2023 Minnesota Energy Expo
Tuesday, November 7th, 2023
Golden Valley Country Club
7001 Golden Valley Road, Golden Valley, Minnesota

2023 Minnesota Energy Expo

Time	Session	
7:30 - 8:00a	**Registration & Exhibitor Setup**	
8:00 - 9:00a	**Breakfast**	
8:15 - 8:45a	**AEE & ASHRAE Presidents' Welcome** **Keynote** **Building Industry Changes: Climate and Performance Standards** Beth Tomlinson, Stantec	
	Track 1	**Track 2**
9:00 - 10:00a	**Cutting Your Bottom Line by Improving Indoor Air Quality** Richard Gillick, Dynamic Air Quality Solutions	**Sustainable Building Practices: Advanced Decarbonization Strategies** Zack Main, Trane
10:00 - 10:30a	**Break**	
10:30 – 11:30a	**Overcoming the Market Barriers for RTU Retrofit Enhancements** Alex Haynor, Center for Energy and Environment	**Harnessing Innovation: New Energy Frontiers & System Efficiency** David Koerner, 75F
11:30a -1:30p	**Lunch** **Keynote** **2023 Minnesota Energy Update** Anthony Fryer, Minnesota Department of Commerce	
1:30 - 2:30p	**Encouraging the Intelligent use of Energy – Consultants and IOUs Working Together to Help Customers** Tanuj Gulati, Frontier Energy	**Electrification and Decarbonization: The Final Frontiers** Matthew Strebe, Sustainable Energy Savings, Inc.
2:30 – 3:00p	**Break**	
3:00 - 4:00p	**Mixing Box Design and Impacts to AHU Operations and Indoor Air Quality** Travis Starns, Blender Products Inc.	**The Financial and Social Impact of Energy Retrofit Implementation Orchestration** Jeremy Davis, LEED AP, Founder, Minify Energy Ben Wallace, Co-founder, Minify Energy

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Keynotes



2023 Minnesota Energy Update
Anthony Fryer, Director, Energy Conservation & Optimization, Minnesota Department of Commerce

Anthony Fryer will provide an overview of Minnesota's Department of Commerce strategic priorities, the transforming Minnesota energy market, new state and federal initiatives, and an update on the implementation of the Energy Conservation and Optimization Act.

Anthony Fryer is Director of Energy Conservation and Optimization for the Minnesota Department of Commerce, Division of Energy Resources. In this role, Anthony oversees the Department's regulation of the ECO Program, CARD research, and the Minnesota Efficient Technology Accelerator. He has over 20 years of experience in the energy industry and holds degrees from St. Mary's University in the United Kingdom and William Mitchell College of Law in St. Paul. Anthony also serves on the board of directors for the Midwest Energy Efficiency Alliance.



Building Industry Changes - Climate and Performance Standards
Beth Tomlinson, PE, BCxP, LEED AP BD+C, Carbon and Climate Discipline Leader, Stantec

A brief review of the building industry's evolving performance standards and regulations in support of the International Paris Accord. In this short presentation, you'll hear an update on global carbon budgets and both ASHRAE's current and future standard changes to directly address Greenhouse Gas (GHG) emissions in the building industry.

Throughout her career, Beth has demonstrated a sustained trajectory of innovation and leadership. Beth leads Stantec's Carbon Impact Team, a cross-disciplinary group of specialists that applies building science and design solutions to rapidly reduce the generation of carbon emissions in the built environment, increase resilience against climate risks, and have a positive impact on the socio-ecological health of our communities.

Beth has over 20 years of experience in research and building design, resiliency services, commissioning, and energy auditing. She is focused on integrating climate change mitigation and adaptation, commissioning, and energy transitions within a variety of project types—including healthcare, municipal, education, mixed-use, commercial, industrial, and transportation. She's elevating climate science literacy and developing adaptation collaborations within the building industry, and she's directed commissioning, energy auditing, energy modeling, and life cycle cost assessments.

Beth served Minnesota Governor Walz's Resilience and Adaptation Action team, she serves on the Minneapolis Energy Vision Advisory Committee, and serves as regional vice chair for the Governmental Affairs Committee for the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). Recently appointed, Beth currently serves as Vice Chair on ASHRAE's Standard 240P, Evaluating Greenhouse Gas (GHG) and Carbon Emissions in Building Design, Construction and Operation.

Track 1



Cutting Your Bottom Line by Improving Indoor Air Quality
Richard Gillick, Regional Manager, Dynamic Air Quality Solutions

Discussion of IAQ technology's impact on energy efficiency and annual operating budgets. He will also discuss why current systems are running inefficiently and provide insight from installations where indoor air quality and energy efficiency has significantly improved due to new technology.

