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More on Self-Employment …








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# Self-employed: To be, or not to be

*Unfortunately, that's a question without easy answers*


By RONALD A. WIRTZ
Editor

Entrepreneurs and other self-employed workers have long been celebrated as the heart of the American dream. They are the alchemists turning blood, sweat and tears into a successful, self-directed adventure.

But since the recession, there is considerable debate over whether they are suffering a heart attack or feeling a surge of adrenaline. Even the most basic trend-spotting is tricky because recessions both boost and depress self-employment: On one hand, a struggling economy punishes both existing and prospective do-it-myselfers. At the same time, self-employment is a common path for jobless individuals desperate for some income, even if on a temporary basis.

Out on the proverbial street, it's hard to tell which side is winning. Many sources, for example, argued that self-employment spirits are getting restless and more energetic because unemployment is stubbornly high, while workers with jobs face flat wages, cutbacks in hours and benefits, and other job-security concerns.

Patrick Boulay is the head of New Business Minnesota, a networking organization for startups and other small businesses based in the Twin Cities. "I talked to an accountant friend … and both of us have anecdotal evidence that entrepreneurship [and] self-employment [are] being seen as an alternative to a job. I had two calls last week from people in their 50s who were starting businesses because they don't think they have a chance at another job."

## The Quick Take

Anecdotes abound regarding the direction of self-employment in today's economy, and the overall trend can be tricky to read. Recessions are brutal on existing and prospective self-employed individuals, but self-employment is also a common path for many jobless people looking for income. Available data, though spotty and not very timely, suggest that self-employment, variously defined, has declined since the onset of the recession.

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He added, "My accountant friend is seeing more [self-employed] as well. … She runs into people whose work environment has been hit hard by layoffs. They are working twice as hard as they used to for the same money just picking up the slack. For that kind of effort, they are finding self-employment more and more attractive."

Nonsense, say other observers. A recession and torpid recovery are the worst times to strike out on your own, whether chasing a dream or merely hustling to put food on the table. Riley Johnson, state director of the National Federation of Independent Businesses (NFIB) in Montana, said the majority of new business owners "really want to go into business for themselves." But he noted that prospective entrepreneurs must carefully consider the economic environment. Conditions today, with depressed demand for goods and services, are likely to keep many on the sidelines.

"Times are too unsure. We don't have predictability," Riley said. "And when a mom and pop sit down at the kitchen table [to consider the pros and cons], they say now is not the time to do this."

This self-employment debate is important because research (profiled in the July *fedgazette*) shows that overall job growth in an economy comes largely from growth at new firms, including self-employment endeavors that might start with modest expectations and means.

The unfortunate part of this "yes, they are; no, they aren't" debate regarding self-employment is that there are no definitive answers. Getting an accurate picture of the self-employed, especially since the recession, is more complicated than it sounds, and the results are laden with footnotes. Government data, which sniff the trail of employment and business activity with varying degrees of obsession, track the activities of the self-employed with difficulty—partly because this population comes in all shapes, sizes and activity levels, and tracking it becomes the research equivalent of herding cats.

As a result, what follows might best be called a kaleidoscopic view of self-employment. Seen from several data angles, a complicated, multifaceted picture of self-employment emerges. By most broad measures, self-employment appears to be declining, at least through 2009. At the same time, certain hard-to-measure types of activities might be on the rise as more people seek stopgap income opportunities while they wait for the economy and the traditional labor market to right themselves.

Editor's note: The nomenclature of this topic can complicate the explanation of trends. Self-employment implies a nonemployer status, but most databases also do not clearly delineate the matter. Other terms also serve as common proxy measures for self-employment. For example, "sole proprietor" is often used interchangeably with self-employment (including in this article), though they are slightly different from each other. Sole proprietorships are not prevented from having employees—"sole" refers to the number of owners, not workers; nonetheless, data suggest that only about 5 percent of sole proprietors have employees. Where possible, this article attempts to point out small distinctions in populations being measured and discussed. But for the purposes of this article, self-employment refers to those who work at a small business (incorporated or unincorporated) that they also own, regardless of employer status.

**The self-employed outnumber all other businesses combined by a large margin. Minnesota had 362,000 so-called nonemployer firms in 2009. That's almost two and a half times the number of business establishments with at least one employee.**

## Self-defined

The self-employed are all around us. They care for children, fix homes and computers, crunch tax returns, cut hair, move freight, plan your retirement, sell you knick-knacks and offer myriad other goods and services to consumers and other businesses.

In fact, the self-employed outnumber all other businesses combined by a large margin. Minnesota had 362,000 so-called nonemployer firms—someone working solo, with no employees—in 2009. That's almost two and a half times the number of business establishments with at least one employee, according to the latest figures from the Internal Revenue Service (IRS), and about 13 percent of total employment in the state.

But recessions are bad for business, and that includes businesses where owner and worker are the same person. From 2007 through 2009, the number of nonemployer firms in each district state dropped between 2.4 percent and 6.3 percent, according to data from the U.S. Census, using income tax returns (see Chart 1).

Maybe worse, receipts from these businesses saw an even bigger drop across district states. Riley, from the Montana NFIB, is a public affairs consultant, and the NFIB has been a client—thankfully—for the past 28 years, he said. But since the recession, "my clients have gone down, and my income has gone down steadily for several years."

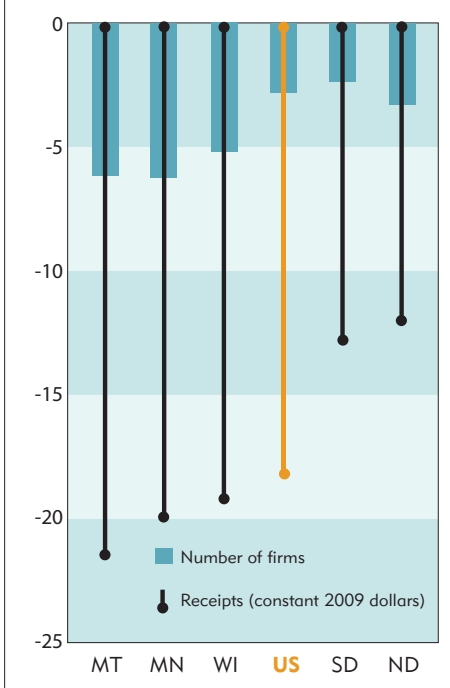
Todd Klingel, president and CEO of the Minneapolis Chamber of Commerce, said sole proprietors and other small businesses are getting squeezed from two sides. "Companies are postponing work, and there is more competition for [remaining] jobs, creating lower margins."

In early November, the *fedgazette* polled members of New Business Minnesota (the survey was not a random sample, so its results are not necessarily representative of the broader business population). Among more than 100 respondents, about one quarter said their business income was down since 2008, and about half said their income had stayed the same. A number said they were working harder to stay afloat financially. An accounting consultant in Richfield said, "My hourly rate has not changed in the last four years due to the recession, but my billable hours have gone up to make up the difference."

Chart 1

**No longer the boss**

Nonemployer firms and receipts
Percent change, 2007 to 2009




Source: U.S. Census Bureau, from Internal Revenue Service tax returns

The recession has hit self-employment in certain industry sectors harder than others. Self-employment grows and declines in tandem with all firms in a particular sector. For example, the housing boom fueled growth in construction and real estate, and helped nonemployer firms in these sectors grow by 13 percent to 15 percent (respectively) in Minnesota from 2003 to their peak in either 2006 or 2007. And when these sectors slumped with the recession, so did self-employment in them (see Chart 2).

## Yes, but

The self-employment story doesn't necessarily end there. While instructive, nonemployer data are but a single, crude brush-stroke on the portrait of this expansive, shape-shifting endeavor. Unfortunately, data limitations mean there's a fair amount of conjecture involved in interpreting trends.

Some people are self-employed by choice, for example, while others go solo involuntarily because it's the only labor opportunity available. Among New Business Minnesota respondents, almost half said they became self-employed after losing a job. Some said they were ultimately thankful for the opportunity, however unsolicited it might have been, because many wanted to take the plunge but were unwilling to take the risk previously. The job loss was merely the push, the unavoidable excuse, they needed.

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One of the Minneapolis Fed's congressionally mandated responsibilities is to gather information on the Ninth District economy. The *fedgazette* is published quarterly to share that information with the district, which includes Montana, North and South Dakota, Minnesota, northwestern Wisconsin and the Upper Peninsula of Michigan.

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For others, however, self-employment is merely a way of making some money.

Klingel, from the Minneapolis Chamber, said that his organization doesn't work directly with a lot of sole proprietors "because they are usually not in a position to join the chamber." But he's seen a number of chamber members laid off, he said, and based on those experiences, "I have encountered more people launching their own businesses [in the past two years] than I had in my previous seven years here."

New Business respondents to the *fedgazette*'s online poll told similar stories. An independent insurance agent in a Twin Cities suburb believed more people were becoming self-employed by necessity because, simply, "I talk to them all the time."

Said the owner of a three-year-old high tech and IT marketing firm in Minneapolis: "I do a lot of networking, both online and in person since starting my business. I'm amazed at the number of people I have met that have started a home-based business. Many have been laid off and are consultants, [and] others start a business that will bring in some revenue."

And what better place to feel the vibe of the self-employed than a coffee shop, the second office for those without a corporate gig? The owner of a Minneapolis café said, "I am aware of many customers who have had reduced hours or lost jobs [and] chosen to try to do some work on their own, mostly as contractors but also starting up businesses."

Not everybody is hearing the same stories, however, or reading the same tea leaves. Asked if there is possibly more bootstrapping out of necessity, especially given high unemployment, NFIB's Riley said. "I don't hear that at all. If you're out of work, you don't have the money to start a business."

**"Entrepreneurship is in vogue, but the threat level of failure in a down economy—lose your house, no cash reserves—are weighing heavily on folks. It becomes a self-reinforcing negative cycle: bad economy, high risk, low returns, don't start anything new, repeat as necessary."**

*—Matt Kramer*

Matt Kramer, head of the St. Paul Chamber of Commerce, agreed. "I think entrepreneurship is in vogue, but the threat level of failure in a down economy—lose your house, no cash reserves—are weighing heavily on folks. It becomes a self-reinforcing negative cycle: bad economy, high risk, low returns, don't start anything new, repeat as necessary."

Given the economic conditions, those in a financial pickle face daunting obstacles to generating income on their own. "There aren't a lot of side jobs, so when people lose their job, it isn't like they can find side work. And if they do, it is likely to be very intermittent and not reported," said Kramer.

Data from the Bureau of Labor Statistics (BLS) support the idea that there is not a lot of work out there for the self-employed. In 2006, 5.3 percent of the [unincorporated] self-employed were working part time involuntarily. By 2009, the total number of self-employed had fallen slightly, and the percentage involuntarily working part time had risen to almost 13 percent, with the vast majority citing "slack work or business conditions" as the main reason. (Figures for incorporated sole proprietors are not tabulated by the BLS because the agency considers them part of wage and salary employment. See sidebar on page 5 for more detail.)

## Diving into the (data) pool

The nature of self-employment—its diversity and flexibility, its durability as well as its fickleness—makes it a difficult matter to pin down with much certainty. The data are only as good as the underlying reporting system, and there are a variety of shortcomings with tax returns.

For example, sole proprietors usually file Schedule C tax forms on self-employment income. This represents one of the few direct measures of proprietor activity.

But as Kramer alluded, many people work on a cash basis or otherwise underreport their income, a practice that likely increases when a household is strapped for cash. Field audits in recent years by the IRS suggest that up to 13 percent of the self-employed underreport their income or overestimate expenditures to reduce their tax liability, and that doesn't include those who file no tax return on self-earned income.

A comprehensive review by the U.S. Treasury Department a decade ago showed that unreported business income by sole proprietors accounted for 20 percent of the estimated $345 billion gross tax gap (the amount the IRS would collect if everybody followed the rules). Yet the IRS audits only a relatively small portion of proprietors each year. It also has little ability to audit the phantom tax returns of those who get paid under the table.

Trends in sole proprietorships and nonemployer firms mirror each other closely (see sidebar on page 5 for description). Data on adjusted gross income also show that sole proprietors at all income levels suffered during the recession. But returns at the high end saw the biggest drop in number and total income from 2007 to 2009 (see Chart 3).

But in most respects, tax data leave a lot to be desired. The IRS has historically seen itself as a tax collection agency, not a research institution. It releases comparatively little data and even fewer analyses on trends that might be gleaned from the trove of business data it holds. It also closely guards the privacy of tax returns.

So it's instructive to look at additional proxy measures that might offer insight into the health of self-employment. For example, leading into the recession, states were seeing a strong move toward incorporation among sole proprietors, most often as limited liability companies (LLCs), to take advantage of tax and other benefits.

This is important because incorporated sole proprietorships have different tendencies than their unincorporated brethren: For example, they are more likely to have employees, and their owners are more likely to work full time (41 percent versus 23 percent), according to a 2010 research article by the BLS. In other words, they make a bigger economic splash in the self-employment pool.

