



Regional Sustainable  
Development Partnerships

UNIVERSITY OF MINNESOTA  
**EXTENSION**

## Promise and Pitfalls of Hosting Rural Small Business Energy Efficiency Campaigns

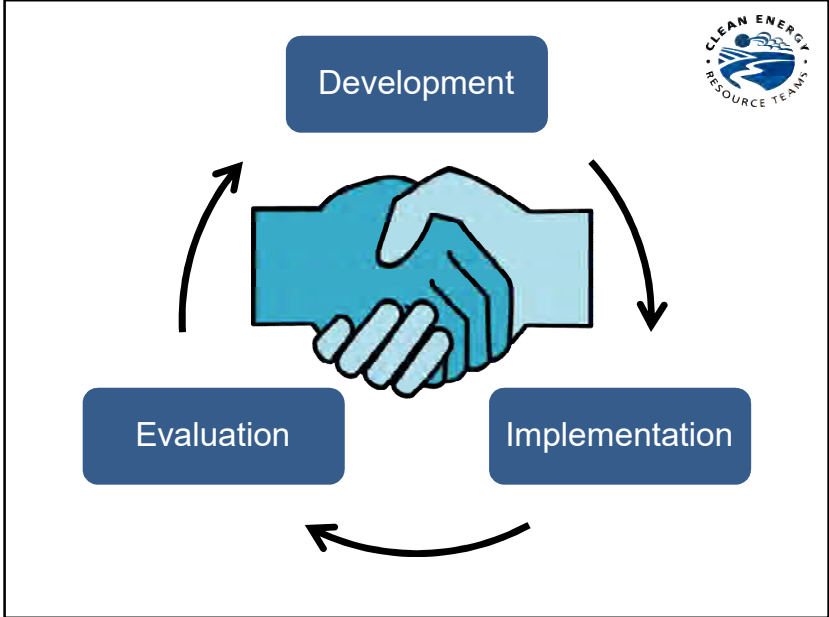
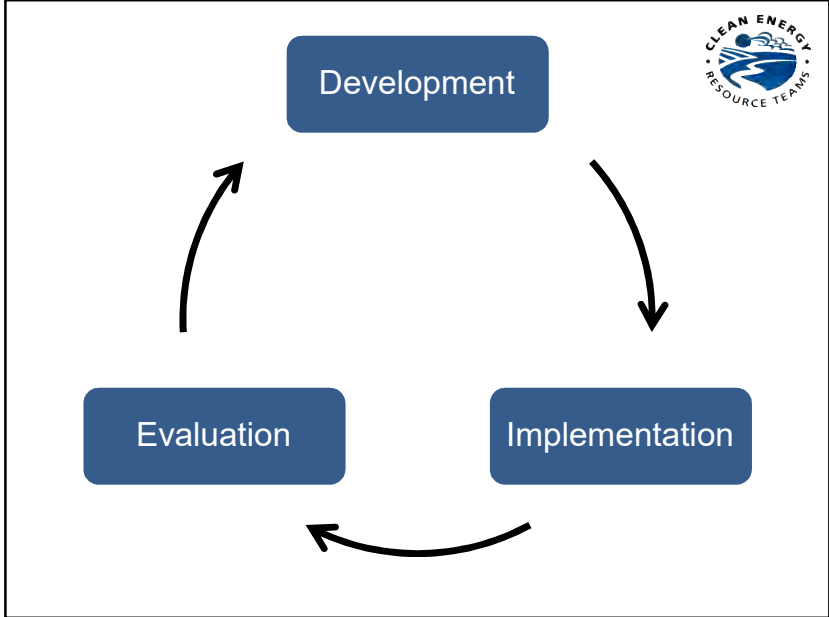
**Alexis Troschinetz**  
**CERTs Behavior Change and Metrics Coordinator**  
**University of Minnesota Extension**

