



Smart Grid Workforce Training and Education

Gregg Borachok, Duke Energy

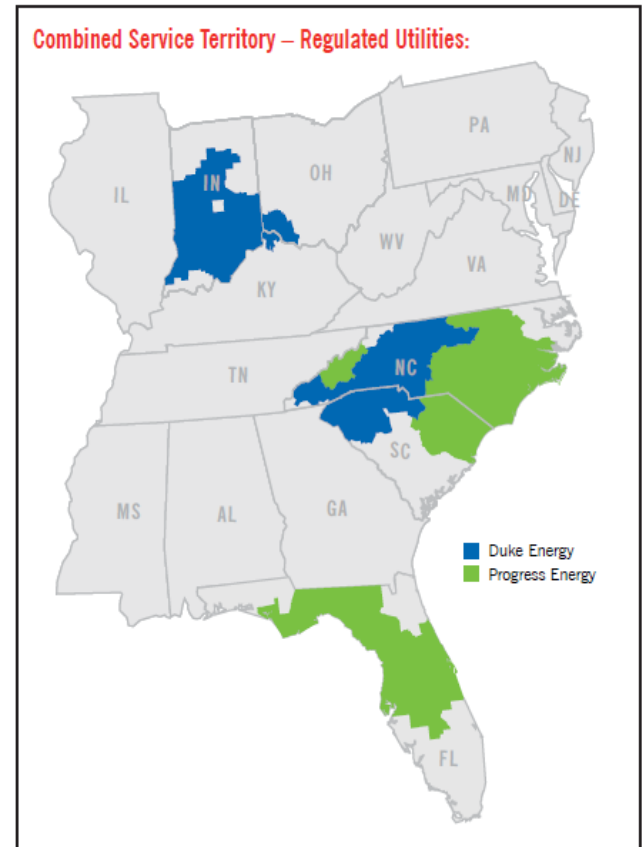
Electricity Symposium, Purdue University

