District Energy in Cities: The Big Picture

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THE BIG PICTURE -
MARKET TRENDS AND BUSINESS DRIVERS
Societal Trends Driving Energy Sector Change

Changes are sweeping through society that will have dramatic and lasting impacts on the energy sector

• Technological
• Democratization
• Climate
Societal Trends

Technological Change

• Advancement in data processing, communications and manufacturing are making new technologies available and cost-effective to implement.

• Costs for alternatives are rapidly declining with manufacturing scale-up and technology advances.
Societal Trends

Democratization of Energy

Consumers are increasingly taking ownership and control of their energy interface and future

• Access to data and information and falling costs for alternatives are empowering customers to act independently and benefit financially

• Customers are increasingly motivated to reduce bills through consumption decisions

• “Trust and loyalty of customers is changing in this new paradigm”
Societal Trends

Climate

• The de-carbonization of our economy is requiring increased efficiency and the development of massive quantities of low-carbon sources of energy.
Community Needs and Expectations Are Changing
Growing Awareness

Action is Required

70% Energy

50% GHG

Growing Awareness

People

Cities

Infrastructure
In Response
Frameworks Are Evolving

- Increasing emphasis on sustainability and resilience
- Holistic/systems thinking
- Districts and neighborhoods
- Integration of infrastructure
- Determining alternatives that are environmentally beneficial and cost-competitive

Source: Ramaswami et al. (2014).
In Response Industry is Responding

Integration and Renewables

Carbon/GHG
Barriers to Transformation Remain

- Inertia of Current System – Business As Usual
- Absence of Collaboration and Partnership
- Gap in Local Leadership
- Lack of Shared Vision
OVERCOMING OBSTACLES
Collaboration and Leadership is Key

Mayor Coleman – Saint Paul
Heather Worthington – Ramsey County
Mayor Larson – Duluth
ESTABLISHING GOALS AND A SHARED VISION
Breakout Session - Getting Alignment

• Describe your project
• What are the goals and values?
• Are they universally shared by the participants in the process?
• If not, how do they differ?
• What is missing?
WHAT ARE THE OBSTACLES TO MOVING FORWARD?
Questions for Breakout Session
Getting Aligned is Critical to Success

• What are the project values and drivers?
• What are the project goals?
• Who are the critical stakeholders?
• Are there obvious obstacles to getting started?
• What can help you get past these initial hurdles?
• What resources are going to be necessary upfront?
• What advantages does this project already have in place (existing infrastructure, assets, other investments, available funding)?
• What solutions have you found to get past project challenges?
ADDITIONAL SLIDES