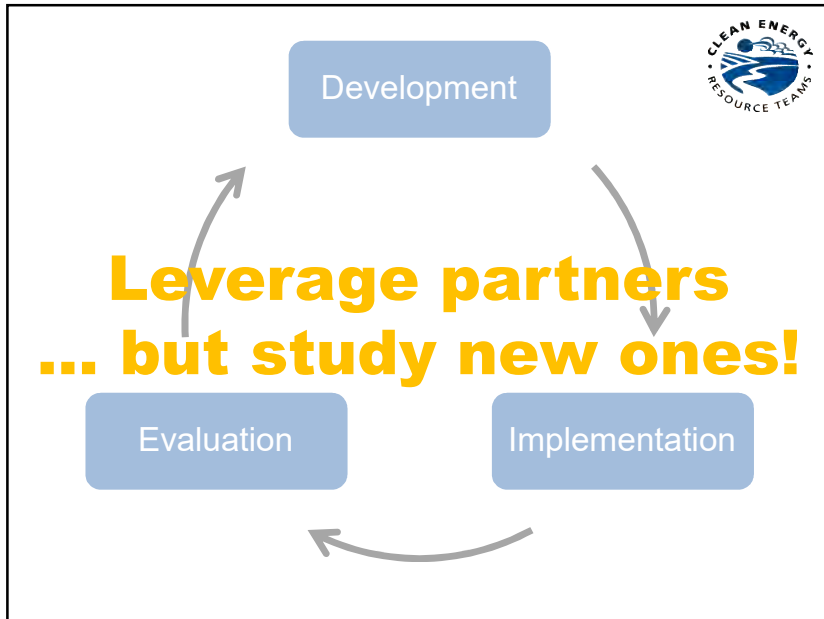
BECC Conference, October 20<sup>th</sup>, 2016 10:30 am – 12:00 pm











## CERTs: Minnesotans Building a Clean Energy Future



**Mission:** We connect individuals and their communities to the resources they need to identify and implement community-based clean energy projects

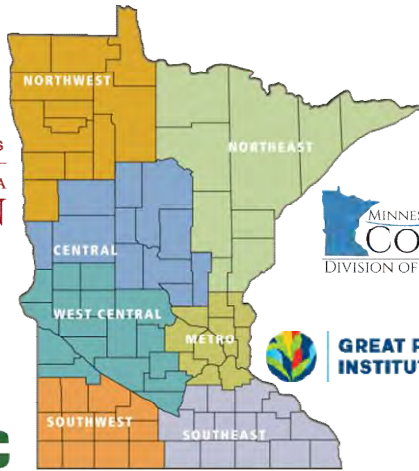


# Statewide Partnership & Collaboration



Regional Sustainable Development Partnerships

UNIVERSITY OF MINNESOTA  
**EXTENSION**



MINNESOTA DEPARTMENT OF  
**COMMERCE**  
DIVISION OF ENERGY RESOURCES

 **GREAT PLAINS INSTITUTE** Better Energy Better World.



# What Does CERTs Do?



## LEARN



- Write blog posts & case studies
- Create educational guides
- Manage diverse web-based tools

## CONNECT



- Host events, tours, and conferences
- Help with community organizing
- Connect people to technical resources

## ACT



- Provide seed grant funding and more
- Deliver research-based campaigns
- Spur other statewide programs

## Campaigns



- Raised independent stations' awareness of LED lighting
- Created lighting technical spec
- Listed 12 high quality lighting products
- Connected stations to utility rebates

### LIGHT UP YOUR STATION & SAVE



- Shared information about poultry-specific lighting
- Guided farmers through numerous funding options

## Sector Identification



Conservation Applied Research & Development (CARD) Program  
FINAL REPORT

MINNESOTA DEPARTMENT OF COMMERCE  
Division of Energy Resources

Improving Energy Efficiency in Convenience Stores

Prepared for: Minnesota Department of Commerce, Division of Energy Resources  
Prepared by: Michaels Energy

LEDs: Energy Savings and Replicability in MN Livestock Facilities

Prepared for: Minnesota Department of Commerce, Division of Energy Resources  
Prepared by: PricewaterhouseCoopers

the MINNESOTA PROJECT

February 2012  
001-012-0010-0007

MichaelsEnergy

AD0007 2012  
COMR/005-00242011-00008

# Sector Identification



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August 2013  
COMR/DES-04242013-36538

LEDs: Energy Savings and Replicability in MN Livestock Facilities

Prepared for: Minnesota Department of Commerce, Division of Energy Resources  
Prepared by: Eric Dinger



August 2013  
COMR/DES-04242013-36537

Turkey Farms  
Independent Gas Stations

# Basis of Design



Conservation Applied Research & Development (CARD) Program  
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DIVISION OF ENERGY RESOURCES

Improving Energy Efficiency in Convenience Stores

Prepared for Minnesota Department of Commerce, Division of Energy Resources  
Prepared by: [unclear]

Michael's Energy

ABOUT 2013  
COM/DES-04042013-00338

LED Energy Savings and Replication in MN Livestock Facilities

Prepared for Minnesota Department of Commerce, Division of Energy Resources  
Prepared by: Eric Berger

