

**West Virginia Manufacturers Association
Compliance Conference – Plant Managers Track
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**Industries of the Future – West Virginia:
Competitiveness through Energy & Resource
Efficiency, Innovation, and New Technologies**

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The DOE's Industrial Technologies Program

- Created in 1994 as Industries of the Future
- Managed by the Office of Industrial Technologies in the U.S. DOE Office of Energy Efficiency and Renewable Energy
- What will energy-intensive industries look like in five years, in ten years, in twenty years? (Visions)
 - Aluminum, steel, glass, chemicals/polymers, wood/forest products, metal casting, mining
- How do they evolve in an energy and resource efficient, economically viable manner? (Technology Roadmaps)
- OIT website: www.oit.doe.gov

IOF-WV Program

- West Virginia was the first state to launch a state IOF program in 1997 and it caught on around the country
- IOF-WV is a partnership effort with the West Virginia Development Office
- The IOF-WV mission
 - Develop and apply new technologies and processes for the benefit of West Virginia companies
 - Develop synergies, project teams, and facilitate meaningful results
- For further information visit our website:
<http://iofww.nrcce.wvu.edu>

WV Industry Comparisons (2000 data)*

| Industry Sectors | GSP (\$M) | Employment | GSP/Emp |
|----------------------------------|--------------|---------------|-----------------|
| Primary Metals | 918 | 10,707 | \$85,738 |
| Fabricated Metals | 369 | 6,192 | \$59,593 |
| Stone, Clay, & Glass | 337 | 6,604 | \$51,030 |
| Chemicals & Polymers | 2,899 | 14,254 | \$203,382 |
| Rubber & Plastics | 173 | 3,727 | \$46,418 |
| Lumber & Wood Products | 591 | 13,018 | \$45,399 |
| Paper & Allied Products | 73 | 1,233 | \$59,205 |
| Total for IOF-WV Sectors | 5,360 | 55,735 | \$96,169 |
| Total for WV Manufacturing | 6,760 | 84,557 | \$79,946 |
| IOF-WV % of Manufacturing | 79% | 66% | |
| Coal Mining | 2,126 | 16,140 | \$131,722 |
| State Totals | 42,271 | 889,370 | \$47,529 |

*Source: U.S. Department of Commerce, Bureau of Labor Statistics, www.bea.doc.gov

IOF Industry Sectors

| IOF Industries Percent of Total Manufacturing | | |
|--|------------|-------------------------|
| State | GSP | Total Employment |
| West Virginia | 79% | 66% |
| Wyoming | 69% | 48% |
| Pennsylvania | 51% | 42% |
| Maine | 51% | 41% |
| Ohio | 45% | 46% |
| Tennessee | 42% | 38% |
| Iowa | 38% | 26% |
| Texas | 36% | 37% |
| North Carolina | 35% | 30% |
| Georgia | 32% | 32% |
| New Hampshire | 25% | 33% |

How We Operate ...

- Link into industrial and economic development needs of the state
- Plant visits
- Engage research groups at the land grant universities and national laboratories
- Assess R&D priorities, develop teams, and then follow through with proposals

Examples of IOF-WV Projects

- Targeted energy savings at Century Aluminum of \$15 million per year with new diagnostic and control system
- Energy savings of \$20 million at Weirton Steel since 1998, equivalent to \$8 per ton cost reductions
- Permitting productive reuses of spent foundry sand has saved HK Casting \$657,000 to date

- \$1.48 million in energy saving opportunities at Bayer Chemical with a payback of 12 months
- \$2.5 million in energy saving opportunities at Pechiney Aluminum with an average payback of 7.6 months
- Center for Extrusion Compounding of Additives for Superior Plastics Performance. One of six Research Challenge Grants funded by the WV Higher Education Policy Commission

- Energy assessments at eight wood products companies show that West Virginia's wood/forest products industry could save more than 1.2 trillion BTUs per year equivalent to \$8.6 million annual savings.
- Since 1998, the cumulative R&D value of IOF-WV projects is \$26,807,101.

Challenges to Implementing Projects

- Companies preoccupied with business climate issues
- Matching industry priorities with research expertise and co-funding opportunities
- Cost-share commitments on proposals
- It's a competitive process – not all proposals are funded

Outreach Activities

- Annual IOF-WV Symposia
- Annual IOF-WV Day at the State Capitol
- Talks, exhibits, and consulting on the IOF-WV “journey”
- Newspaper and magazine articles
- Radio and television interviews
- IOF-WV Video

Concerns for Manufacturing in the U.S.

- Low cost foreign labor, over capacity, economic slump, exchange rates
- Level playing field – environmental concerns, working conditions, market access

Industry Transitions

- Move to higher-value, niche products
- “Maybe it’s new business models rather than new products”
- We can help create (energy) advantages for U.S. manufacturers – National Commission on Energy Policy
- How do today’s basic manufacturing industries evolve into tomorrow's advanced technology companies?

Some Recent Headlines

- Two million engineers and beginnings of a vibrant manufacturing sector
 - 2% of Indian population uses cars – global average is 80%
- Steel tariff quandary
 - In 2004 China eclipses U.S. as biggest steel consumer
 - Prices of some steel products higher in China than in U.S.
- U.S. set to lead recovery of chemical industry with 3.7% GDP growth next year
- Better to have companies with fewer jobs than no companies

How can IOF-WV Benefit your Company?

- There are lots of low or no-cost benefits
 - WVU Industrial Assessment Center
 - Plant-wide Energy Assessments
 - Networking
- Identify co-funding opportunities for high priority projects
- Team with university researchers and national lab experts
- Help shape R&D priorities in West Virginia