

supply chain SOURCE

Sustainability and The Global Supply Chain



As the details in this newsletter demonstrate, the Spring GSCM conference held February 12, 2010, provided a multi-faceted discussion on “Powering the Global Supply Chain”. Speakers covered a range of topics from procurement, energy generation, and transportation to sustainable manufacturing. The theme of the conference focused on energy use across the supply chain and approaches to measure, reduce, change the sources of energy to increase supply chain sustainability. The MBA case competition demonstrated how current MBA student teams (tomorrow’s managers) would frame decisions regarding sustainable manufacturing.

The tone was set by our keynote speaker, Pete Walters, who talked about situations where procurement managers had to take the lead in getting sustainability to be a focus for the supply chain while simultaneously lowering overall costs. Student teams in the MBA case competition were passionate about sustainable supply chains and discussed the company’s role in legislative or community level interventions. Issues such as state level bottle bills, coalitions with local authorities, new technologies to improve strength while reducing weight, simplifying customer refunds were all options available to increase sustainable procurement and manufacturing. Many of the speakers echoed the need to use a broader brush to understand the implications and drivers of the supply chain.

Recent developments such as WalMart’s planned sustainability index tags for every SKU sold by the retailer, and green reports summarizing their progress along the sustainability dimension have been matched by many other companies. In addition, disruptions to auto supply chains and other industries associated with the recent US economic downturn have caused smaller firms to think about alternative sectors. As the speakers suggested in their presentations, alternative energy, carbon footprints, and green reports *all suggest* that new opportunities abound for innovation in the global supply chain.

On Thursday, February 11, the evening before the conference, the Net Impact Club with funding from Purdue CIBER and GSCMI, screened the movie “Garbage Dreams”. Over 40 students and faculty attended the event and a lively discussion followed. The movie, a documentary set in Cairo, focused on the role of a garbage collecting community that has existed for over 100 years and has a recycling rate of over 80%. The city, in an attempt to modernize, is moving to automated garbage picking trucks with single stream collection and a recycle rate of 20%. The issues discussed included the friction caused when automation replaces a labor intensive industry in a location with low labor costs.

At the movie and the conference, audience questions and table level discussions added to the vibrancy of the conference and our attempt to focus on current, relevant topics and thus serve as a vehicle for economic development linked to supply chain operation. We look forward to your comments and have already started thinking about ways to improve our management of these conferences. Please do send us your suggestions, questions and descriptions of ways that we improve our conferences. Comments can be sent to Mary Pilotte (mpilotte@purdue.edu) or myself (Aiyer@purdue.edu) so that we can act on them.

So, until next time, please do keep us in mind when you think of projects, proposals and ideas related to the development of sustainable supply chains.

Best regards



Why Wind? Presented by Ed Weston, Director of Great Lakes Wind Network (GLWN)

Mark Wolfred, MBA 2010, Center GA



Ed Weston, director of Great Lakes Wind Network (GLWN), kicked off the conference with a discussion of the wind energy industry sector. He began his presentation by illustrating the tremendous growth rate in electrical capacity created as a result of wind turbine generators. In fact, the world has over 160,000 MegaWatts installed, or enough power to supply 40 million homes. Leading this surge in power is China, which installed over 34% of 2009's new capacity.

Why would one want to invest its business into the wind energy? Well, as Mr. Weston pointed out, wind will represent 20% of the energy on the electric grids by the year 2030. In fact, the wind market anticipates an annual growth rate of over 20% for the next five years. Further driving this growth is state legislation. Currently, twenty-nine states have passed laws mandating utilities to have a minimum level of their power supplied by alternative energies. With wind being the most cost effective new energy at this point in time, it's a logical conclusion that wind will continue to rise in importance.

Unfortunately, the US still imports a majority of the turbines running in the market today. While this is concerning from a balance of payments viewpoint, it also represents an opportunity for the US market to grow. By serving as a liaison between the OEMs, manufacturers, and regional governmental firms, GLWN hopes to increase the domestic content found in America's Wind Turbines. The company operates as not-for-profit entity and currently enlists over 1450 companies, including 350 Indiana companies. To build the information bridge between the market forces, GWLN uses multiple avenues. For one, the company's website (www.glwn.org) allows the user to search for potential suppliers listed by their geographic location. GLWN also runs local workshops, where attendees can learn more about the structure and the stakeholder needs in the industry. Its services even extend to a capability profile and analysis, where a potential supplier can receive a full assessment on their quality and competitiveness.

Wind Energy represents an exciting new industry with significant growth potential. Yet, in order to capitalize on its value in the United States, more information needs to be obtained from and shared across all stakeholders. Companies such as Great Lakes Wind Network represent an invaluable source of knowledge. Those who choose to utilize this pool of information will have positioned themselves for success.

