

2nd Annual Energy & Innovation Conference

November 28–29, 2012

Inaugural TransTech Energy Business Development Conference

November 14–16, 2012

Carl Irwin

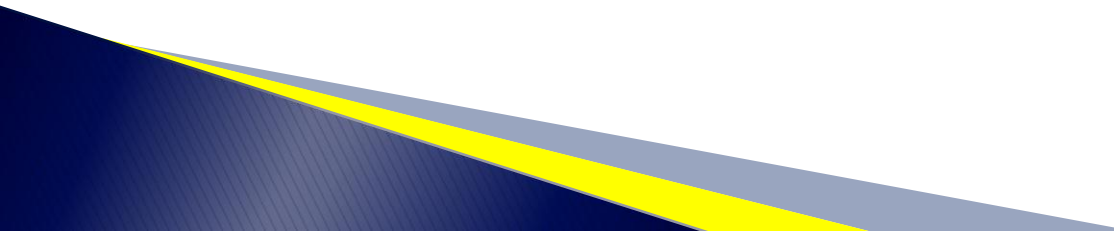
Industries of the Future – West Virginia

West Virginia University

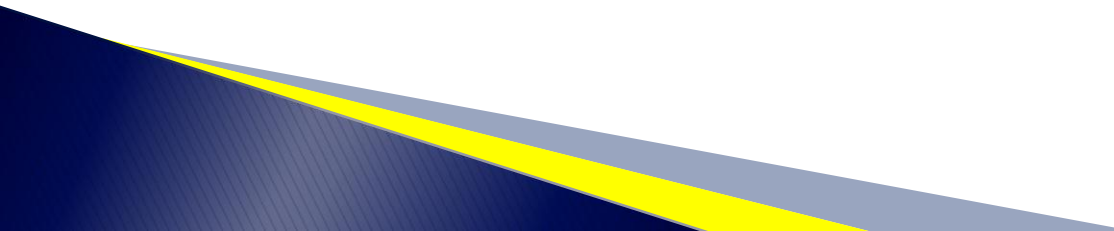
National Research Center for Coal & Energy

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TransTech Energy (TTE) Technologies

- ▶ Move us along the pathway to a low-carbon, industrially competitive, clean energy economy of the future.
 - ▶ Examples include waste heat recovery, CHP, efficiency, new processes for shale gas to chemical feedstocks and fuels, advanced manufacturing processes such as 3-D printing and robotics, hybrid fossil/renewable systems, productive uses of CO₂, ...
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20 TTE Start-Up Companies Applied

- ▶ 5 external reviews of each application
 - ▶ 15 companies invited to make 8-minute pitches at the conference
 - ▶ 10-minute Q&A with judges
 - ▶ 3 pitch sessions each with 15 judges to evaluate the pitches
 - ▶ \$25,000 allocated for two awards - based on averages of judges' scores.
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Plenary Panel 1: Development and Deployment of TransTech Energy Innovations


- ▶ *Promoting New Companies through Advanced Manufacturing Research and Demonstration Programs* - Dr. Ron Ott, ORNL
- ▶ *Investing in Efficiency and Innovation for a Competitive, Sustainable Steel Company* - Tim Duke, Steel of West Virginia
- ▶ *From Research Lab to Start-Up Success* – David Mather, MTPV

Company/Project Pitches followed by Business Potential Q&A

Focus: CleanTech for Fossil Energy Systems

1. 3H Company, Liang Hu
2. CavitroniX Corporation, Thomas David
3. Eco Power Solutions, Kevin Crapsey
4. HydroCoal Technologies LLC, Randy Taylor
5. Optimus Technologies, Colin Huwyler

Focus: Enabling Technologies for Renewable Energy

1. ECO2Capture, Dr. Dave Bayless,
 2. Epiphany Solar Water Systems, Ron Pettengill
 3. Powermers Corporation, Frank Scardena
 4. SenSevere LLC, Jason Gu
 5. Sole Power LLC, Matthew Stanton
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Company/Project Pitches followed by Business Potential Q&A (continued)

