



The Next Generation of Electric Power Engineers

*Electric Power Industry Conference
University of Pittsburgh*

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Outline

- Research
- The Shift
- Public Sector
- Consulting
- New Ventures
- New Vision



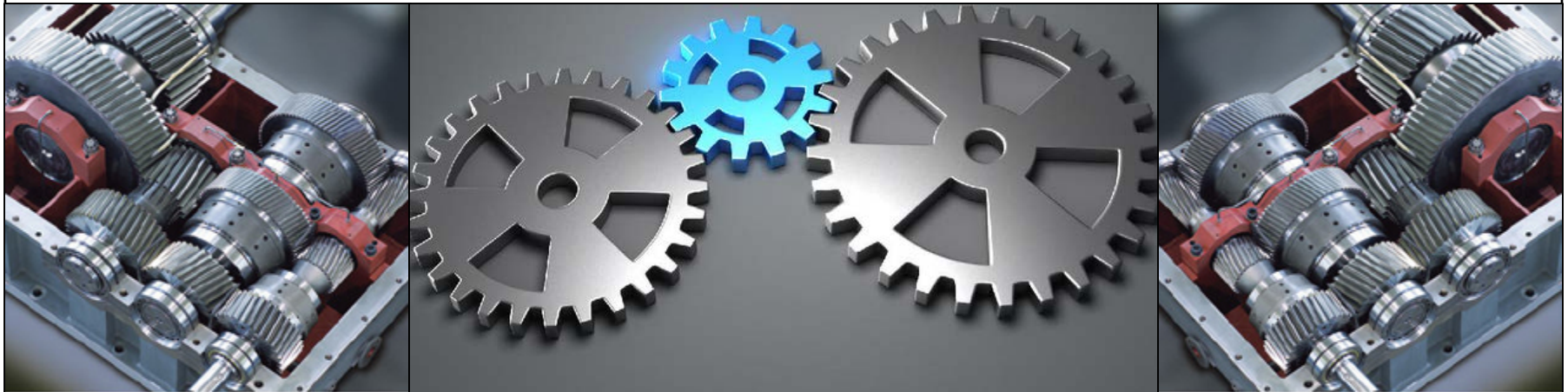
Research and Development The First Half of the Story





The Shift Change the World Now!

From	To
Research	Science Communication
Discovery	Demonstration and Deployment
Invention	Commercialization
Development	Technology Roadmapping
Conceptualization	Strategic Planning
Prototyping	Decision Support





Public Sector Policy and Planning

U.S. DEPARTMENT OF
ENERGY

Office of Electricity Delivery
and Energy Reliability

Core Purpose of OE

OE drives grid modernization by improving energy system:

Reliability



Security



Resiliency





Public Sector Data and Decision Science

U.S. DEPARTMENT OF
ENERGY

Office of Electricity Delivery
and Energy Reliability

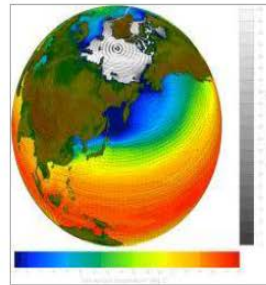
Energy Infrastructure Modeling and Analysis

EIMA addresses dynamics, complexity, and uncertainty, through:

Measurement



Modeling



Risk Assessment



to improve energy infrastructure decision making.



Public Sector Technology Roadmapping



QUADRENNIAL TECHNOLOGY REVIEW AN ASSESSMENT OF ENERGY TECHNOLOGIES AND RESEARCH OPPORTUNITIES



September 2015

Andrew Sowder
EPRI

Taylor Sparks
University of Utah

Thomas Speth
EPA

Siva Srinivasan
University of Florida

Ravi Srivastava
EPA

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Association*

Henrik Stiesdal
Siemens

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*Massachusetts Institute
of Technology*

Stephen Streiffer
Argonne National Laboratory

Ray Stults
*National Renewable
Energy Laboratory*

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Stanford University

Madhava Syamlal
*National Energy
Technology Laboratory*

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*Pacific Northwest
National Laboratory*

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NASA

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Mark Taylor
Corning Inc.