Wind is Global Presented by Dr. Karl Heinz Mertins, Director of Technologies and Operations

Jenny Tvedt, MBA 2011, Center GA



As part of our annual GSCMI conference, we had the privilege to hear from Dr. Karl Heinz Mertins, the Director of Technologies and Operations at John Deere Renewables. He spoke about the future of wind energy and specifically addressed the three challenges facing this new, fast growing industry: the global supply chain, logistics, and quality.

In 2009, the US experienced strong growth in wind generation and constructed more than 9,000 wind turbines to avoid 62 million tons of CO₂. John Deere Renewables utilized their core competencies in supply chain, technological expertise, real-estate development, and market assessment to integrate business processes successfully in the wind industry. With 25 suppliers and contractors involved, spanning over three or more continents, the logistics of transporting components becomes a nightmare for the supply chain team. John Deere is able to leverage expertise

in supply process and contracts to understand not only cultural differences, but link their strategic relationships with leading suppliers to whom 75% of market share is represented. The synergy between green energy, co-existing with agricultural land use remains a significant relationship between John Deere Renewables and constructing new wind farms.

With continued growth in the wind industry and the global supply chain inherent in the successful execution of wind energy business processes, John Deere Renewable and Dr. Mertins will remain at the forefront of technology and value creation. We thank Dr. Mertins for sharing his innovative ideas and best practices with the participants.

Technology Powering the Supply Chain Presented by Annetta Davis, Military/Aerospace Program Manager Operations

Alan Siu, MBA 2010, Center GA



Annetta Davis, Military/Aerospace Program Manager at ENERDEL spoke about developing technology to serve global markets with energy storage solutions in the form of large format lithium ion batteries. ENERDEL is an Indiana based company focusing on manufacturing of commercial-scale automotive-grade lithium-ion battery systems. They have set a goal to power cars via lithium-ion battery system that can be charged in as little as 15 to 20 minutes per day.



ENERDEL

The future of the global lithium battery market is forecasted to increase substantially from \$2 million to \$66 billion in 2020 with target markets of transportation, energy storage, government, military, and aerospace. ENERDEL has developed an infrastructure to capture the market, by partnering with Mazda and Ithochu to develop a smart grid integration. In August EnerDel 2009 received \$118.5 million in federal grant funding. In addition, they have won a contract to supply the US Army with batteries for the new "Hybrid Humvee" as well as with AC Transit to supply batteries for next-generation fuel cell buses.

ENERDEL's battery in electric vehicles can last approximately 65% longer than a hybrid electric vehicle. In addition, ENERDEL's batteries have a zero landfill goal with many of its components recyclable. With the technology in place and strategic partnerships around the world to develop their infrastructure, ENERDEL seems primed to be the leader in energy storage solutions for many years to come.



Procurement Value in Powering the Global Supply Chain

Keynote Speaker: Peter J. Walters, Saint Gobain Containers

Saketh Chini, MBA 2011



As the VP of Purchasing & Distribution at Saint-Gobain Containers Inc. (SGC), Peter J. Walters was the right person to give us the inside perspective on how incorporating procurement best practices, helps drive value for companies. At the outset, he mentioned, "Without a good diverse approach, supply chain doesn't work" and through the presentation, he shared with us his insights and experience, showing how SGC was able to harvest tremendous savings in the process. For instance, by increasing the amount of recycled glass content to 90% at one of their glass bottle manufacturing plants, SGC has been able to obtain a savings of 45% in energy costs alone.

While manufacturing glass containers is an old and mature industry, SGC drives cost down through incorporating best practices and looking at the processes holistically. Procuring the right material, at the right place and at the right cost is critical to the efficient utilization of resources. Applying some of the best in class procurement practices has enabled them to achieve more than 3% cost savings year over year, which is huge considering their multi-million dollar procurement budget.

Two of the key factors that SGC communicated are instrumental to the success of delivering savings are getting the best people and the best technology and putting them to work at the right time in the right manner. Mr. Walters emphasized the importance of hiring right

and how integrity, intellect and energy can go a long way to driving value for a company. One key learning he shared with us was how 'purchasers must be business partners and the importance of getting procurement teams involved early in the process, right from the RFP phase itself.

The presentation demonstrated to the conference audience how best practices help not only in driving value for the company through increased savings but also by protecting the environment. Most importantly, Mr. Walters showcased and drove home the importance and the dynamic and holistic nature of procurement in today's business environment.

The Currency of Sustainability Presented by Tom Schmitt, Chief Solution Officer

Saurabh Choudhury (Sonny), MBA 2011, Center GA



Spring Conference attendees had the honor to hear from Tom Schmitt, Chief Solution Officer of FedEx Services. Mr. Schmitt spoke about the impact of sustainability on the global supply chain and specifically talked about three key steps that FedEx has taken to bring sustainability: leading in currencies that matter, efficiency in transportation and global citizenship.

