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U.S. Is Virtually A Non-Player In The Solar Production Business

The United States invented photovoltaics — the direct conversion of sunlight to electricity — but its industry is falling far behind the rest of the world in production and in installations, according to the Earth Policy Institute. In 2006, U.S. producers manufactured only 154 megawatts of PV systems, or 8 percent of total world production of 2,521 megawatts. That percentage is expected to decrease in 2007, as production throughout the world, especially in China, surged by more than 50 percent to 3,800 megawatts.

"Recent growth in China is astonishing," says the Earth Policy Institute. "After almost tripling its PV production in 2006, it is believed to have more than doubled output in 2007. With more than 400 PV companies, China's market share has exploded from 1 percent in 2003 to over 18

percent today. Having eclipsed Germany in 2007 to take the number two spot, China is now on track to become the number one PV producer in 2008. The United States, which gave the world the solar cell, has dropped from third to fifth place as a solar cell manufacturer since 2005,

overtaken by China in 2006 and Taiwan in 2007."

The global market for PV systems is expected to be worth \$12.9 billion in 2007, according to a market study from BCC Research. That should increase to more than \$32 billion by 2012, a compound average annual growth rate of 15 percent. Shipments of PV systems should total 13,724 megawatts by 2013, says BCC.

China will export more than 90 percent of its production in 2007. It will install only 25 megawatts of PV, but it is planning to build a

(Continued on page four)

A New Order Settles Upon The NAM

A large turnover in the staff at the National Association of Manufacturers has left many NAM old-timers questioning the organization's management and direction. As much as half of NAM's professional employees have departed since the arrival of Gov. John Engler of Michigan as president in late 2004. Many of those who have been associated with NAM for decades wonder how effective NAM will be as a proponent of manufacturing under the new leadership. Not to worry, says the new management team at NAM. The organization is on an upward trajectory. Some agree. Some don't.

The shifting political tide in the nation's capital and upheaval in the manufacturing sector has driven NAM's new senior management team to seek input from its members on its future direction. But that overture has raised eyebrows within NAM's ranks. A survey developed by an outside consulting firm sent to all of NAM's members was not vetted with employees, raising questions among the association's staff concerning their role in pursuing policy goals in their areas of expertise.

"Is it a poll?" asks one NAM employee. "We don't know what it is. Are we going to change our policy based on it? We don't know. We have never been told. We're being completely kept in the dark. They said a survey went out but they wouldn't send it to us. Why?"

A second, separate survey sent only to members of

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Treasury: U.S. Businesses Lose Due To An Outdated Tax System

The current system of business taxation in the United States is making the country noncompetitive globally and needs to be overhauled, according to the U.S. Department of Treasury. A new tax system aimed at improving the global business prospects of U.S. companies could raise GDP by 2 percent to 2.5 percent, according to the proposal, contained in a 121-page report entitled "Approaches to Improve the Competitiveness of the U.S. Tax System for the 21st Century."

"Globalization has resulted in increased cross-border trade and the establishment of production facilities and distribution networks around the globe," say the Treasury study. "Businesses now operate more freely across borders and business location and investment decisions are more sensitive to tax considerations than in the past."

As globalization has become an entrenched feature of business, tax systems "have become a greater factor in the success of global companies," says the Treasury Department. "Recognizing this, many nations have changed their business tax systems. During the past two decades, many of our major trading partners have lowered their corporate tax rates, some dramatically."

The United States had a low corporate tax rate in the 1980s, compared to other countries, but now has the second highest among OECD countries, and many of these countries continue to lower their corporate income tax rates as a means to attract investment in production.

"As other nations modernize their business tax systems to recognize the realities of the global economy, U.S. companies increasingly suffer a competitive disadvantage," says the study. "The U.S. business tax system imposes a burden on U.S. companies and U.S. workers by raising the cost of investment in the United States and burdening U.S. firms as they compete with other firms in foreign markets."

Treasury says the United States tax code should be changed so that

most special provisions are eliminated in favor of a "business activity tax" (BAT) — a type of consumption tax similar to the value added tax (VAT) that is used throughout the world. "The BAT would possibly provide the largest benefit in terms of its effect on expanding the size of the economy, but raises a number of serious implementation and administrative issues," says the report.

Under this proposal, business taxes would be calculated by subtracting purchases of goods and services (including purchases of capital items) from gross receipts from the sale of goods and services. "Wages and other forms of employee compensation (such as fringe benefits) would not be deductible," says the Treasury Department. "Interest would be removed from the tax base — it would neither be included in income nor deductible."

Another proposal is to reduce the top federal business tax rate to 28 percent. "If accelerated depreciation is retained, the rate would drop only to 31 percent," says the Treasury

Department. "Alternatively, acquisitions of new investment could be partially expensed (35 percent could be written off immediately). Lowering the business tax rate to 31 percent would mean that instead of having the second highest statutory corporate tax rate among the 30 OECD countries, the United States would have the third highest tax rate, while with a 28-percent U.S. statutory corporate tax rate, the United States would have the fifth highest tax rate. Providing faster write-off of investment, either through partial expensing or replacing business income taxes with a BAT, may provide larger economic benefits, but would take the United States in a different policy direction."

But even this might not be enough given that other countries are continually shifting their tax systems to gain competitive advantage, says Treasury. "Thus, it remains unclear whether a revenue neutral reform would provide a reduction in business taxes sufficient to enhance the competitiveness of U.S. businesses."

The report (worth getting) is located at http://www.treas.gov/press/releases/reports/hp749_approachesst udy.pdf.

PEOPLE:

The **AEA**, formerly the American Electronics Association, has a new president and CEO. Christopher Hansen, group executive officer at the American Association of Retired People, has been selected to succeed William Archey. At AARP, Hanson directed all of the association's advocacy initiatives and programs nationwide. He managed 53 AARP offices and 675 staff members located throughout the country.

"This background alone makes Chris the ideal leader for AEA," said Tim Guertin, president and CEO of Varian Medical Systems, and chair of AEA's CEO selection committee. "While AEA has a strong presence in Washington, the predominance of its resources is located in its 17 local councils as well as two offices overseas. The experience and success that Chris has had in managing a large field organization will be invaluable in his position at AEA." Hanson also spent 16 years directing Boeing's government relations functions in Washington. Prior to working at Boeing, Hansen directed the Washington operations for General Dynamics.

