

Energy Efficiency in Water & Wastewater

PARTNERING FOR SUSTAINABILITY



Technologies and Innovation Solutions for Harvesting and Non-Potable
Reuse of Urban Rain Water and Storm Water

Water Re-use, Energy and Incentives

Cincinnati., Ohio

April 24, 2013

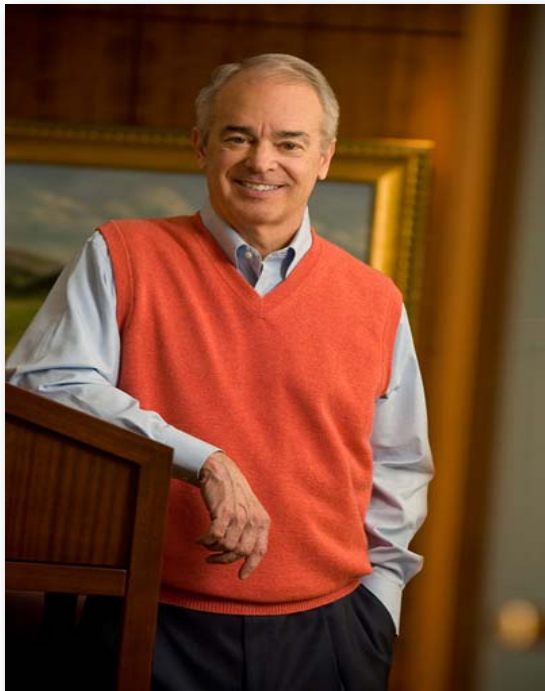
FACTS ABOUT DUKE ENERGY

- 150+ years of service
- 7.6 million customers
- Fortune 500
- \$100+ billion in assets
- 250,000+ miles of distribution
- Stock dividends for 80+ years
- Traded on NYSE as DUK
- Dow Jones Sustainability Index



Our Aspirations

- Decarbonize our power generation
- Help make our communities the most energy efficient in the world



“These aspirations are grounded in our commitments to provide our customers with clean, affordable and reliable electric and gas services.”

Jim Rogers

Chairman, President and CEO

Achieving Our Aspirations

- Build new, more efficient generation and retire older, coal-fired units
- Make energy efficiency the “fifth fuel”
- Modernize our grid by replacing less efficient analog technology with advanced digital technology



**CLIFFSIDE PLANT
CONSTRUCTION**



**WATER HEATER
BLANKET**



**INTELLIGENT
SWITCH**

Water & Wastewater, Partnering for Sustainability

Business Environment

Business Trends

- Population growth and increasingly stringent environmental requirements are expected to raise electricity demand in wastewater treatment plants by 20% between 2008 to 2023.
- The same issues, coupled with increasing customer concern about water quality, are expected to raise electrical energy consumption at water treatment plants as well.
- The idea of providing services in an Energy Efficiency manner is gaining strength.

Business Trends – Sustainability Initiatives

- Businesses are pursuing GREEN – lower energy cost, improve environment, long-term cost benefit, sustainability and community image
- Federal energy reduction goals established at a 28% reduction by 2020 compared to 2008
- OH energy reduction goals established a 25% reduction by 2025 compared to 2008



Business Challenges in the World of Water

- Aging Infrastructure
- Tight Municipal Budgets
- Graying Workforce
- Legislative and Regulatory Issues
- Utility Management



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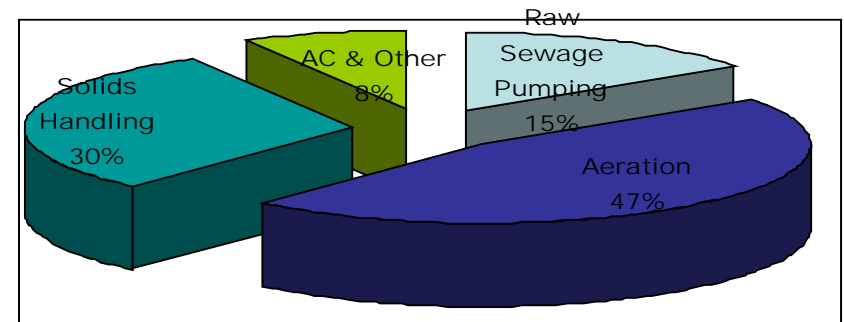
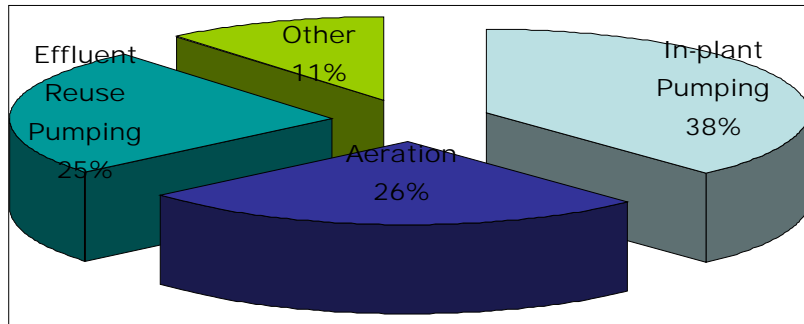
Why Manage Energy?