Kevin Teichman
EPA

Bob Thompson
EPA

Scott Tinker
Bureau of Economic Geology

Jessika Trancik
*Massachusetts Institute
of Technology*

Robert Tribble
*Brookhaven National
Laboratory*

Diane Turchetta
*U.S. Department of
Transportation*

Jason Turgeon
EPA

Paul Turinsky
*North Carolina State
University*

Michael Ulsh
*National Renewable
Energy Laboratory*

Baskar Vairamohan
EPRI

Vicky VanZandt
*Electric Transmission
Consulting*

Ron Vance
EPA

Mark Verbrugge
General Motors

John Vetrano
DOE

Phil Vitale
U.S. Navy

Bill Vocke
USCG

Zia Wadud
University of Leeds

Marianne Walck
Sandia National Laboratories

Brian Walker
DOE

Doug Wall
Sandia National Laboratories

Suzanne Waltzer
EPA

Annie Wang
Senvol

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*Oak Ridge National
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Oregon State University

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Jim Williams
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Mary Wilson
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Paul Wilson
University of Wisconsin

Bob Wimmer
*Toyota Motor
North America, Inc.*

Jamie Winebrake
*Rochester Institute of
Technology*

Ryan Wiser
*Lawrence Berkeley
National Laboratory*

Frank Wolak
FuelCell Energy



Consulting Tech Adoption



HOM

IDEAS TO IMPACTS

Energetics is an energy and environmental consulting firm that applies its technical, policy, business, and managerial expertise and resources to the most challenging problems facing the world today. We bring big ideas and challenge the norm. We work with our clients to deliver value.





Energetics Consulting Strategic Alignment

Analysis and Modeling

Technology Baselines
Emerging Technology Analysis
Carbon and Energy Footprints

Communications and Outreach

Marketing
Web Design
Writing and Editing

Metrics and Evaluation

Metrics Development
Performance Tracking
Verification and Validation Assessments

Program and Project Management

Project Performance Solutions
Strategies and Management
Program Planning/Design

Strategic Planning and Roadmapping

Collaborative Planning
R&D Program Planning
Interagency Coordination

Tech Transfer Investment and Financing

Market Intelligence
Technology Business Planning
Technology Validation

CLIMATE CHANGE/
SUSTAINABILITY

CRITICAL
INFRASTRUCTURE
RESILIENCE AND
CYBERSECURITY

ENERGETICS
INNOVATION
PRACTICE

ENERGY
EFFICIENCY

GRID
MODERNIZATION

INDUSTRIAL

RENEWABLE
ENERGY

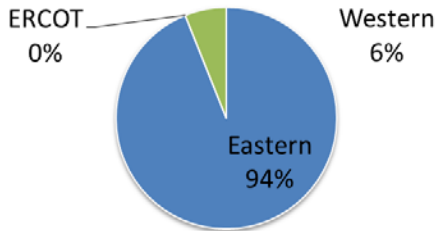
TRANSPORTATION



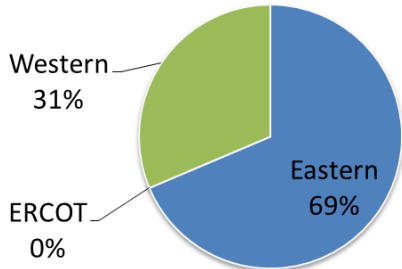
Energetics Consulting SGIG - \$8B – 99 Projects

Transmission

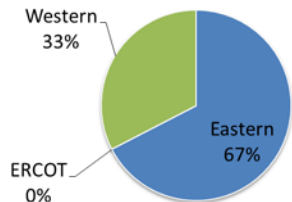
Upgraded 30162 Miles of Transmission Line



