

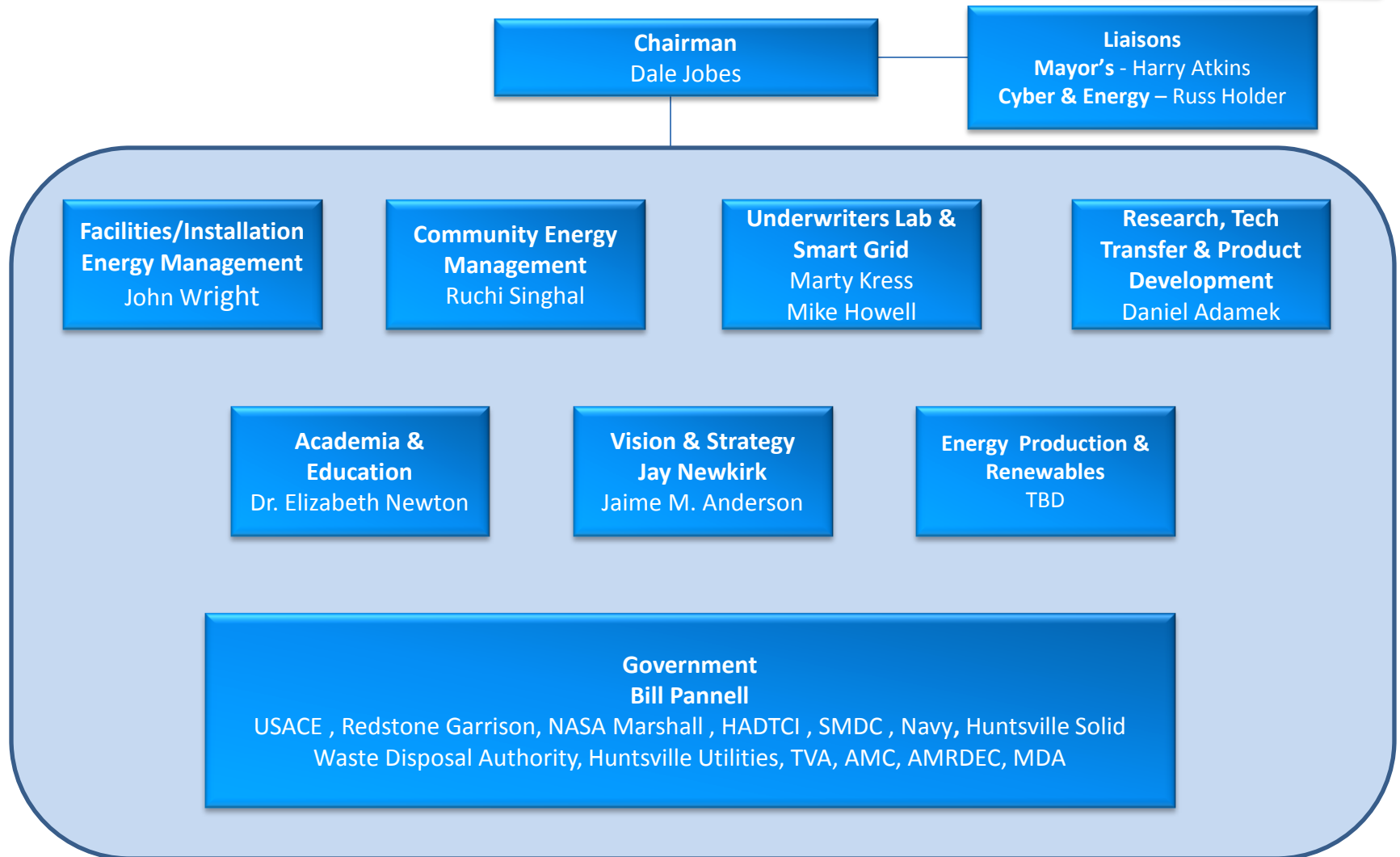


**Energy Huntsville  
Initiative**

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**AUGUST 2011**



# The Functional Organization



# The Energy Technology Opportunity

## Utility Smart Grid Industry

- 2005 Federal Energy Act
- Metering technology
- Metering data management
- Energy Information distribution
- Demand response
- Data security and cyber protection

Mature commercial energy technology hardware and software solutions well positioned for government technology transfer

