

## Inside this Issue:

- 3 Ready to Grow?
- 5 Strategic Planning
- 9 Biofuels & Co-Products

Plus

**2008 OUTLOOK**  
on Manufacturing

# ForwardFocus

[www.mtmanufacturingcenter.com](http://www.mtmanufacturingcenter.com)

Montana Manufacturing Center

University Technical Assistance Program

## Back to the Future for Bozeman Family Business

By Deborah Nash, MMEC

Several recent events sparked an innovative twist in a Bozeman firm's business model, taking it back to the future, while opening up opportunities for two new companies to thrive in the area. The unrelated events also allowed the business, which started in 1944 and has been owned by the Westlake family since 1969, to reclaim its historic name.

Chris Westlake, currently General Manager of Midwest Welding and Machine, believes the events were providential, getting management to thinking outside the box as it tackled serious growth issues. And today, both Midwest Welding and Machine and its former structural steel division (now Midwest Steel Industries) are alive and well in the Gallatin Valley, each under different ownership, each focused on the passions that drive small business.

Like many small family-owned businesses, the company grew in response to competitive pressures and customer demand for complementary services. A look at the company history helps explain what spurred the latest changes and how the Montana Manufacturing Extension Center was involved.

### Business History

Chris's father, Chuck Westlake, purchased the then 25-year-old business, Midwest Welding and Machine Shop, in 1969; brother-in-law Val Lint, also a professional machinist, joined the firm a bit later. Burgeoning business from the early stage development of Huntley Lodge at Big Sky ignited its growth. In



**Nestled in the Gallatin Valley, Midwest Welding & Machine retains its excellent commercial access north of I-90.**

1972, the company moved from a small downtown location into a 10,000 sq. ft. facility at its present site on North 7th Avenue.

In a novel approach at the time, the company expanded a small point-of-sale welding supply service, offering tank rentals and selling complementary welding gases and other retail welding gear to better serve its community-based enterprise. Always with an eye toward growth, it also became a distributor for Meyer snow plow attachments, gaining sales and related installation and repair work to help remove the area's heavy snows.

### Construction Boom Drives Rebranding

Then a mid-1980's surge in structural steel fabrication work prompted the company to rebrand itself as "Midwest Industries" to attract government contracts in a broader niche. It also added

an expansive 12,500 sq ft. of shop space at its idyllic commercial location near the intersection of I-90 and No. 7th Ave. During the 1990's construction boom, the company continued to develop muscle and acquired AISC quality certification.

Inevitably, constraints arose as the business allocated limited resources where the greatest day to day needs and fastest growth spurts were occurring. By 2004, growth at Midwest had become a problem. With an 80 percent growth curve from 2003-05 and 65 employees, there was not enough space for more retail or to grow the structural steel side. The non-structural welding & machining, the crown jewel behind all the growth, was also completely constrained.

The question became how could the company grow and still retain a visible store front. That's when Chris Westlake joined the family business to bring financial expertise he had garnered in a career at Hewlett Packard.

### Outside Eyes Define Issues

"At HP we used an internal consulting arm to bring 'outside thought' into improvements," he explained. "I had come to value outside expertise combined with internal knowledge. And on my return, I heard about the Compete Smart Conference where I learned about the Montana Manufacturing Extension Center."

Knowing the time had come to look more closely at the various facets of the business to help identify growth opportunities, Westlake called on Mark Shyne

(continued on page 4)

**HOME OFFICE**

2310 University Way, Bldg. 2  
 P.O. Box 174255  
 Montana State University  
 Bozeman, MT 59717  
 (800) MEP-4MFG  
 (406) 994-3812  
 Fax: (406) 994-3391  
 mmec@coe.montana.edu

**FIELD OFFICES****Billings**

Dale Detrick  
 Big Sky EDA  
 (406) 869-8414  
 ddetrick@coe.montana.edu

**Bozeman**

Mark Shyne  
 UTAP-MSU  
 (406) 994-3813  
 marks@coe.montana.edu

Al Deibert, MilTech  
 MSU TechLink  
 (406) 994-7732  
 aldeibert@coe.montana.edu

**Helena**

Todd Daniels  
 MT Department of Commerce  
 (406) 841-2745  
 tdaniels@mt.gov

Jim Haider, WIRED  
 (406) 461-8543  
 jhaider@coe.montana.edu

**Kalispell**

Bill Nicholson  
 Flathead Regional Business Center  
 (406) 756-8329  
 bnicholson@coe.montana.edu

Paddy Fleming, MilTech  
 (406) 249-9178  
 pfleming@coe.montana.edu

**Missoula**

Kreg Worrest  
 School of Business Administration  
 University of Montana  
 (406) 243-6613  
 kworrest@coe.montana.edu

**Polson**

Rob Kinzle, MilTech  
 rkinzle@coe.montana.edu

# Speed to Market Essential for Continued Success

What we see happening in the Montana economy, especially in manufacturing, is exciting. Manufacturing output topped \$8 billion last year up from \$5 billion just a few years ago. Exports have nearly tripled since 2003, and more people are working! Manufacturing accounts for over 20 percent of Montana's basic economy paying approximately \$1.2 billion in worker earnings last year.