1253 Phasor Measurement Units

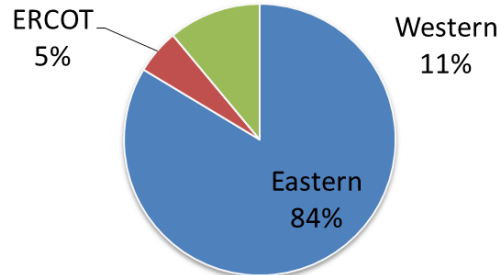


175 Phasor Data Concentrators

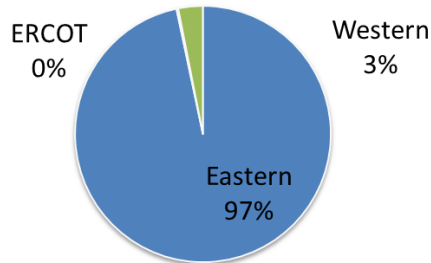


Distribution

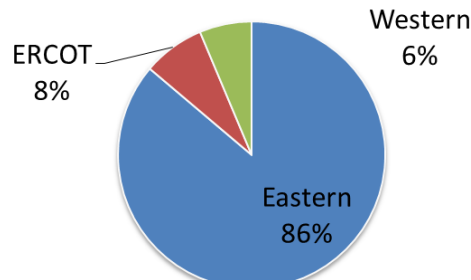
Automated 35455 Distribution Circuits



11019 Automated Capacitors

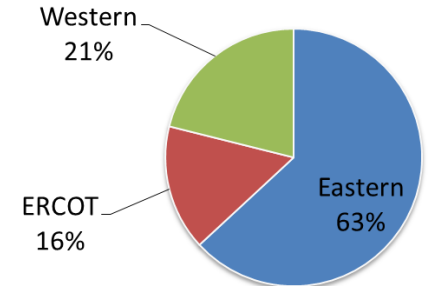


9062 Automated Feeder Switches

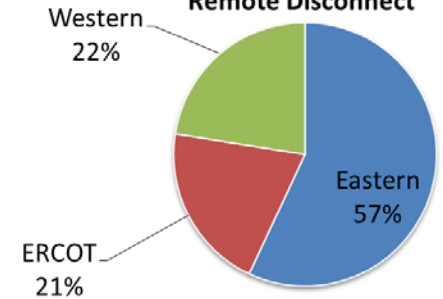


AMI

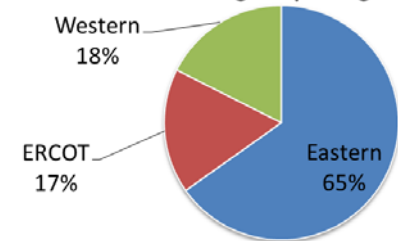
15 M Smart Meters Installed



10.7M Smart Meters w/ Remote Disconnect



12.8M Smart Meters w/ Outage Reporting



New Ventures SolarCell and Microgrids



Emmanuel Taylor, Chief Executive Officer

- Phd, Electrical Engineering 2014, University of Pittsburgh
- MS, Electrical Engineering, University of Pittsburgh
- BS, Electrical Engineering, University of Pittsburgh



Nick Scangas, Chief Operating Officer

- MBA, Operations 2015, University of Pittsburgh
- MS, Bioengineering 2015, University of Pittsburgh
- BS, Biomedical Engineering, University of Rochester



Dean Rosenwald, Chief Communications Officer

- Master of International Business 2015, University of Pittsbu
- MBA, Business Strategy 2015, University of Pittsburgh
- BSBA, University of Pittsburgh
- BS, Psychology, University of Pittsburgh



Jai Kumar, Marketing Director

- BS, Neuroscience 2015
- Minor, Computer Science, University of Pittsburgh 2015



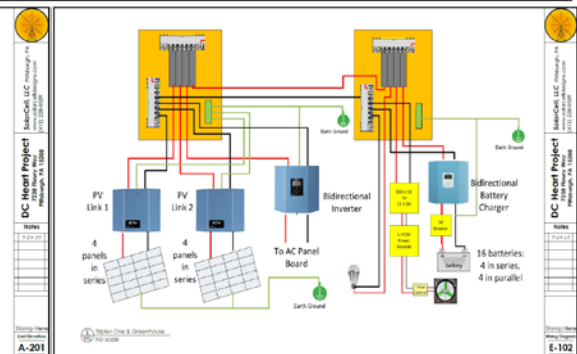
SolarCell, LLC Pittsburgh, PA
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(412) 228-0559

DC Heart Project
7238 Fleury Way
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Notes

7.24.15
8.4.15

Stamp Here
Site Plans - Prev.
S-102
Not to Scale





New Ventures SolarCell and Microgrids



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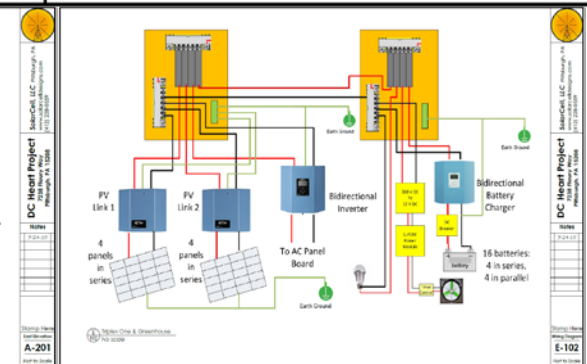
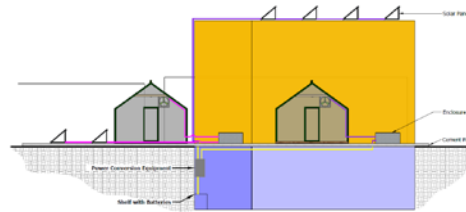
Telecommunications

Education

Microgrid

Agriculture

Healthcare





New Vision Change the World Now!



Questions?