August 28, 2013

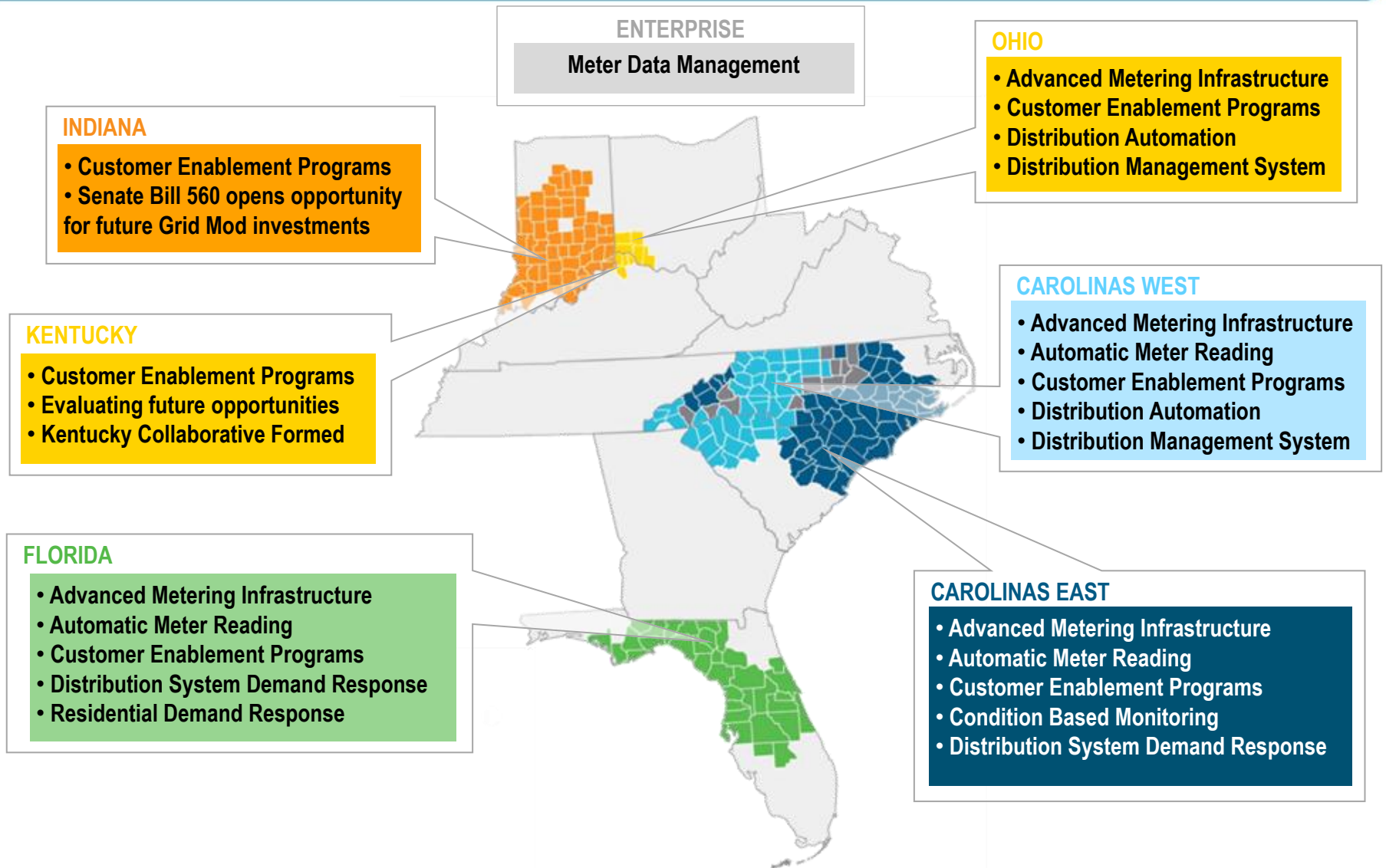


Duke Energy

- Electric Retail Customers – 7.2 million
- Gas Customers – 500,000
- Market Cap – \$45 billion
- Employees – 27,775
- Service Territory – 104,000 square miles
- Total US Generation Capacity – 57,700 MWs
- Transmission Lines – 32,200 miles
- Distribution Lines – 289,900 miles
- Duke Energy International owns, operates or has interest in approximately 4,900 MWs of generation



Grid Modernization Activity Across Duke Energy's Footprint



Duke Energy Delivery Operations and Services

Grid Modernization

<i>Strategy, Planning & Regulatory Support</i>	<i>Grid Concepts Evaluation</i>	<i>Beyond the Meter(BTM) and Customer Enablement</i>	<i>Engineering</i>	<i>Technology Solution Support</i>	<i>Governance and Program Management</i>	<i>Project Execution</i>
<ul style="list-style-type: none"> • Responsible for overall Grid Modernization strategic plan & roadmap • Works w/ business partners to develop strategy, including regular coordination with transmission and delivery operations • Manages regulatory strategy related to Grid Modernization efforts; interfaces to internal regulatory and corporate planning partners • Develops & coordinates GM communications and industry outreach efforts 	<ul style="list-style-type: none"> • Leads Grid Modernization proof of concepts for new technology • Develops hypotheses, scope and funding for pre-scaled deployments and integration of technology pertaining to telecommunications and meter related technologies • Leads IT/OT external standards setting and coordination • Owns Grid Modernization design basis documentation 	<ul style="list-style-type: none"> • Accountable for all Beyond the Meter and customer enablement related technology, including proof of concepts and pre-scaled deployment efforts for retail customer segments • Responsible for data and data analytics strategy, planning, and roadmap • Leads deployment initiatives such as the Residential Demand Response (RDR) project and HES-Ohio 	<ul style="list-style-type: none"> • Leads development of technical requirements & deliverables to support project development and deployment • Partners with Stds and Asset Mgmt organizations to create or modify standards related to GM projects • Creates and maintains technical information related to GM projects • Performs engineering & technical analysis • Provides Subject Matter Expert (SME) support 	<ul style="list-style-type: none"> • Ensures the delivery of the system support resources required for project implementation, including transition operations • Provides input on strategic product partner relationships related to GM tech • Verifies that Project Execution is delivering against defined architecture • Develops IT system applications roadmap 	<ul style="list-style-type: none"> • Manages Grid Modernization program elements • Responsible for program controls and integrated program planning and reporting • Manages QA / QC and vendors • Provides Change Management and Business Process Management governance • PMO and Risk Mgmt 	<ul style="list-style-type: none"> • Provides consistent project management leadership direction to successfully execute projects on time, schedule and budget • Provides resource planning and management for Grid Modernization • Prepares business for turnover of project assets to business

Grid Modernization: Workforce Strategy

Strategy evolves as we look at moving from a model that was focused on individual projects to a program that is effectively transforming the business

Common Traditional Roles

Project Management
Business Process Management
Change Management
Engineering
Finance
Analysts