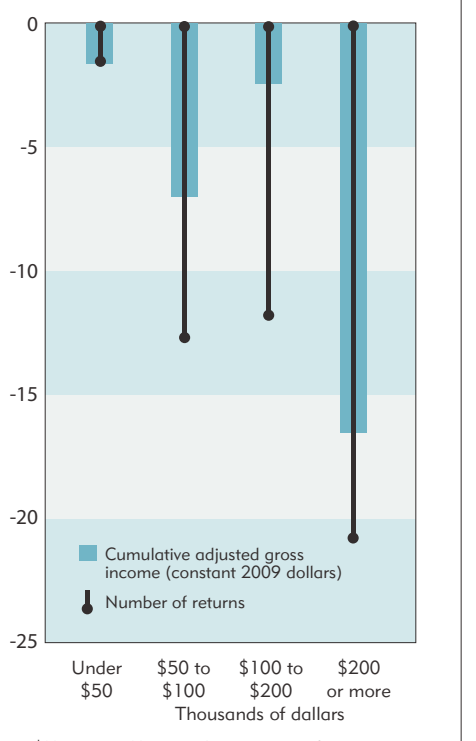
Chuck Nordquist is a vice president with the Minnesota Business Finance Corp., a private nonprofit that acts as something of a one-stop shop for wannabe entrepreneurs and other small businesses. Nordquist said that among businesses seeking financing and other counsel, the large majority are incorporated. Those that aren't "are so nominally small they don't even want to spend the money for the lawyer to set up."

After seeing tremendous growth in LLCs leading up to the recession, new LLC registrations are universally lower since the recession in all district states, but more so in some than others. LLC registrations in North Dakota continued to tick higher after the recession with the strong economy there, but were flat in 2010. The same was true in Minnesota, which saw growth until this past year (see Chart 4). LLC registrations in Montana plateaued in 2007

Chart 3

**Higher-income sole proprietors taking the biggest hit**

Percent change in sole proprietor tax returns, by income bracket, 2007 to 2009
Ninth District states*



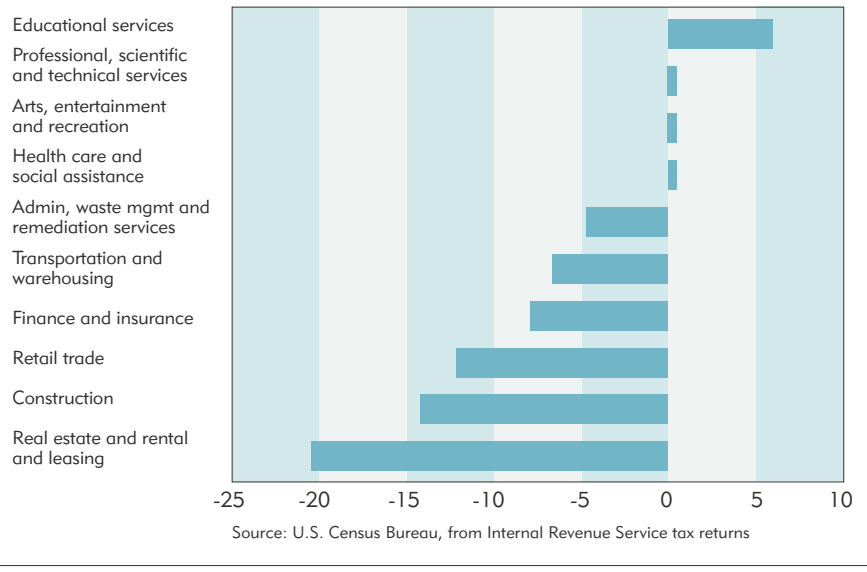

*Minnesota, Montana, North Dakota, South Dakota and Wisconsin

Source: IRS Statistics of Income

Chart 2

**Tough solo sledding in Minnesota**

Percent change in Minnesota nonemployer firms, 2007 to 2009
Sectors with at least 10,000 nonemployer firms




Source: U.S. Census Bureau, from Internal Revenue Service tax returns

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and were 18 percent lower by 2010. In Wisconsin, LLC registrations have declined noticeably since 2006. Wisconsin is also unique in that it tracks the number of business entities still operating at year's end; after straight-line growth leading up to the recession, the number of LLCs still kicking in Wisconsin has leveled off (see Chart 4).

## The freelance economy

Another widely reported trend is the growth of independent contracting—consultants and other freelance labor hired to work for a company on a contract basis, rather than as employees. Such work can be the basis of a career or serve as a temporary job.

Oftentimes, companies outsource labor on a contract basis for work that used to be done in house by their own employees.

Nordquist, whose office is in northern vacation territory in Bemidji, Minn., said more resorts in lake country are using contract labor for cleaning and other needs, and they are doing so "because they don't want to deal with the higher costs of hiring."

Glenn Thuringer is the head of the Worthington (Minn.) Chamber of Commerce and a business consultant with the regional Small Business Development Center. He believes that more people are taking on freelance and contract work. "When I talk to people, they say, 'I'm a stay-at-home mom, and I do this work here, and I work there doing that,'" Thuringer said. Whereas working on the side used to be kept quiet, "now it's more socially accepted and may be coming out of the closet more" because people understand the difficulty of making ends meet.

In spite of the reported popularity of independent contracting, there are few clear, rigorous counts. However, available stand-ins throw water on any notions of recent robust growth. For example, an index by the American Staffing Association tracks weekly changes in temporary and contract employment based on responses from more than 100 small, medium and large staffing companies. Though the index rose modestly through the first half of 2011, it has been below its 2006 benchmark for more than three years running.

Another measure of independent labor comes from the IRS. Companies that hire workers on a contract basis for more than $600 are required to report those payments to the IRS using a form called 1099-MISC. Given a firm's cost advantage for using contract labor, it's believed that much of the incentive to underreport is eliminated.

Here again, the data show a recent dip. The number of 1099-MISC filings grew by about 6 percent nationwide from 2005 to 2008, according to IRS records, but then plateaued and subsequently dropped last year by almost 4 percent (see Chart 5).

But those figures leave a lot to the imagination. For starters, no 1099-MISC data are available at the state level, according to agency sources. These figures also do not represent workers, but rather the number of income-generating contracts let by firms; as such, a self-employed individual could have multiple 1099-MISC forms filed under his or her name by different companies. But little information is available on the composition of these filings, such as the average number of 1099-MISC forms filed on behalf of a typical independent contractor, whether that number is increasing or decreasing or how average payments are behaving over time. The 1099-MISC data only say that businesses let fewer contracts over that $600 threshold in 2010. They say nothing about the number of contractors competing for that work.

Companies must follow strict rules and criteria for categorizing certain workers as independent contractors, but big potential savings can entice firms to press their luck with the IRS. Audits of contractor classifications in Minnesota and Wisconsin have shown that 15 percent to 25 percent of audited firms misclassified at least one worker—falsely claiming a worker as an independent contractor. Whereas sole proprietor tax returns likely undercount the self-employed (because of nonfilers), 1099-MISC data might well overestimate this population due to "overfiling"—illegally treating some workers as independent contractors.

**There appears to be very little in the way of data to suggest that self-employment is increasing, whether you're talking about temporary, make-ends-meet endeavors or more formal, incorporated businesses designed to shape a new career or fulfill a dream of being your own boss.**

## Just one more look

In sum, there appears to be very little in the way of data to suggest that self-employment is increasing, whether you're talking about temporary, make-ends-meet endeavors or more formal, incorporated businesses designed to shape a new career or fulfill a dream of being your own boss.

But before closing the employment door of optimism, somewhat obscure data from the U.S. Bureau of Economic Analysis suggest that maybe something's going on that is missed by other, more frequently cited data sources.

The BEA holds the nation's tape measure for economic activity, including the national income accounts—a comprehensive set of figures that measures when, where and how income is produced at the national, state and regional level. Buried in the BEA's state personal income data are estimates on a range of items, including the number of jobs that produce income, including those that are proprietor-based.

BEA data are widely regarded as a careful count of economic activity and certain related items like employment. Jared Miller is a data analyst with Economic Modeling Specialists, an economic and labor market research firm in Moscow, Idaho. But rather than trying to count workers, "the BEA is trying to account for flows of money," said Miller. As a result, "the BEA tends to have a more comprehensive picture" of small proprietors than those generated by the BLS or IRS.

BEA data suggest that, in fact, the number of income-producing jobs has continued to grow through the recession and the sluggish recovery, albeit at a markedly lower trajectory than the pre-recession trend (see Chart 6 on page 6).

But this starkly alternate view of self-employment comes with a laundry list of caveats. For starters, BEA data are based (in part) on the same Schedule C IRS tax returns used to identify sole proprietors. But the agency broadens its definition of proprietor to include partnerships. It turns out that proprietor growth seen in BEA data—nonexistent in the other data—comes almost entirely from growth in partnerships and the number of partners in those entities, according to Mauricio Ortiz, chief of the BEA's regional income division. While the number of partnerships formed rose by less than 1 percent from 2008 to 2009, the number of partners grew by 1.8 million, or almost 10 percent, according to IRS research published this fall.

There is also a quirk of methodology that has generated proprietor growth across states. According to Ortiz, the BEA calculates a national figure and then attributes those jobs to states on a historical, proportional basis. The jobs attributed to, say, Minnesota are thus an estimate and are not proof of a growing partnership trend in Minnesota. (In fact, business registration data from the Minnesota Office of the Secretary of State suggest that partnership incorporations have been falling of late.)

BEA data also do not show more *individuals* earning income through self-

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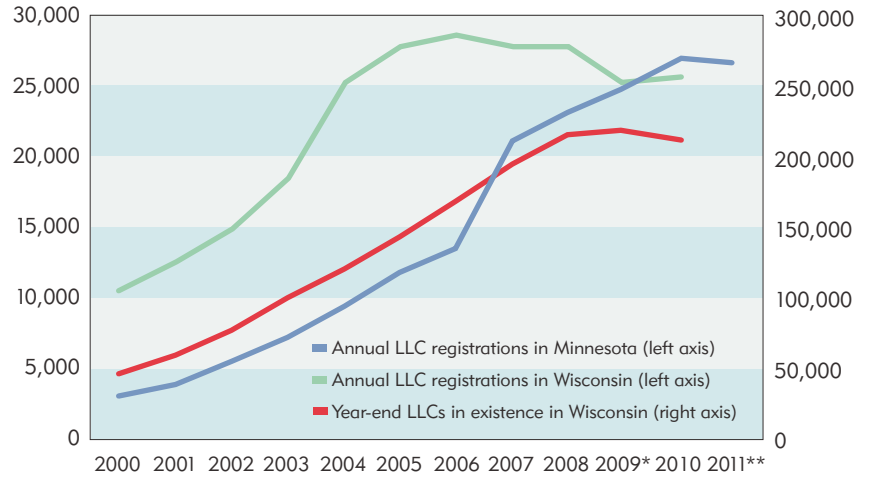
Chart 4

**LLCs slowing in Minnesota & Wisconsin**



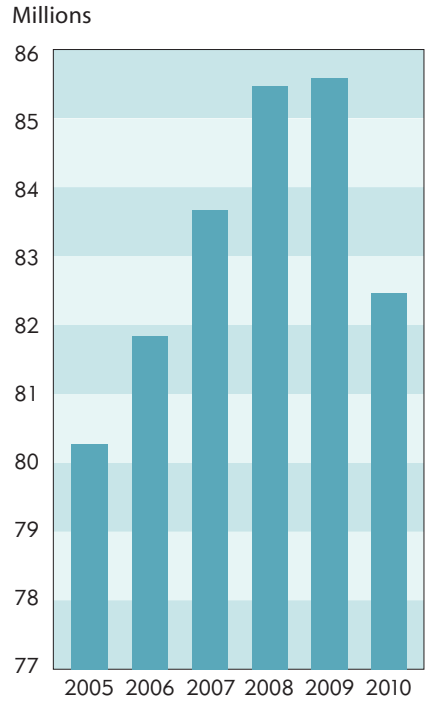

*2009 Minnesota level estimated; legislation passed in 2009 led to a significant and artificial increase in limited liability company registrations.

**2011 Minnesota total includes estimate for December based on year-to-date figures.

Sources: Minnesota Office of the Secretary of State; Wisconsin Dept. of Financial Institutions, Corporate and Consumer Services

Chart 5

**U.S. 1099-MISC filings rise, then fall**




Source: Internal Revenue Service, Document 6961

# Anatomy of the measurement problem

The concept of self-employment is straightforward: People working for themselves, earning income from the businesses they run.

Measuring self-employment might seem like a similarly simple matter. But the taxonomy of self-employment becomes convoluted because the term incorporates virtually any self-initiated activity that earns income—part-time or full-time, for $1,000 or $1 million, raking leaves or building rockets, your solo means of income or a third job you do on weekends for a little spending money.

