

ASHRAE Seminar – Practical Ways to Save Energy

April 23, 2013

MidAmerican Energy's EnergyAdvantage Programs



Agenda

- **Overview of *EnergyAdvantage* Programs**
 - Nonresidential Equipment
 - Custom Systems
 - Business Check
 - Nonresidential Energy Analysis / *EfficiencyPartners*
- **Trade Ally Outreach Initiative**
- **Connecting the Dots – EE State Programs and Resources**

EnergyAdvantage

Programs at a Glance



DSM Programs 101

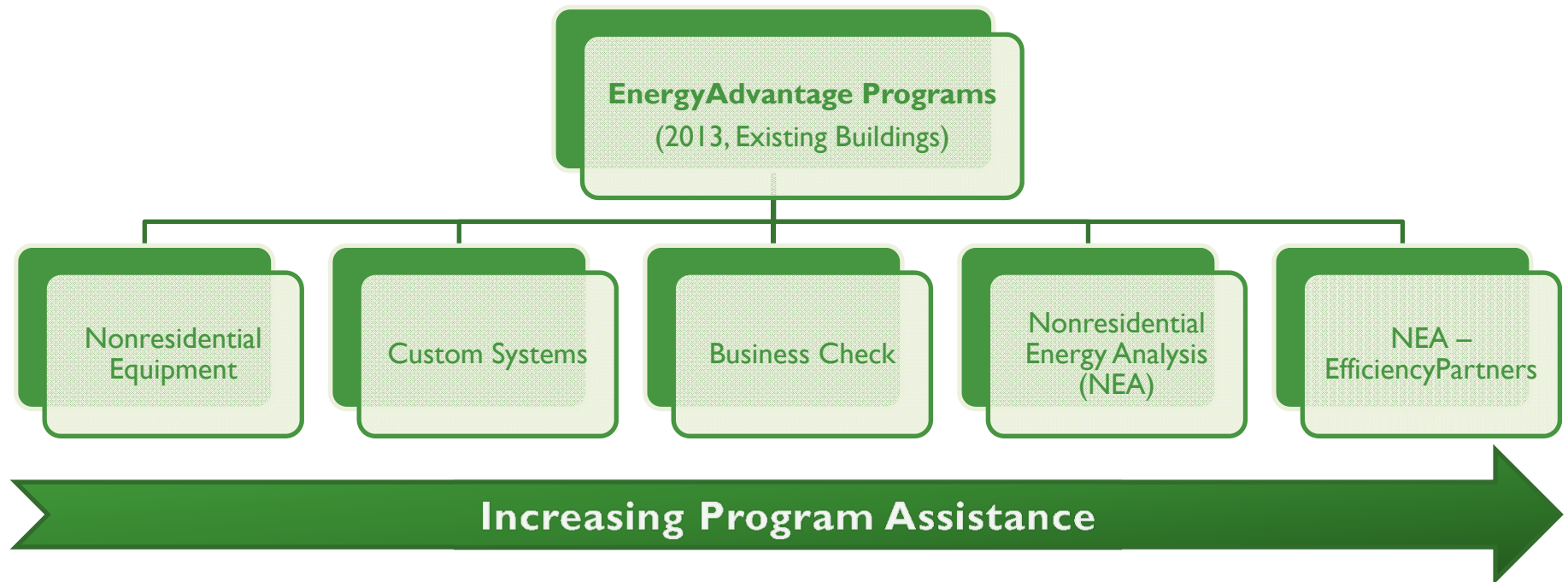
- **Why does MidAmerican Energy have these programs?**
 - Required by the Iowa Utilities Board for investor-owned utilities
 - Delays/eliminates the need to build new generation
- **Who oversees these programs?**
 - Regulated by Iowa Utilities Board, administered by local utility
- **How are they paid for and what is the benefit it provides to MidAmerican Energy customers?**
 - Surcharge imbedded in the rates
 - Energy Efficiency funds given back to participants in the form of incentives and technical support
 - Fosters “partner” relationship between utility, vendors, and the customer



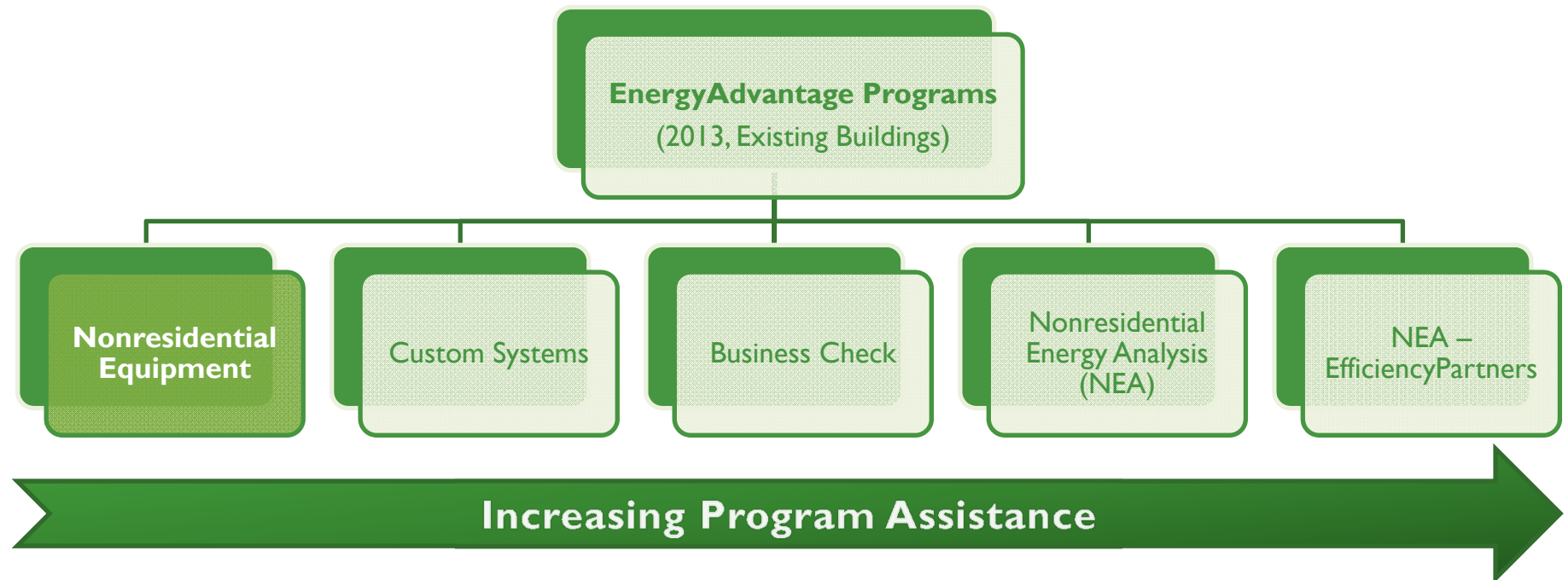
Energy Efficiency Program Design

Commercial			Industrial	
Small	Small Business Direct Install		Prescriptive / Custom	Opportunity Assessment
Medium	Building Tune Up	Prescriptive / Custom		
Large	RCx		Strategic Energy Management	
New Construction	Commercial New Construction			