Manufacturing is expected to continue a fourth consecutive year of increased sales, employment and worker earnings. Encouraging news. But forward momentum must continue as the timeline for success is shrinking in today's global economy.

Our entrepreneurial, innovative small manufacturing business owners are rising to the challenge of today's economic reality: reinventing the business model, making significant workforce investments, taking proactive cost saving measures, tackling new product development. Here is a sampling:

The hallmark product for Spanwell in Forsyth is a pneumatic, extended-reach pipe scaler for the energy industry. A recently launched product addresses a huge industry safety issue using a specially designed clamp and hook to keep welding lead, air hoses and power cables away from walkways and work areas. This innovation is sure to help the company grow sales and reach new markets.

Anderson Steel in Great Falls is making a major investment in workforce training for a recently installed high-end software system that will integrate production, estimating, and materials management along with purchasing, shipping and other facets of the business. It will enable reach into a special niche with \$1-3 million in new contracts possible every year.

Capital investments have enabled both Diversified Plastics in Missoula and Allegra Print and Imaging in Hel-

ena to reach new market segments in their industries. And the revolutionary Arbuckle Native Seedster hit the market much more quickly after its Billings inventor pioneered video analysis of seed movement inside the harvest mechanism for precise design improvements.

These are examples of U.S. ingenuity at work just like it has been for 250 years, since the Industrial Revolution began. The difference is that in today's global economy, speed is of the essence.

Poignant remarks depicting this urgency are highlighted below. They were delivered in closing remarks to a recent Economic Affairs Interim Legislative Committee by Dave Oien of Timeless Seeds and Natural Foods, as he described strategies to integrate and grow Montana's great farming and food enterprises:

"... both tremendous opportunity and substantial barriers [exist] for Montana... If a small company like Timeless, in a small rural town in Montana can sell its products in the local grocery store, in the world's largest natural foods supermarkets in New York City and Los Angeles, and even in Asia and Europe, there's no reason a hundred other businesses couldn't as well. But if it takes everybody 20 years to do it, it won't happen in time to save what's left of Conrad or Circle or Wolf Point. ...To shorten that timeline...will take vision... cooperation...work, both in the private and public sector. For the sake of rural eastern Montana, what it can't take is another 50 years."

— Dave Oien, Timeless Seeds

(continued on page 11)

# MMEC Brings Discipline to Choices for Top Line Growth

Lean Manufacturing services from the Montana Manufacturing Extension Center have brought discipline to cost reduction and productivity for hundreds of Montana companies. Now, MMEC is bringing the same disciplined approach to top line growth with Eureka! Winning Ways®.

Using Eureka! Winning Ways (E!WW), Spika Welding and Manufacturing in Lewistown is accelerating

its ramp-up into the marketplace for an innovative product they have dubbed the "Gas Guardian," that they licensed from the Air Force in 2007. Spika expects the Gas Guardian to increase sales by \$175,000 annually.

The company specializes in aluminum and polypropylene fabrication and has a keen interest in expanding its markets. Like many entrepreneurial Montana companies, Spika has a number of new products under consideration at any given time, but day to day operations and limited staff get in the way of development and speed to market.

Owner Tom Spika and his growth team went through a pilot E!WW for Small Companies process in December along with Béquet Confections, a Bozeman caramel manufacturer, and the Montana Technology Innovation Partnership from Helena. Several pilot projects are underway to ensure that the program fits Montana-size companies where 85 percent have fewer than 20 employees.

E!WW for Small Companies includes a short pre-planning session and analysis of company readiness to create and execute growth ideas. This is followed by a day of focused, disciplined thinking by the team to simultaneously engineer more effective sales messages, product ideas, and new customers or markets. Analysis of the top ideas using a patented Merwyn® data analysis program then



**Gas Guardian saves lives.**



begins a focused 30-day process for each company to bring the top new idea to reality.

E!WW gave structure to Spika's growth efforts. The focused 30-day TrailBlazer® follow-up provided the greatest value, "getting more done in 30 days than they have on anything they've

done in the past," according to Spika. "It generated lots of good marketing material we are using to persuade users about the product benefits and why they should care."

The 30-day follow up for each company is based on Deming's plan-do-study(check)-act cycle. It includes weekly coaching sessions to keep project leaders on track and furthering research to build confidence that a solid idea can be taken to market - to get them growing NOW. It helped Spika plan and explore a number of marketing niches, investigate competition, develop a prototype, work on critical costing / pricing numbers and create their marketing message in a shortened timeframe.

"One of the powers of the program is that after moving a product to the next stage, you can start the process over again," Spika said.

Béquet Confections' team also participated in the pilot and is finding great value in the disciplined process to

help prioritize growth initiatives and strengthen core wording.

"Being a small company, I have more ideas than team or capacity to tackle," company owner Robin Béquet said. "I was not looking for ideas but a process to develop ideas quickly, especially with a team of mostly direct labor that has little experience with new market development processes."