Why Start with Energy?

- Energy is largest subset of a facility's environmental footprint
- Energy efficiency provides financial returns
- Use energy savings to implement other green features



Energy Understanding



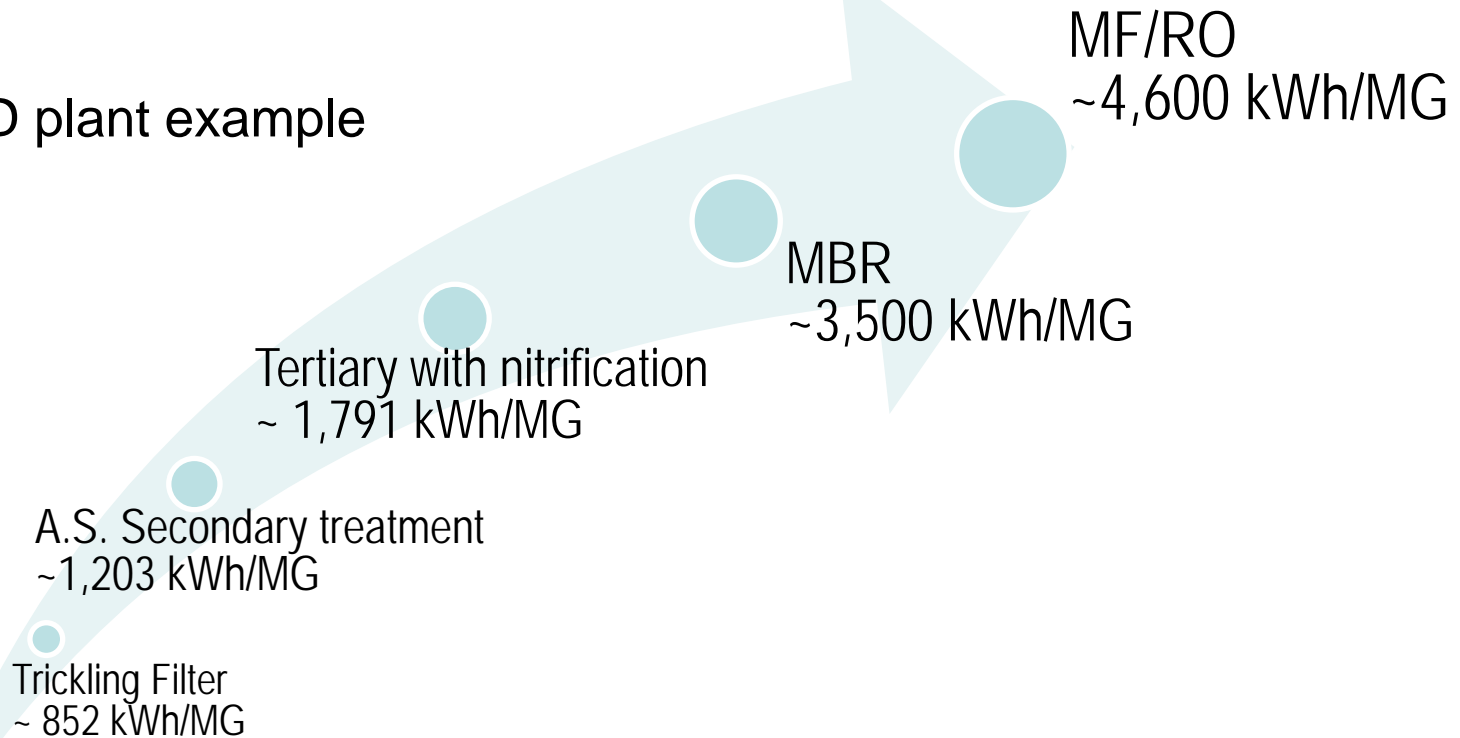
- Water and Wastewater treatment represents about 3% of the nation's energy consumption
 - About \$4 billion is spent annually for energy costs to run drinking and wastewater facilities
 - Equivalent to about 56 billion kilowatt hours (kWh)
 - Equates to adding about 45 million tons of greenhouse gases to the atmosphere
- Energy represents the largest controllable cost of providing water and wastewater services to the public