There are also methodological and definitional differences. Are both incorporated and unincorporated firms included? What about those who own their own business but have a few employees? (Technically, if they are unincorporated, they are still self-employed, at least by one government measure.) Would I be self-employed if I had a partner? (Yes, by some definitions.)

The accompanying chart illustrates the measurement issue. All of the plotted data purport to measure some form or definition of self-employment in Minnesota over roughly the same time period. The individual measures are generally far apart in scale; only two of them even follow the same trend line over time. That's because each data set has its own unique definition of self-employment. However, there is a significant amount of overlap.

Here's how the measurements break down, starting with the smallest estimates and working higher, and some of the reasons the counts differ so widely.

**Self-employment (Bureau of Labor Statistics):** The BLS uses the Current Population Survey, conducted monthly by the U.S. Census Bureau, to estimate self-employment. In this survey, respondents who work are asked, "Last week, were you employed by government, by a private company, a nonprofit organization, or were you self-employed?" Notably, only unincorporated self-employed individuals are counted by the CPS. Sole proprietors who have incorporated their business (say, as a limited liability company) are not counted as self-employed because, technically, they are paid employees (of their own firms) and are instead lumped in with wage and salary workers.

This might seem like methodological hairsplitting, but it makes a big difference in the final count, because the number of incorporated sole proprietors (not shown on the nearby chart) has been trending steadily upward and now accounts for almost two of five sole proprietorships nationwide, according to BLS research published last year.

**Nonemployers (U.S. Census Bureau):** The Census uses Schedule C filings for business income (part of Form 1040) from the IRS to identify businesses with no paid employees. It also establishes maximum and minimum income cutoffs for consistency within this group. At the upper end, it eliminates sole proprietors reporting more than $1 million in receipts (though it varies by industrial classification) as well as those with less than $1,000 in receipts (except construction) because these firms are believed to represent hobbies as opposed to normal business activities.

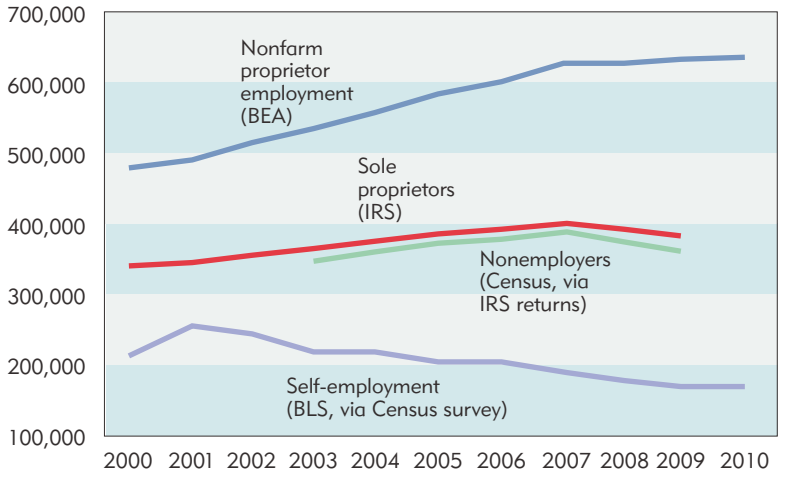
**Sole proprietors (Internal Revenue Service):** These data also use Schedule C filings of business income. As a result, the trend line for sole proprietors closely follows that of nonemployers, but is slightly higher because it includes the small fraction of sole proprietors with employees (estimated to be about 5 percent).

**Nonfarm proprietors (Bureau of Economic Analysis):** Easily the highest self-employment estimate of any government count, BEA estimates consist of the number of sole proprietorships (using Schedule C tax returns) plus the number of general partners (using IRS Form 1065 tax returns; only one return is filed by each business partnership, but it lists the number of partners). Both are measures of entities that produce income, and neither accounts for those involved in multiple entities. Estimates also count proprietors that are active during any portion of the year, regardless of duration.

The big jump, as well as the steady growth, in BEA figures comes from including partnerships, which have grown in number and total partners, even through the recession. As of 2009, there were about 22.4 million sole proprietors nationwide, as well as 19.3 million partners in more than 3 million partnerships.

*—Ronald A. Wirtz*

**Different measures of self-employment & proprietors in Minnesota**




Sources: Bureau of Economic Analysis, Internal Revenue Service, U.S. Census Bureau, Bureau of Labor Statistics

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employment. They only say that through 2010, a rising number of jobs produced at least some income for some workers. Plausibly, some workers are grabbing more part-time jobs and independent labor contracts. BEA job counts also don't measure duration of employment; some jobs may have existed for only a few weeks or months. And lastly, BEA figures contrast with IRS data on 1099-MISC withholdings; federal agency sources were unable to explain the apparent contradiction.

And if all of this is not yet enough data volleyball for you, here's one final serve. Acknowledging the caveats to BEA data, its tally of proprietor income suggest7s that there was a steep, three-year decline initiated in 2007, but a strong rebound in income in 2010 for this group (see Chart 7).

Miller, for one, believes BEA's data match up well with the current economic environment. Given soft labor markets, with widespread job losses and cuts to wages and benefits, "I think it's an indication of people trying to find any income wherever they can," he said.

**Given soft labor markets, with widespread job losses and cuts to wages and benefits, "I think it's an indication of people trying to find any income wherever they can."**

*—Jared Miller*

## Careful what you wish for

Even if the BEA data are accurate—and more people are earning self-generated income—that's not automatically great news. While it might suggest an improving employment market, it might also suggest a desperate one.

A Minneapolis lawyer who responded to the *fedgazette* poll said that the street-level competition in that field is fierce. "There are more solo [practices] now than before—not because they want to be, but because they need a job. New graduates can't find a job, and experienced attorneys [have been] laid off. The job market … even for temp work is bad."

It's also worth noting that BEA-defined proprietor growth is inversely correlated with unemployment rates; North Dakota, with the nation's lowest unemployment rate, had the smallest growth in BEA-defined nonfarm proprietors among district states. Wisconsin had the highest proprietor growth and also has the district's highest unemployment rate. The U.S. unemployment rate is higher still—and the nation showed even higher growth in proprietor employment.

In the final analysis, available data are only sufficient to draw a crude, crayon portrait of the self-employed—ironic considering the exhaustive and timely data tracking the large majority of jobs covered by unemployment insurance.

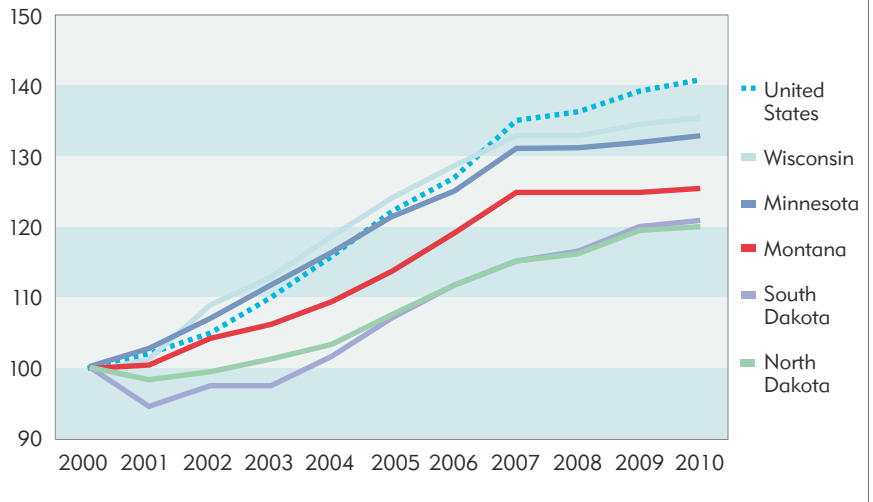
"Getting the covered payroll data is pretty low-hanging fruit. But it takes a ton of work and a ton of data sources" to develop a more accurate picture of this hazy area outside of covered employment, said Miller. "At the end of the day, nobody's measuring it very well. It's a really difficult part of the job market to get a handle on."

On that point—and maybe only that, it seems—there is little debate. f

Chart 6

### A view from the BEA

Index of nonfarm proprietor employment
(2000 employment = 100)

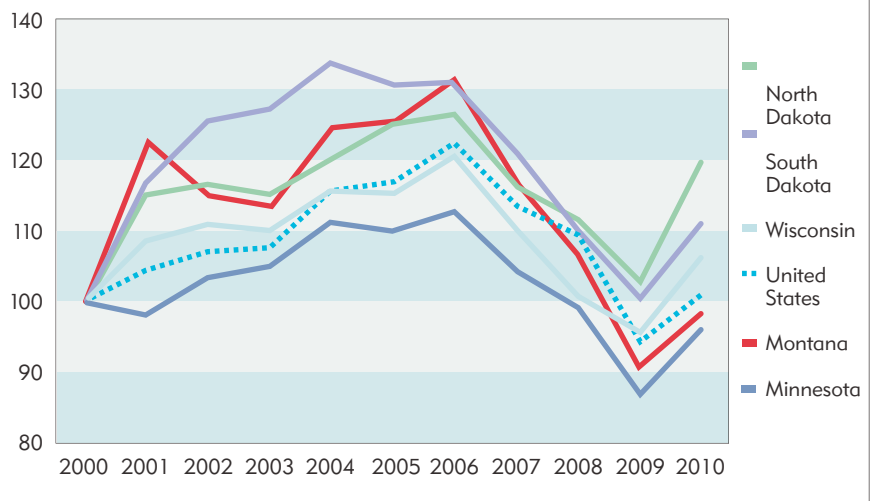



Source: Bureau of Economic Analysis, Regional Economic Information System, Table SA04

Chart 7

### BEA: Proprietor income rebounds in 2010 after slump

Index of annual nonfarm proprietor income
(2000 income = 100, constant 2010 dollars)




Source: Bureau of Economic Analysis, Regional Economic Information System, Table SA04

Incentives promote a boom-and-bust pattern of development—a rush to install systems when incentive dollars are available, followed by a period of retrenchment when support fades. This phenomenon, known in the industry as the "solar-coaster," is particularly evident in the market's response to rebate programs.

# Solar forecast: Sunny with a chance of rain

*Solar-electric installs have surged in the district, but the industry remains dependent on subsidies*

By PHIL DAVIES
Senior Writer

In 2008, general contractor Jim Davis saw an opportunity in the shining new world of photovoltaics—generating electricity from the sun's rays. Increasing numbers of homeowners and businesses were interested in the technology as a way to produce their own power, and generous government incentives defrayed the high cost of solar-electric systems.

Davis and a partner founded Synergized Solar, a one-stop shop for professional installers of solar photovoltaic systems. The River Falls, Wis., wholesaler sells solar PV systems that include everything from silicon panels to motorized racks that follow the sun to wiring that ties the systems into the electric grid. Synergized has sold hundreds of systems for both commercial and residential projects to installers in Wisconsin, Minnesota and other Midwestern states.

But today the company's prospects don't look as bright. Competition from national solar PV wholesalers in a growing but still very small equipment market has cut into sales; last fall, 2011 revenues were on pace to fall below the $2 million the firm took in the previous year.

In addition, cuts to a state rebate program in Wisconsin brought equipment orders from commercial installers in that state "to a screeching halt," said Davis, the company's chief operating officer. He isn't sure whether the firm will turn a profit this year. "We teeter between break-even and being in the red every single day," he said.

Continued on page 8

ILLUSTRATION : EDEL RODRIGUEZ

**Cuts to a state rebate program in Wisconsin brought equipment orders from commercial installers in that state "to a screeching halt," said Jim Davis, Synergized Solar's chief operating officer.**

**Solar** from page 7

Synergized's experience in the solar-electric market illustrates both the promise and the frailties of this nascent industry. On the one hand, producing power from the sun is a growing enterprise nationwide and in some parts of the Ninth District. Both Minnesota and Wisconsin have seen big year-over-year increases in installations and capacity since the mid-2000s.

A sharp drop in the price of solar panels over the past two years has helped to make solar-electric systems more affordable, which creates opportunities for installers, vendors such as Synergized Solar and local PV system manufacturers.

On the other hand, for all this progress, the future of solar PV in the district is somewhat clouded. Despite a high rate of growth, total solar-electric capacity in the region is minuscule, producing only enough electricity to power a couple of thousand homes. Though system prices have fallen, the technology still can't produce electricity as efficiently as alternative sources of power such as coal, natural gas and wind. The industry has long depended on government subsidies—tax breaks, grants and utility rebates—for sales. Where solar incentives are weak, very little solar development has occurred. And when strong incentive programs are put on hold, revenues and investment falter.

Arne Kildegaard, an economics professor at the University of Minnesota, Morris who has researched renewable-energy markets, calls solar PV an "infant industry" that won't thrive until it can compete head to head with conventional forms of power.

Achieving "grid parity" will be a challenge in a region with relatively low electricity prices. And in Wisconsin and other district states, solar incentives may not last long enough for the industry to reach that goal; some policymakers have started to push back against incentives for solar PV and other forms of renewable energy.