She described the assistance she's received so far from MMEC growth coach Bill Nicholson and Jaci Gardner from Eureka! Ranch as akin to a 'Rent an Executive' for her small company. An experienced sales and marketing person, Béquet said Nicholson's input has been extremely valuable. She was admittedly surprised and pleased that an engineer's eye provided added value in the sales and marketing realm. She is awaiting Merwyn results on three ideas before a final idea is chosen and the 30-day TrailBlazer process gets underway.

Developed by Doug Hall, the #1 growth expert in the country, Eureka! Winning Ways (E!WW) is the only program of its kind being customized

and refined specifically for U.S. small manufacturers to make a dramatic difference in how companies are growing. The methodology is based on 20 years of research of real-world success factors and measures of work with hundreds of companies. Hall is the founder of Eureka! Ranch and keynote speaker for MMEC's Compete Smart Conference this fall.

To learn more about Eureka! Winning Ways and how MMEC can help grow your company, contact Todd Daniels ([tdaniels@mt.gov](mailto:tdaniels@mt.gov)) or Nicholson ([bnicholson@coe.montana.edu](mailto:bnicholson@coe.montana.edu)).



**Members of Team Béquet review Concepts before digging deeper.**

## Back to the Future (continued from cover)

at MMEC for a costing model.

"I wanted to get a more granular picture of the various facets of the business. What we had did not look beyond the plant P&L," Westlake said.

The costing model helped explore key cost drivers, profitability by cost center, and how to allocate overhead costs better. A key observation was a need for dedicated, focused management for each entity and better resource allocation. Working with the team to explore "uncharted territory," MMEC had also started Value Stream Mapping, a Lean Manufacturing tool, to analyze the steel fabrication shop in an effort to maximize capacity in existing space.

At just that time an unsolicited offer to purchase and maintain Midwest's retail outlet onsite was made by Valley Welder Supply, a company with a number of stores in neighboring states and the northcentral U.S., that afford it economies of scale a single store does not have.

That offer triggered thinking in a very different way about possibilities that would continue to serve customers, Westlake said. And it ultimately helped refocus the passion of the core family business in non-structural fabrication and more ornamental work.

### Family Well-being Tied to Business Decisions

Like many small family businesses, the Westlake family realized it did not want to take the risk associated with a major growth step like what was needed for the structural steel side of the business. It had become apparent from the MMEC data that the steel fabrication shop needed more space than was available. Additional factors the family acknowledged were that two key employees had the expertise and passion it would take to grow the structural steel business and that it was the least dependent on remaining in the high-traffic commercial location.

"We made a decision to sell the steel fabrication to those employees and sold the retail side, which is still on-site, as well. It may seem counter-intuitive but

our passion was and is the welding and machining business which had stagnated with attention diverted to the pressures of fast growth in the steel fabrication shop," Westlake said.

"We felt we had lost focus on the crown jewel that built the other facets. We made a conscious decision, based on solid financials, to refocus on our core competency and retain the prime service location." And the historic brand "Midwest Welding and Machine" was reborn, dropping the word "Shop" from the end.



Previously dormant CNC machines are now increasing capacity. Chris (right) looks on as CNC operator clears the work surface.

Selling two facets has given family the resources to grow its long constrained core business which moved into the vacated 12,500 sq. ft., doubling its work space and increasing staffing from 16 to 22 people. It's former front shop space has been sublet, and the structural steel entity, now Midwest Steel Industries, moved to a location north of Belgrade.

Westlake likens the changes to a plant metaphor. "We had become root bound; we divided the plant into separate, roomier pots with appropriate soil, light, etc. Now there are three viable entities that still complement each other."

### Leverage Costing Model Data

"The MMEC costing model and VSM mapping were useful tools, but it is the

process of extracting the data, the interactions and more thorough look into the business with very probing questions that is the greatest value," according to Chris Westlake. The MMEC crew spent time with us observing, charting, examining and discussing the operations in detail.

"You feel somewhat exposed when asking for help," Westlake admitted. "But MMEC's been in industry; when wading the stream, they know where the big rocks are. I view Mark and his team of UTAP engineers as operations experts. I look forward to working on big issues together in the future."

The company was able to leverage the value of the MMEC projects in an innovative way to successfully spin off several aspects of the business.

"It served extremely well in the sales process. It saved me a month and between \$5,000-10,000 in fees it would have cost to get financial documentation together for the sale," Westlake said. "I was able to leverage the work they had done toward that and had very positive comments on its detail from the buyer's broker.

"It definitely gave us a better understanding of the financial performance of the diverse lines of business, and we now have better resource allocation and stronger performance through making difficult but necessary decisions."

### Passion Reinfused

According to Westlake's uncle, Val Lint, Midwest Welding and Machine has the means and long-standing reputation to build on the business anew and he supports the new model.

"Before, it was small and crowded, and adding personnel would not have been possible. It was a definite constraint. We also knew we wouldn't survive if we did not grow, and management was consumed at the time by the rapid growth in the structural steel operation."

He said they enjoy the craftsmanship of architectural features and ornamentation work that is part of the remaining aspect of the business. "There's an

(continued on next page)

indescribable excitement in working with a customer's prototypes, custom fabrication, or the challenge of some kinds of repair."