Energy is the First Step to Going Green

- Highly visible strategy for going green.
- Energy saving activities directly involve everyday behaviors:
 - Turn off lights, power down computers, use blinds, recommend ideas related to their jobs, etc.
- Energy efficiency is an investment in green that can give back green
- Educate employees to reduce energy at work and at home.

Compliance can drive up energy use

10 MGD plant example



Benefits of a Sustainable Energy Management Plan

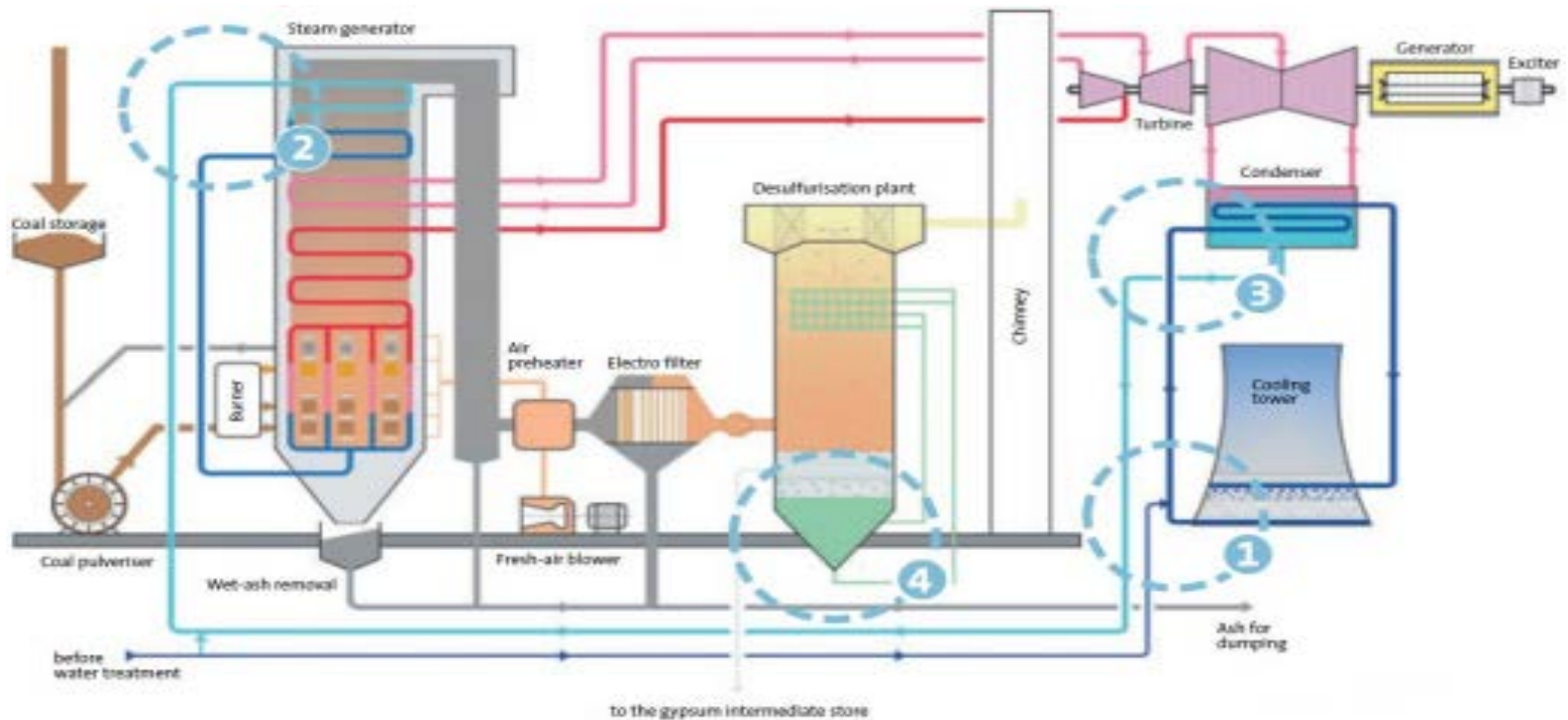
- Provides a plan for continuous improvement in energy performance over time
- Demonstrates environmental stewardship & leadership
- Demonstrates financial responsibility



