

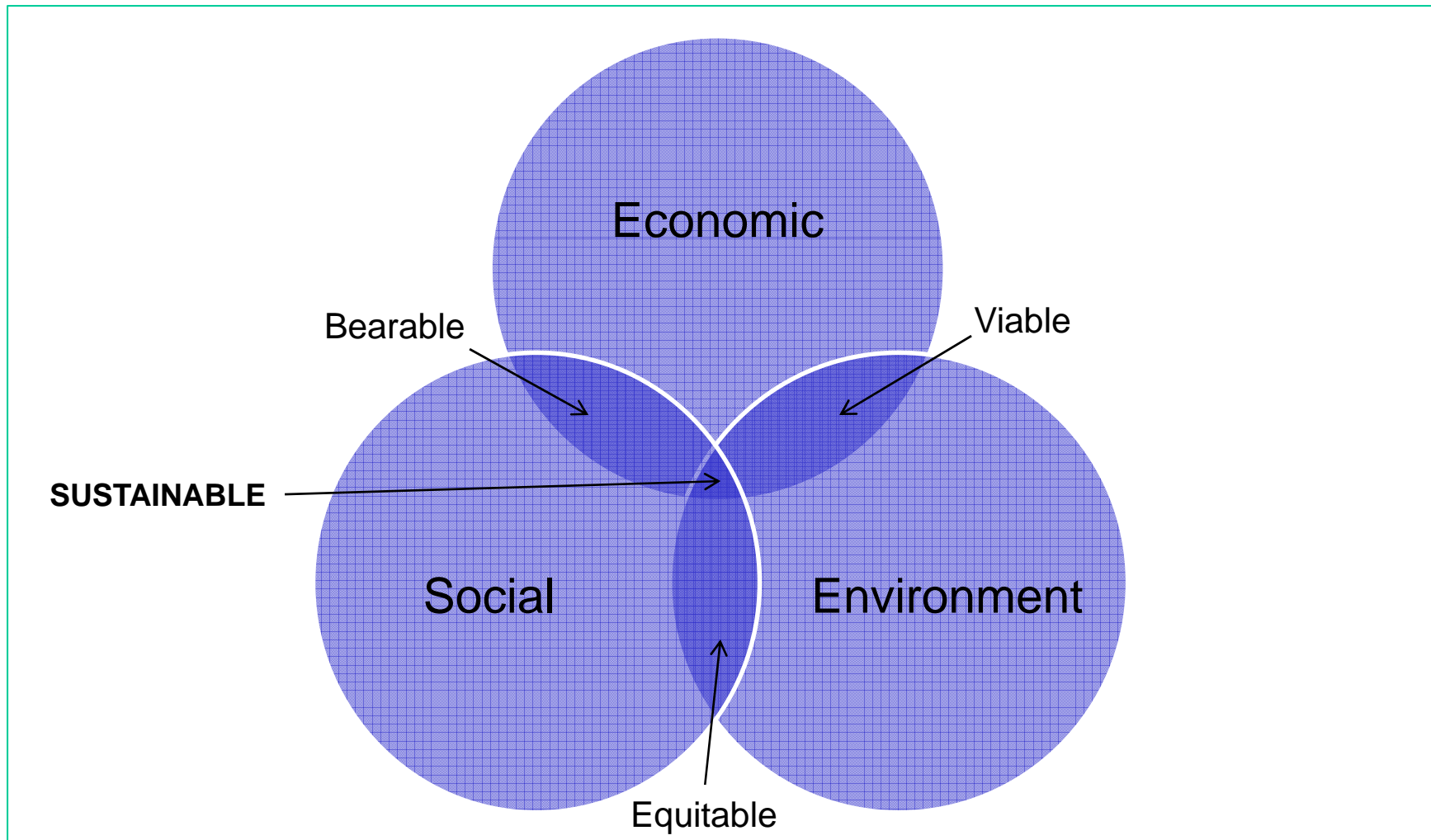


**17th Annual Spring Education Seminar
Minnesota Health Care Engineers Association**

Sustainability Strategies for Health Care

**Kevin Bengtson
Key Account Manager
Business Conservation Programs**

What is Sustainability?