## Here comes the sun

The Great Recession dampened solar PV development nationwide. But since 2009, the industry has been on a tear; in the nation and in certain district states, installations and capacity have grown faster than at any time during the past decade.

Nationwide, over 50,000 grid-connected PV systems were installed in 2010, a 45 percent increase over the number installed the year before, according to the Interstate Renewable Energy Council (IREC), a nonprofit group that tracks renewable-energy development. New systems totaled almost 900 megawatts (MW)—double the generating capacity added in 2009. Some industry analysts were expecting annual installed capacity to double again last year.

Belying the common misconception that cold places lack solar potential, the sun shines as brightly in the district as it does in many warmer parts of the country. Montana and the Dakotas receive about the same amount of annual solar radiation as Florida and Georgia, according to the National Renewable Energy Laboratory. So there's plenty of raw solar energy in the region for PV systems to tap into. (Sunlight can also be used to heat water for washing or for space heating; this is a different technology called solar thermal.)

Since 2008, installations and capacity have surged in the eastern part of the district, which has seen modest but increasing solar PV development over the past 10 years (see Charts 1 and 2). In Minnesota, the state Department of Commerce has estimated that from 2009 to 2010, new installations more than tripled to about 250, and added capacity rose almost as fast, bringing total capacity to over 4 MW.

In Wisconsin, annual installations more than doubled between 2008 and 2010, according to data on projects receiving state rebates. Almost 60 percent of the 4.6 MW capacity increase in the state over that period came from commercial projects—panels mounted atop warehouses, retail outlets and other business establishments. (These figures exclude projects that didn't receive rebates, but such installations are believed to be minimal.)

In Montana, solar PV growth has been more measured over the years—about 1.5 MW of generating capacity has come online since 2004—but 2010 was a bumper year for installations, according to NorthWestern Energy data on grants awarded to solar PV installers. Thirteen projects—a 50 percent increase over the previous year—received funding, adding about half a megawatt in capacity to the grid.

North and South Dakota, in contrast to the rest of the district, have seen negligible solar PV development; installations over the past decade have been too few to be tracked by government agencies and renewable-energy organizations.

Lower installation costs have contributed to the overall increase in solar PV activity. Nationwide, average installation prices for PV systems fell by about 17 percent from 2009 to 2010 and continue to fall, according to a recent report by the Lawrence Berkeley National Laboratory. In Minnesota, the Commerce Department found that the average cost of PV systems dropped from $10 per installed watt in 2008 to under $8 in 2010—a $10,000 saving on a 5 kilowatt (kW) system.

Rapidly falling prices for PV modules, the panels that make up the heart of a solar array, are a major driver of cost reductions. The price of polycrystalline silicon, the raw material used to make the most common type of solar panel, plummeted from 2009 to 2010 because of slack global demand during the recession and ramped-up production before and after the downturn. (Montana is a major producer.) Larger-scale, more efficient manufacturing has also helped to lower PV module costs.

"The panel price decreases that we've seen have been pretty dramatic over the last couple of years," said Rip Hamilton of Solar Plexus, an installer of solar PV and other renewable-energy systems in Missoula, Mont. He says that dropping installation costs helped blunt the impact of the recession, keeping annual revenues steady by inducing customers who would have otherwise delayed projects to go ahead with installs.

## Jumping into solar

Rising demand for solar PV systems has swelled the ranks of installers in some district states and created opportunities for distributors and manufacturers of solar systems and components.

The North American Board of Certified Energy Practitioners runs a certification program for installers in renewable-energy fields. In 2008, Minnesota had only 13 NABCEP-approved solar PV installers; as of September 2011, there were 60. Over the same period, the number certified in Montana has more than doubled, to 21. (The number of uncertified installers in these states is unknown; no district state requires special training for PV technicians.) Many of these installers are electricians who jumped into the solar market after housing construction crashed at the start of the recession, said Davis of Synergized Solar.

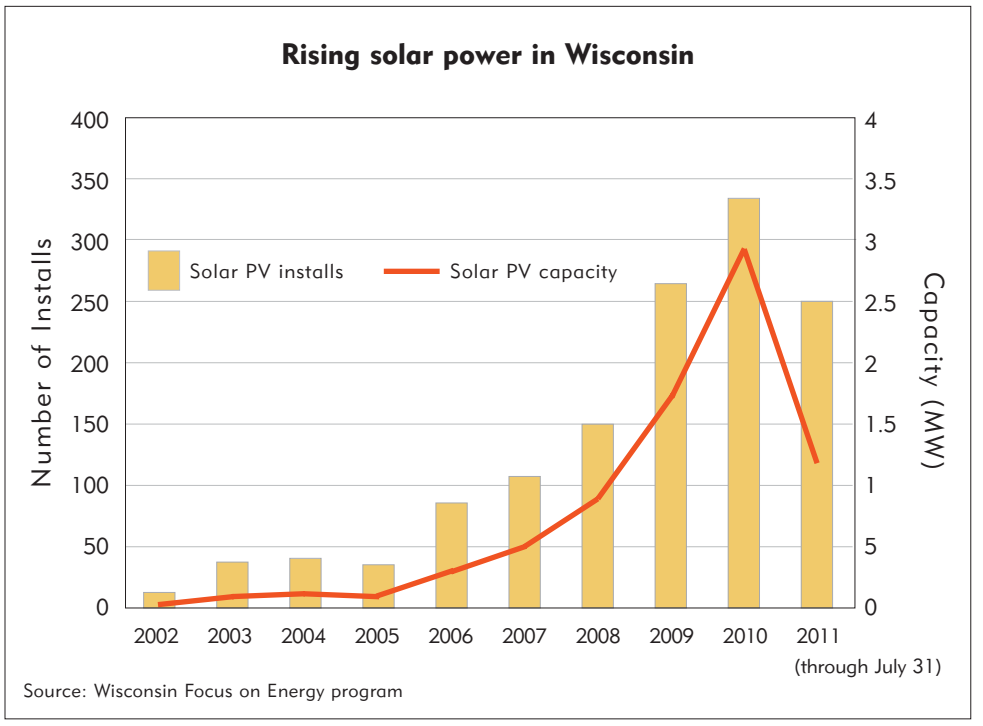
Synergized itself made that leap—initially into installer training, then into wholesaling. Today the four-employee company faces stiff competition from much larger distributors drawn to the growing solar market in Minnesota and western Wisconsin. DC Power Systems, a large solar distributor based in California, opened a sales office in the Twin Cities last year.

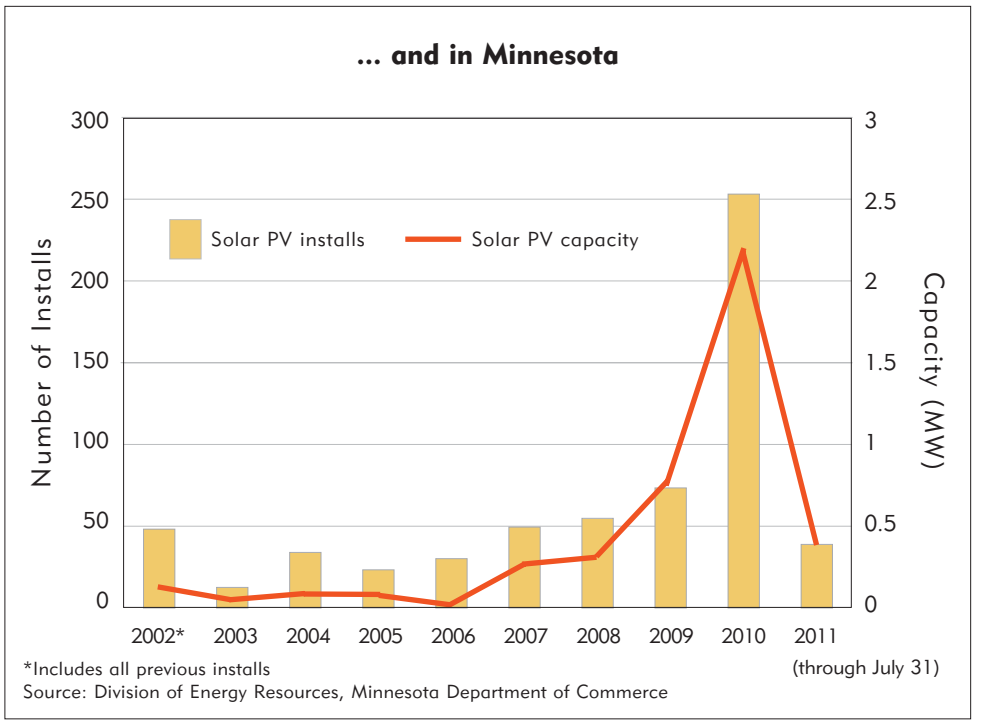
Most solar PV systems installed in the district are made elsewhere—China is a major exporter of inexpensive PV modules—but two PV panel manufacturers have set up shop in Minnesota. Silicon Energy, a solar PV manufacturer based in Washington state, began producing rugged, weather-resistant solar panels at a new factory on Minnesota's Iron Range last August. TenKsolar in the Twin Cities has developed flat-roof PV modules for commercial applications that produce up to 50 percent more electricity than solar panels of comparable size. Since its founding three years ago, the company has expanded its payroll to 70 employees and raised $11 million in capital.

Other district firms involved in solar markets supply components and fabrication tools to PV system manufacturers in the United States and overseas. In Minnesota, "many old-line manufacturers … have looked at solar and said, 'We can play in this market by making some fairly modest investments,' and they're doing it," said Lynn Hinkle, policy director of the Minnesota Solar Energy Industries Association (MnSEIA), a trade group for solar manufacturers and suppliers.

Northfield Automation Systems in Northfield, Minn., a developer of specialized machinery for manufacturers of thin materials used in the electronics industry, has carved out a profitable niche in the thin-film PV industry—the fabrication of panels from thin ribbons of nonsilicon materials such as gallium and selenium. Darin Stotz, director of sales and marketing, said via email that sales to solar PV manufacturers have risen rapidly since 2005; today solar-related sales account for about 35 percent of company revenue.

**Achieving "grid parity" will be a challenge in a region with relatively low electricity prices. And in Wisconsin and other district states, solar incentives may not last long enough for the industry to reach that goal; some policymakers have started to push back against incentives for solar PV and other forms of renewable energy.**




## Juiced by incentives

The solar PV industry may have made strides in recent years, but its fortunes are inextricably tied to government subsidies. That's because current PV technology is an expensive and inefficient way to generate electricity.

An average residential PV system with a capacity of 5 kW can cost over $35,000 to install. And those expensive solar panels convert only about 10 to 20 percent of incoming solar radiation into electricity (in comparison, coal-fired power plants harness about one-third of the energy trapped in fossil fuel). Despite recent drops in system prices, the "levelized cost" of solar power—the price of electricity produced by a PV system over its 20- to 25-year operating life—still exceeds the retail price of electricity anywhere in the country.

The high cost of solar-electric power has made the industry dependent on public subsidies ever since PV panels became commercially available in the 1970s. "If you take away all subsidies from solar, then solar generally speaking is going to be more expensive than competing technologies," said Shayle Kann, managing director of solar research for Boston-based GTM Research.

The economics of unsubsidized solar PV are even harsher in district states because of somewhat higher levelized costs and lower electricity rates compared with the national average. In Minneapolis, the cost of electricity produced by a typical residential system ranges from 19 to 24 cents per kilowatt hour (kWh), according to local installers. That's about twice the average price charged by utilities in every district state, according to the U.S. Energy Information Administration.

Solar PV isn't even competitive with other renewable-energy options in the district. State renewable portfolio standards that require utilities to obtain a minimum percentage of power from renewable sources (see the July 2007 *fedgazette*) have done little to foster solar PV development because most utilities prefer more cost-efficient wind power: Electricity generated by new, large wind farms costs about the same as that produced by natural-gas plants.

Both federal and state financial incentives are necessary to make solar PV cost competitive. At the federal level, purchasers of solar-electric systems are eligible for 30 percent tax credits intended to promote the use of renewable energy—the Business Energy Investment Tax Credit for firms and a personal tax credit for homeowners.

The states with the most photovoltaic capacity aren't necessarily the sunniest, but those offering the richest incentives that can be combined with federal subsidies to lower costs. Many state incentives for solar and other renewable-energy systems have been in place for years; the state of Minnesota, for example, has exempted the value of solar electric systems from property tax since 1992.

The most important state-level incentives are rebates on installed systems. Rebate programs largely or entirely funded by utility ratepayers spur PV sales by giving consumers cash back for every watt installed. "In the solar world, rebates drive the business," Davis said.