Westlake validated that with, "Desire for passion in your work and relationships, that's what matters to a family business."

The service/repair department still seeks to solve any problems customers bring in and get them back to business as quickly as possible. And both a CNC lathe and milling machine, purchased several years ago to automate an important aspect of demand for a higher number of repeatable, precision parts, are now up and performing where previously they had been "dark capacity with unlimited possibilities" due to



**More room to enjoy the craftsmanship side of the business.**

space constraints.

More space has improved install time, and project turnaround has been reduced by 50 percent. The company is filling the pipeline for its increased capacity and is recovering from an unforeseen dip caused when customers thought the entire business had been sold and moved.

"We want people to know Midwest Welding and Machine is still here and going strong after more than 64 years in the Gallatin Valley. With our long history, renewed focus, and additional capacities in machining and miscellaneous steel fabrication, we are poised to increase our support of Montana's manufacturing community."

## Strategic Planning – Easier Than You Think

The national headlines over the past few months have been dominated by discussion of possible recession as a result of the national sub-prime mortgage failure, among other things. Despite the fact that this economic reality has yet to hit Montana and the surrounding states, the fact remains that even discussion of a faltering economy can cause the consumers to put cash and credit cards back in their wallets.

A lack of consumer confidence translates into less spending, less manufacturing and need for services, less purchases from suppliers by manufacturers and so on. Is your business prepared for this type of economic change if it occurs? The last seventeen years have been dominated by consistent economic growth in many sectors; that may be about to change. Is your organization prepared?

Strategic Planning is one answer. Often times when companies consider strategic or long range planning, two things come to mind: (1) It is a long and complicated process; and (2) There are too many uncertainties right now to consider it.

Let us explore both of these concerns.



**Paul H. Hutter**

First, effective strategic planning contains two basic components: it is simple and has components for follow-up to ensure the plan's success. Too many plans facilitated by consultants from outside of the area are never fully implemented. The follow-up is left to the organization; and without direction and accountability from the facilitator, the plan's implementation falters. Planning is one thing; proper implementation through follow-up sessions and accountability are another.

Simplicity is the other basic component. The theory is that it must be complicated and involved for it to be good. The truth of the matter is that even the largest companies in the nation that have effective strategic planning and implementation have learned to keep it simple. Simple planning translates into less time in the process and more effective implementation of the plan.

Strategic Planning enables an organization to get back to the basics. Strategy is not a gimmick or a fad, but a tool used to gain advantage. The future should not be a vague concept and strategy should not be a monumental task. Planning needs to be comprehensive, but it

does not have to be complicated.

The second concern expressed by many is, "I'm too busy with other things. Why bother?" Whether you have the opportunity to revel or wallow in your present existence, no matter how good or bad it is, the reality is that it's going to change. A good strategy enables you to anticipate and focus on possibilities – learning that it is as important to eliminate choices as it is to pursue them. Strategy is about seeing options and making choices. And the best time to begin, or restart, is when business is going well and you do not have to react as a result of economic challenges. Planning will confirm your current course of direction or help you to chart a new one depending on markets, competitors and economic conditions.

Louis Pasteur once said, "Chance favors only a prepared mind." Strategic Planning is the tool to prepare your organization for the unexpected future.

Guest writer Paul H. Hutter is Director of Business and Management Development with Associated Employers in Billings, Montana, a private Employers Association that provides business and human resources expertise to its members. To learn more, please visit [www.associatedemployers.org](http://www.associatedemployers.org).

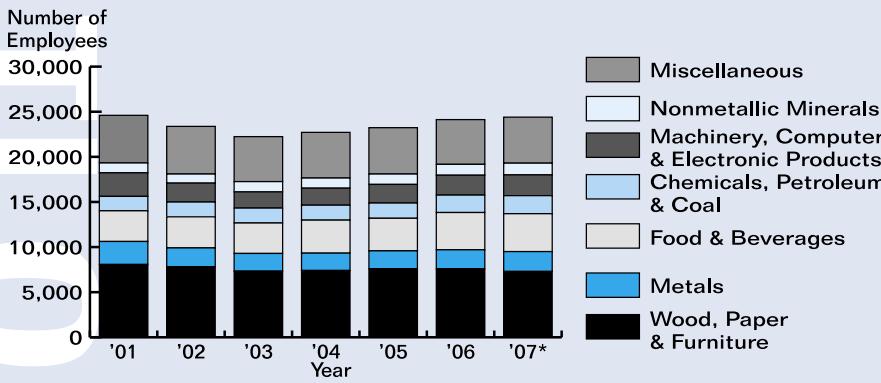
## SPECIAL FEATURE



Roscoe Steel &amp; Culvert Co., Billings plant

## THE 2008 ECONOMIC OUTLOOK FOR MONTANA'S MANUFACTURING INDUSTRY

**Figure 1**  
**Montana Manufacturing Employment, 2001-2007**



\* Estimate

Sources: Bureau of Business and Economic Research, The University of Montana-Missoula; Bureau of Economic Analysis, U.S. Department of Commerce.