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Water Re-Use

Water Re-use in the Production of Electricity



Expanded Vision

Green Roofs



Expanded Vision

Permeable Pavements



Expanded Vision

Rain Barrels



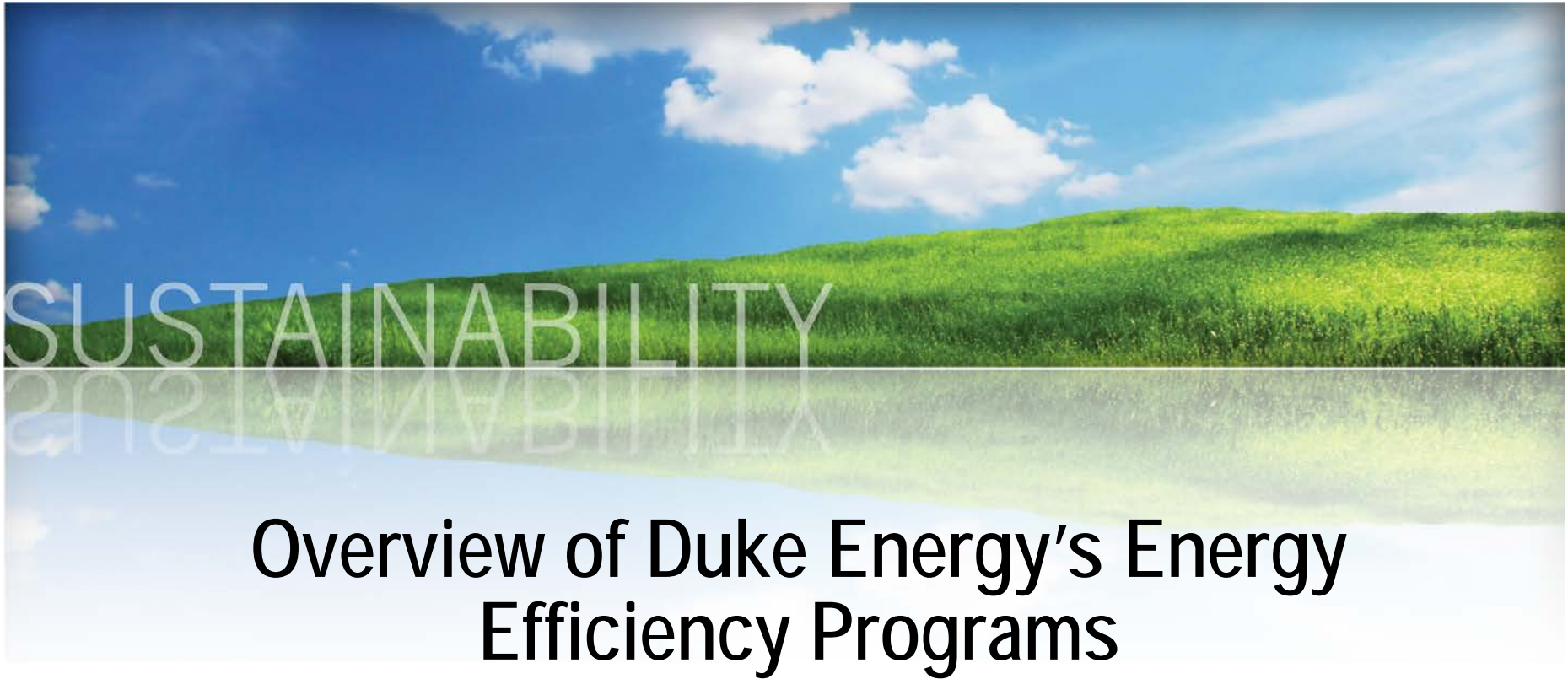
Expanded Vision

Target Field



Energy Efficiency in Water & Wastewater

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Overview of Duke Energy's Energy Efficiency Programs

Why does Duke Energy Want to pay you to use less of their product?

