



**FEATURE** Conference wrapup  
**IDEA2016: “Embracing Change”**  
**107th Annual Conference and Trade Show**

Conference photos Krivit Photography.

St. Paul Mayor Chris Coleman addresses the opening session of the conference June 21 in the St. Paul RiverCentre.

**H**eld at the St. Paul RiverCentre June 20-23, 2016, and hosted by award-winning District Energy St. Paul, the IDEA 107th Annual Conference and Trade Show drew over 800 attendees from 19 countries, 42 states, four provinces and 246 cities. The theme of this year’s conference was “Embracing Change.”

Especially noteworthy was the largest-ever number of first-time attendees. An astounding 35 percent of the delegates were attending an IDEA conference for the first time – in absolute terms, 279 new faces. The turnout points to a growing interest in district energy, combined heat and power and microgrids and reflects an exceptional technical program anchored by talented industry professionals, supported by a trade show with 129 world-class exhibitors. Addressing the professional engineering status of many attendees, registrants were entitled to three continuing education units, issued through the University of Iowa.

Proceedings of workshop and technical session presentations are available on the IDEA website at [www.districtenergy.org/107th-annual-conference-trade-show-proceedings/](http://www.districtenergy.org/107th-annual-conference-trade-show-proceedings/).

**DAY 1: MONDAY, JUNE 20**

Monday was devoted to workshops, forums and a special presentation honoring host city St. Paul.

**Workshop 1 – “District Energy in Cities: Building Capacity for Climate Adaptation and Community Energy Planning”**

IDEA’s Laxmi Rao moderated this workshop exploring how communities can attain economic development and sustainability goals through a robust community energy planning process, leading to greener energy infrastructure and enhanced community resilience. Technical presentations, case studies and lively Q&A were led by Ken Smith and Nina Axelson, District Energy St. Paul; Pernille Overbye, Ramboll; Henry

Johnstone, GLHN Architects and Engineers; Travis Hickford-Kulak and Sam Orr, Corix Utilities; Paul Holt, University of British Columbia; Stephen Cook, Arup; Greg Mowry, University of St. Thomas, St. Paul, Minn.; and Lily Riahi, United Nations Environment Programme District Energy in Cities initiative.

**Workshop 2 – “Community Energy: Moving Microgrids Forward”**

Moderated by Ted Borer, Princeton University, and Bob Manning, Harvard University, the session progressed from basic discussion of microgrids and their unique capabilities through ownership models, design considerations, grid interconnection issues, islanding,



On Monday afternoon, our gracious host District Energy St. Paul provided a walking tour of the solar thermal installation on the roof of the St. Paul RiverCentre (shown) and the nearby Hans O. Nyman Energy Center.



St. Paul Mayor Chris Coleman receives a framed copy of the UNEP report from Lily Riahi and Rob Thornton.



After the ceremonial ribbon cutting Monday evening by IDEA Chair Bruce Ander (holding scissors), ably assisted by (from left) Lily Riahi, Mayor Chris Coleman and Ken Smith, the trade show exhibit hall officially opened. One hundred twenty-nine companies displayed world-class products and services, and technical poster presentations were exhibited as well.



safe operation, PEER screening and economic optimization. Speakers included Ted Borer; Michael Dempsey, Burns & McDonnell; Baird Brown, Drinker Biddle; Edd Lovette, PowerSecure; Sai Lo, Thermo Systems; John Kelly, U.S. Green Building Council; and Robert Welch, Schneider Electric.

### IDEA forum meetings

Capping off the afternoon were one-hour meetings held by seven of IDEA's online forums – informal discussion groups for IDEA members with common interests. The following forums convened: Business Development, Canadian, District Cooling, Microgrid, Operations, Principal Managers and Talent Management.

### UNEP presentation

On Monday evening, attendees and dignitaries gathered in the rotunda of the St. Paul RiverCentre for a special presentation. Lars Bo Møller, assistant ambassador and deputy chief of mission for the Royal Danish Embassy in Washington, D.C., spoke about the recent White House-hosted U.S.-Nordic Leaders Summit, where climate change and energy use were high on the agenda. He noted the transformative impact that district heating has had in Denmark, where 65 percent of the country is connected to a thermal grid and suggested that these grids also provide an excellent opportunity for the integration of renewable energy sources.



