



**Industries of the Future – West Virginia**

# **Creating Energy Advantages for West Virginia Companies**

WV Manufacturers Association Annual Meeting

June 11-13, 2006



Carl Irwin  
WVU NRCCE

(304) 293-7318 ext. 5403  
Carl.Irwin@mail.wvu.edu



# What is IOF-WV?

- IOF-WV is a cooperative effort between the WV Development Office and WVU.
- The goal is to develop partnership projects to improve energy and resource efficiency and productivity of energy-intensive manufacturing and production companies.
- IOF-WV was originally modeled after the U.S. DOE's national IOF program – now referred to as the Industrial Technology Program (ITP).
  - The ITP budget:
    - FY 2005 - \$73 million
    - FY 2006 - \$57 million
    - FY 2007 administration request - \$46 million

# **\$ Value of IOF-WV to Date**

Federal & State funding:	\$18,857,170
Non-federal cost share:	\$ 9,992,116
Total R&D value of IOF-WV:	\$28,849,286

# IOF-WV Facts

- Approximately 200 proposals written involving 191 partners
- 45 competitively funded R&D projects with 70 industry partners and 26 WVU faculty members
- 63 WV companies on U.S. DOE's large energy users database
- 4 plant-wide assessments (Bayer, Pechiney, PPG, Weirton Steel)
- 3 Save Energy Now assessments (Bayer – Institute site, DuPont – Belle Plant, Dow-Union Carbide)
- 330 assessments conducted by the WVU Industrial Assessment Center with total recommended energy savings of  $2.79 \times 10^{12}$  BTU with actual implementation savings of  $1.13 \times 10^{12}$  BTU

# Industrial Energy Consumption

	<b>Annual Industrial Energy Consumption (2001) <math>10^{12}</math> BTUs</b>	<b>BTU/\$GSP</b>
PA	1,285.60	\$9,568.65
OH	1,428.9	\$10,633.47
KY	845.9	\$16,043.08
TN	745.5	\$12,143.10
WV	311.4	\$17,358.49

2004 U.S. Industrial Energy Intensity = \$11,984 BTU/\$GDP

# Examples of Energy Savings Results

- Targeted energy savings at Century Aluminum of **\$15 million per year** with new diagnostic and control system
- Plant-wide energy assessment at Bayer New Martinsville - **\$1.48 million in annual energy savings opportunities**
- Industrial Materials for the Future Project – **projected energy savings of 333 trillion BTU/year** and cost savings of approximately **\$1 billion/year by 2020**.
- WVU IAC estimated that WV's wood/forest products industry could save more than **\$8.6 million annually**.

# **Current Energy Saving Initiatives**

- **Industrial Gas Utilization Center** – Larry Banta, Kathleen Cullen
- **Projects with Industry Program** – Ken Means
- **Glass Industry Assistance Program** – Larry Banta
- **Wood Industry Assistance Program** – Joe McNeel
- **Industrial Assessment Center** – B. Gopalakrishnan
- **Wood-Polymer Composites** – Rakesh Gupta
- **BestPractices Workshops** – Larry Banta, Kathleen Cullen

# **Proposals and New Initiatives**

- **Energy-Intensive Industry Cluster Initiative**
- **Sloan Workshop – coping with high and variable energy costs**
- **Partnerships for Innovation – West Virginia (PFI-WV)**
- **Save Energy Now - National Energy Savings Assessments**
- **Plant-wide Energy Assessment Program**
- **Mittal Weirton Taskforce Recommendations**

# **IOF-WV Team**

- Co-Directors: Carl Irwin, WVU and Jeff Herholdt, WVDO
- Engineering Scientist: TBD
- Program Coordination: Kathleen Cullen, Angela Shock, Marie Butler

Visit <http://iofww.nrcce.wvu.edu>

**See you at the 2006 IOF-WV Symposium,  
November 8-9, Charleston, WV**