MidAmerican's Portfolio of Programs



Nonresidential Equipment



Nonresidential Equipment

- **Who**
 - All MidAmerican nonresidential customers
- **What**
 - Lighting Equipment
 - Motors
 - Variable-Speed Drives
 - Heating and Cooling Equipment
 - Commercial Kitchen Equipment
 - Building Shell

2013 IOWA LIGHTING EQUIPMENT APPLICATION
Complete both sides of this application and attach copies of invoices.

ATTENTION: Please print this form and save the original for future use or download additional copies at www.midamericanelectric.com/forms_lighting

ITEM DESCRIPTION	QUANTITY	WATTS	WATTS CONTROLLED
Compact Fluorescent Lamps Self-Ballast/Screw-In (Indicate lamp wattage)			
1" () watts			
2" () watts			
Compact Fluorescent Fixtures Hole Wheel (Indicate lamp wattage)			
Single lamp () watts			
Two lamp () watts			
Three lamp () watts			
4" of lamps () watts			
150 watts low bay			
T-5 Fixtures with Electronic Ballast Existing Buildings Only (Replacing T-12 systems)			
2' X 1 lamp/electronic ballast			
46" X 1 lamp/electronic ballast			
46" X 2 lamp/electronic ballast			
46" X 3 lamp/electronic ballast			
46" X 4 lamp/electronic ballast			
T-8 Fixtures with Electronic Ballast Existing Buildings Only (Replacing T-12 systems)			
2' X 1 lamp/electronic ballast			
2' X 2 lamp/electronic ballast			
4' X 1 lamp/electronic ballast			
4' X 2 lamp/electronic ballast			
4' X 3 lamp/electronic ballast			
4' X 4 lamp/electronic ballast			
8' X 1 lamp/electronic ballast			
8' X 2 lamp/electronic ballast			
8' X 1 lamp/high output electronic ballast			
8' X 2 lamp/high output electronic ballast			
Occupancy Sensors			
Wall- or ceiling-mounted > 400 watts			
Wall- or ceiling-mounted ≤ 400 watts			
Fixture mounted ≤ 100 watts			
Metal Halide Lamps/Fixtures			
330 watt metal halide lamp			
360 watt metal halide lamp			
330 watt ceramic metal halide lamp			
LED exit sign			
Miscellaneous			
Daylight harvesting ballast			
Lighting time clock/timer			
LED Traffic Lighting Continue on additional sheet if necessary			
10" Red			
12" Red			
10" Green			
12" Green			
8" Green			
Green Arrow			
12" Don't Walk			
8" Don't Walk			

ITEM DESCRIPTION	QUANTITY	WATTS	WATTS CONTROLLED
T-5HO High-Bay with High Output Electronic Ballast Existing Buildings			
46" X 3 lamp/electronic ballast			
46" X 4 lamp/electronic ballast			
46" X 5 lamp/electronic ballast			
46" X 6 lamp/electronic ballast			
46" X 7 lamp/electronic ballast			
46" X 8 lamp/electronic ballast			
New Buildings			
46" X 3 lamp/electronic ballast			
46" X 4 lamp/electronic ballast			
46" X 5 lamp/electronic ballast			
46" X 6 lamp/electronic ballast			
46" X 7 lamp/electronic ballast			
46" X 8 lamp/electronic ballast			
T-8 High-Bay with High Output Electronic Ballast (attach ballast spec sheet showing ballast factor) Existing Buildings			
4' X 3 lamp/electronic ballast			
4' X 4 lamp/electronic ballast			
4' X 5 lamp/electronic ballast			
4' X 6 lamp/electronic ballast			
4' X 7 lamp/electronic ballast			
4' X 8 lamp/electronic ballast			
New Buildings			
4' X 3 lamp/electronic ballast			
4' X 4 lamp/electronic ballast			
4' X 5 lamp/electronic ballast			
4' X 6 lamp/electronic ballast			
4' X 7 lamp/electronic ballast			
4' X 8 lamp/electronic ballast			

ITEM DESCRIPTION	QUANTITY	WATTS	WATTS CONTROLLED
LED Lighting			
Linear lamp			
A-lamp			
Fixture < 100W			
Fixture 100-249W			
Fixture 250-400W			
Ship lighting			
Refrigerated case lighting			
Refrigerated case occupancy sensor			
Can spot, track light			

ITEM DESCRIPTION	QUANTITY	WATTS	WATTS CONTROLLED	OFF HOURS
LED Traffic Lighting Continue on additional sheet if necessary				
10" Red				
12" Red				
10" Green				
12" Green				
8" Green				
Green Arrow				
12" Don't Walk				
8" Don't Walk				

ACCOUNT NUMBER

Nonresidential Equipment

- **How**
 - Application submitted after installation with supporting invoices
 - Equipment specifications required for certain technologies
 - M&V required if incentive exceeds \$20,000
- **Why**
 - Simple and straightforward
 - No preapproval required
- **\$\$\$\$**
 - Predetermined incentives for qualifying equipment (\$/lamp, \$/hp, etc.)

Single project or system that has established prescriptive rebate

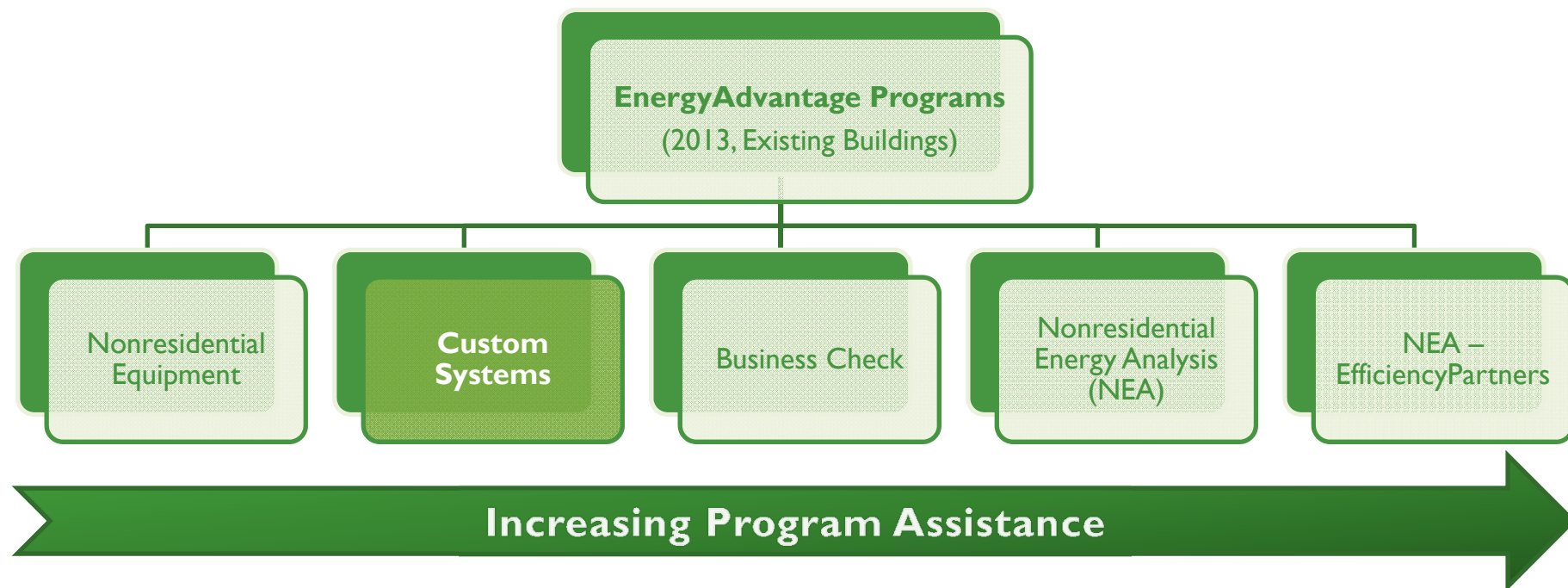
Prescriptive Equipment Program

Purchase and Install Equipment

Equipment Rebate Application

Measurement and Verification
(as required)