Moderated by IDEA President and CEO Rob Thornton (far left), the opening plenary panel featured an international roster of leaders including (from left) John Saunders, U.K. Dept. of Energy and Climate Change; Ken Smith, District Energy St. Paul; Yasser Salah Al Jaidah, Qatar Cool; Lily Riahi, UNEP; Ahmad Bin Shafar, Empower; Werner Lutsch, AGFW; Eric Ackerman, Edison Electric Institute; and Bruce Ander, Markham District Energy.

Lily Riahi, United Nations Environment Programme District Energy in Cities initiative, made a presentation to Mayor Chris Coleman honoring the city of St. Paul as one of only three UNEP Champion Cities in the U.S. This distinction honors urban areas committed to developing and sharing district energy policies with other cities and working cooperatively toward a cleaner, more resilient future.

As a UNEP Champion City, St. Paul is now in the company of more than 45 global Champion Cities such as Copenhagen, Helsinki and Dubai, sharing insights and experiences with other communities around the world to accelerate the deployment of district energy.

### DAY 2: TUESDAY, JUNE 21

Attendees were welcomed Tuesday morning by IDEA President and CEO Rob Thornton; IDEA Chair Bruce Ander, Markham District Energy; conference host Ken Smith, District

Energy St. Paul; and St. Paul Mayor Chris Coleman.

### Opening plenary panel discussion: "Embracing Change"

The opening panel of distinguished industry leaders shared a look ahead at the pace of change in the energy and utility sectors and the integration of thermal energy and electricity for more resilient and sustainable cities, communities and campuses. Audience members participated in real-time polling, answering survey questions with results shared during the discussions.

Key issues raised by the speakers included the convergence of interests among municipal leaders, businesses, district energy operators and other utilities; the challenges of attracting capital; the need for clear technical standards and tariffs in the Middle East; and the increasing value of water as a finite resource.

Lily Riahi, UNEP, noted that



Retired U.S. Navy captain and astronaut Scott Kelly described his experience of his year in space and answered many questions from attendees at the Keynote Luncheon.



Local students invited by host District Energy St. Paul engaged in lively conversations with IDEA members during a youth engagement session on Monday afternoon.

more and more cities are asking for help developing thermal networks but that the underlying drivers vary. These may include scaling up the technology to serve more buildings (China), reducing emissions by utilizing CHP and biomass (Chile) or reducing the use of refrigerants (Columbia). Cities also need help in attracting private finance and creating successful business models, areas where UNEP is assisting cities.

Eric Ackerman, Edison Electric Institute, described the transformation under way in the utility industry where today's changes are being driven less by policy issues than by fast-moving technological advances. Microgrids, renewables and advanced storage technologies are disrupting the traditional electric utility model. Among the panelists, there was widespread recognition that there is no single, ideal district energy ownership model, nor is there a single technology that works best in all municipalities. Each community needs to have its own vision based on its unique assets, needs and opportunities, with local leadership being essential.

### Technical presentations

A packed agenda with 99 technical presentations followed on Tuesday and Wednesday, beginning with four concurrent symposia exploring

the technical, operational and economic aspects of microgrids; low-carbon energy solutions for cities; transitions in district heating technologies; and thermal energy storage case studies and issues.

Next, in four concurrent topical tracks, speakers gave technical presentations spanning a broad spectrum of topics including campus system renewal, best practices in buildings (including the latest LEED guidelines), talent management and training, thermal energy storage challenges and opportunities, water infrastructure planning, developments in controls, metering and sub-metering, electrical systems renewal and safety, business models, fuel switching, global CHP developments, and much more. Proceedings are posted and publicly available on the IDEA website at [www.districtenergy.org/107th-annual-conference-trade-show-proceedings/](http://www.districtenergy.org/107th-annual-conference-trade-show-proceedings/).