**Table 1**  
**Employment and Labor Income in Montana's Manufacturing Sectors, 2001 and 2007**

Manufacturing Sector	Labor Income [thousands 2005\$]		Employment	
	2001	2007*	2001	2007*
Wood, Paper & Furniture	\$338	320	8,074	7,300
Metals	119	123	2,546	2,200
Food & Beverages	117	147	3,400	4,200
Chemicals, Petroleum & Coal	194	253	1,598	2,000
Machinery, Computer, & Electronic Products	112	108	2,610	2,300
Printing, Nonmetallic Minerals	45	54	1,094	1,300
Miscellaneous	154	201	4,681	5,100
<b>TOTAL</b>	<b>\$1,080</b>	<b>\$1,207</b>	<b>24,003</b>	<b>24,400</b>

\* Estimate

Sources: Bureau of Business and Economic Research, Bureau of Economic Analysis, U.S. Department of Commerce.

## Montana's Manufacturing Industry

(Reprinted with permission from BBER 2008 Outlook publication)

by Charles E. Keegan III and Jason Brandt

Montana's manufacturing industry had its fourth consecutive year of increased sales, employment, and worker earnings in 2007. Montana manufacturers had sales of approximately \$8 billion in 2008 measured as products left their plants. The state's manufacturers generated over 24,000 jobs (including the self-employed) and workers earned approximately \$1.2 billion in labor income. The manufacturing sectors accounted for over 20 percent of Montana's economic base.



Manufacturers make strategic capital investments to reach new customers.

Manufacturing employment has shown steady increases in the past four years of more than 10 percent, and workers' earnings rose commensurately (Figures 1 and 2). This is in contrast to the 2001 – 2003 period when manufacturing activity in Montana declined due to weak U.S. and global economic

Manufacturing employment has steadily increased over the past four years.

conditions, limited raw material availability, the high-tech bust, and increased energy costs. The continued improved conditions in 2007 were found in most components of Montana manufacturing. Fifty percent of surveyed Montana manufacturing firms reported increased profits, sales, and production in 2007, with the only major decline in 2007 in the state's wood products industry.

A key factor leading to increased manufacturing activity in 2007 was the strong global economy, which spurred demand even as growth rates in the U.S. economy slowed. Global demand led to continued high prices for a number of base commodities (petroleum and metals) as well as more specialized, refined, and high-tech products. High commodity prices were a positive factor for some producers, but for other Montana manufacturers high prices for commodities drove up operating costs. Montana manufacturers benefited as sectors such as construction, agriculture, and mining showed continued strength in Montana and adjacent states. The weaker U.S. dollar helped Montana companies export and made imported products less competitive in the U.S. market.

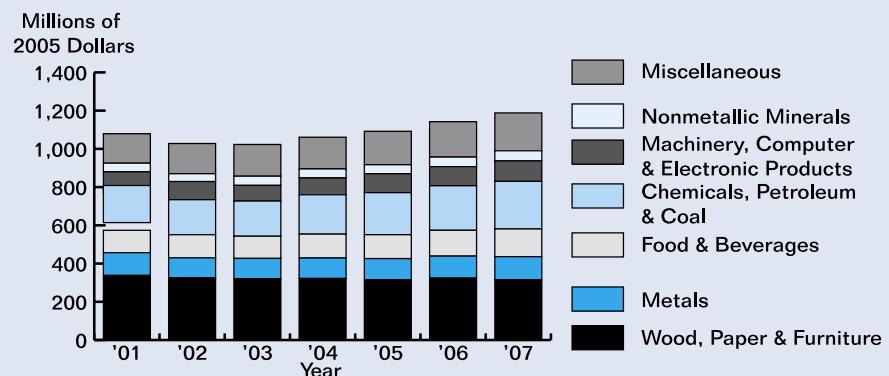
**Table 2**  
**Manufacturing Employment and Labor Income Among Montana Counties, 2005**

County	2005 Manufacturing Employment*	% of State's Manufacturing Employment	2005 Manufacturing Labor Income [thousands 2005\$]*	% of State's Manufacturing Labor Income
Yellowstone	3,874	17%	\$272,651	24%
Flathead	3,657	16%	\$167,037	15%
Missoula	3,124	13%	\$151,065	13%
Gallatin	2,645	11%	\$147,016	13%
Ravalli	1,327	6%	\$47,651	4%
Lake	955	4%	\$29,925	3%
Cascade	947	4%	\$46,699	4%
Lewis & Clark	902	4%	\$50,843	5%
Silver Bow	601	3%	\$35,496	3%
Park	481	2%	\$17,317	2%
Remaining 46 Counties	4,758	20%	\$159,961	14%
<b>Montana Total</b>	<b>23,244</b>	<b>100%</b>	<b>\$ 1,125,661</b>	<b>100%</b>

\*County-level estimates do not include the logging sector, which would add more than 2,500 jobs and over \$109 million in labor income.

Sources: Bureau of Business and Economic Research, The University of Montana-Missoula; Bureau of Economic Analysis, U.S. Department of Commerce.

**Figure 2**  
**Labor Income in Montana Manufacturing Industries, 2001-2006**



\* Estimate

Sources: Bureau of Business and Economic Research, The University of Montana-Missoula; Bureau of Economic Analysis, U.S. Department of Commerce.