Items covered in this session:

- **Xcel Energy sustainability strategies**
- **Why should your business care?**
- **Strategies and programs for businesses to reduce their energy-use and carbon footprint**

About Xcel Energy...

- **Xcel Energy is a gas and electric utility.**
- **Headquarters in Minneapolis, we have four operating companies that do business in 8 states.**
- **We serve 3.3 million electric customers and 1.8 million natural gas customers.**

What is Xcel Energy's Strategy?

- **In MN, we plan to reduce our carbon dioxide emissions by 22% by the year 2020.**

How?....

- **Increase conservation efforts!**
- **Add more wind and other renewable technologies to our resource portfolio!**
- **Environmental upgrades to existing power plants!**

Why are We Pursuing this Strategy?

- **As a gas and electric utility we have an impact on the environment. We work hard to reduce that impact.**
- **Environmental leadership is good business. A proactive approach helps us manage risk and reduce costs over the long run.**
- **Environmental investments can be attractive— with the potential for favorable cost recovery and earnings growth.**

Why Should Your Business Care?

- **You have an impact on the environment**
 - **1.176 lbs CO₂ / KWH ****
 - **11.64 lbs CO₂ / Therm ****
 - **** Regional emissions data for Xcel Energy**

Why Should Your Business Care?

- **Environmental leadership is good business**
 - Energy costs are increasing.
 - Threat of carbon legislation could affect profit!
 - Your customers want you to be green!

Energy Costs are Increasing!

- **Fuel costs are increasing!**
 - **Natural gas: 20% of power in U.S. 300% increase since 1999.**
 - **Oil: Recent record price levels.**
 - **Coal: 50% of power in the U.S. 20% increase in last 3 years.**
 - **Uranium: 19% of power in U.S. 40% increase since 2001.**

Energy Costs are Increasing!

- **Infrastructure costs are increasing!**
 - New power plants needed to meet growth.
 - EIA projects a need for 50,000 MW by 2014.
 - Increased transmission investment.
 - Demand for higher quality power (distribution).
 - Storm damage.

Your Customers want Green!

- **Wal-mart: discount retailer**
 - **Goal to transform into a 100% renewable energy and zero net waste company.**

Working to...

- **Establish public goals and timetables**
- **Establish buy-in at every level in company**
- **Transparent reporting**

Establish a Benchmark

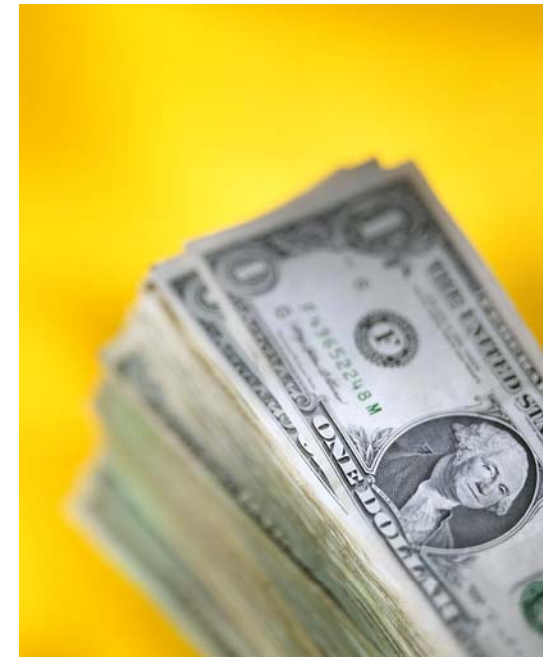
- **Track consumption as well as your costs.**
- **Microsoft Excel is your friend.**
 - **Dates of Service, Days in Billing Cycle, KW, KWH**
 - **Square Footage, Total Cost, Average Temp, Equip Change**
- **Calculate KWH / Square Foot**
- **Use your EMS system, or inquire about interval data for your facility**