Custom Systems



Custom Systems

- **Who**
 - All MidAmerican nonresidential customers
- **What**
 - Non-Prescriptive Projects:
 - Lighting redesign
 - Motors > 200 horsepower
 - Compressed Air
 - HVAC System Conversions
 - Refrigeration
 - Building/Process Controls
 - Production improvements and additions

2013 IOWA CUSTOM SYSTEMS PROJECT PREAPPROVAL APPLICATION

Complete both sides of this application.

Mail to: MidAmerican Energy Company, EnergyAdvantage Programs, P.O. Box 17129, Des Moines, IA 50317
or fax to: 515-564-1042. Call 800-318-8915 with questions about the program.

My facility had an energy assessment in the following program (check if applicable):
☐ Nonresidential Energy Analysis/EfficiencyPartners*
☐ Small Commercial Assessment/BusinessCheck*
 Date assessment completed (month/year) _____

Customer Information
 MidAmerican Energy account number (found on bill; first seven digits only) [] [] [] [] [] [] [] - [] [] [] [] [] [] []
 Installation address _____
 City _____ State _____ ZIP _____
 Company name on bill _____
 Rebate check (if applicable) should be payable to _____ State _____ ZIP _____
 Mailing address _____
 City _____ State _____ ZIP _____
 Contact person _____
 Phone _____ Title _____ Email _____

Customer Agreement (Signature required before application is processed.)
 My signature indicates consent to and agreement with all program terms and conditions, certifies that all information on this application is correct, and that all of the listed new equipment has not been purchased or installed and operating at the indicated location.

Customer signature _____ **Date** _____

Facility Information (check one)
☐ Office ☐ Lodging ☐ Grocery ☐ Convenience Store ☐ Church
☐ Retail ☐ Warehouse ☐ School/College ☐ Multifamily ☐ Industrial/Manufacturing
☐ Fast Food ☐ Restaurant ☐ Health Care ☐ Other
 Building size _____ sq. ft. (area)
 Year building was constructed _____ Do you: ☐ own or ☐ rent this building?

Facility Hours of Operation (circle a.m. or p.m.)
 Monday - Friday _____ a.m./p.m. to _____ a.m./p.m.
 Saturday _____ a.m./p.m. to _____ a.m./p.m.
 Sunday _____ a.m./p.m. to _____ a.m./p.m.

Equipment Hours of Operation (circle a.m. or p.m.)
 Monday - Friday _____ a.m./p.m. to _____ a.m./p.m.
 Saturday _____ a.m./p.m. to _____ a.m./p.m.
 Sunday _____ a.m./p.m. to _____ a.m./p.m.

Seasonal Operating Schedule (check one)
☐ Summer only (June - Sept.) ☐ Year-round
☐ Winter only (Oct. - May) ☐ Other _____

Planned Energy Efficiency Project (describe equipment/system to be replaced/upgraded and attach documentation)

This new custom equipment/system is:
☐ Replacement ☐ New construction ☐ New installation

Project Specifier/Contractor Information (engineer, architect, mechanical/electrical contractor, dealer, etc.)
 Specifier company name _____
 Address _____
 City _____ State _____ ZIP _____
 Contact person _____ Phone _____ Email _____ Fax _____

Specifier/Contractor Agreement
 I certify that all equipment and installation information provided on this application is correct and accurate.
Specifier/contractor signature _____ **Date** _____

ATTENTION
 Photocopy this form and save the original for future use or download additional copies at www.midamericanenergy.com/iowa-custom

Custom System

- **How**

- Preapproval required
- Supporting calculations for estimated energy savings and cost estimates must accompany application
- M&V required if incentive exceeds \$20,000

- **Why**

- Custom incentives for non-prescriptive projects
- Projects can be identified from building assessments funded by MidAmerican

- **\$\$\$\$**

- Buy down the project's simple payback to 2 years
- Capped at 3-years of annual energy savings

Custom System Program

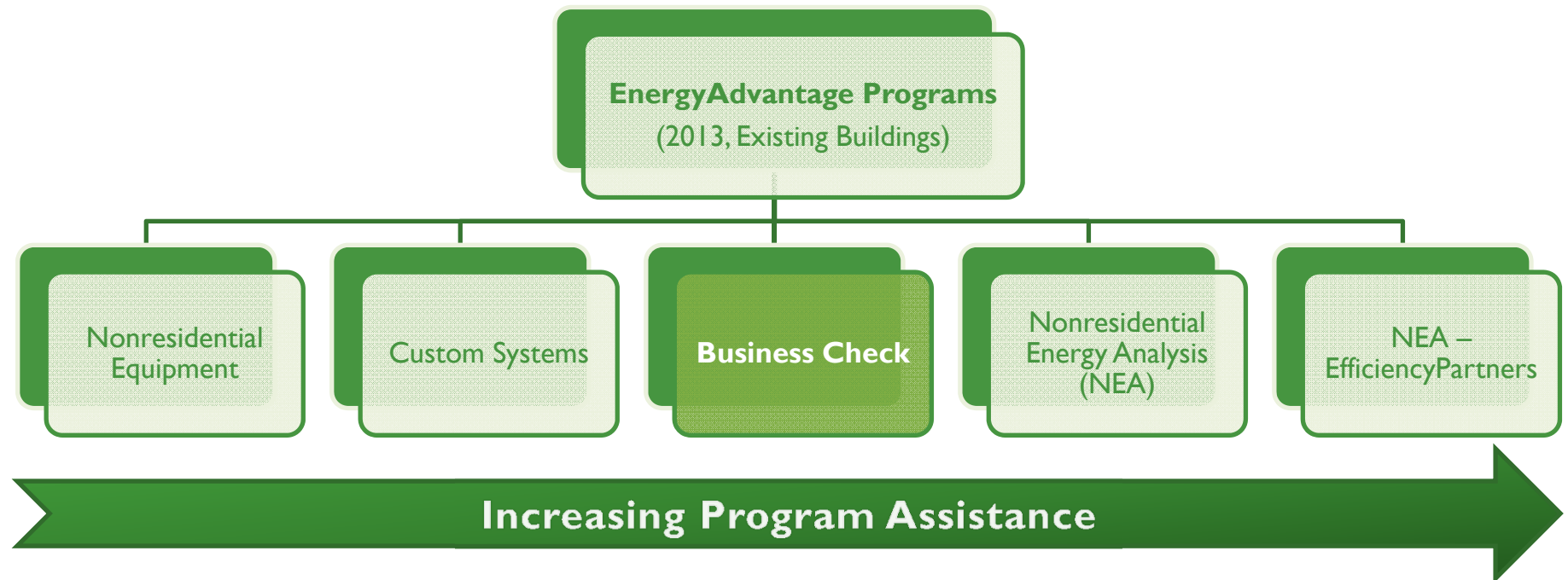
**Custom System
Preapproval Application**