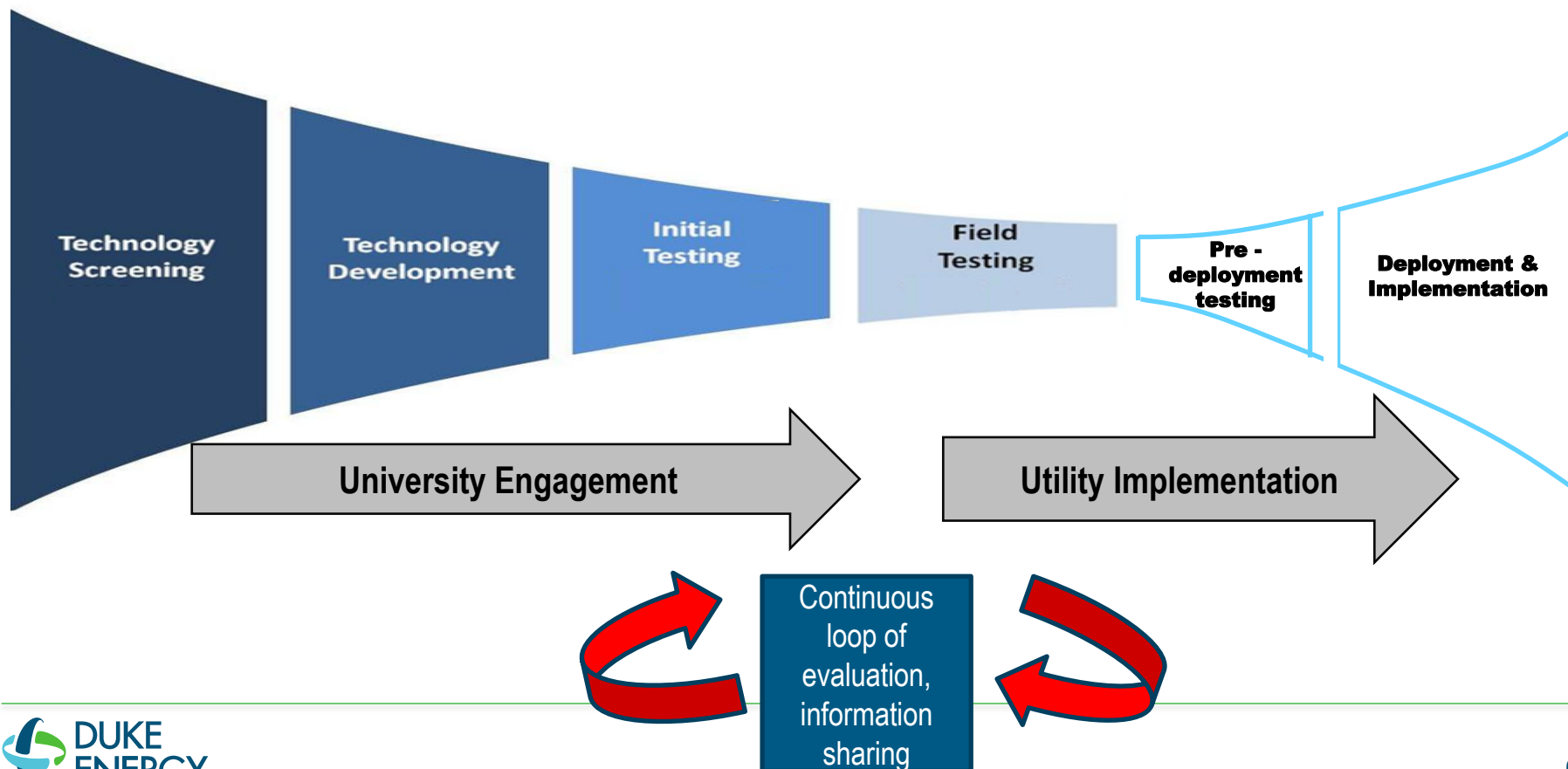
Emerging/Future Needs

Data Scientists
Technology Leads
Strategy, Public Policy & Regulatory to influence regulatory changes to support industry evolution
Increased Focus on Program Management to Effectively Realize Long-term Program Benefits/Value

- Business Process
- Change Management
- Communications
- Risk Management

University Partnerships Key to Research & Talent Pipeline

- R&D critical input to understand future capabilities of emerging technology for utility, while exposing students to needs in industry
- Utility must more effectively communicate evolution of industry and emerging needs with universities on consistent basis in order to effectively prepare for change



Duke Energy – Purdue University Partnership

- Attracting and retaining talent is a strategic priority for Duke Energy – especially in a changing energy landscape.
- Duke Energy is a proud partner of Purdue University, and this year will participate in several Purdue University events, including the Nuclear Engineering Opportunity Night (NEON) and Industrial Roundtable in September.
- Duke Energy provides students with opportunities, starting as interns and co-ops, as well as full time hires.
- Because Purdue provides talent for key skills and hiring such as Engineering, Supply Chain, and IT/Computer Science, Duke Energy supports the university through the Duke Energy Foundation for programs that strengthen workforce development.