Mr. Schmitt spoke about the differentiating strategy that FedEx is currently implementing and how this strategy is a selling point to their customers. The three benefits that FedEx emphasizes to their customers are 'time' or the speed with which they deliver, 'value' for money and 'sustainability' in using FedEx services. FedEx is able to

bring efficiency in their transportation logistics by using fuel-efficient planes and hybrid trucks. Mr. Schmitt also talked about solutions that FedEx innovated to reduce transportation need for their customers and thereby reducing cost and increasing sustainability. Today customers around the world need to know the exact amount of carbon emission at every stage of their process and FedEx has been able to offer this service that through their global citizenship initiative.

Considering sustainability as one of the important evaluation metrics has helped companies such as FedEx to bring value to their customers. Leaders such as Tom Schmitt will definitely help organizations create a cleaner, healthier world and at the same time bring value to their stakeholders.

Renewable Energy – Powering the Hoosier Supply Chain

Presented by Chad Martin, Renewable Energy Extension Specialist



Chad Martin, a valuable campus resource working with communities across the state via the county extension office, promotes education and industry awareness for small and large wind energy, as well as working to improve farm energy conservation and explore applications for biofuels and biomass. Mr. Martin shared how Renewable Energy Extension efforts involve bringing cutting edge research to meaningful application across the region.



In his presentation, he pointed out that all four energy production components should be put to work in Indiana. Indiana establishing a wind energy policy to help promote development of wind farms was cited as an example of how policy must lead development for our state. As consumers of various energy sources, we can help promote alternative energy by encouraging our leading government officials to write policies that help make Indiana an alternative fuel friendly state.

Chad also highlighted the significance of these developments to the state economy. Using the wind energy again as the example, and quoting the U.S. Department of Energy, it is estimated that nearly 1,550 short term construction jobs, and 250 long term "peripheral jobs" can be attributed to each 1000 MW of new wind development. With the uncertain economy creating instability in the job market for many Hoosiers, alternative energy may be a true "alternative" for the prosperity of Indiana, as well as many other Midwestern states.

The entire conference audience enjoyed learning about the significant renewable energy resources on campus at Purdue, and the GSCMI Center looks forward to future opportunities to network with the local extension professionals as well as the Energy Center at Discovery Park.



2010 DCMME/GSCMI MBA Case Competition highlights

1st Place Team Gopher



University of Minnesota

2nd Place Team 2



University of Minnesota

3rd Place Team Boliermakers



Purdue University



Judges' Panel

The **2010 GSCMI conference entitled Powering the Global Supply Chain**, provided an opportunity to bring together students, company representatives and faculty to discuss the operational issues around sustainability. The conference also invited students from schools around the globe with MBA Programs to participate in the **5th annual MBA case competition**.

Case competitions are not only a fun way to test your developing business acumen, they are growing increasingly popular across MBA programs and students. The Krannert School of Management and the GSCMI Center is proud to be leading innovation in operations and supply chain case materials with our unique competition. The fictitious case used in the competition, loosely developed from issues faced by bottle manufacturing giant Saint-Gobain Containers, depicted a company faced with serious challenges as they evaluated the supply chain implications for increasing recycled glass content in their bottle making process. Concepts merging the trade-offs between sustainability and operational efficiencies presented students with an opportunity to exercise their knowledge of the core issues, all relevant to current discussions in Krannert and the world news around us.

In this year's competition, there were big schools and small schools, schools from the Midwest to the Northeast, domestic schools and international schools who submitted their entry into the prestigious competition. A total of 28 teams registered, 23 teams created Phase 1 case solutions, and an elite group of 6 teams were left standing with an invite to Phase II, which involved receiving more case materials and having less than 24 hours to prepare a new solution.

All 6 teams were then challenged to present their findings in front of the entire conference audience of over 200 attendees! All students invited to the competition, as well as the many Krannert Operations Club student volunteers had their resumes presented to all industry attendees, providing for a tremendous career networking opportunity. During the final presentations, industry judges challenge each team's solution with a round of questioning and teams were evaluated on their ability to effectively present and defend their solutions. In the end, the two competing University of Minnesota teams placed first and second, proudly followed by the all first year MBA student team from Purdue. Prize winners took home a total of \$8,000 in prize money along with bragging rights until the 2011 conference and MBA Case Competition.



3 Things We Want *YOU* to Consider, from your friends at DCMME & GSCMI:



**Krannert School
of Management**



1. It has been a fabulous year building our relationship with you, please **consider** e-mailing gscmi@purdue.edu with your thoughts regarding your experience as an event attendee, sponsor, partner, industry representatives, alumni etc... We will include your comments in our next annual report!
2. *Even if you missed the Spring Conference event, you can still view the PowerPoint presentations, speaker video presentations and event photos.* [VISIT our website](#) for all the event info!
3. **Save the Date**—Fall Operations Conference **September 17, 2010!**