**Purchase and Install
Equipment**
(preapproval required)

Measurement and Verification
(as required)



Business Check



Business Check

- **Who**
 - MidAmerican commercial business customers up to 50,000 sf
- **What**
 - Free business energy evaluation
 - Free direct installations
 - Assessment report with energy savings recommendations and information about rebate opportunities
 - Special financial incentives

BUSINESSCHECK® ENERGY ASSESSMENT REPORT | ENHANCE YOUR BOTTOM LINE WITH ENERGY EFFICIENCY

RECOMMENDED ENERGY SAVING OPPORTUNITIES | DETAIL

Based on our observations during your BusinessCheck energy assessment, we recommend the following energy saving opportunities. The measures listed qualify for incentives through MidAmerican Energy's nonresidential prescriptive rebate programs. MidAmerican Energy also offers custom rebates for projects not included in our prequalified equipment lists or addressed in other EnergyAdvantage® programs. The energy and cost savings provided below represent estimated savings should you choose to implement the recommended measures. These estimates are subject to change based on rate or usage differences.

Measure Description	Quantity	Annual kWh Savings	Annual Therm Savings	Annual Cost Savings	Estimated Incentive
Lighting					
Office Lighting					
Existing Fixture(s): 4' x 4' T12					
Proposed Fixture(s): 4' x 4' T8 (2800 hrs)					
Restroom Occupancy Controls					
Existing Fixture(s): No Controls	30	2,688			
Proposed Fixture(s): Occupancy Sensors (1400 hrs)				\$215	\$1,620
Warehouse Lighting					
Existing Fixture(s): 400W HID	4	627			
Proposed Fixture(s): 4' x 8' T5HO High Bay (2800 hrs)				\$50	\$80
Warehouse Occupancy Controls					
Existing Fixture(s): No Controls	40	11,984			
Proposed Fixture(s): High Bay Occupancy Sensors (1848 hrs)				\$959	\$3,600
HVAC					
Office Furnace					
Existing Furnace: 125000 Btu/h, 0.8 AFUE					
Proposed Furnace: 125000 Btu/h, 0.96 AFUE				\$1,069	\$800
Office Air Conditioning					
Existing A/C - Air cooled: 36 MBtu/h, 12 SEER	2		167		
Proposed A/C - Air cooled: 36 MBtu/h, 15 SEER				\$142	\$800
Office Thermostats					
Programmable Thermostat	2	1,360			
Must have 2 or more setbacks (5-1-1, 5-2, or 7 day)				\$109	\$400
Building Shell					
Office Insulation					
Existing Ceiling Insulation R-value: R-18	2	952	142		
Add R-20 to total R-38 (up to code)				\$197	\$40
TOTAL SAVINGS AND INCENTIVES	4000 Sq. Ft.	109	103	\$97	\$1,600
		32,096	412	\$2,838	\$6,940

BUSINESSCHECK® PROGRAM | 2815 100TH STREET #315, URBANDALE, IA 50322



Business Check

- **How**

- Conduct your own online analysis to learn more
- Call to request your Business Check assessment

- **Why**

- Trustworthy energy-savings advice
- Immediate cost savings from direct installations
- Long-term savings and increased property value
- Special financial Incentives

- **\$\$\$\$**

- Enhanced incentives for lighting and insulation
- Information regarding standard Nonresidential Equipment program incentives
- Assistance with Custom Systems incentives