Focus: Energy Efficiency/Recovery/Use Innovations

1. Agri-Tech West Virginia LLC, Joseph J. James
2. EchoGen Power Systems, Phil Brennan
3. Green Energy Enterprises LLC, Steve Jones
4. Platypus LLC, Paul Scerri
5. Vadxx Energy, Jim Garrett

Conference Dinner and Keynote Presentation:

Innovators, Entrepreneurs and the Appalachian Gold Rush – Greg Babe, Orbital Engineering, Inc.

Networking Lunch – Open Discussion on Advanced Manufacturing Solutions

- ▶ *Additive Manufacturing: National Additive Manufacturing Innovation Institute (NAMII)* - Tom Minnich, RCBI
- ▶ *Advanced Manufacturing Jobs & Innovation Accelerator Challenge (Accelerator)* – Dr. Lynn Daniels, U.S. DOE AMO

Keynote Speaker: *ARPA-E: Changing What's Possible* - Dr. Cheryl Martin, U.S. DOE ARPA-E


Plenary Panel 2: Transforming a Nation: Challenges, Innovations, and Venture Opportunities thru 2050

- ▶ *Industrial Energy Use* - Tom Casten, Recycled Energy Development
- ▶ *Vehicle Technologies* - Ian Sutherland, GM Research & Development
- ▶ *Energy Systems Integration* - Dr. David Mooney, NREL

Awards Luncheon and Concluding Remarks – David Wilhelm, Hopewell Ventures/Adena Ventures

Summary

What Worked Well

- ▶ Willingness of investors and technical experts to serve as reviewers and judges
 - ▶ 130 registered attendees from 13 states – mostly WV, PA, OH, VA, KY
 - ▶ Excellent exhibits: robotics demo, additive manufacturing demo, WVU solar decathlon entry demo, brownfields business development opportunities, NETL commercializable technologies, and more.
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Summary

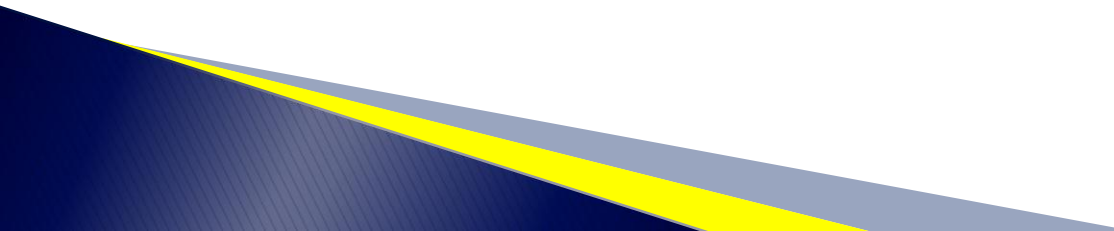
What Worked Well (continued)

- ▶ Transitional part of TransTech really worked –
 - Multi-pollutant control systems for fossil fuel plants, pyrolysis of coal and waste materials, waste plastics to crude oil.
 - Sensors and controls, control systems for fuel flexible vehicles, hydrogen sensors for harsh environments (e.g., electrolysis processes to make chlorine)
 - Solar power water treatment systems, solar power, li-air battery technology, algal CO₂ capture

What Didn't Work Well

- ▶ TTE Student Business Concept Paper Competition – only three entries by deadline date

What to Change for Next Time

- ▶ Have more large companies (potential strategic partners) participate
 - ▶ Recruit more co-sponsors
 - ▶ Selected start-up companies should designate alternate presenter in case primary presenter has a last minute conflict
 - ▶ Provide score sheets for general audience to evaluate presenting companies (not used for award decisions)
 - ▶ More space for exhibitors, demonstration projects, presenter exhibits, and student poster sessions.
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Thank you!

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