



# Industries of the Future - West Virginia Monthly UpDate

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## Observations on the Ohio Energy Showcase

By Mike Carr, IOF-WV Engineering Scientist

Hello, my name is **Mike Carr**. I'm the newest member to join the **Industries of the Future – West Virginia (IOF-WV) team** at WVU. To some of you, I'm a familiar face. I've been involved as a group facilitator with **Carl Irwin** and the **IOF-WV Symposium** for the past couple of years. I'm an industrial engineer and have spent the last fifteen years working with industry to implement lean manufacturing, total quality management, simulation modeling, logistics and supply chain optimization.

My first official road trip with the IOF-WV team, lead me to the **Ohio Technology Showcase**, September 27-29. It was interesting to hear about the great strides being made by facilities such as **Timken, Alcoa, Republic Engineered Products, and Ford Motor Company** with regards to process improvement and energy savings.

**Ford**, through a plant-wide assessment identified 18 projects with a potential savings at the plant of \$13 million per year. Several of these projects are completed or in process and have a combined realized savings of \$3.65 million per year in energy costs. Most of the savings came from melting system, motor system, and lighting system improvements. Lighting and motor system improvements are opportunities that we can all implement at our own facilities.

**Alcoa Cleveland Works** saved over \$100,000 per year by replacing boiler control valves. Upgrading hydraulic press pumps resulted in \$213,000 in annual electricity costs, and upgrading their compressed air system resulted in an annual savings of \$75,000.

**Timken** had a very impressive project where they used a laser based ultrasonics system to continuously measure the wall thickness of seamless mechanical steel tubes. This new wall thickness gauge resulted in 5% annual fuel savings, fewer product rejections and rework, improved steel surface quality and an annual cost savings of \$500,000. Timken not only looked at new technology developments in their process improvement program, but also looked at increased throughput through simulation modeling as a means to save on per unit energy costs and improve plant revenue.

Although energy savings took up a large portion of the conference in Cleveland one of the most interesting discussions came at the **Coal Gasification Breakfast meeting**. **Michael**

**Greenman** the Executive Director of the **Glass Manufacturing Industry Council** gave an interesting presentation titled *Syngas for Industry*. With natural gas prices exceeding \$12/MMBTU, the potential to economically develop coal-derived synthetic natural gas is now feasible. Greenman, in his presentation stated that, combined with tax incentives, coal derived syngas can be produced for around \$4/MMBtu. Still, the big hurdle is the capital investment required to build the plant and coal handling facilities.

Coal gasification scale is also an issue. The larger the facility, the cheaper the per unit gas costs become, but the initial investment grows with plant size. This presents a great opportunity for manufacturers to team together to invest in a coal gasification plant that they could otherwise not justify for their own needs if done independently.

**Donald Bonk** of the **Department of Energy's National Energy Technology Laboratory (NETL)** presented data on a pilot project for a coal-fired hot water heating application that had a three season payback to capital costs versus a natural gas fired hot water heating system. Currently, the IOF-WV and WVU researchers are teaming together to perform a feasibility study for a co-generation plant to be built in the New Martinsville area to serve a cluster of five manufacturing plants in the area. I'm greatly anticipating the results of this study.

If you're interested in energy savings through increased product throughput contact Mike Carr in the IOF-WV office to get started.

As part of the **2005 IOF-WV Symposium**, Mike Carr is organizing a workshop on **"Business Strategies for Reducing Energy Costs and Improving Productivity"**. Contact Mike for further details.

Registration information and the agenda for the **9th Annual IOF-WV Symposium** are available at <http://iofwv.nrcce.wvu.edu>

**Steam System Assessment Training, November 10, 2005, at Dow Tech Park, Charleston, WV.** The 1-day course covers the operation of typical steam systems and discusses methods of system efficiency improvements. The workshop is sponsored By the **WV Manufacturers Association Chemical Industry Committee, IOF-WV, Bayer Corporation, and DOE EERE**. Contact Bill for further information.