## Technology Transfer to Government

- Federal and state energy funding
- HSV industrial base excellence in government contracting
- Significant DOD commitment to energy solutions
- Army wide energy funding through the COE HSV Center

Both industry and workforce primed for applying knowledge and expertise to the significant energy challenges

# Participating Organizations

## *Forty + Organizations Participating Including:*

### *Major Corporations:*

- Schneider Electric
- SAIC
- Booz-Allen Hamilton
- Boeing
- TBE
- Intergraph
- Johnson Controls

### *Small/Medium Business:*

- ARES Corporation
- CALIBRE
- Cobham Analytic Solutions
- Red Sage Communications
- Project XYZ
- Magnolia River Solutions
- MCFA
- Rocky Research

- Government Energy Solutions
- MTS Corporation
- Carina Technology
- PESA
- Cohesion Force

### *Government & Non-Profit*

- Current Technology Corp
- DIA/MSIC
- NASA/HADTCI
- UAHuntsville
- Oak Ridge National Laboratories
- VCSI
- Nexus Energy Center
- Redstone Garrison
- Chamber of Commerce
- USACE CEHNC
- Others...

# Energy Huntsville Initial Activity

## *Energy Huntsville:*

- Idea Meeting with Mayor – Summer 2010
- Initial Meetings – November 2010
- Early Strategic Planning Meeting – January 2011
- Volunteer Recruitment – January 2011 – Ongoing
- Creation of Structure & Focus Areas – February 2011
- Initial Mission & Charter – March to May 2011
- Press Conference & Official Release – June 2011
- Energy Resiliency Summit June 28, 2011





# Energy Huntsville Event Participation

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## ***Resiliency & Redundancy Summit***

- Local, State, and Federal Government and political leaders; Small & Large Businesses; Academia; Non-profits;
- Sponsored & Planned by Cyber Huntsville and Energy Huntsville

## ***Small Business Technology Transfer (STTR) Summit***

- Energy Huntsville participated in the Huntsville Advanced Defense Technology Cluster Initiative (HADTCI) which hosted a Small Business Technology Transfer (STTR) Summit designed to facilitate establishment of partnerships between small businesses and universities in the North Alabama region. The HADTCI event served as a model to focus on federal funding opportunities.

## ***Energy Huntsville Forum***

- An Energy Huntsville forum will be conducted in conjunction with the Third Annual Green U festival open to the public with focus on the environment on August 25<sup>th</sup> from 8:00am to noon showcasing local businesses, government entities, and non-profit organizations that are conducting work in the energy sector.

## ***SMDC Technology Program Conference***



# Upcoming and Ongoing Projects

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## ***Solar Demonstration:***

- Energy Huntsville is supporting Nexus Energy Center's "smart grid" solar demonstration project focused on demonstrating distributed generation through solar PV rooftops and parking canopies across 30 plus buildings and parking lots in Huntsville's Cummings Research Park.

## ***Car Charging System Demonstration:***

- Energy Huntsville is supporting the Nexus electric car charging system demonstration project with Huntsville Hospital which is the largest hospital in North Alabama. The project will establish a solar parking canopy to charge two of the hospital's Nissan LEAF's fleet vehicles.

## ***Alabama Sun Shot – Rooftop Solar Challenge:***

- Energy Huntsville consortium opportunity to respond to a DOE funding opportunity announcement for the *Rooftop Solar Challenge* to demonstrate measurable improvements for rooftop photo voltaics.

## ***City of Huntsville Steam Driven Electricity Generation from Waste Material:***

- Energy Huntsville is supporting Huntsville's initiative to add turbines to create electricity to provide back-up and emergency electricity for Redstone Arsenal, Huntsville Utilities and TVA

## Ongoing Projects, cont.

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### ***Energy Underwriters Lab***

- Perceived Need – Tennessee valley BRAC, Mayor’s vision, interactions with DOD and DOE with recognized need for emerging energy technologies validation, “more fight with less fuel”, dramatically reduce logistics requirements, and create new commercial markets
- Pentagon goal of reducing the fully burdened cost of fuel to the warfighter
- Emergence of policy documents, white papers, legislation, lessons learned

### ***Energy Intern Support to Federal Facilities/Programs***

- Interns to support NASA Marshall & Redstone Arsenal Garrison Energy Management Programs

### ***Community Energy Strategic Planning Academy***

- Energy Huntsville is supporting Mayor Battle’s Office and the Solid Waste Disposal Authority to go through the DOE’s Academy and develop a Strategic Energy Plan for the City of Huntsville