MINNESOTA DEPARTMENT OF COMMERCE  
DIVISION OF ENERGY RESOURCES

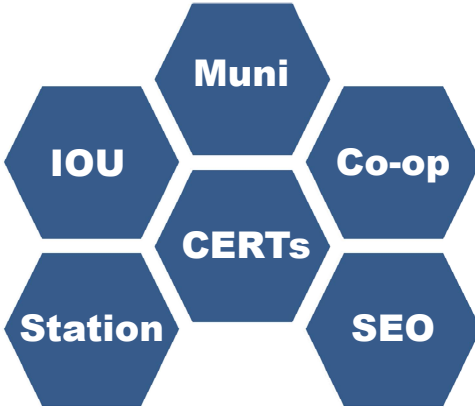

4584610 2013  
001-04042013-00067

**Funding**

**Technical Assistance**

# Good Advice

LIGHT UP YOUR STATION & SAVE



IOU

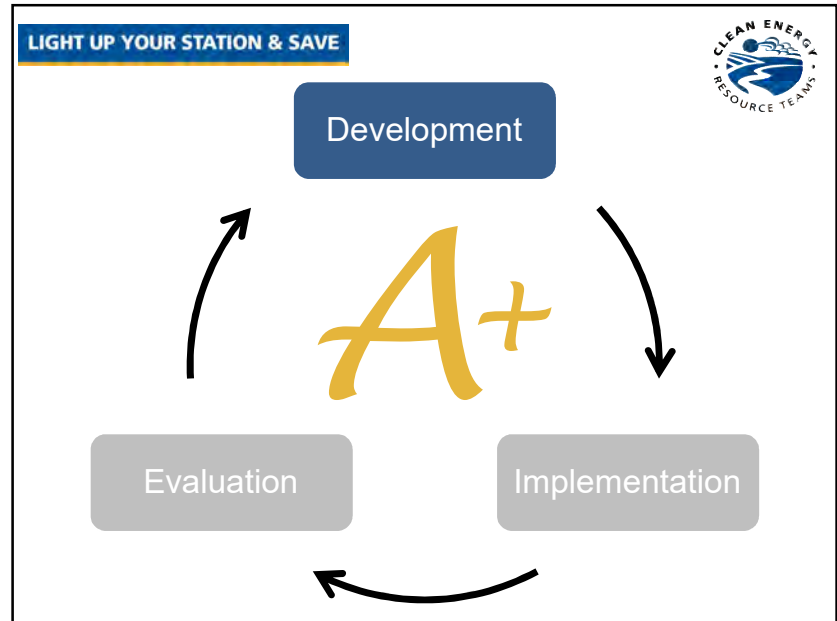
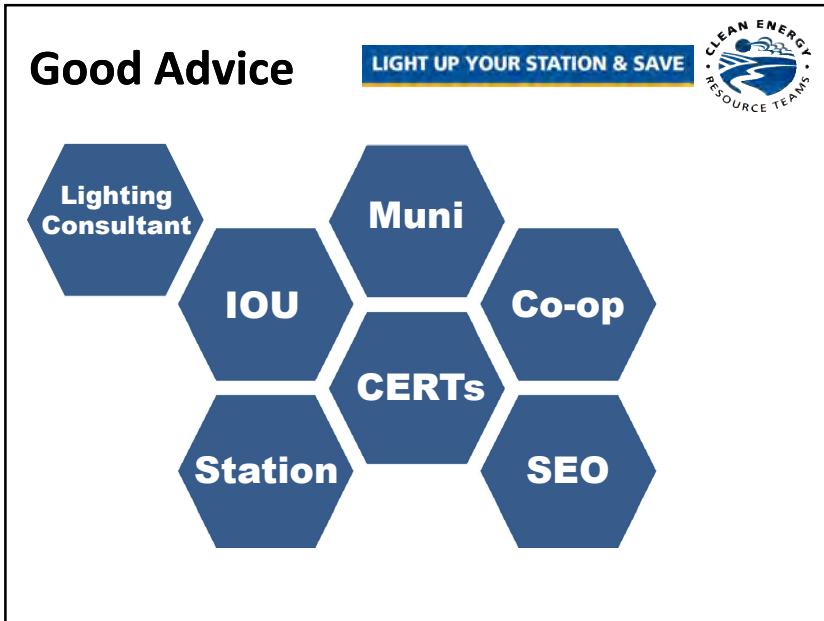
Muni

Co-op

Station

CERTs

SEO



# Strategy

LIGHT UP YOUR STATION & SAVE



## Make it easy!

# Strategy

LIGHT UP YOUR STATION & SAVE



### Canopy Luminaire Qualifications

1. All luminaire manufacturers must:
  - a. Be UL Listed or equivalent by a National Recognized Testing Laboratory.
  - b. Provide for the luminaire a published specification sheet (.pdf) and photometric file (.ies) tested by an independent third-party.
  - c. Provide a minimum 5 Year Warranty that covers any defect in materials and workmanship, including LEDs and power supplies.
  