Through the state of Wisconsin's 10-year-old Focus on Energy program, homeowners (but not businesses, as of July) can claim up to $11,250 in rebates for small PV systems. In Minnesota, state government and several electric utilities have offered solar PV rebates since the early 2000s. One of the biggest rebate programs is Xcel Energy's Solar Rewards, which reimburses customers $2.25 per installed watt for systems up to 40 kW. NorthWestern Energy in Montana also has a rebate-like grant program for solar PV, although it isn't as generous as those offered in Minnesota and Wisconsin. Solar rebates are unavailable in the Dakotas—a big reason that neither state has much PV activity. New or enhanced government incentives are responsible for much of the spurt in solar development over the past three years nationally and in some district states. Federal economic stimulus legislation allowed businesses to claim bonus tax depreciation for solar-electric installations and gave firms the option of taking a cash grant in lieu of the investment tax credit. The last provision—a significant fillip to commercial installations, analysts say—was set to expire last December.

Minnesota solar PV installs got an extra push in the spring of 2010, when the Legislature enacted a state rebate for projects using solar panels manufactured or assembled in the state. When combined with Solar Rewards, the "Minnesota Bonus" reimburses Xcel Energy customers $5 per watt—more than double the incentive available under a previous state rebate program. Funded by Xcel ratepayers, the Minnesota Bonus is slated to provide $19 million in rebates through 2015.

## All aboard the "solar-coaster"

Incentives promote a boom-and-bust pattern of development—a rush to install systems when incentive dollars are available, followed by a period of retrenchment when support fades. This phenomenon, known in the industry as the "solar-coaster," is particularly evident in the market's response to rebate programs. Funds allocated each year for state or utility rebates often run out after a few months, slashing demand for PV systems and crimping the budgets of installers and other solar-related businesses.

That's what happened in Minnesota last August when applications to Xcel's Solar Rewards program exhausted the $4.6 million budget for 2011 rebates.

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**Lynn Hinkle of MnSEIA echoes most market analysts in observing that the livelihoods of installers, manufacturers and other solar-related firms won't be secure until the solar-coaster comes to rest. "We're not looking for endless incentives," he said. "The long-term vision is to let the market work."**

**Solar** from page 9

Businesses and homeowners quit ordering systems, and wholesalers like Synergized Solar saw equipment sales to installers taper off in the fall. "When the rebates run out, nobody calls, because nobody's doing projects," Davis said. "Installers are waiting for the rebate to reload." Solar Rewards was slated to receive another round of funding in January.

Uncertainty caused by the ebb and flow of incentives threatens sustained growth in the solar PV industry, said Kildegaard of the University of Minnesota Morris. "We saw the same thing happen in the wind industry. The renewal or lack thereof of federal incentives has caused a seesaw pattern in production, and that's murder on the manufacturing supply chain, and it's not conducive to investment."

There's also growing uncertainty about whether incentives for solar PV will continue at their current level. Federal tax credits seem secure for now, but at the state level, subsidies for renewable-energy development have come under increasing scrutiny. Around the country and in some district states, policymakers have pared back or proposed scrapping incentives for solar and other forms of renewable energy.

Davis and solar installers he serves in western Wisconsin worry that Focus on Energy rebates for businesses are gone for good. In 2010, the Legislature cut the program's budget, and a new management firm appointed by Gov. Scott Walker's administration is considering reallocating funds to other types of projects such as energy conservation. Last fall, only home systems under 6 kW were eligible for awards through the program, and there was no date set for reinstating funding for commercial or larger residential projects.

Last year, the Minnesota Legislature imposed a moratorium on Xcel grants for developing renewable energy projects; new grants are on hold at least until July 1. And in Montana, Republican lawmakers in 2011 proposed charging owners of solar arrays and other small generating plants additional fees for linking their systems to the electric grid.

## Solar sans subsidies?

Rebates, tax breaks and grants for solar power raise the same economic and public-policy issues that swirl around incentives for wind power (see the November 2005 *fedgazette*). Government support for solar PV development may be justified to promote the consumption of "clean" electricity as a substitute for power derived from fossil fuels. Burning coal, natural gas or oil can cause air and water pollution—societal costs or "negative externalities" that aren't accounted for on utility bills.

It's harder to argue for public subsidies as an economic development tool, as industry advocates such as MnSEIA have done, because the job-generating capability of renewable-energy technologies is often overstated (see the October 2010 *fedgazette*). And, regardless of how many jobs subsidies help create, they distort markets by influencing the location and investment decision of businesses. Silicon Energy President Gary Shaver has said that the company likely would have built in another state if not for the Minnesota Bonus rebate ($5.1 million in loans from the Iron Range Resources & Rehabilitation Board helped bring the firm to the city of Mountain Iron).

Time will tell how the investment pans out, both for Silicon Energy and the local economy. The enthusiasm of economic development officials for solar manufacturing may be misplaced; several U.S. solar PV manufacturers filed for bankruptcy last summer, largely due to competition from Chinese panel makers.

For solar PV to establish more than a token presence in electricity markets, it must achieve grid parity—producing power as cheaply from the sun as from other sources, sans subsidies. Sunny states with high electricity prices, such as California, Nevada and Hawaii, are drawing closer to that point. The U.S. Department of Energy predicts that in some parts of the country, solar PV supported only by federal incentives will be cost competitive by 2015.

But getting anywhere near grid parity is likely to take much longer in district states because of the yawning gap between the cost of solar PV and average electricity rates. To break through the cost barrier, district solar PV systems must become even cheaper to install and more adept at harnessing the sun's energy. New, developing technologies that may further improve efficiency or lower costs include thin-film panels and plastic PV—flexible photovoltaic materials that can be integrated into transit shelters, shade canopies and other structures.

Hinkle of MnSEIA echoes most market analysts in observing that the livelihoods of installers, manufacturers and other solar-related firms won't be secure until the solar-coaster comes to rest. "We're not looking for endless incentives," he said. "The long-term vision is to let the market work." f

# The other, silent flood

*Closed-basin regions are struggling with high water levels and no drain plug*

By RONALD A. WIRTZ
Editor

Nobody likes a flood. As this summer's historic floods demonstrated, some stay longer and rise higher than others. But eventually the water exits, cleanup ensues, lessons are learned and life finds routine again.

Well, at least for "normal" floods. In three separate but topographically similar regions in the Ninth District, high water forgot the part about making an exit, which leaves the rest of that list in limbo as well.

The issue concerns so-called terminal or closed-basin lakes, which have no natural outlet for high water to escape. These regions are essentially big bathtubs with no drain, and they've been bogged down in a wet cycle for years, with water rising … slowly … for the better part of two tortuous decades.

But that description doesn't do justice to the problem—it sounds like the flood version of watching paint dry. Basin flooding is different; in some ways, "flood" itself is a misnomer because it implies something temporary. This is more like a slow-motion takeover by the Aqua Blob.

North Dakota, South Dakota and Minnesota each have a closed basin of differing size experiencing some degree of flooding. The Devils Lake basin in northeastern North Dakota is the granddaddy of the three; satellite imagery suggests that the basin has seen more than 600 square miles of terra firma swallowed since the early 1990s by its namesake lake and countless other lakes and potholes, according to the state Water Commission.

But similar basin flooding is also occurring in northeastern South Dakota and west-central Minnesota. Each region has different hydrological features, circumstances and consequences, but each faces a simple truth: Water is rising and is likely to keep rising for the foreseeable future. With no outlet, it will continue to invade homes, drown farmland and erode government budgets. While seemingly straightforward solutions are available, a variety of environmental and political obstacles stand in the way, which means there is no relief in sight for any of these regions.

## Let's start at the bottom

Because water always finds the lowest point, each of these closed basins has a "water-zero" lake.

A road to nowhere dry: This road is one of many in the Devils Lake region that has become impassable, creating serious access problems for rural homes and farmsteads.

Devils Lake, for example, serves as the bottom lake of a much larger waterlogged basin. Since the early 1990s, Devils Lake has risen from 1,422 feet above sea level (asl) to 1,454 feet this past summer and now covers about 190,000 acres. But it is far from the only bloated body of water in the basin. Figures from the Water Commission found that since 1991, some 450,000 acres throughout the basin had become submerged by this year. More than one in five acres in the basin is now underwater, according to satellite imagery; in 1991, it was just 3 percent.

From a long-term perspective, the rise is not unusual. Hydrologcial studies of the Devils Lake basin suggest that basin water levels fluctuate 20 to 40 feet every couple of hundred years. As recently as 1940, Devils Lake was just a shade over 1,400 feet asl, about 50 feet lower than today's levels, and described by the U.S. Geological Survey (USGS) as a "shallow, brackish body of water" with a surface area of less than 7,000 acres. Past research by the agency said that "a rising or declining water level seems to be a more normal condition for Devils Lake than a stable water level."

In the glacial lakes region of northeastern South Dakota, the lowest spot is Bitter Lake. In 30 years, the lake has gone "from 1,500 acres and about six inches deep to 20,000 acres and 30 feet deep," said Wes Williams, director of emergency management in Day County, S.D. He said the eastern one-third of his county has become a "mini Devils Lake," and among four or five other counties in that part of the state, "a lot of them will tell you the same story. The whole corner of northeastern South Dakota is having the same problem."

Two decades ago, Bitter Lake was more than a mile from Waubay, a small community of about 525 that bills itself as the heart of the glacial lakes region. It has earned that reputation, because today Bitter Lake laps at the town's southern border, while Blue Dog Lake borders to the north and Little Rush Lake to the west.

Studies of sedimentation and other methods have shown that the peak water elevation in Bitter Lake over the past 10,000 years is 1,803 feet asl. This summer it was mere inches below that level and three feet above its previous modern-day high of 1,800 feet asl. Water will eventually flow out of Bitter Lake if it ever hits 1,811 feet, but if that happens, half of Day County will be submerged, and "Waubay will probably be a ghost town," said Williams.

In Minnesota, Otter Tail County and three counties to its west are seeing water levels about six to eight feet higher than normal, according to Terry Lejcher, a retired hydrologist for the Department of Natural Resources. Though flooding there is not on the same scale as the closed basins in the Dakotas, water nonetheless threatens about 300 homes in the area, most of them on Little McDonald Lake and, coincidentally, another aptly named Devils Lake.

The floods in each region stem from two simple factors: high precipitation for an extended number of years and lack of a natural outlet for that water to exit. According to precipitation records and local sources, all three regions have witnessed above-average precipitation every year, save for three or four, since the early 1990s. In the Devils Lake basin, average annual precipitation has been three inches higher over this period compared with the previous 80 years.

Continued on page 12

**Flood** from page 11

Without a natural outlet, the only way for water to exit these basins is through evaporation (or man-made solutions, which are very controversial and discussed later). But as water levels rise from higher precipitation, lakes hold proportionately more water and take longer to warm up, thus lowering evaporation rates. These basins have also been seeing heavier fall and winter precipitation, when there is little opportunity for evaporation.

## Water torture

An outsider might think a cold swim is a small price to pay for bigger lakes and more water recreation. That attitude will get you a quick offer from locals to go jump in one of their lakes, because the Aqua Blob has been a slow wrecking crew.

In the northeastern corner of South Dakota, no official counts have been tallied at the county level. About 50 homes are flooded or inaccessible in or near Waubay, according to Williams. That doesn't sound like much, but the whole county has fewer than 6,000 people.

"We're small, so this is our Katrina," said Williams, in Day County. "The last 10 years have been a bugger."

To the north, the impact of the rising water is even more obvious in the Devils Lake region. Through 2009, more than 600 structures, including 450 residences, have been affected by rising water, according to the state's 2010 technical report; some have been destroyed, others salvaged in part or relocated thanks to federal flood mitigation efforts. Over the past two years, the lake has also risen 4 feet, affecting an unknown number of additional structures.

The high water has drowned any notion of business as usual. Power companies have had to move distribution to higher ground for safety and reliability reasons. The operations of railroads Amtrak and BNSF have been affected because of weakened track running through the region. In the city of Devils Lake, there is nonstop traffic and dust from heavy trucks and other equipment working to raise major roads and keep them open; many smaller local roads have been sacrificed to the lake, creating much longer, out-of-the-way drives to nearby communities.

But from an economic standpoint, agriculture has borne the brunt of flood costs—a particularly harsh blow because farming is the economic mainstay of the affected areas. In the Waubay and Devils Lake regions, virtually every acre inundated by rising water was once cropland or pasture. Now the only thing grown on that land is frustration, plus some fish.

"Economically, it's killing our towns and farmers," Williams said. Given strong commodity prices and rising yields, that land is like sunken treasure because farm income supports many other local businesses "from the seed guy to the repair guy to the [farm implement] sales guy," Williams said, adding that farmers also continue to pay $7 an acre in taxes.