Traditional Utility Model

Utilities earn a return on capital invested in power plants



New Utility Model

Utilities earn a return on capital invested in energy efficiency



More cost-effective for customers



Better for the environment

Duke Energy's Energy Efficiency Programs

Energy Assessments

- Program offers three levels of Assessments: Online, Off-Site, On-site

Smart Saver[®] Nonresidential Incentive Program – Prescriptive

- Program offers defined incentives to nonresidential electric customers to help offset incremental cost differences between standard and high-efficiency equipment

Smart Saver[®] Nonresidential Incentive Program – Custom*

- Program offers customers financial assistance for projects involving more complicated or alternative technologies, or those measures which are not covered by other prescriptive incentive offerings.

PowerShare[®]

- Program offers customer incentives for providing capacity in emergency and economic constrained times

** Custom Incentives not yet available in all states*

Energy Assessments



Energy Assessments Offerings

- Online assessment – free, self-service
 - available through the Business Services Newslines
 - “Facility Assessment Wizard” provides recommendations tailored to your business or industry
- Off-site assessment – no charge
 - a phone-based interview, typically one to two hours, is conducted with the customer by an assessor
- On-Site Assessment – shared cost
 - the report is presented to the customer for review, and a live meeting or face-to-face meeting is scheduled to step through the results
 - customers can recover their portion of the costs dollar-for-dollar when they use Smart \$aver incentives (i.e., for every dollar of incentive they are eligible for, they will receive two dollars up to the cost of the assessment)



Smart \$aver[®] Incentive/Rebate Programs

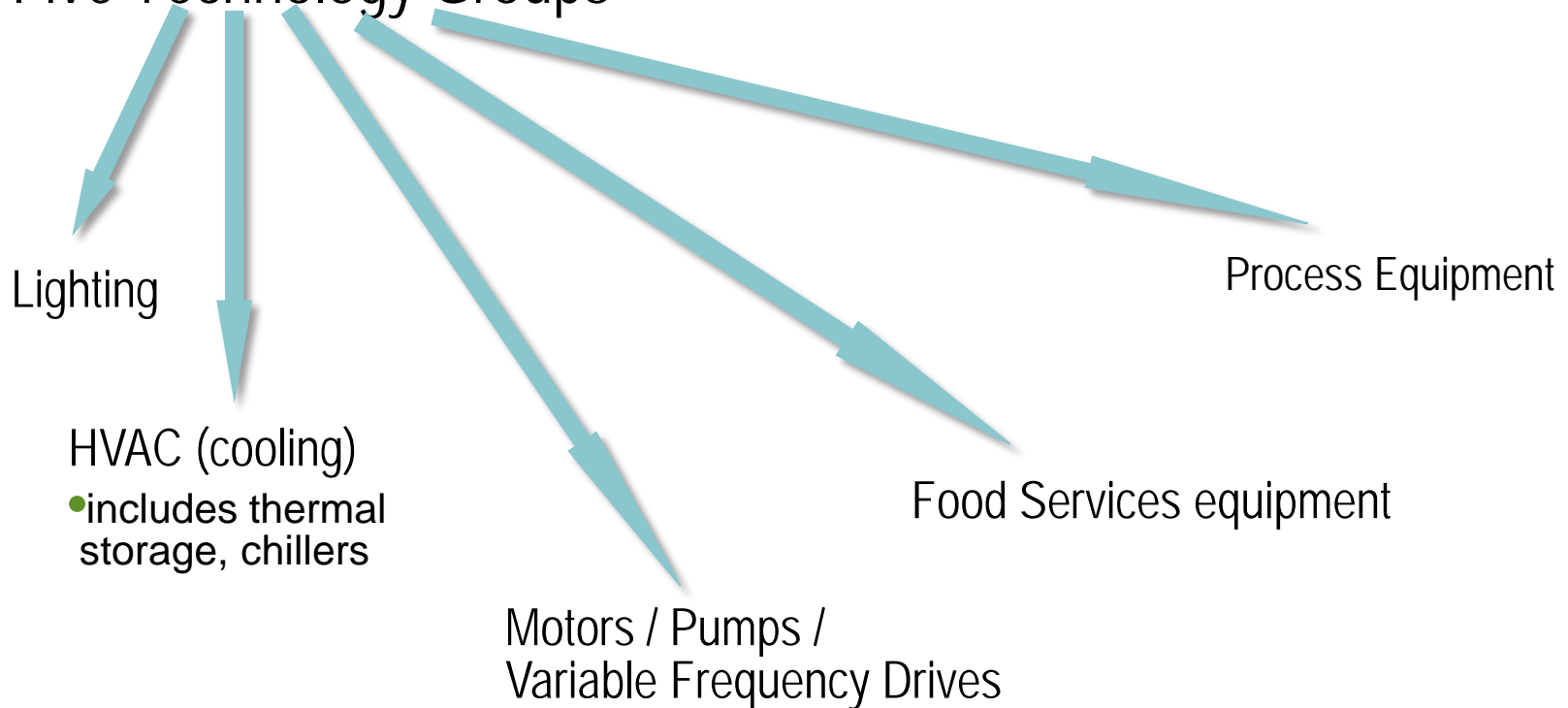
What Are They?