2. All optical and driver assemblies must comply with a minimum ingress protection of 65.
  
3. All luminaires must:
  - a. Be recognized by the DesignLights Consortium Qualified Product List under the Fuel Pump Canopy Luminaires category (which includes 3b and 3c below).
  - b. Meet a Zonal Lumen Intensity:  $\geq 40\%$ : 0-40',  $\geq 40\%$ : 40-70'.
  - c. Meet a minimum 50,000 hours (L70) of rated life.
  - d. Meet a minimum efficacy rating of 85 lumens per watt (LPW).
  - e. Meet a minimum Color Rendering Index (CRI) of 70.
  - f. Meet a minimum of 4000K ( $\pm 300K$ ) and maximum of 5000K ( $\pm 700K$ ) correlated color temperature (CCT).
  - g. Meet a minimum **low** operating temperature of -30°C and a minimum **high** operating temperature of 40°C.
  - h. Note whether they comply with Buy American Provisions.



### List of LED Canopy Lighting Products

**Start saving energy & money today!**

DesignLights Consortium (DLC) is a leading industry organization that provides a list of qualified LED lighting products. The list is updated regularly to reflect the latest products and technologies. The list is available at [www.designlights.org](http://www.designlights.org). The list is a key resource for designers and specifiers looking for high-quality, energy-efficient lighting solutions. The list is a key resource for designers and specifiers looking for high-quality, energy-efficient lighting solutions. The list is a key resource for designers and specifiers looking for high-quality, energy-efficient lighting solutions.

**Key Features:**

1. Qualified products are listed by manufacturer, model number, and wattage.
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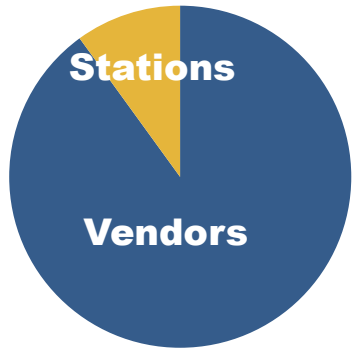
Product	Contact	Manufacturer	Wattage	LPW	Life (hrs)	Buy American
<b>Cooper Lighting</b> LED Fuel Pump Canopy Light Model: 1000-1000-1000-1000 Wattage: 100W LPW: 85 Life: 50,000 hrs	Cooper Lighting	Cooper Lighting	100W	85	50,000	Yes
<b>CREE CP120</b> LED Fuel Pump Canopy Light Model: CP120-1000-1000-1000 Wattage: 100W LPW: 85 Life: 50,000 hrs	CREE Lighting	CREE Lighting	100W	85	50,000	Yes
<b>GE E-Series Canopy Light</b> LED Fuel Pump Canopy Light Model: E-Series-1000-1000-1000 Wattage: 100W LPW: 85 Life: 50,000 hrs	GE Lighting	GE Lighting	100W	85	50,000	Yes
<b>International Light Technologies</b> LED Fuel Pump Canopy Light Model: ITL-1000-1000-1000-1000 Wattage: 100W LPW: 85 Life: 50,000 hrs	International Light Technologies	International Light Technologies	100W	85	50,000	Yes