HVAC systems account for nearly 40 percent of the energy used in U.S. commercial and residential buildings. New IAQ technology can cut fan horsepower and reduce static pressure to drive energy efficiency goals and, in turn, cut operating costs for building owners and operators. Simply using proper filters can increase the performance and capabilities of a building's current HVAC system. According to the U.S. Department of Energy, adopting energy-efficient design and technologies in HVAC and other areas in new buildings can cut energy costs by as much as 50 percent and improving these systems in existing buildings can cut costs by up to 30 percent.

Richard Gillick is a NAFA Certified Air Filtration Specialist (CAFS) with Dynamic Air Quality Solutions where he is responsible for commercial sales and engineering support for the Northeast and Midwestern states and provinces in the United States and Canada. As an IAQ professional, Richard has addressed many industry trade groups and associations about IAQ, energy savings, maintenance, sustainability and facilities management issues. Richard earned his MBA from Norwich University. Prior to joining Dynamic, Richard served 11 years as an officer in the U.S. Navy in several supervisory assignments including training, domestic and international logistics and six years as a decorated search and rescue helicopter pilot. He is an expert in high performance indoor air quality and can provide significant insight into how the right air cleaning system can offer the perfect stepping stone toward the intersection of energy and IAQ.



Overcoming the Market Barriers for RTU Retrofit Enhancements
Alex Haynor, Research Engineer, Center for Energy and Environment

Approximately 80% of commercial buildings in Minnesota are served by rooftop units (RTUs), which are generally standard efficiency systems. Since RTUs are typically used for more than 20 years prior to replacement on failure, many existing RTUs fall in the age range where retrofitting can provide benefit. Products have advanced significantly in the last ten years and are now commercially available for retrofitting an RTU, making them a viable option for existing packaged RTUs. However, RTU retrofits continue to be uncommon. A lack of understanding of market barriers to adoption of available RTU retrofit technologies has inhibited their uptake.

Alex Haynor is a Research Engineer at Center for Energy and Environment, where he has worked since 2010. He conducts research on emerging technologies in residential and commercial HVAC systems, with a focus on field instrumentation and data analysis. Alex's recent research includes cold climate air source heat pump efficiency, rooftop unit optimization, tankless water heating efficiency, and commercial boilers. He has worked with CEE since 2010 and has a BS in biosystems and agricultural engineering from the University of Minnesota.



Encouraging the Intelligent use of Energy – Consultants and IOUs Working Together to Help Customers

Tanuj Gulati, Sr. Engineering Manager, Frontier Energy

Frontier Energy collaborates with Minnesota utilities to promote energy efficiency programs. This presentation focuses on a partnership with CenterPoint Energy and Xcel Energy to highlight the Natural Gas Energy Analysis (NGEA) program and Multifamily Building Efficiency (MFBE) program. The NGEA program focuses on commercial buildings, which range from small shops in strip malls to large manufacturing facilities and can receive basic/comprehensive/customized energy audits along with commercial Direct Install (DI). This program also covers other ADHOC services like steam trap studies and infra-red scans. The MFBE program is jointly run by Xcel Energy and CenterPoint Energy serving multifamily gas and electric customers. This presentation will describe the process of conducting an on-site energy assessment and how energy savings recommendations are identified. Our involvement in this program is also strongly focused on assisting income qualified buildings.

Tanuj Gulati works with customers and utilities to integrate new technologies and innovative energy saving designs into commercial-industrial facilities. He is a trusted, articulate expert in lighting redesign, HVAC, compressed air systems, refrigeration systems, controls, benchmarking, and process improvements in industrial systems. His experience includes thousands of ASHRAE energy audits for businesses and organizations of all sizes. Recognized as an “Energy Innovator of the Year” by the Association of Energy Engineers and one of Midwest Energy News magazine’s “40 Under 40” in 2016, Tanuj assists businesses in making cost-effective, energy efficient choices that fit their needs. Tanuj is a lifelong learner who continually strives for personal and professional excellence—a quality well illustrated by his growing list of professional awards and credentials.



Mixing Box Design and Impacts to AHU Operations and Indoor Air Quality

Travis Starns, Vice President Business Development

The importance of outdoor air ventilation continues to increase for building operators, facility managers, and other stakeholders who are responsible for the health and comfort of building occupants. There have been several studies showing increased ventilation may promote better health and a safer work environment. According to the “ASHRAE Position Document on Infectious Aerosols” in April 2020, infectious diseases can be transmitted through aerosols and HVAC systems can have an impact on the transmission routes of the disease (ASHRAE, April 2020). Generally speaking, ASHRAE suggests building designs that achieve higher ventilation rates may reduce risk from infectious aerosols.