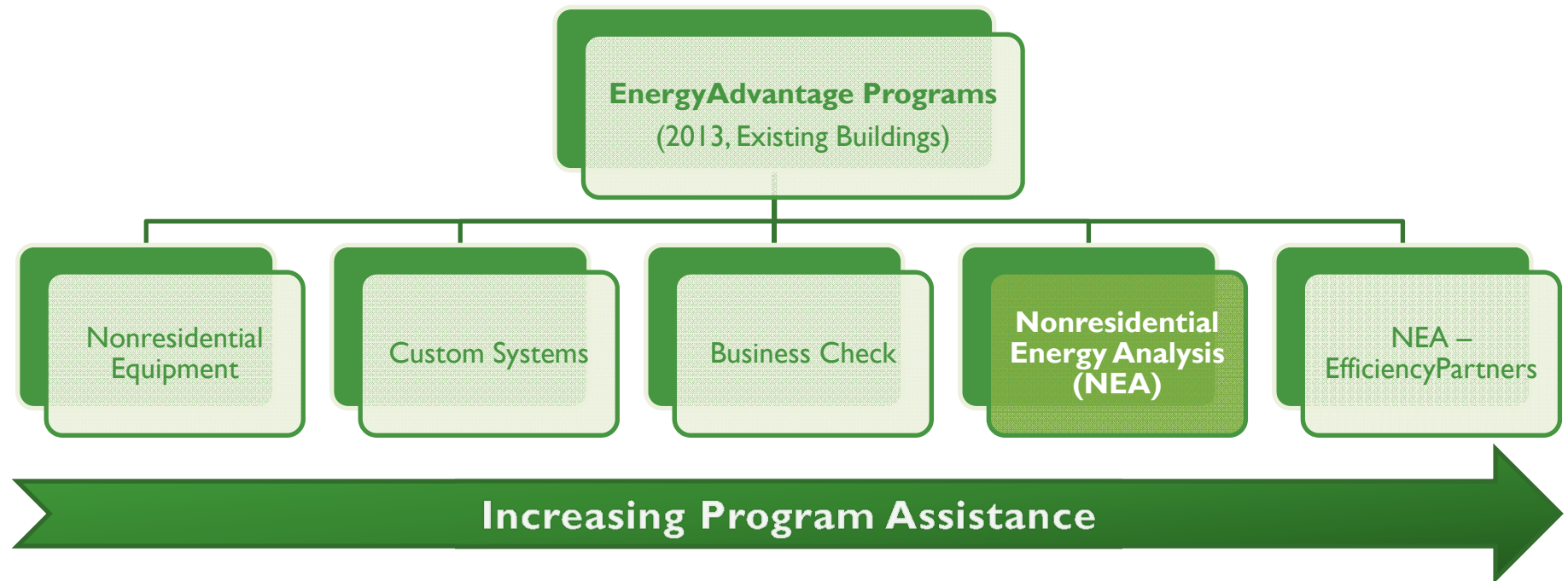
Complete Free Business
Check Assessment

Receive Assessment Report

Utilize Standard, Custom, and
Enhanced Incentives

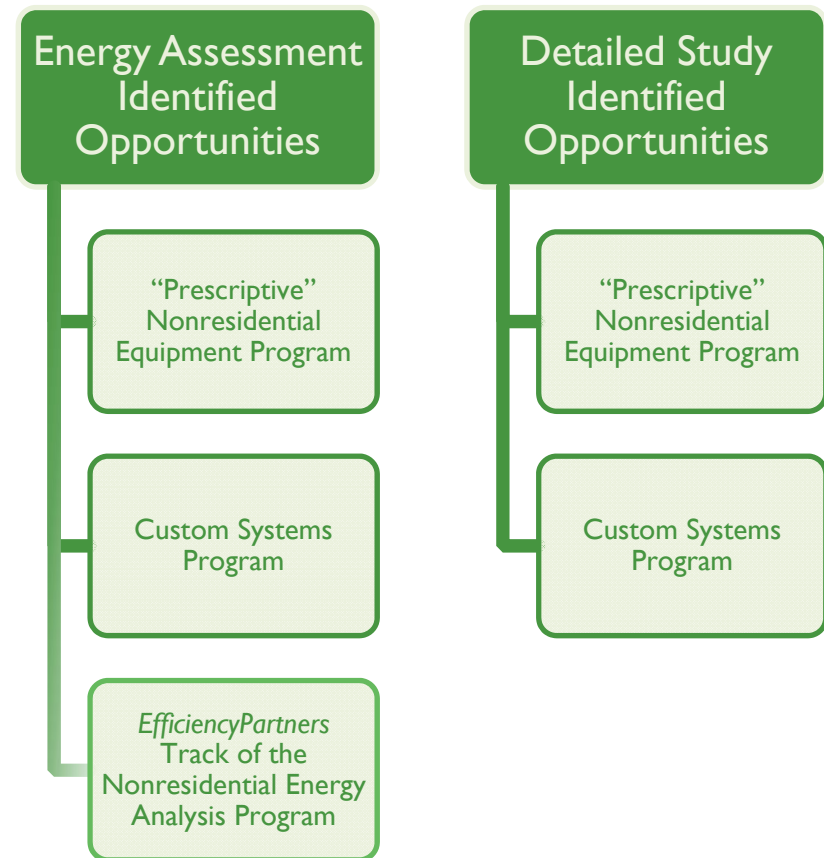


Nonresidential Energy Analysis



Nonresidential Energy Analysis

- **Who**
 - MidAmerican commercial customers larger than 50,000 sf and all industrial customers
- **What**
 - Financial and technical support for individual detailed studies of large equipment systems
 - A scoping-level, facility-wide energy assessment at no cost to the customer



NEA – Detailed Study

- **What**

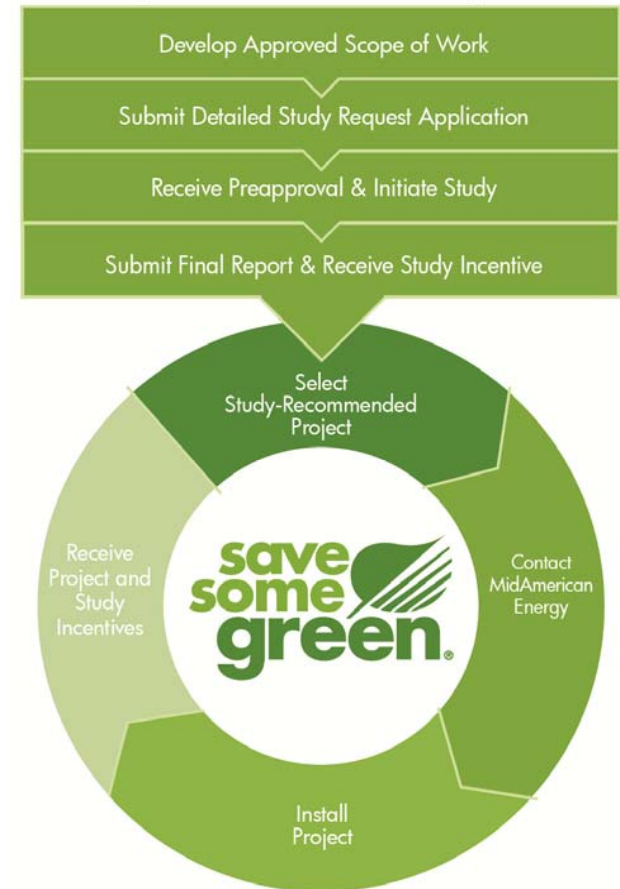
- Investment-grade analysis of a single building system (CAS, refrigeration, process heating/cooling, etc.)

- **How**

- Submit study for preapproval
- Initiate study and submit findings to receive first-half study incentive
- Implement projects to receive second-half study and project incentives

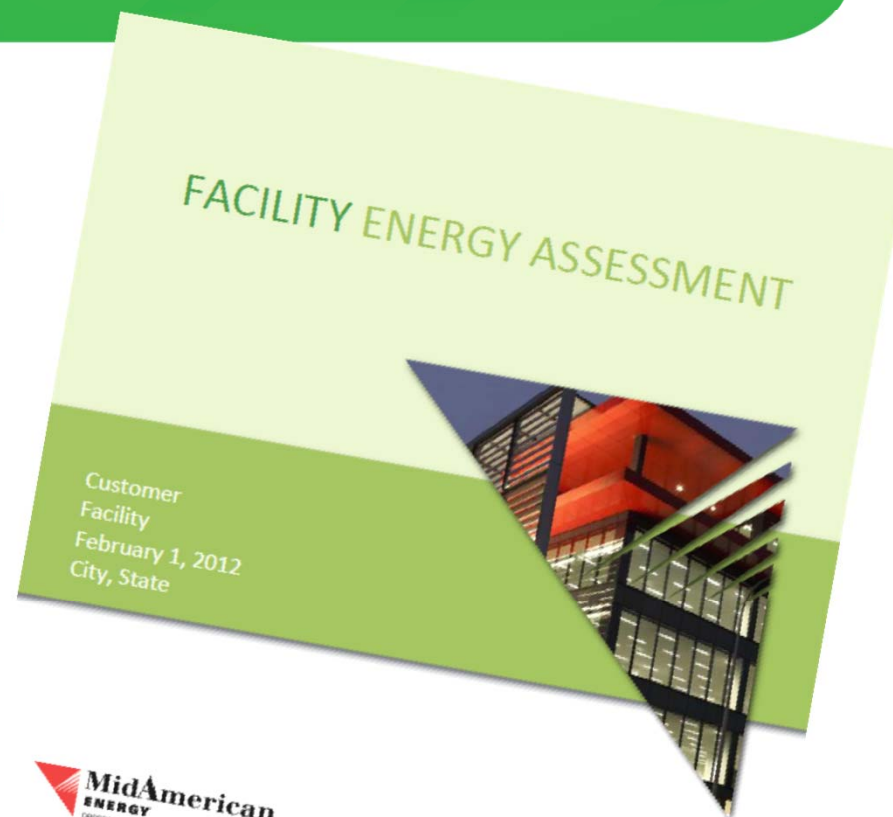
- **\$\$\$\$**

- Incentives to reimburse the full cost of qualifying studies, not to exceed \$25,000