# Outreach Flop

LIGHT UP YOUR STATION & SAVE



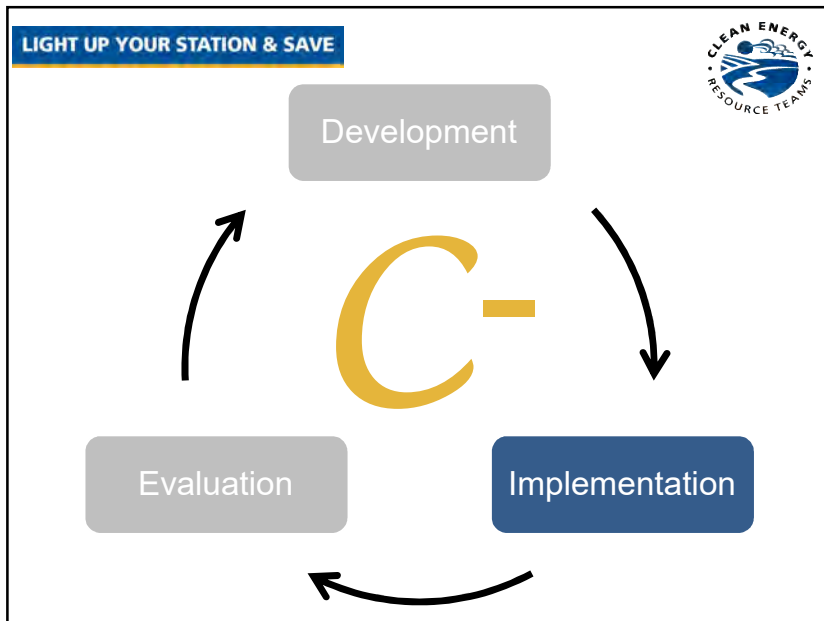
MSSA  
MINNESOTA SERVICE STATION  
& CONVENIENCE STORE ASSOCIATION



# Outreach Redo

LIGHT UP YOUR STATION & SAVE





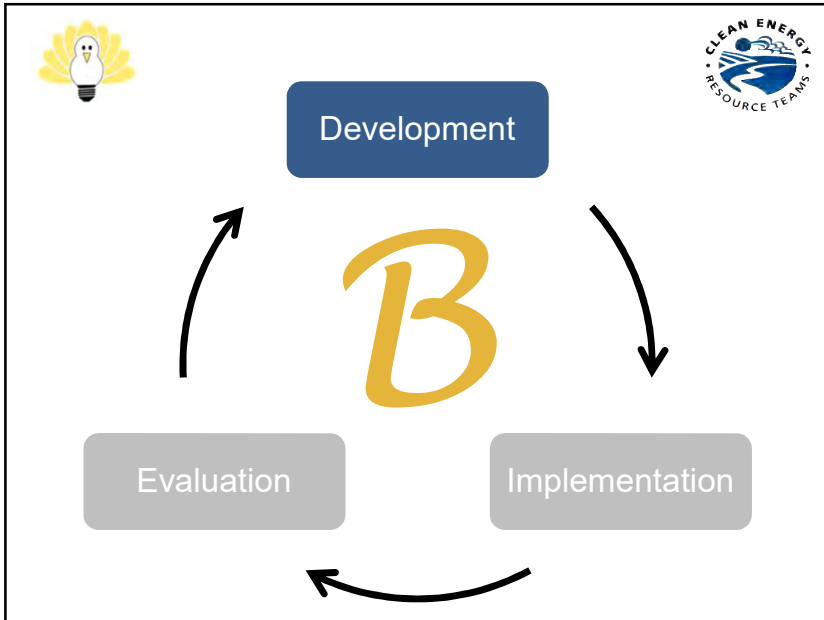
## Funders Galore



- EQIP by USDA NRCS
- REAP by USDA RD
- Livestock Investment Grant by MDA
- PACE by SPPA & RMEB
- Utility Rebates



Image Credit: [Tech Guru Daily](#)



**Key Outreach Partner**

*Authority*

The slide identifies a key outreach partner. It features the text 'Key Outreach Partner' at the top, followed by the word 'Authority' in a large, slanted, yellow font. Below this is the logo for Minnesota Turkey, which includes a stylized turkey tail fan in shades of orange and red, with the text 'MINNESOTA TURKEY' in white on a black background. The slide also includes the lightbulb and 'CLEAN ENERGY RESOURCE TEAMS' logos in the top right corner.

# Strategy



# Strategy



# Outreach Success



Minnesota Turkey Growers Association  
**2014 Summer Conference**



WingTips ... Weekly eNews for MTGA & CEAM Members

**Want to save money in your turkey barns?**  
Reduce energy use & save money by upgrading to LED lighting in your barns!