In addition to combatting temperature stratification inside AHU’s, other forms of air stratification exist inside an AHU plenum (e.g., velocity profile, mass loading to coils) and can negatively impact AHU performance. Filter management strategies, dehumidification using chilled water coils, and other sections of the AHU (e.g., filters, coils) are forced to adapt to air stratification and the air loading profiles entering each section. This can often lead to higher peak electricity demand from HVAC equipment and forcing facility managers to adjust HVAC operating strategies to comfort in the space. This presentation will focus on the current mixing effectiveness of traditional mixing boxes that use damper configuration and other commercially available strategies to promote mixing.

Track 2



Sustainable Building Practices: Advanced Decarbonization Strategies
Zack Main, PE, Account Executive – Strategic Solutions, Trane

Modern organizations, across various sectors, are embarking on a transformative journey toward sustainable building practices through tailored decarbonization strategies. Beyond setting objectives, there's a focus on translating intentions into quantifiable results. In this session, we delve into facility decarbonization, where complexity abounds, and decision-making intersects with organizational priorities. Strategies to expedite energy efficiency and electrification initiatives for organizations with existing buildings will be a primary focus of the session.

Zack, with 10 years of industry experience, has been specializing in comprehensive integrated ESG projects, energy efficiency & controls projects while working for Trane. He has worked on several large-scale hydronic systems since joining Trane, leading and implementing the systems concept efforts ensuring a successful project for all involved. Through his "hands on" management, he has supported the Trane organization on several large energy contracting projects across North America.



Harnessing Innovation: New Energy Frontiers & System Efficiency
David Koerner, Director of Marketing, 75F

The world's transition to sustainable energy is both the greatest existential challenge of our lifetimes, and one we humans are uniquely suited to solve. In this keynote, explore how silicon will play a increasingly role in the transition away from carbon across a range of new technologies and energy pathways. This is a quick synopsis of the many groundbreaking advancements in clean energy production and efficiency in buildings, transportation, and industry, with some exciting predictions of what is yet to come.

David Koerner is on the marketing team at 75F, a. Bloomington-based tech company using smart sensors and controls to deliver the industry's most energy-efficient building automation and control system. A Los Angeles native and Penn State grad, he previously led digital and innovation teams at 3M before moving with his family to Silicon Valley to lead high growth tech startups addressing internet connectivity and financial access in the developing world. He's excited to be back in the twin cities and loves talking with companies of all sizes about ways to improve their business and energy efficiency.



Electrification and Decarbonization: The Final Frontiers?
Matthew Strebe, P.E., BCxP, President, Sustainable Energy Savings, Inc.

On this voyage to the final frontiers of Electrification, Decarbonization, and Net Zero, we all need a starship. Not just any starship, but one equipped to take us all the way. Is our starship equipped with the right technologies, strategies, and tools? How can it avoid detours, black holes, and ripples in galaxies on the voyage? Let us propel you further along in your unique journey to becoming the greatest captain your starship has ever had. In this session you'll learn to:

- Define decarbonization, electrification, and net zero - and understand the differences

- Define tools/strategies/technologies available in the quest to reduce
- Identify potential pitfalls
- Understand potential costs for various energy solutions

Matthew Strebe is a MN licensed Mechanical Engineer with 15+ years in the field.He is ASHRAE certified as a Building Energy Assessment Professional (BEAP) and Commissioning Professional (BCxP). Matthew endeavors to save SES's clients money and energy through energy management, controls optimization, and measurement strategies.



The Financial and Social Impact of Energy Retrofit Implementation Orchestration
Jeremy Davis, LEED AP, AESP Certificate DSM, BPI-BA, Founder, Minify Energy
Ben Wallace, Co-founder, Minify Energy