### Keynote Luncheon

The guest speaker for Tuesday's Keynote Luncheon was literally from out of this world. Retired U.S. Navy captain and history-making U.S. astronaut Scott Kelly regaled attendees with a free-flowing description of his 340 consecutive days in space. An American hero whose contributions to science and medicine will be

far-reaching, he described what he learned during his 143 million-mile adventure, which included lessons on leadership and teamwork, as well as personal stories of perseverance and the path that led him to secure his place in history.

### DAY 3: WEDNESDAY, JUNE 22

IDEA's Annual Business Meeting and Recognition Luncheon were held Wednesday. Highlights included board nominations, the signing of a memorandum of understanding and the awarding of *District Energy Space* Bronze and Silver Awards (see sidebar). The day ended with attendees and guests gathering for the annual Chair's Recognition and Awards Banquet.

### Board officers and directors

The following were elected as new IDEA board members: Nina Axelson, Ever-Green Energy; Henry Johnstone, GLHN; and Tom Nyquist, Princeton University. Elected to a second term were Ahmad Bin Sharfar, Empower; Richard Damecour, FVB Energy; and Christopher Potter, Architect of the Capitol.

IDEA members also elected the following board members to serve one-year executive committee posts: Tim Griffin, RMF Engineering, chair; Chris Lyons, Solar Turbines, vice



Former Chair Bruce Ander passes the gavel to incoming Chair Tim Griffin.



The 2016-2017 IDEA Board of Directors: First row, left to right: Joel Greene, Rob Thornton, Chris Lyons, Tim Griffin, Jim Lodge, Jim Adams, Bruce Ander. Second row: Scott Clark, Henry Johnstone, Nina Axelson, Ahmad Bin Shafar, Chris Potter, Tom Nyquist, Mark Spurr, Meghan Riesterer. Third row: Joe Riemer, Buddy Doll, Bob Manning, Richard Damecour, Jim Riley, Kevin Fox, Mark Vogler. Not pictured: David Bump, Ed Conway, Jeffrey Duncan.

chair; Jim Lodge, NRG Energy, second vice chair; Jim Adams, University of Michigan, secretary/treasurer; and Bruce Ander, Markham District Energy, immediate past chair.

### Industry Partnering

At the annual business meeting, IDEA recognized those individual members involved with implementing the MOU signed in February 2016 between IDEA, Edison Electric Institute and the CHP Association. Additionally, IDEA recognized those individual members who engaged in the process of integrating the Microgrid Resources Coalition into IDEA in April 2016. These activities reflect objectives set forth in the 2014 IDEA Strategic Plan and set the stage for enhanced, beneficial promotion of microgrids anchored by district energy/CHP, electric utilities and district energy stakeholders.

“From my view, no industry is changing more quickly than the utility industry in North America,” said Rob Thornton, who added that customers do not want to disconnect from the grid. Instead, distributed energy is a way for them to supplement grid service. Making this work will require modernizing regulatory rules.

### Annual Chair’s Recognition and Awards Banquet

At the gala banquet event, generously sponsored by RMF Engineering and NRG, the IDEA board of directors’ gavel passed from Bruce Ander to Tim Griffin. IDEA also honored a number of outstanding individuals and organizations for their important industry contributions, conferring numerous prestigious annual awards (see sidebar).

### DAY 4: THURSDAY, JUNE 23

Following a hearty breakfast in the Intercontinental St. Paul River-

front Hotel ballroom, pre-tour overview presentations were given to familiarize the tour attendees with the systems they were about to visit via guided bus trips. Nina Axelson reviewed the history and features of District Energy St. Paul’s district energy system; Jim Lodge described the NRG Energy Center Minneapolis system; Jerome Malmquist, the University of Minnesota’s ongoing CHP system installation; and Jeffrey D. Stein, the Mayo Clinic’s Franklin Heating Station, Prospect Power Plant and the Olmstead Waste-to-Energy Facility in Rochester, Minn.



Conference attendees toured the ongoing construction of a state-of-the-art CHP facility: the University of Minnesota’s \$96 million rehabilitation of the Old Main Heating Plant, built in 1912. The campus is targeting a 50 percent reduction in emissions by 2020 and carbon neutrality by 2050.