**Why upgrade to LED lighting?**

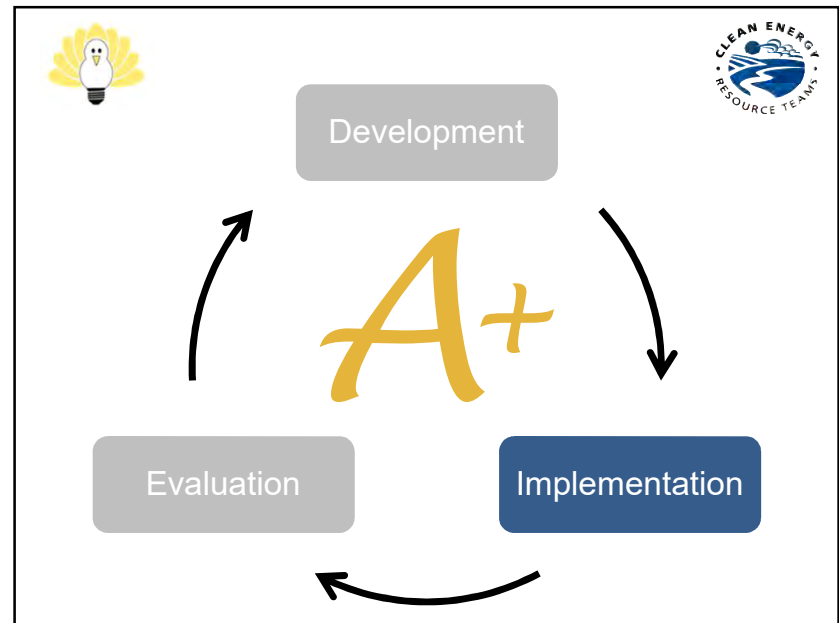
- Save up to \$1,000s each year on lighting energy
- Payback in 3 yrs or less
- Improve bird performance
- Reduce turkey mortality
- Save on utility funding

**GET READY TO GOBBLE UP SAVINGS!**

PROVEN RESULTS: LED lighting has been successfully implemented through a study of 22 turkey barns in Minnesota. Farmers observed better bird health and no measurable poultry production decrease by switching to LED lighting.

**TAKE A SLIP TO LEARN ABOUT FUNDING OPTIONS**  
Website: [ceam.org](http://ceam.org) Phone: 651-760-2536

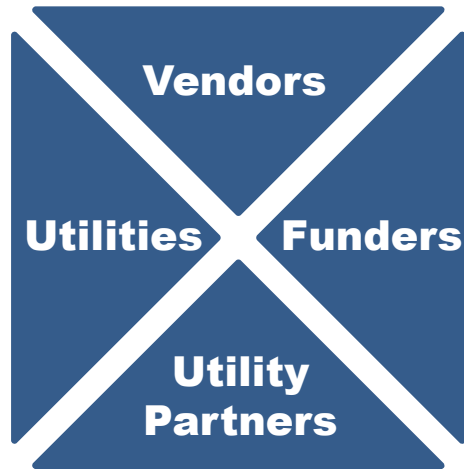
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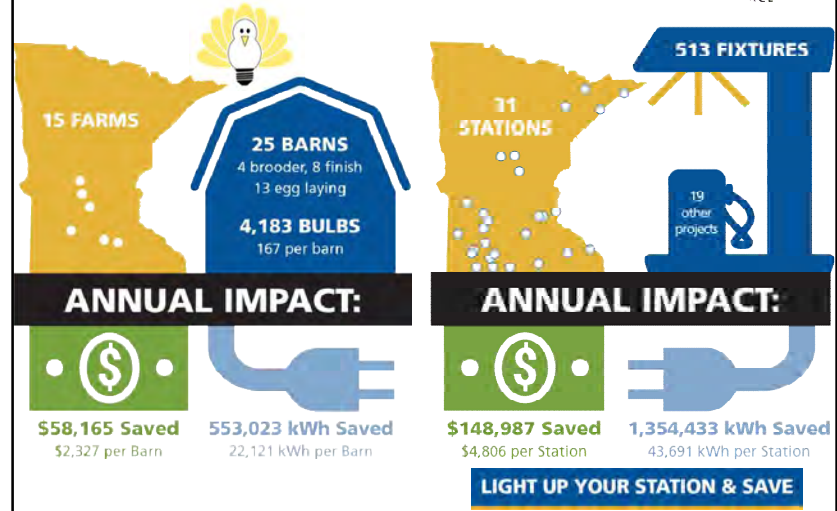




# Evaluation



# Evaluation



## Future Contact



**Alexis Troschinetz**, Behavior Change & Metrics Coordinator  
[atroschi@umn.edu](mailto:atroschi@umn.edu) | 612-626-0455

[www.mncerts.org](http://www.mncerts.org)