## EVENTS

**Energy Decisions for Maryland Businesses 2005 and Beyond**, sponsored by **The Maryland Energy Administration**, will be held November 3, 2005, 8:30 am to 3:00 pm at the The Conference Center at Sheppard Pratt, Baltimore MD. To register call (410) 772-4233 or email [energyinfo@howardcc.edu](mailto:energyinfo@howardcc.edu), or check out the website at <http://www.energy.state.md.us>

**Business Management for Loggers** sponsored by the West Virginia Forestry Association will be held November 10, 2005 in Buckhannon, WV. For more information visit [www.wvfa.org](http://www.wvfa.org)

**2005 Fall Annual SBIR/STTR Conference** will be held November 14-17, 2005 in Albany, NY. For more info contact visit [www.sbirworld.com](http://www.sbirworld.com).

**2006 IOF-WV Day at the State Capitol** will be held January 24, 2006 at the West Virginia State Capitol, Charleston, WV. Detailed information will be coming out soon. For further information contact Kathleen Cullen at (304) 293-2867 ext. 5426 or [Kathleen.Cullen@mail.wvu.edu](mailto:Kathleen.Cullen@mail.wvu.edu).

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If you prefer to receive this newsletter electronically, please email Kathleen Cullen

## Co-Funding Opportunities for IOF-WV Research Teams

Announcement	Due Dates	Funding
National Science Foundation <b>SBIR/STTR Programs Phase I Solicitation FY2006</b> <a href="http://www.nsf.gov">www.nsf.gov</a>	Now Open (Request for Proposals) December 8, 2005 (Proposals Due)	\$100,000 for Phase I awards \$100,000 to \$750,000 for Phase II awards
U.S. Department of Energy <b>Inventions and Innovations</b> <a href="http://e-center.doe.gov">http://e-center.doe.gov</a>	Now Open (Request for Proposals) October 11, 2005 (Pre-proposals Due) January 31, 2006 (Full proposals Due)	\$2,000,000 in total funding
U.S. Department of Energy <b>Chemicals Industry of the Future</b> <a href="http://e-center.doe.gov">http://e-center.doe.gov</a>	Now Open (Request for Proposals) January 11, 2006 (Proposals Due)	\$10,000,000 in total funding
U.S. Department of Energy <b>SBIR/STTR</b> <a href="http://e-center.doe.gov">http://e-center.doe.gov</a>	Now Open (Request for Proposals) December 2, 2005 (Proposals Due)	\$100,000 for Phase I awards \$100,000 to \$750,000 for Phase II awards
U.S. Department of Energy <b>Innovative Energy Systems Challenge</b> <a href="http://e-center.doe.gov">http://e-center.doe.gov</a>	Now Open (Request for Proposals) December 7, 2005 (Letter of Intent Due) January 25, 2006 (Proposals Due)	\$4,000,000 in total funding for Phase I projects
National Science Foundation <b>Innovation and Organizational Change</b> <a href="http://www.nsf.gov">www.nsf.gov</a>	Now Open (Request for Proposals) February 2, 2006 (Proposals Due)	\$1,500,000 in total funding
U.S. Department of Agriculture <b>National Research Initiative Competitive Grants Program</b> <a href="http://www.csrees.usda.gov">www.csrees.usda.gov</a>	Now Open (Request for Proposals) Due dates vary, see solicitation (Proposals Due)	\$180,000,000 in total funding anticipated

### Don't Forget to Register!

### 9th Annual IOF-WV Symposium

November 8-9, 2005

Charleston Marriott, Charleston, WV  
For further information contact Kathleen Cullen at  
(304) 293-2867 ext. 5426 or  
[Kathleen.Cullen@mail.wvu.edu](mailto:Kathleen.Cullen@mail.wvu.edu) or visit  
[iofww.nrcce.wvu.edu](http://iofww.nrcce.wvu.edu).

### RECCON'05 Conference

Global Electronics Recycling Solutions

A forum for sharing information, ideas and solutions on recycling end-of-life electronics

Radisson Conference Center

Morgantown, WV

November 28-30, 2005

For further information contact Larue Williams at  
(304) 293-8274 or visit  
[www.wvu.edu/~RECCON05](http://www.wvu.edu/~RECCON05)



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