Daniel Slane has been appointed to the **U.S.-China Economic and Security Review Commission** by House Minority Leader John Boehner. Slane is the founder and co-owner of the Slane Co., a diversified company involved in real estate development, lumber, furniture, waste treatment, telecommunications, energy and medical treatment for cancer tumors. Slane's company manufactures plywood and wood products at factories in Harbin, Dalian, Fuzhou and Balu (Pizhou), China. His company also has a trading office in Fuzhou, China, and employs 136 Chinese staff. In 2007, Slane sold his interest in the company, says the USCC.

Commerce Dept. Committee: Export Controls On Smart People In U.S. Don't Work

The regulations that control the flow of militarily sensitive technical information from students studying in the United States to foreign governments doesn't work in the era of globalization, according to a committee created by the Department of Commerce to study the issue.

Regulations controlling "deemed exports" — knowledge of technology provided to foreigners in the United States who can "export" the information overseas when they leave — "have become increasingly irrelevant to the prevailing global situation," according to the report. "In the present environment, most scientific and technologic knowledge and items will not be denied to enemies even by a perfect United States control regime. They will simply be obtained from others."

The current regulatory controls on knowledge exports are silly. They regulate such things as police handcuffs, hunting rifles, conventional radios and massmarket computers, says the Deemed **Export Advisory Committee headed** by retired Lockheed Martin CEO Norm Augustine. Yet these regulations have a significant impact on U.S. industry and academia. "If a United States commercial firm has a foreign national working in its United States-based laboratory, it may be required to obtain an export license before it can reveal information to that employee in the normal course of business if information may also have a military application," says the study. The same is true of a researcher studying at a university. "The United States is the only nation that controls Deemed Exports...'

When the deemed export rules were created in 1979, the world was a different place. The United States had an identifiable enemy; the country was preeminent in virtually every field of scientific endeavor; scientific knowledge was confined to the country in which it originated; the United States was training mostly native-born Americans in the advanced sciences; defense-related technology was distinctive, whereas today commercial and military

technologies overlap such as in computers and telecommunications; and information could be controlled since there wasn't an Internet that could easily transport data anywhere at any time.

"The seemingly inescapable conclusion from these evolving circumstances is that the erection of 'high' walls around large segments of the nation's science and engineering base has become not only

increasingly impracticable, but that attempts to build such walls are likely to prove counterproductive – not only to America's commercial prowess but also, in balance, to America's ability to defend itself," says the committee.

The 36-page report, "The Deemed Export Rule in the Era of Globalization," is located at http://tac.bis.doc.gov/2007/deacrepor

t.pdf.

"In its simplest terms, a 'Deemed Export' can be defined as the release of technology or source code having both military and civilian applications to a foreign national within the United States. Thus, even though the release in question takes place within the confines of the United States, the transaction is 'deemed' to be an export and therefore subject to certain United States Government export control regimes."

Truck Mfg. Sector Downturn Hurts Modine

The continued downturn in the U.S. commercial truck industry is going to force Modine Manufacturing Co. to close its high-cost production plants in the near future. "To respond to the underlying performance issues within the Original Equipment — North America segment, Modine is actively formulating plans for additional restructuring activities, including plant closures, product line rationalizations and other significant measures in its North American operations and its Western European operations as well," said the company in December. "Modine continues to see solid growth and underlying strength in its international businesses where the company's new business model implementation is having a positive impact." The company, which had sales last year of \$1.7 billion, will provide details about its plant closure plan in late January. Modine has 7,800 employees and specializes in thermal management systems and components in trucks.

Timken Continues Growing China Production

Timken Co. of Canton, Ohio, has entered a joint venture with Xiangtan Electric Manufacturing Co., of China to build a \$38-million plant in China to manufacture main shaft bearings for wind turbines. Timken will hold 80 percent of the venture, which will employ 110 people. "By combining Timken's alloy steel expertise, power-transmission design and precision manufacturing capabilities with XEMC's leadership in heavy-equipment manufacturing in the Chinese market, the joint venture will be well-positioned to meet the needs of China's rapidly growing wind energy industry," said Timken.

OSHA Inspections Up 4.3 Percent in 2007

The Occupational Safety and Health Administration (OSHA) was busy last year conducting inspections of workplaces. OSHA conducted 39,324 inspections during its fiscal year 2007, an increase of 4.3 percent over 2006. The agency cited 67,176 serious violations, up 9 percent from 2006 and 12 percent over the past four years. The number of repeat violations increased from 2,551 in 2006 to 2,714 in 2007. The number of fatalities and injuries on the job continued to decrease, with the injury rate in 2006 being the lowest ever recorded. Workplace fatalities reached a record low in 2006, with 3.9 fatalities per 100,000 employees.

Solar Industry Growth Is Outside U.S....(Continued from page one)

100-megawatt-photovoltaics farm in Dunhaung City, "which would have five times the capacity of the largest PV power plant in the world today," says Earth Policy Institute.

Germany lays claim to being the world's largest market for installations, despite its cloudy skies. The country added 1,050 megawatts of capacity in 2006, becoming the first country in the world to install more

than one gigawatt of solar power in one year. "Driven by a feed-in tariff that guarantees the price a utility must pay homeowners or private firms for PV-generated electricity, annual installations in Germany alone have exceeded those in all other countries combined since 2004," according to Earth Policy Institute. There are now more than 300,000 buildings in Germany with PV systems, triple the German government's goal of its 100,000 Roofs Program launched in 1998.