Strategies and Programs

- **Programs are available throughout MN**
- **Studies**
 - Energy Analysis, Recommissioning, many others
- **Prescriptive / fixed rebates**
 - For commonly used energy-efficient equipment
 - Lighting, cooling, motors, and more
- **Custom rebates**
 - Custom Efficiency Program, Energy Management Systems, Energy Design Assistance

Energy Analysis

- **On-site assessment**
 - How do you use energy?
 - How could you save?
 - Project priorities
 - Estimates savings and rebates
- **Online energy assessment**
 - Free at xcelenergy.com
 - Good starting point
 - 20-30 minutes



Lighting Efficiency

- **Typically the #1 end-use for businesses**
- **One-Stop Lighting program**
 - Free assessment of existing lighting system
 - Assistance in choosing the right high-efficiency lighting
- **Retrofit rebates**
 - Existing facilities and new construction
 - Help offset the cost of replacing current lighting with more efficient equipment with rebates

Cooling Efficiency

- Typically the #2 end-use for businesses
- 20% efficiency gain over units that are just 15 years old!
- Common projects
 - Water-cooled chillers
 - Rooftop units and split systems
 - Oversized Cooling Towers
 - VAV boxes



Heating Efficiency

- **Typically the #3 end-use for business**
- **Space and water heating; humidification; sterilization**
- **Common projects**
 - **Boiler tuneups**
 - **New energy-efficient boilers and furnaces**
 - **Steam trap repair and replacement**
 - **Auxiliary equipment: Stack dampers, burner turndown**

Motor Efficiency: NEMA Premium® Efficient Motors

Description	Horsepower	Rebate
New motor (new equipment or burnout)*	1 to 200	Based on hp
Replacing operating motor*	1 to 200	Based on hp
Custom motor	Over 200 (per motor)	Individually determined (Custom Efficiency)

* Additional requirements apply



Motor Efficiency

Variable Frequency Drives (VFDs)

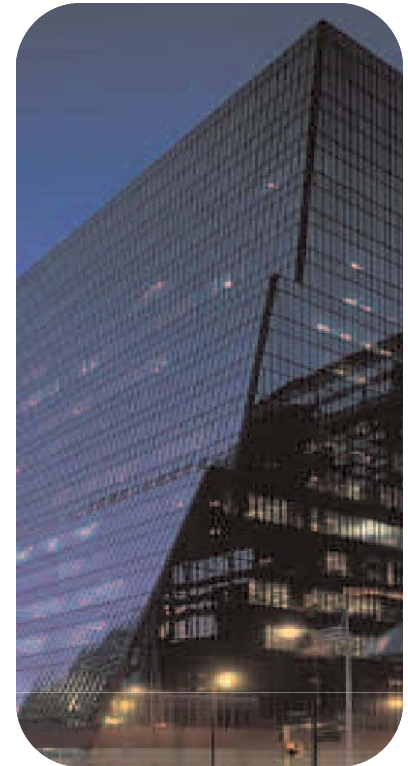
- **Systems running for long-periods of time**
- **High degree of throttling**
- **Pumps, fans, blowers**

Description	Horsepower	Rebate
VFDs*	1 to 200	Based on hp
Custom VFDs	Over 200 (each)	Individually determined (Custom Efficiency)

* Additional requirements apply

Recommissioning

- **Tune-up existing building systems**
- **Improve performance**
- **Studies**
 - 75% study funding, max \$25,000
 - Preapproval
- **Implementation rebates**
 - Up to 60% of project costs
 - \$400 per kW
 - \$5 per MCF



Recommissioning

- **Systems**

- Central heating/cooling
- Air handling units
- Rooftop AC units
- Pumping
- Outside air
- Central chilled water loop

- **Controls**

- Sequence of operations
- Resets
- Start/stop times
- Air flow issues

What's your savings potential?

Call 1-800-481-4700

- **Business Solutions Center**
- **Xcel Energy account manager**
- **Determine program eligibility, savings potential**
- **Xcelenergy.com**