NEA – Facility Assessment

- **What**
 - No-cost ASHRAE Level II facility energy assessment to identify detailed studies and project opportunities
- **How**
 - Complete application
 - Participate in comprehensive facility assessment
 - Receive written report of recommended energy-saving projects and detailed study opportunities
- **\$\$\$\$**
 - No-cost facility energy assessment
 - Enrollment into the *EfficiencyPartners* program to receive enhanced project incentives



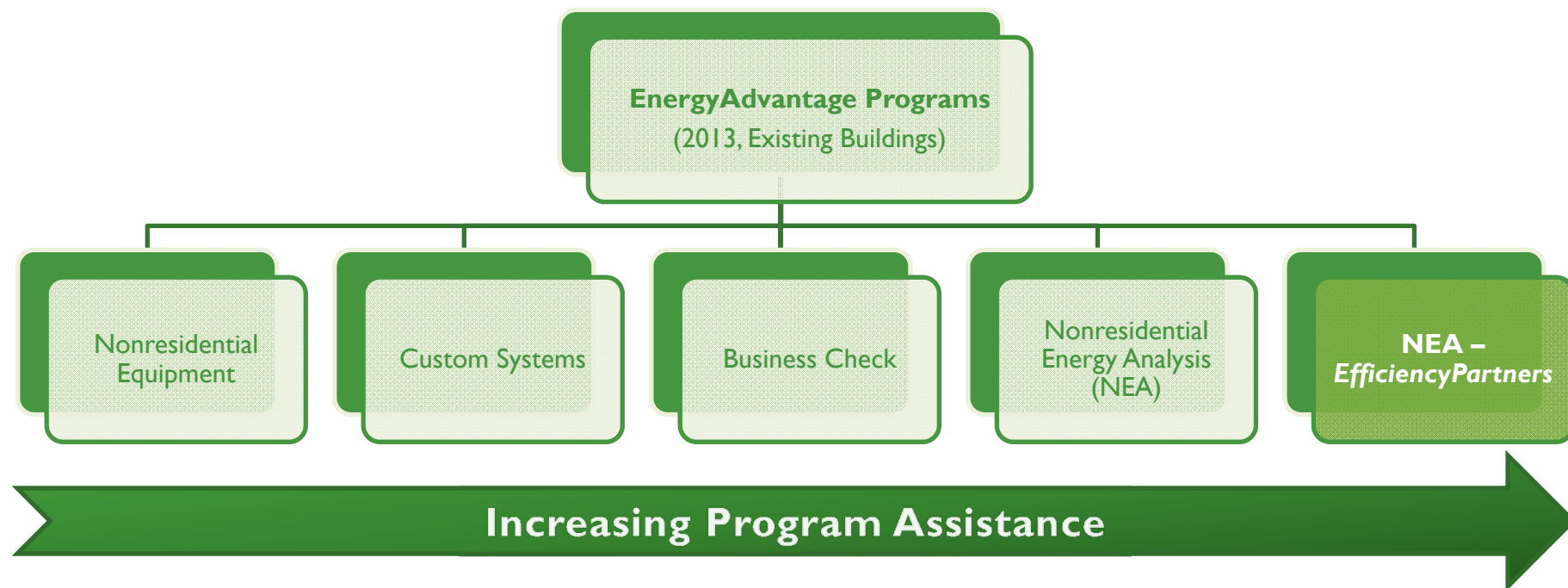
Contact
KAM
MidAmerican Energy
3500 104th Street
Urbandale, IA 50322
(P) 515-252-5555
(E) KAM@midamerican.com



Prepared by Nexant, Inc. on behalf of
MidAmerican Energy Company Nonresidential
Energy Analysis Program

Contact
Engineer
Nexant, Inc.
1232 Fourier Drive, Suite 125
Madison, WI 53717
(P) 608-824-5555
(E) Engineer@nexant.com

NEA – *Efficiency Partners*



NEA – *Efficiency Partners*

- **Who**

- MidAmerican commercial customers larger than 50,000 sf and all industrial customers
- Have completed a no-cost facility-wide energy assessment through the NEA program

- **What**

- A partnership with MidAmerican to create a comprehensive facility wide energy efficiency plan including multiple projects



Contact
KAM
MidAmerican Energy
KAM Address
KAM City, State Zip
(P) 123.456.7890
(E) KAM@midamericanenergy.com



Prepared by Nexant, Inc. on behalf of MidAmerican Energy Company Nonresidential Energy Analysis Program
Contact
Nexant, Inc.
Nonresidential Energy Analysis Program
100 Court Avenue, Suite 202
Des Moines, IA 50309
(P) 515.528.8206
(E) EfficiencyPartners@nexant.com

NEA – *Efficiency Partners*

- **How**

- Develop Memorandum of Understanding and develop a project action plan
- Select projects for implementation while following program guidelines from Custom Systems and Nonresidential Equipment programs

- **Why**

- No-cost technical assistance with:
 - Completing incentive applications
 - Locating equipment vendors
 - Preparing requests for price quotations
 - Evaluating vendor proposals
 - Reviewing feasibility of projects and detailed studies
 - Measurement and verification of project performance and energy savings
- Eligible for best available incentives

- **\$\$\$\$**

- Buy down the project's simple payback to one year
- Capped at 4 years of annual energy savings

EfficiencyPartners® Program Process



For More Information...

www.midamericanenergy.com/ee

- Program Information
- Enrollment Applications
- Project Forms
- Contact Information