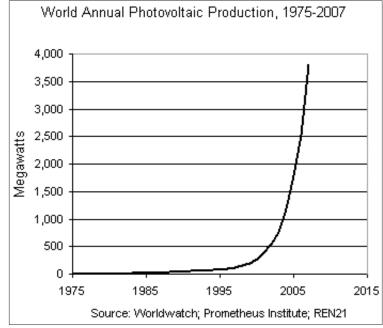
The United States is almost bereft of companies that produce photovoltaic panels. Only one of the top 10 companies worldwide in PV production is American owned: First Solar, which ranks in eighth place globally, with 61 megawatts of production during the first six months of 2007. First Solar's output of PV cells was about one-quarter of the production from world leader Sharp of Japan (225 megawatts). The other top 10 producers for the first half of 2007 were Q-Cells of Germany (160 megawatts) in second place; Suntech of China

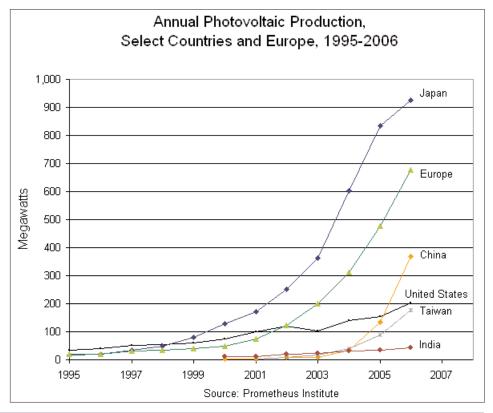
(145 megawatts); Kyocera of Japan (108 megawatts); Sanyo of Japan (87 megawatts); Motech of Taiwan (85 megawatts) Deutsche Solar/Shell of Germany (66 megawatts), Mitsubishi of Japan (55 megawatts) and, in tenth place, SunPower of the Philippines (54 megawatts).

First Solar is capitalizing on the global shortage of silicon, which is used in both the making of PV panels and in semiconductor chips. First Solar is using cadmium telluride thin films for its PV panels, allowing it to "leap" into the top 10 list of global PV producers, says Earth Policy Institute. It is the fastest growing PV manufacturing company in the world.

"The average price for a PV module, excluding installation and other system costs, has dropped from almost \$100 per watt in 1975 to less than

\$4 per watt at the end of 2006," says the Earth Policy Institute. "With expanding polysilicon supplies, average PV prices are projected to drop to \$2 per watt in 2010. For thin-film PV, production costs are expected to reach \$1 per watt in 2010, at which point, solar PV will become competitive with coal-fired electricity.





Investment In Measurements Essential For Semiconductors

Investments made in measurement systems have provided huge benefits to the United States semiconductor industry. The \$12.3 billion invested in advanced semiconductor measurement systems between 1996 and 2006 will result in economic gains of \$51.3 billion, according to a report commissioned by the National Institute of Standards and Technology. The economic benefits might be even greater because "other important performance metrics such as quality are more difficult to define and measure," says the 200-page study from RTI International.

"We were not able to estimate the impact of such investment on all major performance variables," says Greg Tassey, senior economist at NIST. "However, sufficient quantitative data were obtained [to] demonstrate the critical importance of technical infrastructure to the competitiveness of a high-tech industry."

Continued investment in measurement systems and standards is "essential" if the semiconductor sector, the underpinning of the entire electronics industry, hopes to thrive in the future, the study concludes. Investment in standards and measures have become especially important due to the increased complexity and miniaturization of semiconductor technology. "To that end, the industry requires that NIST play a significant role," says the study. "Past investments in semiconductor measurement standards and technologies have shown themselves to be very beneficial to both the industry and businesses and consumers."

Organizations providing basic and applied research, equipment and software suppliers, product designers, chemical and materials suppliers, companies making wafer fabrication, packaging, assembly and testing systems all contributed to significant cost savings in the production of semiconductors by improving yields (decreased scrap)

and throughout (decreased rework).

"This study provides the first comprehensive estimates of the value of technology infrastructure to a high-tech supply chain," according to the report. The results "provide convincing evidence that a broad and deep technology infrastructure is essential to the vitality and competitiveness of high tech industries. The productivity impacts made possible through infrastructure improvements act as a strong incentive for global investment capital to locate within

the domestic economy.

"However, the quasi-public-good nature of technology infrastructure means that neither industry nor government alone can make the full range and depth of investment required to ensure that the domestic industry can enhance and assimilate this infrastructure in a timely fashion. Thus collaboration between industry and government is essential to define research objectives, conduct the designated research projects, and disseminate the research results in usable (standardized) forms."

The report "Economic Impact of Measurement in the Semiconductor Industry," is located at http://www.nist.gov/director/prog-

ofc/report07-2.pdf.

Mfg. Jobs Continue Disappearing

Exports are expected to increase by a healthy 19 percent during 2007, but that hasn't turned the situation around for manufacturing workers. The year ended on another down note for manufacturing employment, with job losses totaling 31,000 for the month of December. Employment in the manufacturing sector dropped by 217,000 over the past 12 months, from 14,136,000 at the end of 2006 to 13,919,000 at the end of 2007, the first time since 1950 that the number of manufacturing workers fell below 14 million, according to the Bureau of Labor Statistics.

Among the hardest hit in the manufacturing sector last year were workers in motor vehicles and parts, where employment dropped by 83,000 workers to 970,000. The transportation equipment sector lost 75,400 workers to finish the year at 1,678,300. The textile industry lost 28,000 workers (to 314,000); the apparel industry lost 20,000 workers (to 208,800). Employment in the wood products industry fell by 30,000 workers during 2007, to 507,000. A few manufacturing industries held their own. Employment in the fabricated metal products sector stayed steady at 1,566,600, although some analysts attribute this to a massive surge of spending on the Iraq War.

For the year, most sectors of the private-sector economy experienced

either no employment gains or modest increases.

The biggest growth in jobs in 2007 was in the area of leisure and hospitality, which increased by 648,000 workers to 13,734,000, and health care and social assistance, which increased by 444,000 to end the year at 15,592,300.

Government employment for the year stood at 22,388,000, down from 22,494,000 at the end of 2006.

Average weekly earnings for manufacturing workers increased during the year from \$712.65 at the end of 2006 to \$729.41 in December 2007.

The employment area with the greatest number of job gains last year also had the lousiest wages. Workers in the leisure and hospitality sector saw their weekly pay jump by \$15, from \$257.30 to \$272.41.

In an analysis of the BLS numbers, economist Charles McMillion found that the number of private sector jobs declined by 13,000 in December. The total number of new jobs created by the U.S. economy was 18,000, marking the 52nd consecutive month of job growth for the U.S. economy, a point made by Commerce Secretary Carlos Gutierrez.

"Taxpayer-funded government jobs increased by 31,000 in December," writes McMillion. "The private sector has created an average of only

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New Order At NAM...

