



The Pennsylvania Technical
Assistance Program

Energy Economic Development in Central Pennsylvania

Warren Weaver
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PENNSSTATE





The Pennsylvania Technical
Assistance Program



**The Pennsylvania Technical Assistance Program
of Penn State University
A Federal-State-University Partnership
for Economic Development**

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PennTAP Mission

The Pennsylvania Technical Assistance Program of Penn State University (PennTAP) engages, guides and empowers businesses and organizations throughout the Commonwealth and beyond by providing objective and experience-based technical and workforce solutions that enable clients to succeed and thrive, stimulating economic growth for Pennsylvania.



The Pennsylvania Technical
Assistance Program

PennTAP Provides Various Assistance

TECHNICAL ASSISTANCE & ADVICE

TECHNICAL INFORMATION

VALUE-ADDED CONNECTIONS

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Energy Development Project

- **United Corrstack, LLC**
- Reading, Pennsylvania
 - Subsidiary of **Interstate Container**
 - Manufacturer of 100% recycled kraft paper from used corrugated containers
- Rising energy bills
 - Energy costs rose \$1 million / year for two consecutive years
 - Was continuing to increase

United Corrstack Energy Project

- Referral from the Pennsylvania Department of Environmental Protection (DEP)
- Initial Visit (first project)
 - Requested assistance in several areas
 - Evaluating fluidized bed boiler technology
 - Determining if there was enough solid fuel (wood waste, etc.) to make the project feasible
 - Needed a connection in Harrisburg to ensure no political roadblocks
 - Funding resources

United Corrstack Energy Project

- Follow-up visit *(Referral to)*
- PennTAP brought resources
 - Electrotechnology Applications Center at Northampton Community College (ETAC)
 - Valued PennTAP partner
 - Local lobbying firm
 - A fellow PennTAP technical specialist
 - Myself

United Corrstack Energy Project

- PennTAP coordinated literature search on boiler technology through the *Penn State engineering library*
 - Provided screened technical briefs
- ETAC consulted with UC on boiler technology
- Lobbying firm gave them the clout in Harrisburg to prevent political roadblocks
- PennTAP counterpart performed a grant and loan evaluation

United Corrstack Energy Project

- PennTAP and ETAC cooperated to perform a fuel study
 - Presented report
 - Fuel study showed that there was more than enough organic waste being generated in the region
- The study and report became a key factor in client's decision to proceed with the project.

United Corrstack Energy Project

- PennTAP and ETAC connected UC to two entrepreneurs who are working on a municipal waste to energy project
- TRT's fuel pellets are likely to become an additional source of energy for UC's power plant

United Corrstack Energy Project

- United Corrstack made decision to construct a very large heat and power generating facility (2006)
 - Purchased adjacent property
 - Designed facility & system
 - Began construction
 - Continued to work with PennTAP & ETAC



United Corrstack Energy Project

- Asked PennTAP and ETAC to update waste study
 - Based on residual waste data from PA DEP biennial reports from generators
 - Same 75 - 100 mile radius from facility
 - Completed and delivered in 2008

United Corrstack Energy Project

- Design change to add liquid fuel capability for system restart
- Asked PennTAP to connect them with a large source of alternative liquid fuel
 - Connected them to a food processor with large quantities of waste oils
 - Made that connection via joint visit
 - *Fourth project (2008)*

United Corrstack Energy Project

- United Corrstack completed construction last summer
 - Facility has started up
 - Is approaching steady-state operation
- UC requested Pennsylvania construction & demolition waste info (fifth project)



United Corrstack Energy Project

- United Corrstack reported total economic benefits of **\$128,243,880**



United Corrstack Energy Project

- Benefits include:
 - **\$125,000,000** to construct the plant
 - 75 jobs saved at United Corrstack's kraft paper mill
 - Hundreds of construction jobs to build the facility
 - Dozens of green jobs created to operate it



United Corrstack Energy Project

- Benefits include (cont.):
 - Turned region's organic waste from a cost of disposal into a valuable commodity
 - Lowered operating costs of paper mill
 - Feed excess electricity into the grid creating revenue

United Corrstack Energy Project

- Benefits include (cont.):
 - New power generation facility uses local organic waste with low emissions as fuel
 - Fuel is a source of green power
 - Facility capacity enables United Corrstack to double its papermaking operation in the future
 - Facility will sell excess electricity back to the grid in the interim.



United Corrstack Energy Project

- **Innovation:**

- PennTAP recognized a huge economic development opportunity
- PennTAP knew the correct set of resources to bring to the client
- PennTAP provided value-added technical assistance and expertise to the client
- PennTAP responded promptly, which enabled UC's project's milestones to be met





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www.penntap.psu.edu