- They provide incentives/rebates to Duke Energy nonresidential electric customers to help buy down the incremental cost difference between the standard and higher efficiency equipment
- Incentives available for new construction, retrofit, and replacing failed equipment
- Two components of the program:
 - Prescriptive
 - Custom

Smart \$aver[®] Incentive Programs – Prescriptive

Five Technology Groups



Over 250 incentive possibilities

Prescriptive Incentives **RULES and REQUIREMENTS**

Who is Eligible?	All Duke Energy business customers who are not on a residential rate and who have not opted out of the program
Who can receive the payment?	Customer, Vendor, or other Third Party can receive the incentive payment
More information found at:	Application forms, FAQs and additional information found at www.duke-energy.com under the Business or Large Business tab
When do I submit and application?	Applications are submitted within 90 days of the project completion date
Are the programs the same in North and South Carolina?	Incentives payments and measure availability varies per state

Navigating the Duke Energy Website



Contact Us

Investors

Search

GO

RESIDENTIAL

BUSINESS

LARGE BUSINESS

OUR COMPANY

Welcome **Kentucky** customer!

CHANGE STATE

Online Services

Payment Options

Billing Options

Understand Your Bill

Electric & Gas Rates

Natural Gas Services

Request Service

Save Energy & Money

Smart Saver® Incentive Program

Products & Services

Outage Information

Renewable Energy

Our Community

Generate Your Own Power



The Duke Energy and Progress Energy merger.

- Clean, reliable, affordable electricity
- Continued support for our communities
- No changes to your service or account

learn more



**Smart Saver
Variable Frequency
Drive Incentives**
Learn more



**Smart Saver
Incentives**
Learn more.

SIGN IN

Manage my account

Help ?

User Name

nam\nmd07

Password (case sensitive)

Remember my user name

[Forgot user name?](#)

[Forgot password?](#)

[Progress Energy customer?](#)

Register

Sign In



**Online
Services**

Want to know more about how you can manage your account online?

Smart \$aver[®] Incentive Programs – Custom

Custom Incentives

- If the list of Prescriptive Incentives does not include your project, consider submitting a Custom application
 - Custom Incentives require PRE-APPROVAL. Allow for at least one month for application review.
- Objective of the incentives is to reduce electrical demand (kW) and/or save electrical energy (kWh)
- Custom Incentives are offered to ensure all cost-effective energy conservation measures are addressed by our incentive program and give our customers more opportunities to implement these measures

Smart Saver[®] Custom Incentive – General Timeline

Step 1

- Customer or trade ally completes the Custom Application and provides energy calculations

Step 2

- Duke Energy evaluates the application and communicates incentive amount (*can take 4 to 6 weeks - sooner in many cases*)

Step 3

- Following installation, customer requests incentive payment and Duke Energy pays (*installation time + 10 days for payment*)

Step 4

- Duke Energy performs measurement and verification (*within a few months after installation*)



* Measurement & Verification is performed on a portion of all installations; Pre-measurement is sometimes requested prior to equipment installation, if time allows

Smart \$aver[®] Incentive/Rebate Programs Project Eligibility (Prescriptive and Custom)

1. Equipment has not already received an incentive
2. Application must be completed in full, with supporting documentation
3. Payment is received after installation

Important Application Differences

Prescriptive Application

1. Verify the equipment is on the List
2. Submit application after installation of eligible equipment
3. Applications due 90 days after project completion
4. A sample of all applications are verified after installation