(Continued from page one)

NAM's board seeks input on how well Gov. Engler is doing his job. The first survey question to the NAM board members is: "Please indicate whether you have a favorable or unfavorable opinion of John Engler." The second: "Overall, how would you rate the job John Engler is doing as President of the National Association of Manufacturers?"

This separate survey raised eyebrows among staff members wondering why such questions need to be asked. But NAM's senior managers note that it was Engler who requested those questions be in the separate survey to board members.

It has been just over three years since Engler was recruited to one of Washington's premier lobbying organizations, and the management makeover is complete. In conversations with a dozen or so people who work at NAM, current board members, those who have recently left and other Washington trade association officials who work closely with NAM, there is a sense of concern about NAM's direction and a desire to see the NAM story told.

Current senior managers brought in by NAM president John Engler wonder why the press is interested in internal personnel matters and policy choices. But even those on staff who speak highly of Gov. Engler say issues regarding turnover and political orientation are worthy of an article — so long as there is nothing mean about it — because the internal workings of NAM impact the organization's ability to achieve policy goals favorable for manufacturers.

"There is always discontent in the ranks," says one NAM employee. Whenever new management arrives, there is going to be a shakeout, no matter what type of organization it may be. "You have people who didn't like the way they were being treated or like the new

Air Conditioning, Gas Appliance Trade Associations Merge

The Air-Conditioning and Refrigeration Institute has merged with the Gas Appliance Manufacturing Association to create a new Arlington, Va.-based organization called the Air-Conditioning, Heating and Refrigeration Institute (AHRI). "By coming together in one organization, the manufacturers of heating and cooling equipment will increase their collective power and significantly increase the effectiveness of our advocacy domestically and abroad," says Robert Wilkins, the immediate past chairman of the ARI. "We are convinced that one association can accomplish even more than two working separately." By combining forces, the group will have significantly greater financial resources to represent the interests of its 370 member companies in the fast-changing global industry. The two trade associations officially merged on Jan. 1, 2008. They have put together an integration committee to work out the details of the structure and organization of the new association.

structure, which is very much like a governor's office, and they left and new people came in. It's the normal way of things," says one NAM worker.

But some of the senior policy people who have recently left are adamant about saying NAM is losing institutional memory; that the specialists who are leaving take with them contacts in the Washington policy community, along with the ability to form coalitions on the wide range of issues that are important to manufacturers. Without these employees, NAM is less effective in influencing policy, they say.

"We've lost a lot of very good people and I guess the board is finally starting to notice," according to one NAM employee in a letter written to *Manufacturing & Technology News*. "I can tell you the members are noticing."

Other senior NAM officials who recently departed claim that the new managers do not value the input of staff. One former policy specialist said that in his time under Gov. Engler he was informed of the governor's activities in the area he staffed only once.

Additional tensions within the organization have surfaced with press reports about the pay level of senior managers. The new managers are making two to three times more than their replacements. "Not everyone's pay has gone up," says one current staff member. "It surprised us here in the rank and file when that information was disclosed."

Others argue the changeover in staff has infused the organization with fresh blood, and that Engler truly likes to be around and to mentor younger, energetic people who are not going to make working at one trade association a life-long career. There is no shortage of people who want to work at NAM, they say. "The old rules of employment throughout all of America are gone," says a NAM worker. "If people are in a comfort zone, there is no comfort zone any more and I think the organization reflects it."

The changeover in staff is occurring at a time when there is substantial churn in Washington, with conservative Republicanism as defined by George Bush and Tom DeLay out of vogue. Engler, a conservative Republican, was hired during the height of that era, prior to the Republican loss of Congress in 2006 and the meltdown of the Bush presidency. Can he work well with Democrats?

NAM has always been a Republican organization, despite the Democratic orientation of its previous president, so Engler's political leanings are nothing new or unusual, say his boosters. "Things are fine at the NAM," says one employee. "Money continues to come in. We continue to address the issues of the day. John's top issues are the top issues of the country: energy policy, workforce development, infrastructure. We will all be involved in health care. I think the ship of state is fine here."

Yet a sense of unease persists among those long affiliated with NAM, particularly within its membership outreach efforts. Recruitment of new members has become more difficult given the struggles facing domestic producers, say those who spent years in the

(Continued on next page)

NAM Makeover...(From page six)

organization. Some years ago, there was an effort to boost NAM membership to 20,000; but staffers say membership has dropped below 12,000. The bigger companies are paying more in dues and the smaller companies remain concerned that NAM is beholden to

"All of us [at NAM] are all of a sudden involved in a strategic planning exercise," writes the NAM employee to MTN. "They just gave us these goals and told us to break out into teams and develop strategies. We hear the goals came from our Chairman's Council...If you look at the goals, you'll notice they're trying to do all the things we are not now, like being non-partisan: Ha!!! A leader in coalitions? We used to be until everybody left and now we're not.'

Question: NAM staffers say they were not told about the questions concerning policy issues on the survey that went out to your membership. They say they don't know what will come from the responses to the policy questions.

Wilson: There has never been a survey that has gone to all members designed to get the kind of feedback we were looking for. Our general counsel has been here for 29 years. She said they have never hired an outside firm to help us develop the questions so that they are not leading either one way or another and that can help us to predict what the key policy issues are going to be down the road. We always think we know, but it's always helpful to have Republican and Democratic strategists advise you. So they [PollingtheNet.com operated by McLaughlin & Associates] wrote the questionnaire. The questionnaires that [NAM] policy, communications and membership people had used before tended to be very specific to their issue areas. This was more broad-based to give us an idea of what our members feel about certain things.

Q: Will you change policy based on the survey

Wilson: We are member driven. We have a process. If the survey will indicate that we need to go a certain direction, then that will also be reflected through the policy process.

Timmons: It's more a question of emphasis. The policy is created through our policy-making process. We have our constitution. We have board committees and then member subcommittees that develop policies that the board eventually approves. This survey addresses public policies already in place to see what emphasis the members want us to place on them and how much advocacy they want us to put forward.

Wilson: We asked our members: "What are your top priorities?" We listed various public affairs or member outreach programs and we asked those to be ranked in terms of their effectiveness. We also talked about what, if any, type of political program we should be pursuing. NAM currently doesn't have a PAC. One of our key member outreach programs, the congressional plant tours, was eliminated in 2006. That was the best handson experience for congressional staff to see how

In a memo to staff, NAM says that in its "Preferred Future, By 2011 the NAM

"Is an international thought leader on manufacturing issues and policies

"Is known as a nonpartisan organization

"Has the most up-to-date dynamic grassroots program available

"Has an effective political program

"Is the leading builder in the business community of critical coalitions.