## Outlook: 2008 and Beyond

The U.S. economy is projected to slow in 2008, and further declines in the U.S. housing industry, tightening credit availability, and high oil prices all present risks to Montana manufacturers. However, while increases in global economic activity may slow slightly in 2008, continued strong economic performances especially in China, India, and Russia could help sustain demand for many Montana products.

The Montana manufacturers who responded to the Bureau of Business and Economic Research annual survey are guarded but optimistic about the upcoming year; 47 percent foresee improved conditions for 2008, and 36 percent think 2008 will turn out about the same as 2007. Only 14 percent expect worsening conditions. Over half of manufacturing respondents expect to keep their workforce at the same level in 2008, while nearly 40 percent foresee an increase.

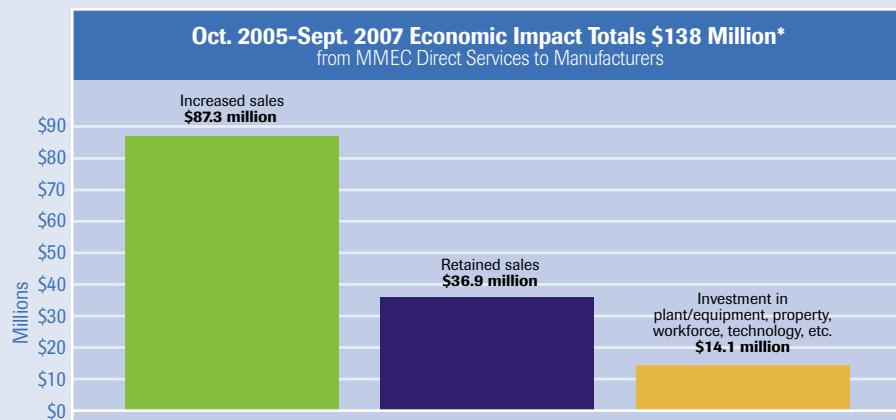
When manufacturers were asked to rate a list of issues in terms of general importance to their business, 75 percent of respondents rated health insurance costs as very important, followed by the availability of qualified workers (67 percent) and workers' compensation rates (64 percent). Energy costs and raw material availability and cost were very important to over half of the respondents.



### MMEC Clients Report over \$138 million in Positive Economic Impact

Over the past two years, October 2005 through September 2007, MMEC clients have reported, through an independent survey, over \$138 million in economic impact as a result of direct MMEC services. The companies were surveyed by an independent survey house that collects data quarterly to assess the effectiveness of MMEC services in delivering measurable returns to clients and investors. The survey indicates that MMEC clients are modernizing and investing in their people to boost their competitiveness.

### Two-Year Economic Impact Totals \$138 Million from MMEC Direct Services



MMEC clients also reported 309 new manufacturing jobs and 254 retained jobs.

\*Select data from Synovate survey of MMEC clients. Synovate is independently contracted by NIST/MEP.

# Montana Agro-Energy: Focus on Biofuels and Co-product Utilization

By August Uhl, MMEC

November 2007 brought big news for Montana's Agro-Energy Plan. First was the announcement of the formation of Sustainable Oils, Inc. This joint venture between Targeted Growth, Inc. and Green Earth Fuels has the goal of producing and marketing up to 100 million gallons of camelina-based biodiesel by 2010. Next was an announcement that Great Plains—The Camelina Company will be moving forward with both a camelina crushing facility and biodiesel refinery in Eastern Montana. Both announcements indicate significant future markets for Montana producers considering this biofuel crop.

Camelina may be just the right plant to help meet America's fuel needs in a responsible way. According to agriculturists, this cold-tolerant oilseed can be grown on marginal, non-irrigated lands and requires few additives in the way of fertilizers. When used as a rotational crop with wheat, higher wheat yields and healthier soil result.

As a percentage of biomass, camelina seed has good oil content and is less controversial than some other biodiesel feedstocks from a food vs. fuel perspective because it is not currently grown as a food crop. Projections are that the amount of camelina that will be required by Sustainable Oils, Great Plains, and others will be unprecedented.

## Co-products

As with many manufacturing processes, the production of biodiesel results in the creation of co-products. The quality, variety, and quantity of co-products can vary depending upon the feedstock and methods used to create the biodiesel. Using camelina to make biodiesel involves crushing the seed to remove the oil that will be used as the feedstock for the biodiesel reactor. While the goal is to remove the oil from the seed, the leftovers from the crushing process, known as camelina meal, still contain about 10-12 % oil.

Biodiesel producers must operate in the volatile world of commodities. Price pressures and trends at either end of the production cycle can squeeze profit margins and make it difficult to survive. Finding markets for co-products such as camelina meal can offer some relief. However, significant amounts of camelina have not been grown in America and, as a result, the markets for any co-products are not established.