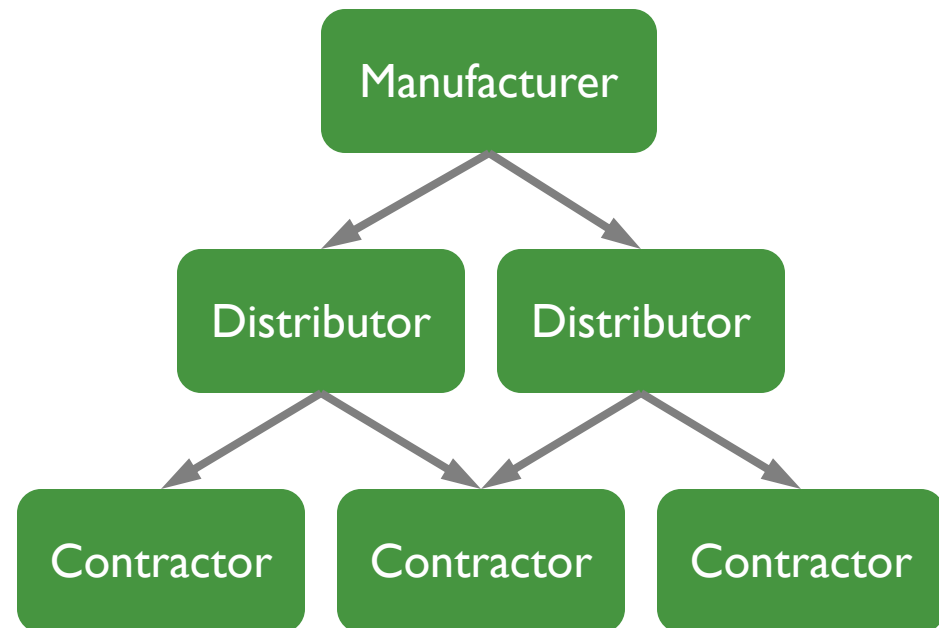


MidAmerican *EnergyAdvantage* Trade Ally Outreach Program

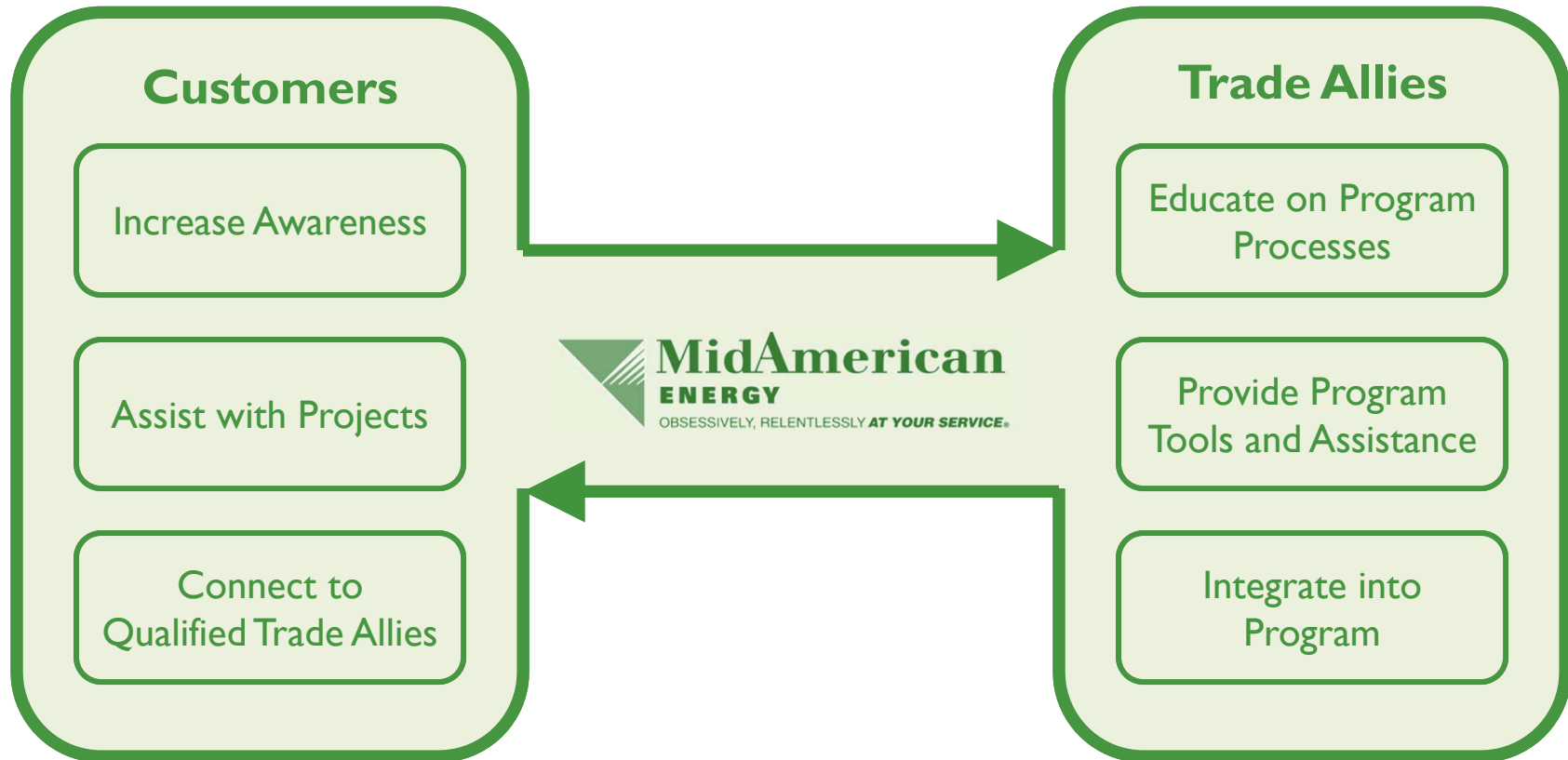


What is a Trade Ally?

- Contractors/Installers
- Engineering Firms
- Architects
- Vendors
- Distributors
- Manufacturers



Program Strategy

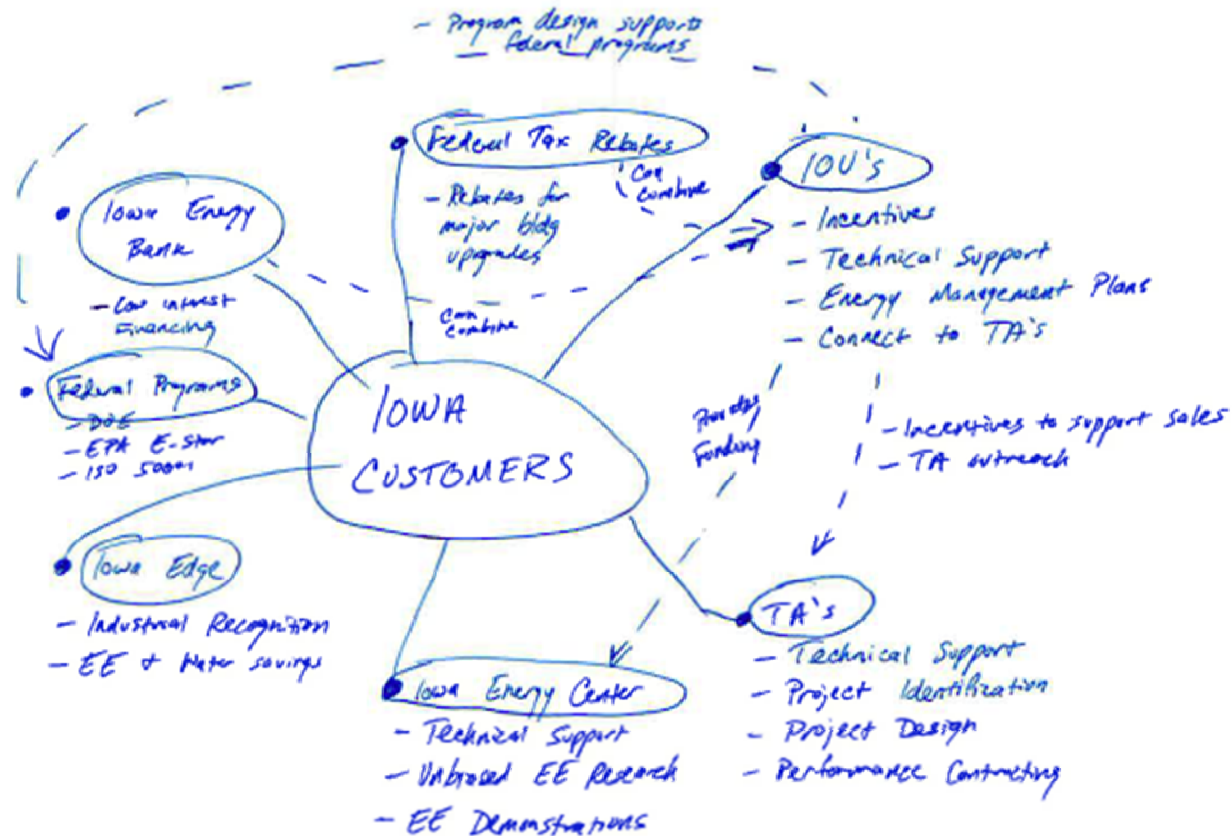


Connecting the Dots

Iowa's Energy Efficiency Offerings



Brainstorming...