Manufacturing & Technology News editor Richard McCormack recently sat down with NAM's top management team to discuss these issues. Among those participating were Jay Timmons, senior vice president of policy and government relations, Michael Hambrick, senior vice president of communications, and LeAnne Wilson, NAM's chief operating officer.

manufacturing really works, but it was eliminated with the new lobbying law.

Q: One NAM staff member asked: Why are employees being "kept in the dark" by your not sharing the survey with them?

Wilson: We talked about, we were going to do the survey, and then the day it went out I sent out an e-mail to every single NAM staffer saying here is the cover letter. I pasted it into the e-mail and said I want to make sure that you are aware that it has gone out. I wanted to alert you in case a member asked you. If you have any questions call me. I had one person call me and ask if they could see the survey. I said I'm not going to give it to you, but you can come and look at it. We had two people who did. I said come on over: we've got it you can look at it. There was no secret about it, none whatsoever.

Q: NAM policy people said they were left out of helping craft questions about the policies that they help shape.

Wilson: That's true. I'm not going to deny that. But the survey was not written by us here at NAM. It was written by professionals. It is the first time that I'm aware of that we've hired outside professionals to do a comprehensive of our members. We gave them the list of issues, but they were current policy. There wasn't new policy there. We were basically asking for them to rank them on what is the most important.

Timmons: The other thing about that is we had outside professionals develop the survey and we reviewed it and made suggestions for changes.

Wilson: Our chairman and vice chairman reviewed it. The survey was the idea of the senior management team as we were working through the strategic planning process. Early on we decided to do this.

Q: Why was there a separate survey sent to board members asking about John Engler's performance as president?

Wilson: That was John Engler's idea.

Q: There's a rumor the board wanted the survey

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MAPI: U.S. Manufacturing Is At A Tipping Point

The U.S. manufacturing sector "is at the tipping point of a recession," according to the Manufacturers Alliance/MAPI in its quarterly forecast. About half of all U.S. industries are already declining and MAPI's analysis projects that 14 of 24 sectors will decline in 2008. "On an annual basis, MAPI forecasts a manufacturing recession" in 2008, says the 21-page analysis. "We predict that total manufacturing production will post no growth in 2008, before rebounding to 2.6 percent growth in 2009."

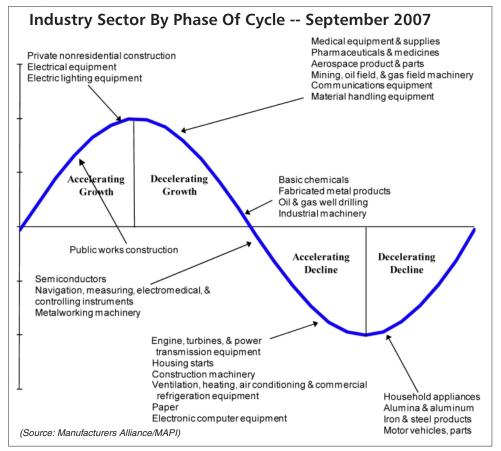
of cell phones, gaming and video products. "The strongest growth in semiconductors will not be in North America," says MAPI.

Some industries are doing okay. The communications equipment industry is healthy, with 2007 setting a new production record. Medical equipment and pharmaceutical production should post small gains. The aerospace sector has full order books, and public construction should be up slightly in 2008.

If high-tech manufacturing is taken out of the projection, then MAPI predicts a decline of 1.2 percent in 2008 and a rebound of 2.0 percent growth in 2009.

"The housing collapse has worsened...depressing supplying industries like household appliances, wood products, paint, carpet and rugs, furniture and heat, ventilation and air conditioning," MAPI points out. The automotive sector continues to "drift lower as consumer confidence plummets."

Production of most heavy machinery will decline in 2008, with the greatest declines taking place in construction-related machinery. Steel production will increase marginally in 2008, "and aluminum products production will see a sharp decline." Intense competition in semiconductors is reducing revenues for that sector, despite growth in sales



Mfg. Jobs...(Continued from page five)

55,250 jobs per month since September. While 19,000 non-supervisory/production jobs were added in the private sector during December, 32,000 supervisory jobs were eliminated. Indeed, in a continuation of the unique pattern of the past seven years, over the past year, 279,000 supervisory jobs were lost in the private sector."

The sectors that lost jobs are those that compete internationally or can be outsourced overseas; while those jobs that can't be shipped offshore (mostly in consumer services) added jobs.

"If December is a harbinger of the new year, it is going to be a bad one," notes analyst Paul Craig Roberts. "The past year, hailed by Republican propagandists and 'free trade' economists as proof of globalism's benefit to Americans, was dismal."

From the BLS December Employment Survey: The U.S. unemployment rate increased from 4.4 percent in December 2006 to 5.0 percent in December 2007.

In 2007, payroll employment growth average 111,000 per month compared to 189,000 per month in 2006.

Unemployment rates increased for nearly all of the major worker groups.

The number of unemployed persons was 7.7 million in December 2007, up from 6.8 million in December 2006

Total employment declined in December 2007 to 146.2 million, unchanged from the same month in 2006

The employment population ratio was 62.7 percent in December, down 0.7 percentage point over the same month in 2006.

2008 Calendar Of Manufacturing & Technology Events

January 19 - 24 Photonics West, San Jose, Calif.: http://spie.org/photonics-west.xml?WT.mc_id=RCALENDARW.

January 23 - 27 World Economic Forum Annual Meeting, Davos, Switzerland: http://www.weforum.org/en/index.htm.

January 24 Micro and Nanotechnologies for Fashion and Textiles, London, England: http://www.cientifica.eu/fashion.

January 26 - 31 Electronic Imaging 2008, San Jose, Calif.: http://electronicimaging.org/?WT.mc_id=RCALENDARW

January 28 - 29 New Energy Indicators for Transport: The Way Forward, Paris, France. Sponsored by the International Energy Agency (IEA) and the International Transport Forum: http://www.iea.org/textbase/work/workshopdetail.asp?WS_ID=336.