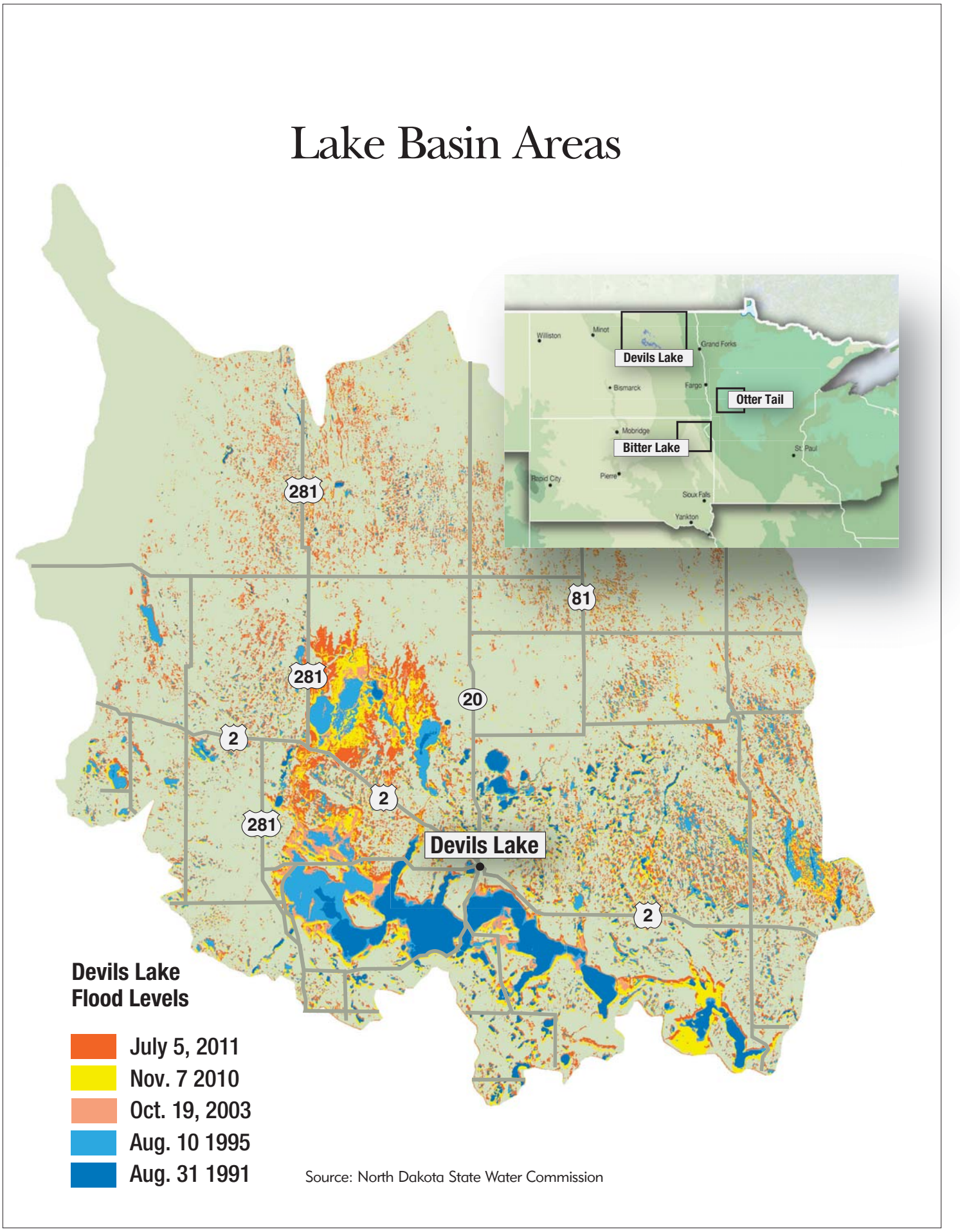
An estimated (and possibly conservative) 250,000 acres in agricultural land—worth hundreds of millions when dry, and generating tens of millions in revenue annually—is underwater in Devils Lake. In some places, farms that were literally five, even 10, miles from water are now submerged.

A significant amount of other tillable land has gone unplanted because of impassable access roads. Al Freidig, a local real estate broker and head of the Devils Lake Chamber of Commerce, said his brother normally farms 4,200 acres in the area. Last year, he managed to plant only 2,900—desite the fact that just 66 acres are underwater. Access is destroyed by the water, Freidig said. "You can't get to the acres."

Farmers even lose official ownership of their own land, because the state holds jurisdiction on land that is underwater. Landowners can retain title to submerged land if it ever returns from the depths, but only if they continue to pay property taxes. Ramsey County (in North Dakota) has helped farmers out by reclassifying submerged land as wasteland, at a tax rate of $35 per quarter section (160 acres)—a 95 percent reduction in the tax rate, but still a considerable price for the mere hope of reclaiming land that once was yours.

Farmers with flooded land qualify for so-called prevented planting payments from their crop insurance policies. But those provisions expire four years after inundation (before a recent extension, it was three years), leaving farmers with few options afterward.

The economy in the city of Devils Lake has fared reasonably well, at least by some measures. Lakes tend to attract people, particularly if those lakes have



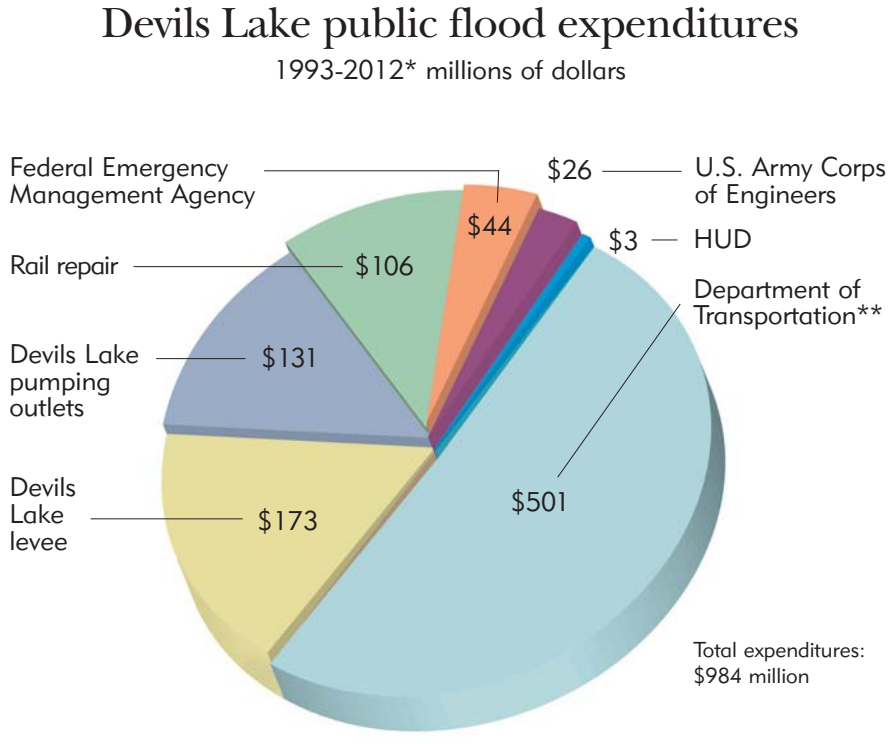
fish in them. Tourism has grown in the region, evident in rising sales and room tax collections. Constant flood mitigation projects and road reconstruction have also buoyed the local economy.

But people are concerned about the future. "Our economy here has been artificially stimulated because of construction," said Rick LaFleur, a local resident and operator of I.F. LaFleur & Sons, a provider of coin-operated amusement equipment. He added that when—or if—construction comes to an end, "they won't turn in the key and leave tomorrow," but the local economy will have to find its own legs.

LaFleur joked that "nowhere else do you create new lakefront property like Devils Lake." But while outsiders are drawn to the water, locals fear it, their uncertainty evident by the fact that no one is willing to build on it anymore. Despite being a world-class walleye fishery and host to numerous tournaments, Devils Lake has seen only one resort built on it in recent years—and that one had to be moved to higher ground. In place of resorts, farmers have put in campgrounds for RVs and other vacationers, for which investment is much smaller and placement more portable.

While people elsewhere clamor for a place on a lake, locals are heading in the opposite direction, hoping the lake doesn't follow them. According to several sources, people who ordinarily would be interested in buying or building a home are waiting because conditions are so unpredictable. LaFleur, for example, built on what he believed to be high ground in the late 1990s, when the lake was 10 to 12 feet lower. This summer, he agreed to a buyout from the city—his home subsequently and purposefully burned to the ground to make way for an improved dike to better protect the city from future lake encroachments.

These island houses lie just south of Devils Lake, and just outside a levy (at the bottom of the picture) designed to protect the city from further lake encroachment.




## High water bills

The encroaching water is also burning through government budgets. A September memo from the North Dakota Water Commission outlined nearly $1 billion in public costs to repair infrastructure and mitigate future flood damage, including several major projects planned for 2012 (see chart).

The price tag has grown so large in part because of a piecemeal approach to mitigation. Devils Lake City Engineer Michael Grafsgaard said that the standard operating procedure by federal and state officials for the past two decades "has been incremental infrastructure protection as required." That has meant protecting the region and its assets for the short term on the assumption that the wet cycle would reverse and no further work would be needed.

That approach has been both unsuccessful and costly, particularly for the federal government. For example, repeatedly enlarging a major Devils Lake levee between 1996 and 2009 has cost $60 million, funded mostly by federal and state entities, according to the state Water Commission. With the lake reaching record high levels each of the past two years, the U.S. Army Corps of Engineers finally decided to raise the levee above the natural spillover level (1,458 feet asl) at a cost of $113 million, 75 percent of it coming from federal agencies.

Governments have taken a similar approach to fixing roads. When Devils Lake started rising, the state Department of Transportation set out to raise all state highways in the region to 1,440 feet, a level some 15 feet short in hindsight. From 1994 to 2005, state DOT figures show that $179 million was spent on flood-related road improvements around Devils Lake. More than 80 percent of the cost was picked up by the federal government, while the state paid 13 percent and the county took on the remainder. But as water has kept rising, area roads have required more than $300 million in additional spending to keep them above water.

Continued on page 14

**Flood** from page 13

**Top:** This nondescript piece of land is the Tolna Coulee, located on the southwest corner of Stump Lake, which is connected to Devils Lake. Water would begin to flow into the Tolna Coulee if Devils Lake reached 1,458 feet above sea level—just four feet more than levels reached last year.

**Middle:** This narrow channel is the first of two man-made efforts to drain water from Devils Lake. At full capacity, the ditch drains about 250 cubic feet of water per second, but the water has to be pumped uphill at significant cost to reach the outlet. A second outlet, which also requires pumping, was approved last year and is expected to be operational this year.

**Bottom:** Hundreds of millions of dollars have been spent raising highways like this one in the Devils Lake region, sometimes multiple times as water levels continue to rise.

There is virtually no end to the public assets and lives affected by water. A 1999 estimate by the U.S. Census Bureau said there were 110 people in Churchs Ferry, N.D., located on Lake Irvine north of the city of Devils Lake. Rising water levels have forced people out, and the 2010 census counted just 12 people. City leaders have broached and rejected the idea of dissolution.

Minnewaukan, a small community on the western end of Devils Lake, has watched water slowly encroach on local homes and businesses. In order to keep the city's lone school open another year, the Army Corps built a $1.2 million temporary levee, while a new $10.5 million facility is under construction a few miles away on higher ground. Meanwhile, the city's population has dropped from about 320 a few years ago to less than 200.

Northeastern South Dakota is dealing with similar problems, albeit smaller in scale. Half of the county-owned roads in Day County are underwater or inaccessible, said Williams, director of emergency management. He estimated that 70 percent of those roads will be donated to the lake until it decides to give them back permanently. In two townships, only nine of 36 miles of town road are drivable. "I can show you roads that were raised two or three times, and they are still underwater," Williams said. Nearby counties are in a similar predicament.

In Waubay, sales tax collections fell last year by more than 12 percent, and they are expected to drop again this year, according to local reports. The town's population has fallen from 662 in 2000 to 525 today; the school population has dropped more significantly, from 220 students five years ago to 160 this year. The removal of cabins from lakes has lowered property values and tax revenues, making for very tight budgets. "I've had trouble asking to buy a pen or pencil," Williams said. County workers also took a wage freeze this year.

## Watered-down solutions

While you might think the solution to a closed basin is rather simple—dig an outlet ditch, silly—the reality is considerably more complicated, for both environmental and political reasons.

Devils Lake city officials have long been arguing for a gated drainage ditch—or "gravity outlet" in engineering-speak—from Stump Lake, which connects to the eastern end of Devils Lake via coulees and offers the best access to the Sheyenne River, which eventually flows to the Red River. Such a project was proposed back in 1999 and would have cost just $2.2 million. It would have allowed for the controlled release of water from the basin. Over time, natural erosion would likely deepen the outlet, letting Devils Lake drop by an estimated 8 to 10 feet. The cost of this option today is estimated at $10 million.

What seems like a simple and affordable option is anything but. Communities downstream on the Sheyenne worry about discharges that are high in sulfates, which have become concentrated expressly because of the closed nature of the basin. Water can leave the basin only through evaporation, and when water evaporates, it leaves behind sulfates—just like on the rim of your kid's fishbowl. Westerly winds further concentrate sulfates at the eastern end of the lake, where a gravity outlet would be most sensible.

