their controls are utilized in the system to optimize fuel savings, reduce life-cycle costs and meet ESG goals.

Speaker: Chad L. Forester, President, Energy Optimization Solutions LLC

TRACK: PROGRAM

DTE Energy Multifamily Program Overview for Energy-Efficient Building Opportunities

Join to learn about the DTE Energy Multifamily Energy Efficiency Rebate Program and how the program serves multifamily property owners, builders, developers, and other stakeholders who are committed to enhancing energy efficiency in existing and new construction. The program incentivizes participants to implement energy-efficient HVAC, water heating, weatherization, and other measures in multifamily buildings. The presentation will provide a comprehensive overview of the program's rebates, guide participants through the application process and offer valuable insights on how to kickstart their journey with enhancing the energy efficiency in new and existing multifamily buildings.

Speaker: Jennifer Abraham, Program Manager, ICF

10:10 AM – 10:40 AM

Networking Break and Visit with Exhibitors

10:40 AM – 11:10 AM

TRACK: CONTROLS

Networked Lighting Controls for Commercial and Industrial Facilities

Networked Lighting Controls for Commercial and Industrial Facilities allow facilities to comply with Michigan Energy Codes, offer savings through energy management, and integration with other building systems such as HVAC and Mechanical Systems to maximize cross-platform energy efficiencies. We will discuss the potential impacts of proposed changes to the Michigan Energy Code. Attendees will gain an understanding of the value of Networked Controls and how their usage can impact DTE Utility rebates. Networked Lighting Controls also allow indoor positioning, offering wayfinding, asset tracking, and facility usage.

Speaker: Christopher McRae, Controls Sales Manager, Gasser Bush Associates

TRACK: HOT TOPICS & TECHNOLOGY

Decarbonization - A Framework for Achieving Your Sustainability Goals

Your business has set a sustainability goal to be net zero carbon by 2030. Good for you for setting a goal, but now the real work starts! This presentation outlines a framework for reducing your carbon footprint, all the way to net zero and beyond. Items covered will include energy efficiency, on-site renewables, combined heat and power, heat pumps, carbon offsets, renewable natural gas, carbon capture and sequestration, and hydrogen.

Speaker: Eric Bruski, Principal Account Manager—Sales, DTE Gas Company

TRACK: LEED & FINANCE

Belle Isle DC Fast Charge

Located at the Belle Isle Nature Center, this DC fast charging station is one of five in the city of Detroit. The session will explore some underdiscussed aspects of EV charging, and share utilization pattern observations from the first EV charging station to be placed in a Michigan state park.

Speaker: Sean C. Friday, PhD, Project Developer, Diatomic Energy LLC

TRACK: OPTIMIZATION

Creating Resilience and Occupant Safety—While Optimizing Energy Use—When Adapting to a Changing Climate

Michigan is becoming hotter and more humid with climate change, leading to more frequent and more violent weather events. Climatologists have advised that this trend will continue. This presentation presents solutions for designers, builders and facility managers for adapting buildings to climate change effects by improving occupant safety and increasing resilience for buildings and their operations, while at the same time lowering and optimizing energy use. Following a brief introduction of how Michigan's climate is changing, the presenter will cover a three-pronged solution for adaptation, and finish with a case study. First, considerations for adapting to climate change and extreme weather events are addressed. Secondly, how to reduce (optimize) energy use and create comfort by applying principles and elements from pre-industrial, vernacular architecture is detailed with examples. Finally, guidance is given on making buildings safer and more resilient with a successful case study.

Speaker: Janice K. Means, PE, FESD, FASHRAE, LEED AP, Professor Emerita, Retired from Lawrence Technological University

TRACK: PROGRAM

Spotlight 2023: Best Energy Efficiency Projects of the Year

In 2023, the DTE Energy Efficiency Program for Business provided over 27 million dollars in rebates over 4,800 projects. This presentation will showcase the most significant projects, providing a thorough analysis of each project's scope, energy savings, calculations, and rebates provided to our Commercial and Industrial (C&I) customers. Additionally, alternative and innovative methods to achieve energy savings will be presented, encouraging both customers and contractors to explore diverse approaches within our program.