Custom Application

1. Apply before project initiation
2. Wait for approval before installation (at least 1 month) and issuance of PO
3. A high percentage are verified
4. Simple payback greater than 1 year

PowerShare[®]

- PowerShare[®] is Duke Energy's brand name for its Demand Response program

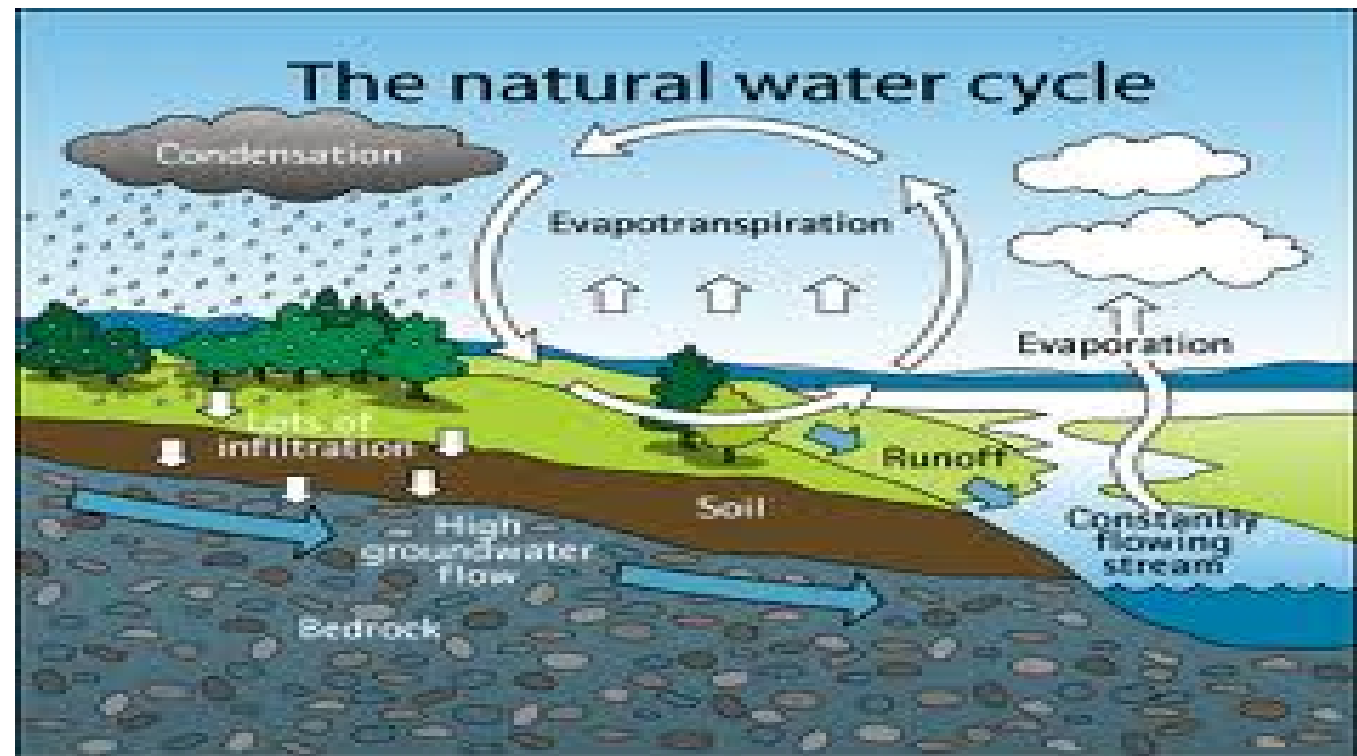
Demand Response offers customers an incentive to curtail energy load during periods of high demand

- Program offers differ slightly in Midwest vs. Southeast, but principles are the same
- Credits are paid for load curtailment
- Advance notice is provided
- Events can be Emergency (due to capacity constraints) or Economic (due to capacity constraints & economical viability)
- Menu of program options allow you to choose the preference that best fits your company's operations



New Water & Energy Saving Opportunities

- Green Roofs
- Permeable Pavements
- Rain Re-use



Next Steps

- Determine if you want to participate in the Duke Energy Efficiency program
 - Contact your Duke Account Manager or the Business Service Center for questions
 - Business Service Center
800-774-1202 (Midwest)
- businessservicecenter@duke-energy.com

Summary / Q&A



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**DUKE
ENERGY®**