Although the actual health impacts are fiercely debated, concern over sulfates has given environmentalists and downstream stakeholders—including Canada, where the water eventually flows—traction to block this option. Two downstream groups have retained a Minneapolis law firm to represent them.

Communities on the Sheyenne also worry about increased flows in the river, which is probably more aptly described as a stream most of the time. Valley City, N.D., located more than 100 miles downstream of Devils Lake, has objected to the gravity outlet out of fear that it could potentially swamp the city if a torrent were allowed to flow through to the Sheyenne. Residents are jittery after near-record flooding occurred in 2009 and again this spring—without Devils Lake discharges into the Sheyenne.

As a stopgap measure in 2005, the state installed a pumping station to move 250 cubic feet of water per second (cfs) into the Sheyenne River. The project cost $60 million, but operating costs are huge. Out of deference to the environment, pumping stations were placed on the western end of the lake (where sulfate levels are lower), requiring water to be pumped 200 feet uphill through three lift stations to reach the Sheyenne. That small, artificial outlet generates a monthly power bill of $300,000, paid by the state. Said one Devils Lake source, "That [power] meter spins pretty fast."

With rapidly rising water levels—the lake has risen 4 feet in the past two years—it's widely agreed that something more must be done, but there is little agreement on what. The state is in the process of installing a 6-mile-long pipe to pump an additional 350 cfs of water from the western end of the lake into the nearby Tolna Coulee, which would drain into the Sheyenne River. This project is slated to become operational sometime this year at a cost of about $90 million—which doesn't include considerable operating costs. The state also plans a $10 million control structure on the Tolna Coulee to guard against natural uncontrolled overflow. Local officials have objected because the structure would prevent Devils Lake from dropping below current levels unless precipitation patterns change.

And even when the additional pump outlet is operational, it isn't expected to keep the lake from rising further should the wet cycle continue; rather, it will merely slow the lake's rise. Eventually, if water rises another 4 feet to 1,458 feet asl, the Devils Lake bathtub will be officially full, and water will spill out and flow toward the Sheyenne River. Hydrology research suggests that this happened roughly a thousand years ago. And if it happens again, the spillover won't likely be a trickle.

The Sheyenne has an in-channel flow capacity of only about 600 cfs, and it regularly overtops its banks with the spring melt. Should Devils Lake rise above 1,458 feet asl, it would cover more than 250,000 acres (not including other lakes in the basin), and overflow would be the equivalent of pouring a five-gallon bucket of water through a straw.

When Valley City flooded in 2009, and again in 2011, the Sheyenne peaked briefly at 7,000 cfs. Flood stage on the Sheyenne at West Fargo is just 2,300 cfs. Estimates for an uncontrolled spill vary, but range from several hundred to several thousand cfs. Worst-case scenarios predict a virtual deluge downstream.

Downstream communities block outlet options for their own safety, hoping that Devils Lake does not continue to rise; yet they do so at their own peril if the region's wet cycle persists. Studies to date have been persistently optimistic about the low risk of higher lake levels. As recently as 2008, a study by the USGS suggested that there was only a 1 percent chance that the lake would hit 1,454.6 feet in the next 10 years; it came within inches of that level last summer. A September study by the USGS of the new outlet estimated a 10 percent chance of reaching 1,458 feet by 2015 and a 2 percent chance of hitting 1,460 feet.

Many locals believe those figures grossly understate the threat. "The [flood estimates] are so totally flawed," said LaFleur, of I.F. LaFleur & Sons. For the past 15 years, "they've been saying there's a 1 percent chance of the water rising, and it's done it year after year after year."

These two farmsteads in the Devils Lake region are representative of the flood challenges facing farmers in closed basins.

## Mother (Nature) knows best

That's the fear in west-central Minnesota, where water levels have created some inconvenience, but have not created real hardship like that seen across the state border. Rick West, engineer for Otter Tail County, said he recently had to drive 32 miles to reach a destination eight miles away because so many township roads were closed. To date, the county has spent upward of $5 million on a handful of water-pumping projects to keep county roads above water.

West is hopeful that water levels will fall—a dry autumn was very helpful, he noted—but aware and wary of what might lie ahead because storage for additional water is gone. "If trends in rainfall and snowpack continue over the next five years, it's going to be serious," West said. "There's no doubt about it."

In the Waubay region, not much has happened in terms of big mitigation projects. In 1999, the Army Corps of Engineers suggested annual pumping and drainage options for Bitter Lake, but the costs were locally prohibitive. Williams said the state has been trying to help where it can in the region, mostly because "we've been screaming like a dry bearing on a combine."

But he also pointed out that win-win solutions are scarce. "You don't fight Mother Nature … and you can't wish for a dry four or five years," because most weather experts believe the region will remain in a wet cycle for some time. Locals have their own home-cooked solutions, he said, but often ignore numerous obstacles, including downstream landowners whose property could be inundated, at least on a seasonal basis. "People downstream don't want your problem," Williams said, "You don't want me draining my pond through your yard."

He said many people in the region—himself included—are "next-year people," optimistic to a fault that things are going to get better.

But just in case, Williams says he follows the Devils Lake situation in hopes of learning some lessons before they become the hard sort. For example, he said, "we're trying to get away from repetitive costs" like those seen to the north. Despite constant efforts to stay just ahead of water levels in Devils Lake, "all they've gained is a fishery, and fishing don't put corn in the bins, or beans on the road." f

# Moderate economic growth expected in 2012

By ROB GRUNEWALD
Associate Economist

By JOE MAHON
Staff Writer

The Ninth District economy is expected to grow moderately in 2012, according to the Minneapolis Fed's forecasting models and outlook surveys. A number of favorable signs in the district economy are tempered by the headwinds of a slow housing construction market and uncertainty regarding the sovereign debt crisis in Europe. The district enjoys strong agriculture, mining and oil industries, healthy manufacturing exports and moderate consumer spending growth with subdued price increases. While the Minneapolis Fed's forecasting model suggests that employment growth will accelerate in 2012, surveyed business leaders noted that their optimism is mixed with caution.

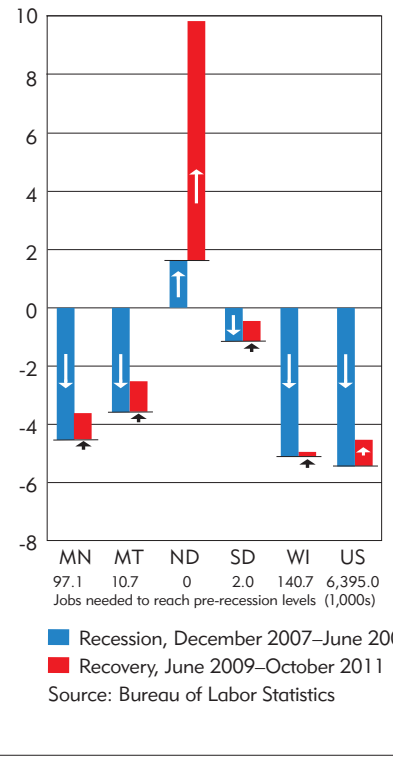
## Positive signs

The list of positive signs begins with the district's natural resource industries, particularly agriculture, mining and oil drilling. While agriculture production levels were down from 2010 levels, income during 2011 was buoyed by strong crop and livestock prices. In mining, iron ore production and shipments in Minnesota and Michigan during the first eight months of 2011 were 14 percent and 5 percent higher, respectively, than a year earlier.

Meanwhile, oil drilling in western North Dakota is moving at a frantic pace. The number of active oil rigs in November reached 187, up from 139 a year earlier. Only Texas and Oklahoma have more active oil rigs than North Dakota. Oil drilling continues to bring jobs and income to North Dakota. Not surprisingly, North Dakota business leaders posted the most optimistic reply to the business outlook poll regarding their outlook for their local economies, with 91 percent somewhat or very optimistic, compared with 62 percent districtwide (see story on page 18).

The district's manufacturing sector continues to expand. Since the start of the recovery in June 2009, Creighton University's Business Conditions Index has generally shown manufacturing growth in Minnesota and the Dakotas. Since last spring, growth has decelerated somewhat in Minnesota and South Dakota, while growth has accelerated in recent months in North Dakota.

Chart 1
**District employment change better than U.S.**
Percent change in nonfarm employment



Source: Bureau of Labor Statistics

The manufacturing sector has been buoyed by growth in exports. Through October, district manufactured exports have increased 11 percent compared with a year earlier, ranging from a 6 percent increase in Montana to a 22 percent gain in South Dakota. As long as economic conditions abroad remain favorable, district manufacturers will benefit from solid export activity. Respondents to the manufacturing business conditions survey expect orders, production, employment, investment and exports to increase in 2012, but they are less sanguine about profitability (see story on page 17).

Consumers are opening their purse strings, although cautiously. Nationally, retail sales increased 0.2 percent from October to November, after two solid months of increases. The district outlook for the holiday spending season was positive. For example, according to the University of St. Thomas Holiday Spending Sentiment Survey, Minneapolis-St. Paul households were predicted to spend 3.4 percent more on holiday gifts than they did in 2010. Respondents to the business outlook poll are somewhat optimistic for consumer spending in their communities during 2012.

Meanwhile, consumers are facing relatively tame price increases. The Consumer Price Index decreased slightly from September to November. While the year-over-year rate was up 3.4 percent in November, the core inflation rate, which excludes relatively volatile food and energy prices, was up 2.2 percent compared with a year earlier.

Recent changes in gasoline prices have been tipping downward, giving consumers more cash to spend on other goods and services. In Minnesota, average gasoline prices dropped below $3.20 per gallon in December, down from almost $4 per gallon in the spring and just 25 cents per gallon higher than a year earlier.

The Minneapolis Fed's forecasting models predict that personal income will grow in 2012 at rates somewhat similar to 2011 rates, another positive sign for consumer spending. However, shoppers could see some price increases in 2012, as more respondents to the manufacturing survey and business outlook poll expect to increase prices than decrease prices for their products and services in 2012.

## Headwinds continue

Despite positive signs in the economy, business leaders noted caution regarding prospects for 2012. The home building sector continues to move slowly. District housing units authorized through October were down 4 percent compared with the same period a year earlier. Authorization levels are only about one-third of their prerecession peak levels.

However, double-digit gains in existing home sales during the third quarter compared with a year earlier were posted by all district states, a sign that residential real estate markets are recovering. While average home prices continue to drop, decreases have slowed in recent quarters. Prices for existing home sales in district cities where data are available were modestly lower than a year earlier, including Minneapolis-St. Paul and Fargo, N.D. (–6.5 percent), Sioux Falls, S.D. (–2.0 percent) and Bismarck, N.D. (–1.1 percent). Falling house prices have lowered consumer wealth, and consequently consumer spending.

In 2012, housing units authorized are expected to grow in Montana and South Dakota, remain level in North Dakota and decrease in Minnesota and Wisconsin, according to the Minneapolis Fed's forecasting model. Meanwhile, respondents to the business outlook poll are generally pessimistic about housing starts in their communities, although their responses are more positive than in 2010.

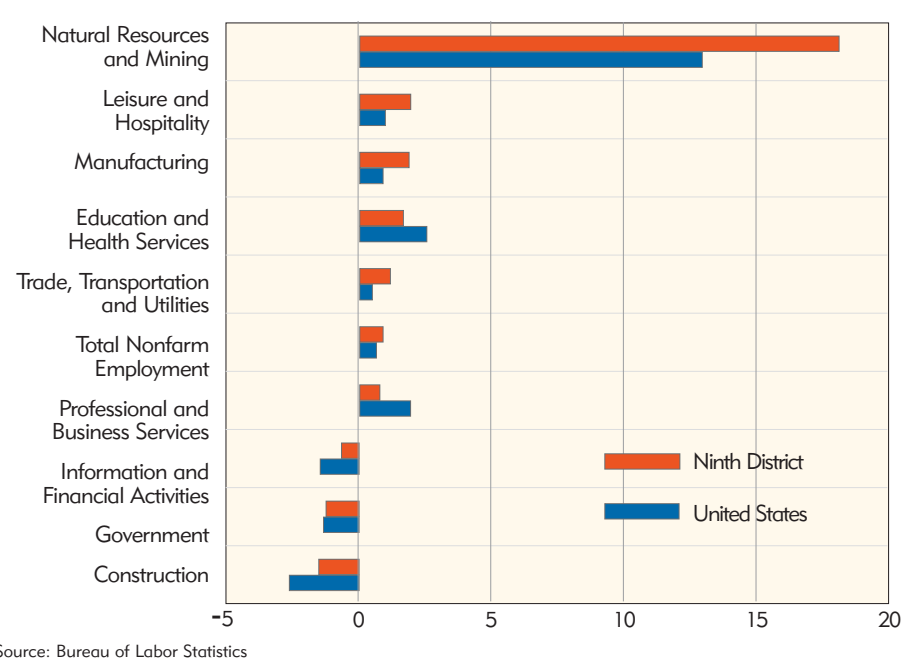
Another economic headwind blows from across the Atlantic. Difficulties facing European governments and banks regarding sovereign debt levels have created uncertainty in U.S. markets. Should the situation lead to a European recession, the fallout would have an adverse impact on district financial markets and exporters and dampen economic activity.