# HONORING EXCELLENCE AND SERVICE

## JOHN GRAY SCHOLARSHIP AWARDS

The 2016 John Gray Scholar Awards were presented to two outstanding young recipients at the Annual Chair's Banquet. The John Gray Scholarship Program was initiated in 2009 at the IDEA 100th Annual Conference in recognition of the commitment to lifelong learning espoused by its late namesake, John Gray, who passed away in November 2015.



Steve Swinson, TECO, presents the John Gray Scholarship Award to Marco Musto, the son of David Musto, Thermo Systems.



Steve Swinson (left) presents the John Gray Scholarship Award to Tyler Riemer as his father Joe Riemer, Trane, looks on.

## NORMAN R. TAYLOR AWARD



Rob Thornton presents the 2016 Norman R. Taylor Award to Bob Smith of RMF Engineering Inc. This award is the top honor IDEA can confer on an individual, recognizing that person's lifetime achievements and contributions to the district heating and cooling industry.

## SYSTEM OF THE YEAR AWARD



Ray DuBose, former IDEA chair (left) presents the 2016 System of the Year Award to Alen Postolka, district energy manager of the city of Richmond, B.C., for the city's Alexandra District Energy Utility. Among other innovations, this system uses ground source heat pump technology to extract heat (renewable geothermal energy) from the ground via a network of 726 vertical boreholes drilled 250 ft deep into two geexchange fields. A water-based fluid is pumped through the network and picks up and transfers the heat from the boreholes to the energy center, then through the distribution pipes in the street to energy transfer stations in the connected buildings.

## INNOVATION AWARD



Joe Brillhart, Johnson Controls (right), presents the 2016 Innovation Award to Paul Holt of the University of British Columbia. UBC's Bioenergy Research and Demonstration Facility (BRDF), completed in 2012, is a CA\$27.4 million (\$21.24 million) multipartnered project initially planned to produce up to 6 MW of clean, renewable heat and power to the campus. Today the BRDF produces up to 10 MW of reliable clean energy for use on campus, offsetting 120,000 GJ of natural gas, 16 GWh of electricity and 6,000 tonnes (12 percent of campus) carbon emissions annually.

## UNsung HERO AWARD



Rob Thornton presents the Unsung Hero Award to Henry Johnstone of GLHN Architects & Engineers. The IDEA Unsung Hero Award recognizes an IDEA member who has performed above and beyond the call of duty on behalf of the industry and the association, without requiring or seeking recognition for his or her efforts.

*Continued on next page*

## 2016 DISTRICT ENERGY SPACE AWARDS

Each year, IDEA asks all member systems in North America and beyond to provide information on the number of buildings and their area in square footage that committed or recommitted to district energy service during the previous calendar year. At IDEA2016, the *District Energy Space Awards* were presented to recognize those systems submitting the greatest number of buildings and most square footage connected in 2015.

### NORTH AMERICA

#### GREATEST NUMBER OF BUILDINGS

Gold	Veolia North America – Boston System.....	38
Silver	District Energy St. Paul.....	22
Bronze	Enwave Seattle.....	16

#### TOTAL BUILDING AREA COMMITTED

Gold	Enwave Chicago.....	4,918,050 sq ft
Silver	Veolia North America – Boston System.....	4,537,749 sq ft
Bronze	District Energy St. Paul.....	4,523,200 sq ft

### BEYOND NORTH AMERICA

#### GREATEST NUMBER OF BUILDINGS

Gold	Empower Energy Systems.....	49
Silver	Emirates District Cooling LLC (Emicool) .....	36
Silver	Qatar Cool.....	36

#### TOTAL BUILDING AREA COMMITTED

Gold	Empower Energy Systems.....	32,777,250 sq ft
Silver	Qatar Cool.....	5,796,610 sq ft
Bronze	Emirates District Cooling LLC (Emicool).....	4,282,167 sq ft

## SPONSORS

IDEA gratefully acknowledges the generosity of the following IDEA member organizations whose sponsorships provided vital financial support for the 107th IDEA Annual Conference and Trade Show:

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**SAVE THE DATE: June 26-29, 2017**

**IDEA's 108th Annual Conference and Trade Show, Scottsdale, Ariz.**