January 28 - February 1 Composite Materials and Structures, Daytona Beach. Sponsored by the United States Advanced Composites Association: http://www.advancedceramics.org.

January 30 - 31 Lean Enterprise Institute's Senior Executive Forum, Celebration, Fla.: http://www.lean.org/events/executive_forum.cfm.

January 30 - 31 Item-Level RFID: Future Directions and Current Status, University of Arkansas, Fayetteville: http://cscmp.org/events/rfid/index.asp or 630-574-0985.

February 4 - 5 Middle East Energy, 2008: Risks and Responsibility of the New Realities of Energy Supply, London, England: http://www.chathamhouse.org.uk/events/conferences/view/-/id/109/.

February 4 - 5 Lean Product Development, Association for Manufacturing Excellence, Aurora, Colo.: http://www.ame.org.

February 5 - 6 World Class Results Through Lean Team Management, the Effective Lean Organization, AME, San Antonio, Texas: http://www.ame.org.

February 11 - 12 Supply Chain Collaboration, Univ. of Wisc. - Madison, Wisc.: http://exed.wisc.edu/supplychain/.

February 11 - 21 Organization Learning for the Lean Enterprise (Feb 11-13); Lean Value Stream Design (Feb. 13-15); The Management of Project Management (Feb 20 -21); three courses sponsored by the Univ. of Kentucky's Center for Manufacturing, Lexington, Ky.: http://www.mfg.uky.edu/calendar/index.html

February 12 - 13 ShipTech 2008, the National Shipbuilding Research Program, Biloxi, Miss.: http:///www.nmc.ctc.com.

February 12 - 14 International Conference on Flexible Circuits, Phoenix, Ariz.: http://www.ipc.org/calendar/2008/Flex_0208/FlexConf_0208.htm.

February 14 - 15 Product Safety & Product Liability Prevention Seminar, Milwaukee Wisc.: http://randallgoodden.com.

February 15 New Chinese Tax Legislation, How Will It Impact Your PRC Activities, Paris, France: http://ibfd.msgfocus.com/q/1N6jJEbmjGgpJx/wv.

February 16 - 21 Medical Imaging, San Diego, Calif.: http://spie.org/medical-imaging.xml?WT.mc_id=RCALENDARW.

February 18 - 19 Partnership for Skills and Competitiveness, Vienna Austria, OECD: http://www.oecd.org/document/62/0,3343,en_2649_34487_39651966_1_1_1_1,00.html.

February 18 - 21 Supply Chain Management Strategy, University of Tennessee, Knoxville, Tenn.: http://thecenter.utk.edu/documents/Introduction-to-Supply-Chain-Management.pdf.

February 19 - 28 Power-Gen Renewable Energy & Fuels, Las Vegas, Nev., http://www.power-gengreen.com.

February 20 - 21 RFID Smart Labels 2008, RFID Markets, Players and Forecasts, Manufacturing RFID, Boston, Mass.: www.idtechex.com/USA.

February 24 - 29 Advanced Lithography 2008, San Jose, Calif.: http://spie.org/advanced-lithography.xml?WT.mc_id=RCALENDARW.

February 25 - 28 Pharmaceutical Mfg. Excellence, Tampa, Fla.: www.ISPE.org/manufacturing excellence.

February 27 - 29 International Hydrogen & Fuel Cell Expo, Tokyo, Japan: http://www.fcexpo.jp/english/.

February 28 - 29 Meeting Energy Efficiency Goals: Enhancing Compliance, Monitoring and Evaluation, Paris, France: http://www.iea.org/Textbase/work/workshopdetail.asp?WS_ID=349.

March 4 - 5 Congressional Visit Days, Washington, D.C., sponsored by the Alliance for Science & Technology Research in America (ASTRA). Call Deborah Rudolph of IEEE at 202-785-0017 or go to http://www.setcvd.org/cvd2008/index.html.

March 5 - 6 Lean Transformation Summit, Orlando, Fla.: http://www.lean.org.

March 6 - 7 Product Safety & Liability Prevention Seminar, Orlando Fla.; e-mail Randall Goodden at rgoodden@go.com or http://RandallGoodden.com.

March 9 - 13 Smart Structures and Materials & Nondestructive Evaluation and Health Monitoring, San Diego, Calif.: http://spie.org/smart-structures-nde.xml?WT.mc_id=RCALENDARW.

March 10 - 20 Management for a Lean System, (March 10-12); Leadership for a Lean Enterprise (March 12-14); Lean Executive Leadership Institute (March 17-21); Planning for Successful Projects (March 19-20): four courses sponsored by the Univ. of Kentucky's Center for Manufacturing, Lexington, Ky.: http://www.mfg.uky.edu/calendar/index.html

March 11 - 12 National Logistics and Distribution Conference, 2008, Las Vegas, Nev.: http://www.peachstate.com/nldc/default.htm?source=idii.

(Continued on page 10)

Calendar...(From page nine)

March 11 - 15 ConExpo-Con/AGG, Las Vegas, Nev.: http://www.conexpoconagg.com.

March 16 - 20 Defense Security Symposium, Orlando, Fla.: http://spie.org/defense-security.xml?WT.mc_id=RCALENDARW.

March 30 - April 4 National Hydrogen Association's Annual Conference, Ramping Up Commercialization, Sacramento, Calif., http://www.hydrogenconference.org.

March 31 - April 3 Shingo Prize Conference: Challenging The Way You See, Dallas, Texas: www.shingoprize.org.

April 1 - 3 Metalform Exposition & Conference, Birmingham, Ala.: http://www.metalform.com.

April 2 - 4 The Global Venture Challenge, Technologies From Research Institutions to the Private Marketplace, Oak Ridge National Laboratory, Oak Ridge, Tenn.: www.globalventurechallenge.com.

April 2 - 4 Adept Global Conference, Livermore, Calif.: http://www.adept.com/company/AGC_2008.pdf, or call Lauren Bucher, 925-245-3400.

April 7 - 9 Developing a Leading Edge Operations Strategy, MIT Sloan, Cambridge, Mass.: http://mitsloan.mit.edu/execed/coursedetails.php?id=379 or call 781-239-1111.