Energy Efficiency Offerings

Education and Awareness

- IOU Customer Outreach
- Iowa Energy Center
- EPA Portfolio Manager
- DOE Resources

Technical Expertise

- IOU Technical Support
- Trade Allies
- Industrial Assessment Center
- ASHRAE

Customer Opportunities

Financial

- IOU Rebates
- Iowa Energy Bank financing
- Federal Tax Rebates
- Performance Contracting

Recognition

- Iowa EDGE
- EPA Energy Star Challenge
- DOE Better Buildings
- ISO 50001
- USGBC LEED

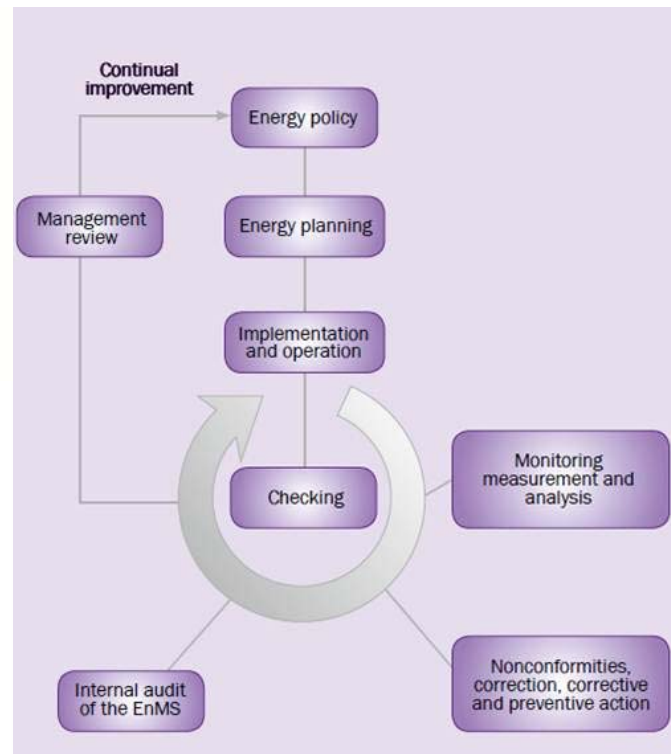
Energy Management Strategies

NEA Program

EfficiencyPartners® Program Process

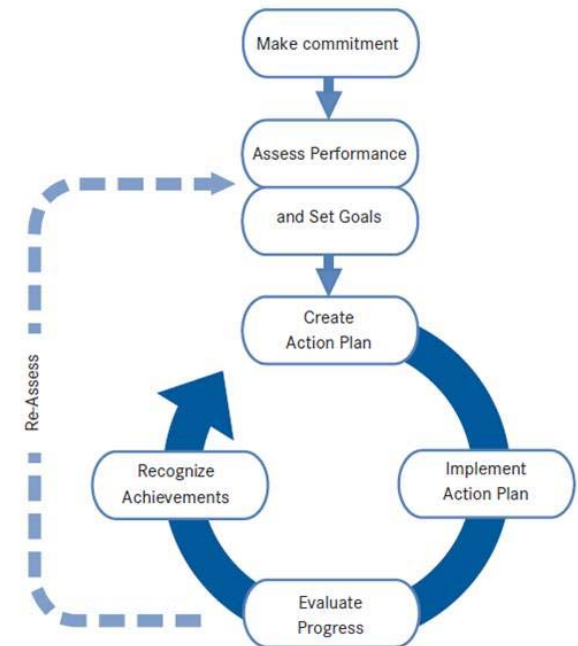


ISO 50001



Energy Star


ENERGY STAR Guidelines for Energy Management




Iowa Energy Efficiency Offerings

Organization	Objective
Investor Owned Utilities	Energy efficiency programs offer technical and financial support to promote the implementation of energy saving opportunities
Iowa Energy Center – Energy Resource Station	Unbiased commercial energy efficiency research, testing, and demonstration projects
Industrial Assessment Center	Free energy assessments for small and medium-sized manufacturing facilities
Iowa Energy Bank	Low-interest financing for energy efficiency projects at public facilities
Iowa Economic Development by Gaining Efficiency (EDGE)	Energy management plan development and recognition for industrial facilities

Commercial Public Building Example

	Iowa Energy Bank	 MidAmerican ENERGY <small>OBSESSIVELY, RELENTLESSLY AT YOUR SERVICE.</small>	Iowa Energy Center
Inquiry / Planning		<ul style="list-style-type: none"> • Customer Outreach • Energy management plan assistance 	<ul style="list-style-type: none"> • Technology demonstrations and resources
Facility Assessment	<ul style="list-style-type: none"> • Assessment required for loan approval 	<ul style="list-style-type: none"> • Free NEA energy assessment 	<ul style="list-style-type: none"> • B3 benchmarking to assess baseline
Financing	<ul style="list-style-type: none"> • Low-interest financing 	<ul style="list-style-type: none"> • Enhanced project incentives 	
Project Installation		<ul style="list-style-type: none"> • Technical support • Trade Ally Outreach 	
Verification	<ul style="list-style-type: none"> • Verification to support loan payments 	<ul style="list-style-type: none"> • On-site verification of energy savings 	<ul style="list-style-type: none"> • B3 benchmarking to track progress

Manufacturing Example

	IAC	 MidAmerican ENERGY <small>OBSESSIVELY, RELENTLESSLY AT YOUR SERVICE®</small>	Iowa EDGE
Inquiry / Planning	<ul style="list-style-type: none"> Program education 	<ul style="list-style-type: none"> Customer Outreach Energy management plan assistance 	<ul style="list-style-type: none"> Energy management plan assistance
Facility Assessment	<ul style="list-style-type: none"> Free energy assessment (includes H2O and gas) 	<ul style="list-style-type: none"> Free NEA energy assessment 	
Financing		<ul style="list-style-type: none"> Enhanced project incentives 	
Project Installation		<ul style="list-style-type: none"> Technical support Trade Ally Outreach 	
Verification	<ul style="list-style-type: none"> Project follow-up 	<ul style="list-style-type: none"> On-site verification of energy savings 	<ul style="list-style-type: none"> Recognition for achieving energy goals

Questions?

Dennis Krieger
Senior Project Engineer
515.528.8010
dkrieger@nexant.com