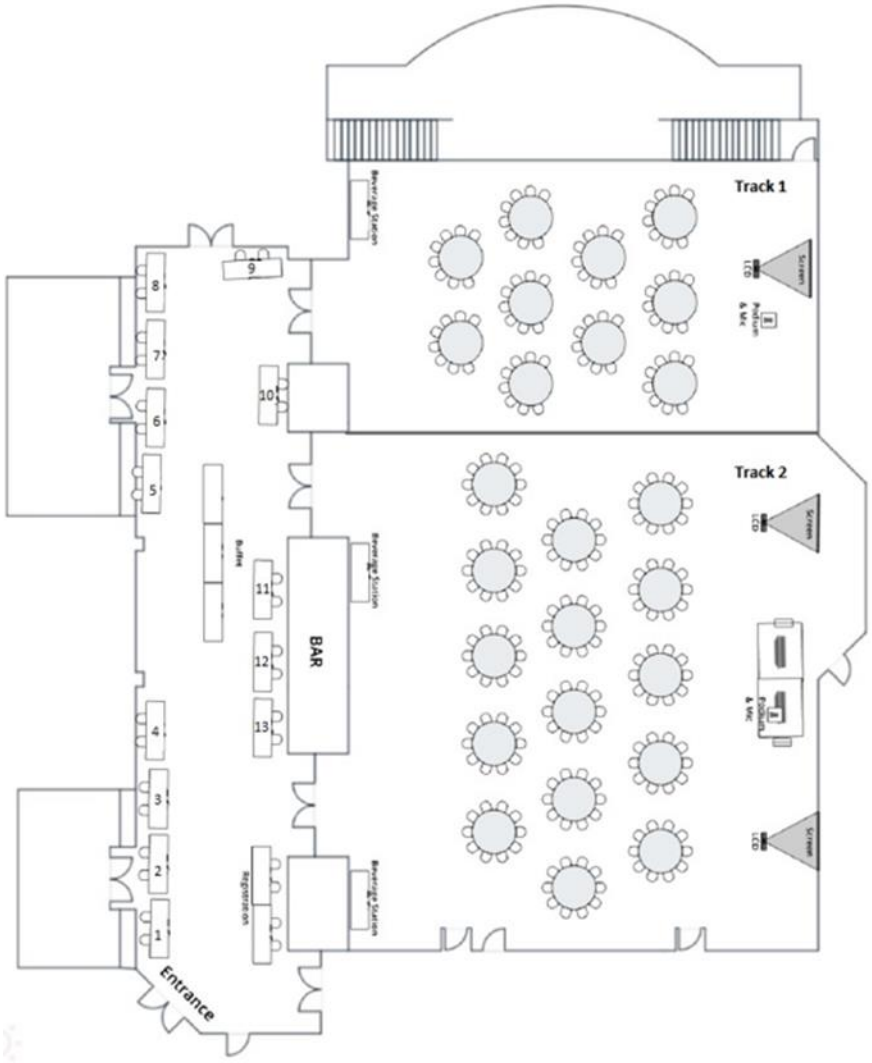
Commercial buildings are responsible for a significant portion of that State of Minnesota's greenhouse gas emissions (20%). Similarly, among facility managers and various energy professionals it is also commonly understood that there are a host of technological and operational improvements that can be implemented to reduce energy waste in almost any existing building by 30%. Significant energy savings can be achieved on the individual building level from modest investments. How come we have had such a difficult time creating a tipping point for "greening" our existing building stock? How are the resources available to us in the state of Minnesota poised to address these difficulties?

Jeremy Davis is a dedicated sustainability professional focused on making an impact on climate change by helping reduce the energy consumption of existing buildings. Having started his career at the NYC Comptroller's office developing some of the city's first green building policies, Jeremy went on to work for several sustainability-related start-ups before making the move back to the Twin Cities. Since his return, Jeremy focused on improving the commercial building sector through utility-level program development and management, working with the state's "Conservation Improvement Program" in collaboration with Xcel Energy & CenterPoint Energy. In 2019 Jeremy founded Minify Energy, wherein he assists in providing high-level energy efficiency-focused consulting and energy-related general contracting services. Minify Energy has implemented over 60 energy-efficiency projects across the greater metro and beyond, including LED Lighting, HVAC Controls, Mechanical Upgrades, EV Charging Stations, Solar Projects & Building-Wide improvement consultations and long-term planning.



Ben Wallace is Co-founder of Minify Energy, leading business- and partner development, consulting, assessments, project development, incentives, and turnkey implementations to accelerate smart, sustainable energy adoption in commercial buildings. Working with technologies including building automation, LED lighting, efficient HVAC, IAQ optimization, EV charging, solar PV, geothermal, and other building-performance solutions to reduce operating costs while enhancing building environments and value. Ben's energy-related experience also includes work with 75F, CEEM, and EnergyPrint. Ben is the Immediate Past President of BIG - Building Intelligence Group, and a founding member of Smart North, focusing on smart, connected technologies, including smart streetlights, to enhance livability and equity in MN communities. When not occupied caring for buildings and their stakeholders, Ben can be found biking, golfing, skiing, or enjoying a local live music venue.

Exhibitor Listing & Floor Plan



Booth	Exhibitor	Booth	Exhibitor
1	IES Ltd.	7	ArKco Sales, Inc.
2	SCIpact	8	AEE / ASHRAE
3	Mulcahy Company	9	Hemco Inc.
4	Midwest Mechanical Solutions	10	Xcel Energy
5	RM Cotton	11	Pump and Meter Service, Inc.
6	SVL	12	FourMation Sales