April 7 - 11 Photonics Europe, Strasbourg, France: http://spie.org/photonics-Europe.xm.?WT.mc_id=RCALENDAR@.

April 9 - 10 National Coalition for Advanced Manufacturing (NACFAM) Strategies for a New Industrial Era, Arlington, Va., http://www.nacfam.org.

April 14 - 25 Principles and Practices of Lean Production Systems (April 14-16); Lean Operations Management (April 16-18); Keeping Projects On Track (April 16-17); Lean Shop Floor Leadership (April 21-25): four courses sponsored by the Univ. of Kentucky's Center for Manufacturing, Lexington, Ky.: http://www.mfg.uky.edu/calendar/index.html

April 15 - 16 World Economic Forum on Latin America, Cancun, Mexico: http://www.weforum.org/en/events/WorldEconomicForumonLatinAmerica2008/index .htm.

April 17 - 18 Supply Chain Collaboration, Univ. of Wisconsin, Madison, Wisc.: http://exed.wisc.edu/supplychain/ or call 800-348-8964.

April 21 - 24 Aging Aircraft 2008, Phoenix, Ariz.: http://www.agingaircraft2008.com.

April 21 - 24 IEEE's Powering Toward the Future, Transmission & Distribution Conference & Expo, Chicago, Ill., http://www.ieeet-d.org.

April 21 - 25 Hannover Messe — World Trade Fair for Industrial Technology, Hannover, Germany: http://www.messe.de.

April 20 - 22 Energy Dialogue to Respond to Global Challenges, 11th International Energy Forum, Rome, Italy: http://www.iefs.org.sa/Pages/BK_MR_2.html.

April 20 - 24 High-Power Laser Ablation, Taos, New Mexico: http://spie.org/laser-ablation.xml?WT.mc_id=RCALENDARW.

April 23 - 25 OECD-UNEP Conference on Resource Efficiency, Paris, France: http://www.oecd.org/dataoecd/5/10/39813376.pdf.

April 28 - 30 Milken Institute's Annual Global Conference, Solutions to the World's Biggest Challenges: Finance, Industry, Health Care, Education, Energy and Economic Development, Los Angeles, Calif.: http://www.milkeninstitute.org/qc2008.

April 29 - May 2 Lean Six Sigma Summit, Chicago, Ill.: www.wcbf.com/quality/.

May 4 - 6 NanoBusiness Alliance Conference — Going Green Executive Summit, New York, N.Y.: http://www.nanobusiness.org/

May 5 - 7 American Society for Quality 2008 World Conference on Quality and Improvement, Houston, Texas: http://wcqi.asq.org/.

May 5 - 8 Federal Laboratory Consortium for Technology Transfer National Meeting, Portland, Ore., http://www.federallabs.org/meeting.

May 21 - 22 2008 Fuel Cell Conference, Long Beach, California: http://www.fuelcell-magazine.com/FC_2008/2008.htm.

May 27 - 29 Fifth International Symposium on Mechatronics and its Applications, Amman, Jordan, co-(Continued on page 11)

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Business Manager: Anne Anderson (anne@manufacturingnews.com)

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NAM Managers...(From page seven)

done because there is so much dissatisfaction among members and staff with the direction NAM is headed.

Wilson: The board couldn't be more pleased. We get e-mails constantly praising us for the work that we've done, particularly energy. We got one the other day saying that Gov. Engler should run for president. There are people in this world who like to make themselves look better by tearing others down. We saw that in Lansing. This is one of smallest large towns in the country.

Q: There is quite a bit of talk about the loss of really talented people from the NAM staff.

Wilson: Tell me. Give me the name of one that's been named as being a super talented person that has been lost. I'm serious, help me with that — who hasn't been replaced with a person of equal or better skills.

Q: I couldn't tell you because I don't know who their replacements are.

Timmons: It's not that people didn't have talents.

Q: The concern they raise is that the people who have left had extensive institutional memory and contacts so that NAM has become less effective in policy circles.

Wilson: I come back to our metrics. We've achieved and produced more successes at least since we've been measuring. Here's my problem, there are no metrics from the time before I got here, except for the dues level, which is nice, and we can't do the rest without that.

Q: Can you give me some examples of successful metrics?

Wilson: Dues revenue increased in 2007 by 5.1 percent, we anticipate, now our books haven't closed for the year. We've had a 36 percent increase in traffic to NAM.org. Our blog has had a 50 percent increase this year. Our radio show America's Business is now in over 86 markets. We have had 20,000 downloads of the podcasts. One of our goals was to research and promote steps toward solutions to problems. We've done our white paper on energy and our advocacy piece and this has been the number-one issue we've been involved with. On infrastructure, we have a coalition already developed and working. On workforce issues, we have a white paper that has been written on manufacturing a high-performance workforce. Our Women in

Manufacturing has published a book. Our health care paper is in draft form. In trade, we've done a ton on trade this year.

Timmons. With the Peru vote we have been extraordinarily active. The Governor himself has been active with [House Ways and Means Committee] Chairman Rangel on the labor agreement that was made.

Wilson: On export controls, back in 2006, the Governor recognized this as an issue and we announced a working group earlier this year and have come up with some recommendations that are close to being announced.

On legal reform, we have been involved in more than 40 amicus briefs. We held a symposium before the state supreme court justices in January. Our state legal reform entity American Justice Partnership has spent a ton of money in the states where they have achieved successes in Wisconsin, Louisiana, South Carolina and Michigan. They were instrumental in either electoral or policy legal reform victories. We were able to defeat the jail initiative in South Dakota. With regard to our advocacy efforts we have been able to expand our government relations team to focus on Congress and the administration. We've hired Aric Newhouse [as vice president of government relations], Sen. George Voinovhich's [R-Ohio] chief of staff. We hired Ryan Modlin, who worked for Rep. John Dingell [D-Mich.]. We promoted Bob Shepler to help with our Senate outreach. Jay and I have friends from our gubernatorial times, so we've reached across the aisle as well. So does John Engler. And we're right now in our ozone strategy and are reaching out on a bi-partisan basis.

Q: There is a strong sense that you are a partisan organization.

Timmons: The organization was perceived as that before John Engler got here. We've made a concerted effort to move away from that. That was the first thing he said to me when I got here — that we need to be an organization that is reaching across to both sides of the aisle in both houses of Congress. And we put a pretty concerted effort there.