**Camelina. Its potential as a feed stock is currently being researched. Photo courtesy of MSU News Service**

## Establishing Markets

The science of animal feed diets is a complicated, high-stakes world. The right feed blend can have big results, literally, when it comes to weighing in the animal. Aside from merely the weight of the animal, various properties in animal feed can translate into characteristics in the product; beef, eggs, milk, etc. A rancher or farmer who has found the recipe that gives his or her animals what they need may be reluctant to try a new feed.

Record breaking corn-based ethanol production has resulted in upward pressure on corn prices. Price increases for such traditional feed sources may cause farmers and ranchers to be more willing to consider alternative feeds. This may present a large opportunity for camelina meal in the feed market.

This does not mean camelina meal

can be readily substituted. But work is underway by folks in many different disciplines to pave the way for future markets for camelina and its co-products. Researchers with Montana State University, the Northern Agricultural Research Center, and elsewhere have been studying its effects as feed for beef cattle, dairy goats, poultry, and trout. Current efforts are ongoing with the FDA and the Association of American Feed Control officials to obtain the required status and certifications to allow camelina to be used as both animal feed and in food for humans.



Here, yet another opportunity may arise as one of the unique features of camelina oil is its high omega-3 fatty acid content. Dietary minimums of this polyunsaturated fatty acid are required for child development and it has been linked to reduced risk for coronary disease, according to researchers. Although it is an essential part of human nutrition, few sources of omega-3 are found in the typical American diet. Further research is being conducted to study its health benefits in this and other areas.

According to a publication by MSU Extension, using camelina meal as a part of an animal feed mix in various studies has resulted in beef, dairy, and eggs with "increased levels of omega-3 fatty acid."

Because beef cattle production is a large part of the Montana economy, the possibility of a co-product of renewable energy production being used as a value-added feed for Montana cattle is great. Those producing Montana beef higher in omega-3 would then be able to further distinguish their brand.

If these combined efforts are successful a significant victory for both value-added agriculture and renewable energy will occur in Central and Eastern Montana – a WIRED double play.

## Manufacturing News

### Win-Win for Wood Artisans

**Montana Passage**, owned by former Big Sky Carvers (BSC) production manager Dale Houska, moved its Belgrade operations to Manhattan in January subleasing the BSC production space there as well as taking on the woodworking production for BSC. All other BSC functions – sales, marketing, planning and procurement, will continue to be performed in-house in Manhattan.

### Whitefish Manufacturer to open New Plant in March

**Total Label USA**, located northwest of Whitefish, is excepted to occupy its new 60,000 sq. ft. facility by the end of March, keeping the previous facility for research and development, according to the Daily InterLake in Kalispell.

### Browning Missile Defense Factory in the Works

The Blackfeet Indian tribe is planning a factory at Browning to manufacture materials for missile defense. They have won a \$1.6 million federal grant as part of the Defense Appropriations Bill recently approved by Congress. The tribe will work with Radiance Technologies, Inc., Huntsville, Ala., to develop a Center of Expertise for Adaptive Lightweight Materials for US Army missile defense programs. Radiance will establish a “major presence” on the reservation that could lead to greater growth in the project – to employ 300-400 people. Initially, the project is expected to create 24 jobs, according to the Big Sky Business Journal HotSheet, Dec 17, 2007

### Biodiesel R&D headquarters in Bozeman

**Sustainable Oils**, a camelina-based biodiesel joint venture between Targeted Growth, Inc. and Green Earth Fuels, has selected Bozeman for its R&D headquarters with Donald Panter, Ph.D, at its helm. Camelina is an ideal oilseed crop that can be grown on marginal land.

### CFAC a Source of Good Paying Jobs in Flathead

In 2007 **Columbia Falls Aluminum Co.** re-opened not one but two of its five potlines and is running at 60 percent of capacity, according to the January 2008 Flathead Business Journal. A workforce of 350 is employed. The lines were opened in response to a favorable raw materials market, improved power prices and more demand for aluminum, attributed to the China market.



## SEND NEWS BRIEFS For the MFG NEWS!

ForwardFocus is a Newsletter for  
Montana Manufacturers Published Quarterly

Feel free to contact MMEC about manufacturing topics or issues that concern you and send your company news briefs to

[dnash@coe.montana.edu](mailto:dnash@coe.montana.edu)



## Inventor's Seminar Series in Bozeman March 25

An Inventor's Seminar Series is coming to Bozeman on March 25, 2008 and has two focused sessions to offer opportunities to learn how to proceed and protect your idea. Both sessions will be held at the Bozeman Chamber of Commerce Conference Room, 2000 Commerce Way. Pre-register and save.

Please leave your invention(s) at home, but come prepared with questions and problems for discussion.

The first half-day session, Inventor's Roundtable, is from 8:30 am – 12:30 pm. Please leave inventions at home! But come prepared with questions and problems to discuss with the innovation expert in an informal discussion group designed to help inventors determine the best next steps. The cost for this session is \$25 if you pre-register by March 21, 2008.

From 1:30 – 3:30, Protecting Your Idea will focus on Intellectual Property Assets within companies. All companies have intellectual property assets and should be capitalizing on them. This session will help you more fully understand your Intellectual Property or how to leverage its competitive value. The cost for this session is \$55.