### ***Energy Resilience and Redundancy Lessons Learned Report***

- Energy Huntsville is developing a lessons learned report from the summit to be openly provided by the end of 2011





# Resiliency & Redundancy Summit

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- **Resilience of our Critical Infrastructure and Cyber Security - June 28<sup>th</sup>, 2011 at ADTRAN**
  - April 27, 2011 Super Tornado Outbreak
  - 38+ Separate Tornadoes, 240+ lives lost, 2,200+ injured
  - Estimated Assets Lost in Alabama: \$2.8 - \$4.6 Billion
- **Attendees & Speakers/Panelists**
  - DOE, DOD (Army & Army Corps), DHS, TVA, HSV Utilities, NOAA, NASA, local, state, and federal government representatives, small & large businesses, non-profits
- **Keynote and Catalyst - Mr. William Bryan**
  - Deputy Assistant Secretary, Infrastructure Security and Energy Restoration - DOE
- **TVA**
  - 351 structures damaged, 109 transmission lines out
  - By July 10<sup>th</sup> all systems were back on-line
  - 8 Transmission feeds serve Huntsville/Madison County – all 8 were down
  - 98% of customers restored with 28% of infrastructure fully repaired



# Resiliency & Redundancy Summit – Lessons Learned

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## ***Energy Redundancy & Security***

- ***Multiple Feeds – Above & Under Ground***
- ***Energy Production within Madison County***
- ***Different types of Energy Sources (Renewable, Alternative, Coal & Oil)***
- ***Planning – What is critical***
- ***Resiliency***
  - *Hospital*
  - *Communications*
  - *Diesel & Gas Pumping*
  - *Groceries*
  - *Generators*
- ***Planning – Cyber and Physical Security***
  - *Redstone Arsenal*
  - *Research Parks*

# Questions

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## **Army Energy**

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**AUGUST 2011**



# Army Energy

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## Facts

- *Army owns over 15 million Acres of land (comparable to the state of Maryland)*
- *5 million acres could be used for buffering or Renewable infrastructure*
- *The Army Spends nearly \$4 billion a year on energy*
- *The Army needs an additional 2.1 Million MWh of Renewable Energy and \$7.1 Billion in private investment to meet the goal of 25% renewable energy by 2025*

## Strategic Energy Security Goals (ESGs)

- *Reduced Energy Consumption*
- *Increased Energy efficiency across platforms and facilities*
- *Increased use of new renewable and alternative*
- *Assured access to sufficient energy supplies*
- *Reduced adverse impacts on the environment*



# Army Net Zero & Kwajalein's NetZero Energy "Award"

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## ***SMDC's Kwajalein - NetZero Energy Installation by 2015***

- *Aggressively conserve energy*
- *Generate as much renewable energy as it consumes, measured over the course of a year*

## ***Army-wide goals of improving its resiliency and endurance as a military source***

- *Surety*
- *Supply*
- *Sustainability*
- *Sufficiency*
- *Survivability*

## ***For more information:***

- *NetZero Energy Installation: A Guide to Assessment Planning*
- *<http://www.nrel.gov/docs/fy10osti/48876.pdf>*

# Army Renewable Goals

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The Army aims to obtain 25 percent of its energy from renewable sources by 2025 and projects spending \$7.1 billion on the effort during next decade. To meet the goal, the Army *"must use every opportunity to be energy efficient and draw power from alternative and/or renewable energy sources."* **Secretary of the Army John McHugh**

- **The Army Corps' Huntsville Center, CEHNC, will lead the Program Management and Contracting Effort**
  
- **Potential Programs & Contract Vehicles**
  - Power Purchase Agreements (Commercial Financing)
  - Energy Savings Performance Contracting – ESPC (Commercial Financing)
  - Energy Conservation Investment Program – ECIP
  - Energy Services & Design Build

# Army Energy Task Force

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## Energy Initiatives Office (EIO) Task Force

- "The Energy Initiatives Office Task Force will help the Army build resilience through renewable energy while streamlining our business practices so developers can invest in and build an economically viable, large-scale renewable energy infrastructure. ***Secretary of the Army John McHugh***
- **Established August 10, 2011 – Announced at GovEnergy last week**
- **Army Corps' Huntsville Center, CEHNC, are members on the Task Force**
- **For more information: <http://www.armyeio.com/index.html>**



# Questions

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