Q: Here's a quote from a NAM staff member: "Big fat pay raises for the top executives." There is a sense that senior managers are making so much more money than their predecessors.

Wilson: We are market driven.

(Continued on next page)

Calendar...(Continued from page nine)

organized by the American University of Sharjah (AUS) and Jordan Engineers Association (JEA): http://www.isma-conf.org.

May 28 - 30 International Transport Forum 2008. Transport and Energy: The Challenge of Climate Change, Leipzig, Germany: http://www.internationaltransportforum.org/forum2008.html.

June 19 - 20 Management Systems Summit, NC State

Univ., Raleigh N.C.: http://www.ies.ncsu.edu/summit/.

July 13 - 16 International Symposium on Optical Memory and Optical Data Storage, Waikoloa, Hawaii: http://spie.org/optical-data-storage.xml?WT.mc_id=RCALENDARW.

August 10 - 14 Optics + Photonics, San Diego, Calif.: http://spie.org/optics-photonics.xml?WT.mc_id=RCALENDARW.

August 17 - 22 Energy Efficiency in Buildings, American Council for an Energy-Efficient Economy, Monterey, Calif.: http://aceee.org.

NAM Managers...(From page 11)

Q: Having worked closely with NAM for the past 14 years prior to the arrival of Gov. Engler, policy people seemed self employed. NAM was very entrepreneurial. Policy staff knew the key people in their issue area and pursued what they believed were the issues most important to the manufacturing community.

Timmons: That may have worked at one time but when you have a member-led organization and members are demanding more and more accountability and more focus on the issues that they care about in exchange for the dues that they pay, then every organization in this town has to go through a reevaluation process, where they look

inward and determine what will make them stronger. That is what has happened under Gov. Engler.

Hambrick: What is implicit in what you're saying about entrepreneurial and the definition of that is that everybody is a free radical and there is no discipline: there is no order and there is no agenda. I've been involved in a lot of entrepreneurial activities and there is much more discipline needed than in any other situation. You need that discipline. That is what has been brought to this organization and that is what makes it much more effective than it has been.

Q: Can you talk about the turnover of staff?

Timmons: Every successful organization has gone through change. Gov. Engler made the decision that he was going to work with the organization as it existed and try to raise the bar and the expectations so that we were better serving our members and becoming an even more effective organization. NAM was effective but we wanted to

make it more effective, but by doing that — by setting higher standards — sometimes people decided that they wanted to work elsewhere.

Wilson: Turnover was across the board: it's not just our lobbyists. It happened in our accounting department. It happened in our field and national division. In our member programs. It was an equal-ask across the board for everyone to step up and to be held accountable. So we're measuring how we are doing. In the world you were talking about, it's hard to measure if you even have success. At least now we can put measurement behind each of these goals and objectives to see that we're meeting them. At the same time, an organization has to decide to change direction if the measurement isn't meeting the standard you require.

LeAnne Wilson, **NAM's Chief Operating Officer**, has been affiliated with NAM President Gov. John Engler for more than 20 years. She began working for Engler in 1985 when he was the Michigan state Senate Majority Leader. She worked for the Senate Republican Majority Committee, the "Bush for President" campaign and as the deputy director of Bush-Quayle '88 campaign in Michigan. She was appointed by Engler to serve as his director of the State of Michigan's Washington, D.C., office and was the state's liaison to the White House and the Michigan congressional delegation. When Engler chaired the National Governors Association, Wilson represented him on various committees.

Jay Timmons, NAM's senior vice president of policy and government relations, was the executive director of the National Republican Senatorial Committee from 2002 to 2004 where he worked in conjunction with President Bush's re-election campaign and the White House Office of Political Affairs. "He led successful efforts to strengthen the Republican majority in the U.S. Senate to its largest margin since 1928," says his bio. Timmons was chief of staff to Sen. George Allen (R-Va.) from 2001 to 2002. From 1994 to 1998, Timmons was Gov. Allen's chief of staff, "the youngest person in Virginia history to hold the position," according to his NAM bio. He was Allen's chief of staff in the House of Representatives from 1991 and 1993. Prior to that he worked in the George H.W. Bush White House. He was state chairman of the Young Republican Federation of Virginia in the late 1980s and was state chairman of the Ohio College Republicans from 1982 to 1983.

Michael Hambrick, NAM's senior vice president of communications, worked in the network news business for most of his life before buying and operating several radio stations in the southwest. "A veteran senior advisor to numerous state and local political campaigns, Mike brought his experience in media and message development from the campaign trail to the classroom, leading communications strategy seminars for Washington insiders and elected leaders around the country," says his NAM bio. "He served as a media advisor to Fortune 500 CEOs, members of Congress, locally elected officials and leaders of NGOs." He was the writer and host of "Freedom Line with Mike Hambrick," a two-hour weekly radio news program dedicated to protecting individual rights. He produces and hosts the America's Business radio program that is syndicated in 84 markets across the country.

Overhaul Planned For Nuclear Bomb Agency

National Nuclear Security Administration has issued a plan to overhaul the operations of its massive nuclear weapons R&D and production complex and reduce its nuclear stockpile of weapons by 50 percent. The plan calls for a reduction of its workforce of between 20 and 30 percent, the closing of 600 buildings by 2010 and consolidating operations throughout the enterprise. "We must act now to adapt for the future security needs of the country, and stop pouring money into an old, Cold War-era nuclear weapons complex that's too big, too expensive and doesn't offer updated and safer ways of maintaining our nuclear stockpile or that's responsive to other national security needs," said NNSA administrator Thomas D'Agostino. For information, go to www.nnsa.doe.gov.

WTO Rules In Favor Of U.S. On Zeroing

The World Trade Organization (WTO) has ruled in favor of the United States in a case Mexico brought against the U.S. with regard to the use of "zeroing" to determine anti-dumping duties. Zeroing is used by the Commerce Department to determine the difference of cost of the same product being sold in the United States versus in the home market. The WTO decision "is further proof...that WTO rules do not prohibit 'zeroing' and that WTO Appellate Body reports to the contrary have overreached," said United States Trade Representative Susan Schwab. This marks the third time a WTO panel has found that 'zeroing' in assessment proceedings is not prohibited by the WTO Antidumping Agreement.