Speakers: Angela Hoang, Energy Engineer, Franklin Energy Services and Joseph Castellanos, Energy Advisor, DNV



TRACK: CONTROLS

Energy Savings Using Proactive Occupancy-Based HVAC Controls

Heating, Ventilation and Air Conditioning serve to provide the thermal creature comfort expected in modern life but consumes a great amount of energy in the form of electricity or fossil fuels. One method of minimizing the amount of energy needed to provide the desired creature comfort is to reduce energy waste. This can be done by implementing systems to minimize heat exchange between a space and its exterior surroundings (insulation, window glazing, etc.). Another approach is to ensure that only spaces that are occupied are heated or cooled. The ability to segment a building into individually controlled thermal zones is a fairly recent phenomenon termed smart buildings. In a smart building, one can direct heating and cooling energy to various spaces. Such ability has been leveraged to great effect with occupancy sensors being used to determine the temperature setpoint (setting on a household thermostat). For example, one can allow the temperature in a conference room to drop to 68 degrees F knowing that as an occupant enters, the temperature can be increased to a more comfortable level of 70 degrees. However, if one is able, for example, to ascertain that a certain space will not be occupied for the next several hours, then the setpoint can be reduced even further leading to lower energy consumption. This session will present a framework for proactive control strategy of thermal zones in a building based on predictions of occupancy patterns. Simulations of the algorithms and achieved efficiencies is done using the Open Studio building modeling software.

Speaker: Nassif Rayess, Professor of Mechanical Engineering, University of Detroit Mercy

TRACK: HOT TOPICS & TECHNOLOGY

EV Charging and Interoperability Test Bed

The American Center for Mobility and Partners has introduced Phase 1 of their EV Charging and Interoperability Test Bed. The focus for this project will be on increasing the amount of National Electric Vehicle Infrastructure (NEVI)-compliant DC fast charger (DCFC) equipment and implementing rigorous testing methods for EV charger operability and interoperability.

Speaker: Kevin Kelly, Director of Sales and Operations, The American Center for Mobility

TRACK: LEED & FINANCE

Creative Use of MI SAVES to Facilitate Lighting Projects

The MI SAVES program was used creatively to facilitate two different lighting projects in the renovation of Northland Center in Southfield, MI. It is being used to facilitate an incremental large project for parking lot lighting and will be used to also facilitate interior lighting in the multi-family and the future mixed use retail portions of the project.

Speaker: Jeff Kovacs, President, Lighting Enterprises LED

TRACK: OPTIMIZATION

Realizing Deeper Energy Savings with Custom Process Improvements

Commercial and industrial utility customers are frequently challenging the existing operation of their facilities with unique and out of the ordinary energy efficiency measures due to the nature of their business and process and almost always are categorized as a custom approach.

Examples for custom energy efficiency projects include measures identified during any energy audit offering that involve process improvements conserving energy, measures that minimize bottlenecks and/or increase equipment availability/reliability, measures that save time, measures that reduce water consumption, or offer increased productivity yield at an equal or lesser energy consumption. Opposed to deemed energy efficiency measures, custom project proposals are subject to a set of general requirements, including the provision of sufficient technical information or documentation, associated equipment performance data, underlying assumptions regarding operations as well as before and after measurements and calculations to support the estimated energy savings.

Through this presentation, attendees will gain familiarity of various chosen approaches on exemplary opportunities as well as featured technologies and learn associated requirements for qualifying a custom energy efficiency project. Contractors and customers alike will take away valuable insights into maximizing their use of the energy efficiency programs offering of prescriptive and custom measures when submitting rebate applications for energy efficiency incentives.

Speaker: Sandro Plamp, Senior Engineer, DNV Energy Services USA Inc.

TRACK: PROGRAM

Unleash Efficiency: Elevate Your Business with DTE's Energy Efficiency Program

The DTE Energy Efficiency Program for Business offers rebates on certain corrective maintenance and preventative care for your energy-intensive equipment. Examples of eligible maintenance includes boiler, furnace, and domestic hot water tune-ups, as well as chiller refrigerant charging and coil cleaning. Rebates can help offset the cost of regular maintenance. Listen in to find out how these measures can save energy, and ultimately prolong the life of your equipment!

Speakers: Nathan Edwards, Energy Engineer, Walker-Miller Energy Services and Kami Karas, Energy Engineer, DNV

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