For details & registration visit  
[www.mtip.mt.gov/workshops.asp](http://www.mtip.mt.gov/workshops.asp)

The series is provided by Montana National Science Foundation, EPS-CoR Program, Montana Department of Commerce, Montana Technology Innovation Partnership Program, Small Business Development Center, Northern Rocky Mountain RC & D, and Bozeman Chamber of Commerce.

## Speed to Market

(continued from page 2)

Oien is a third-generation Montana farmer whose value-added firm contracts, cleans, packages, and markets lentils, peas, flax, and specialty cereal grains to stores and natural food distributors within Montana, across the US, and overseas from Conrad, Mont. He knows the importance of speed to market.

To help speed up the cycle of product and market development, MMEC is launching new top-line growth services now. The first is a simple but disciplined approach called Eureka! Winning Ways® to help companies quickly identify and validate new ideas to increase top-line revenues using proven idea-creation and deployment methodology. MMEC has been working with the program's founder to make sure it fits Montana-size companies. Other services including Lean Product Development projects, several new marketing alliances and training initiatives are underway. It's that important.



Steve Holland, MMEC Director

## Financial Management For the Closely Held Business Offered in Bozeman April 29-30

A practical, powerful two-day seminar "Financial Management for the Closely Held Business" is being offered in Bozeman, April 29-30 at the GranTree Inn. In simple, clear language, participants will learn how to better manage and control company finances through business-tested techniques. The course is taught by nationally recognized experts Kyle and David Enger. Fee for this highly worthwhile session is \$345 and includes materials and lunches. To register contact Big Sky Western Bank, Bozeman, 406-587-2922.

## MMEC Advisory Board Members

**Pat Barkey**  
BBER/School of Business  
Administration, UM  
Missoula, MT

**Evan Barrett**  
Governor's Office of Economic  
Opportunity  
Helena, MT

**Linda Beck**  
Executive Director, Interim  
Big Sky EDA  
Billings, MT

**Bob Bergren**  
State Representative  
Havre, MT

**Neal Blossom**  
Technical Director  
American Chemet  
East Helena, MT

**Kim Gillan**  
State Senator  
Billings, MT

**Ken Green**  
President  
Timberline Tool  
Whitefish, MT

**Larry Hall**  
President  
S&K Electronics  
Ronan, MT

**Susan Humble, Board Chair**  
President  
Anderson Steel Supply  
Great Falls, MT

**Jerry McConnell**  
President  
Spectrum Products  
Missoula, MT

**Darrell Miller**  
Co-Owner  
Marks-Miller Post & Poles  
Clancy, MT

**Mary Moe**  
Dean  
MSU College of Technology  
Great Falls, MT

**John David Pickering Sr.**  
CEO  
Technical Systems Integrators  
(TSI)  
Missoula, MT

**Andy Poole**  
Deputy Director  
MT Dept. of Commerce  
Helena, MT

**Don Profota**  
President  
Lattice Materials  
Bozeman, MT

**Brad Reid**  
President  
Diversified Plastics  
Missoula, MT

**Dave Shannon**  
Vice-President  
Beall Trailers of Montana  
Billings, MT

**John Sinrud**  
State Representative  
Bozeman, MT

**Loren Smith**  
Owner/CEO  
Prairie Kraft Specialties  
Great Falls, MT

**Tom Spika**  
President  
Spika Welding & Manufacturing  
Moccasin, MT

**Corey Stapleton**  
State Senator  
Billings, MT

**Joe Unterreiner**  
President  
Kalispell Area Chamber  
of Commerce  
Kalispell, MT

**Jim Wright**  
Vice-President of Operations  
Semitool, Inc.  
Kalispell, MT

*Welcome new members Linda Beck,  
Darrell Miller, Don Profota,  
Dave Shannon and Jim Wright*

## MMEC Support Staff

### Steve Holland

Director

### Margie Jensen

Administrative Assistant

### Deborah Nash

Newsletter Editor  
Public Relations

### Stacey Scott

Business Manager

### G. August Uhl

Event Coordinator [WIRED]

## UTAP Staff

**Matthew Hume**, Engineer

**Elizabeth Skousen**, Engineer

**Eduard "Edi" Stan**, Marketing

## MMEC Mission

To Help Manufacturers

To Be More Successful

To Visit Your Area MMEC Field Engineer  
Call 406-994-3812

## We Can Help!



### Please Route To:

- CEO
- Owner
- Production Manager
- Development Officer
- Quality Manager
- Sales Manager
- Safety Officer
- Office Supervisor
- 
- 

Montana State University  
2310 University Way, Bldg 2  
P.O. Box 174255  
Bozeman, MT 59717-4255  
**RETURN SERVICE REQUESTED**

MAKE  
THE  
LEAP with  
MANUFACTURING  
PEERS & ALLIES  
2008

TOP LINE  
GROWTH

October 2-3, 2008

Hilton Garden Inn

Missoula, Montana

Featuring Doug Hall

America's #1 Growth Expert



Co-Hosted by MMEC and NorthWestern Energy with  
support from other generous sponsors

Non-Profit Org.  
US Postage  
**PAID**  
Permit #27  
Kalispell, MT 59901