## District employment outperforming nation

District employment growth and the unemployment rate have outperformed the nation since the start of the recovery in June 2009. Nonfarm employment has grown in district states since June 2009 (see Chart 1); only Wisconsin lags the nation in its return to employment levels prior to the recession.

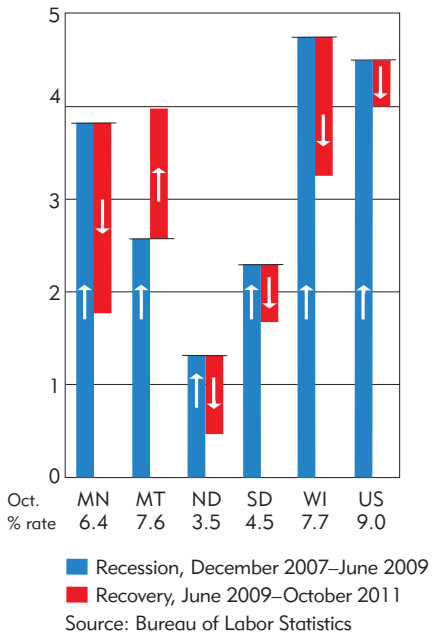
Aside from North Dakota, which recorded employment gains during both the recession and the recovery, other district states need some gains in

Chart 2 **Employment increases for a number of industries**
Nonfarm employment, percent change from a year earlier, October 2011



Source: Bureau of Labor Statistics

Chart 3
**District unemployment rate change also beat U.S.**
Percentage point change in unemployment rates




Source: Bureau of Labor Statistics

order to return to prerecession employment levels, ranging from 2,000 jobs in South Dakota to 140,700 jobs in Wisconsin. According the Minneapolis Fed's forecasting models, South Dakota and Montana will reach prerecession employment levels during 2012, Minnesota by first quarter 2013 and Wisconsin by first quarter 2014.

From October 2010 to October 2011, nonfarm employment grew 0.8 percent in the district, slightly faster than in the nation. Natural resources and mining jobs grew the fastest (18.1 percent), followed by leisure and hospitality (2 percent) and manufacturing (1.9 percent). Job losses were recorded by construction (–1.3 percent), government (–1.1 percent) and information and financial activities (–0.5 percent) (see Chart 2).

While job growth has increased moderately, unemployment rates have moved downward. During the recession and recovery, unemployment rate changes in district states have been more favorable than in the nation (see Chart 3). As of October, unemployment rates were lower than U.S. rates in all areas of the district except the Upper Peninsula of Michigan, where the rate was still above 11 percent.

The Minneapolis Fed's forecasting models are relatively optimistic for 2012. Nonfarm employment is expected to grow faster during 2012 than 2011 in all areas of the district and at rates that exceed historical averages. Meanwhile, unemployment rates are expected to decrease moderately in all areas, but stay above historical averages, except in North Dakota, where the rate is predicted to remain below its historical average.

# Manufacturing activity up again in 2011; faster growth expected in 2012

By TOBIAS MADDEN
Regional Economist

Overall manufacturing activity increased significantly in 2011 over 2010, according to the November survey of manufacturers conducted by the Federal Reserve Bank of Minneapolis and the Minnesota Department of Employment and Economic Development. The solid increase was evident across most of the Ninth District, especially for medium to large firms. Respondents expect even stronger growth in 2012 for their firms as well as moderate growth for the overall economy.

The manufacturing rebound that started in 2010 continued in 2011. Orders were up in 2011 for 53 percent of survey respondents; orders were down for 28 percent. Over a third reported increased employment in 2011, while 23 percent reported reduced staffing. Manufacturers increased prices and productivity as well. However, profits slid, possibly due to higher input costs. "Commodity costs are high," complained a small Wisconsin manufacturer. The Dakotas reported the strongest growth in 2011, while Montana and the Upper Peninsula of Michigan saw some declines in activity. Large and medium-sized firms saw strong activity, while small employers noted slight declines. Wages and benefits grew about 2 percent in 2011 compared with 2010.

Credit conditions were somewhat mixed. Over the past three months, 19 percent of respondents indicated that access to credit had deteriorated, while 8 percent reported improvement. The biggest improvement occurred in North Dakota, while the greatest tightening occurred in Montana and western Wisconsin. Respondents from large firms noted improving conditions, while respondents from smaller firms saw declining conditions. "Greater collateral, personal guarantees, more paperwork and higher down payment," commented a medium-sized Wisconsin firm.

Manufacturers across the district expect stronger growth in 2012. The number of orders and total production are expected to increase, buoyed by solid productivity gains and higher selling prices. As a result, profits should increase. "The future is so bright," commented a Montana manufacturer. These expectations are widespread across the district and across firm sizes.

Manufacturing employment is expected to grow in 2012, as a third of the respondents expect to increase hiring, while only 10 percent expect to decrease employment. Wages and benefits are expected to increase by around 2 percent. Increased exports are anticipated across the district in 2012, except in Montana, where respondents predict some declines.

Manufacturers also have a positive outlook for their state economies. They expect modest economic growth and increases in overall employment, corporate profits, capital investments and consumer spending. However, "inflation is a concern," commented a small South Dakota manufacturer. Overall prices may heat up, as nearly two-thirds expect higher inflation, while only 3 percent see lower inflation. "Raw material prices have been increasing systematically for the past 18 months," commented a small Montana manufacturer. f

# Agriculture strong despite difficult growing season

For many district agricultural producers, 2011 was a wild ride. A wet, cold spring delayed planting, and flooding destroyed crops in parts of the district, while severe summer heat put stress on wheat and livestock producers. Fortunately, the harvest season was very dry, which allowed farmers to get into and out of the fields quickly. That dryness gave way to drought conditions in some areas of the district, notably southern Minnesota, a trend which producers hope will reverse by next spring. Another bright spot was very strong output prices that made up for reduced yields in many areas. There are optimistic expectations for newly purchased capital equipment and expected higher prices for outputs in 2012.

In 2011, both farmers and ranchers saw big increases in prices for their products from their already strong 2010 levels (see table). But the district saw big production decreases for many crops, including soybeans (down 12 percent), wheat (down 29 percent) and sugar beets (down 20 percent) compared with 2010, while corn output is expected to be roughly even with 2010's strong harvest. Meanwhile, ethanol prices and production trended upward during 2011. While prices for several farm inputs increased during 2011, including fertilizer, chemicals and diesel fuel, these prices were offset by gains in crop prices.

According to the Minneapolis Fed's third-quarter (October 2011) agricultural credit conditions survey, 2011 was a strong year for agricultural income, with 92 percent of respondents reporting increased or steady income, which follows several quarters of increases. Household spending and capital investment also increased. Agricultural lenders are somewhat optimistic for farm profits in the final quarter of 2011, with 54 percent expecting increased income and only 15 percent expecting decreased income.

Like farmers, animal producers enjoyed rising prices (see table). Building on 2010's large increases, prices surged further for hogs (20 percent), milk (23 percent) and steers (20 percent). These output price gains more than offset higher feed costs faced by meat and dairy producers.

The outlook for 2012 is upbeat, as agricultural producers invest their profits. In addition to positive returns on investment, output prices are expected to rise. According to U.S. Department of Agriculture forecasts, 2012 prices for corn, soybeans, wheat, steers and hogs are expected to increase. f

**Crop and meat prices expected to increase in 2011**
Average farm prices

| | 2008/2009 | 2009/2010 | Estimated 2010/2011 | Projected 2011/2012 |
|---|---|---|---|---|
| (Current $ per bushel) | | | | |
| Corn | 4.06 | 3.55 | 5.18 | 5.90–6.90 |
| Soybean | 9.97 | 9.59 | 11.30 | 10.7–12.70 |
| Wheat | 6.78 | 4.87 | 5.70 | 7.05–7.55 |

| | 2008/2009 | 2009/2010 | Estimated 2010/2011 | Projected 2011/2012 |
|---|---|---|---|---|
| (Current $ per cwt) | | | | |
| All Milk | 12.83 | 16.29 | 20.10-20.20 | 18.10–18.90 |
| Choice Steers | 83.25 | 95.38 | 114.85 | 120–128 |
| Barrows & Gilts | 41.24 | 55.06 | 66.32 | 63.00–68.00 |

Source: U.S. Department of Agriculture, estimates as of December 2011

# Business leaders expect solid growth for their companies in 2012

By TOBIAS MADDEN
Regional Economist

Business leaders are optimistic about the future, as they expect sales, employment and capital investment to grow at their firms in the coming year, according to the *fedgazette*'s annual business conditions poll conducted in November.

The survey's 409 respondents expect to raise prices but increase wages only moderately and are concerned about government regulation and finding qualified workers. They also reported somewhat improved credit conditions, and they expect modest growth in consumer spending, employment and business investment in their state economies. At the same time, however, business leaders anticipate fewer housing starts this year, as well as higher inflation and sluggish growth at the national level.

## Companies looking forward to 2012

Half of the business leaders surveyed expect higher sales at their companies in 2012 (see Chart 1). Respondents from the Minneapolis-St. Paul area are the most optimistic about sales growth, while respondents from the Upper Peninsula of Michigan and Montana are the least optimistic about sales.

Retailers, manufacturers and service providers expect the biggest gains in sales. The increase is due partially to expectations of higher selling prices on their products and services. Forty-four percent of the retail respondents expect to raise prices in 2012, compared with 22 percent who expect to drop prices. Agricultural producers, coming off several good years, expect decreased sales in 2012 due to lower expected commodity prices.

Business leaders also expect increased sales volumes by virtue of higher productivity last year—cited by over two-thirds of the respondents—and the expectation of rising employment and capital investment at many companies. Increases in employment are expected at firms across all district states except the U.P. and Montana, where employment estimates are flat. Respondents from all sectors also expect to increase employment, except agricultural producers, who expect to decrease employment. Investment in plant and equipment is expected to increase at firms in Minnesota, North Dakota and western Wisconsin, but decrease in other parts of the district. Retailers, manufactures and service firms expect to increase capital spending, while firms from other industries expect flat to lower capital expenditures.

Respondents indicated that they may have an easier time financing capital expenditures because access to credit has improved slightly over the past three months. More than one in five respondents indicated that access to bank credit has improved some or improved a lot versus 13 percent who noted deteriorating conditions. This improvement occurred across industry sectors, save for construction, and across district states with the exception of the U.P.

There are some challenges facing district businesses. More than 70 percent of the respondents said that complying with government regulation was a challenge or serious challenge. In addition, 41 percent said that securing workers was a challenge. This concern was widespread across the district, with nearly two-thirds of the respondents from North Dakota and 28 percent from the Minneapolis-St. Paul area reporting difficulty. "It's very difficult to meet the demand for knowledge workers," commented a Minnesota-based consulting firm. Several business leaders also commented that the gridlock in Washington and the European debt crisis are adding risk to the 2012 outlook.

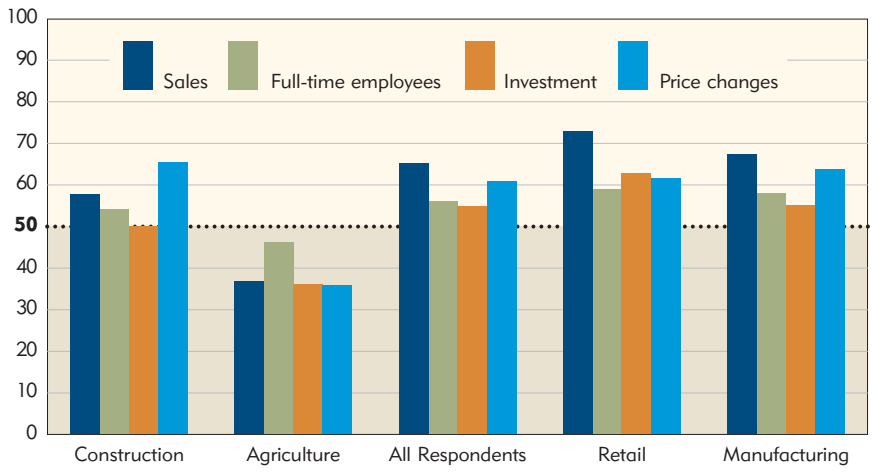
## Modest state growth, sluggish U.S. growth expected

Overall, leaders are somewhat optimistic about their economies (see Chart 2). Optimism is strong in the Dakotas, while respondents from Montana and western Wisconsin are somewhat pessimistic (see Chart 3). This optimism/pessimism also flows into the outlook for state economies.

Expectations for local communities generally followed the same pattern. Respondents from Minnesota and the Dakotas were generally positive about employment, business investment and consumer spending. Respondents from Montana, western Wisconsin and the U.P. were generally either neutral or negative. Most industry sectors were positive about their state economies, except agriculture, which was neutral or negative about employment, business investment and consumer spending.

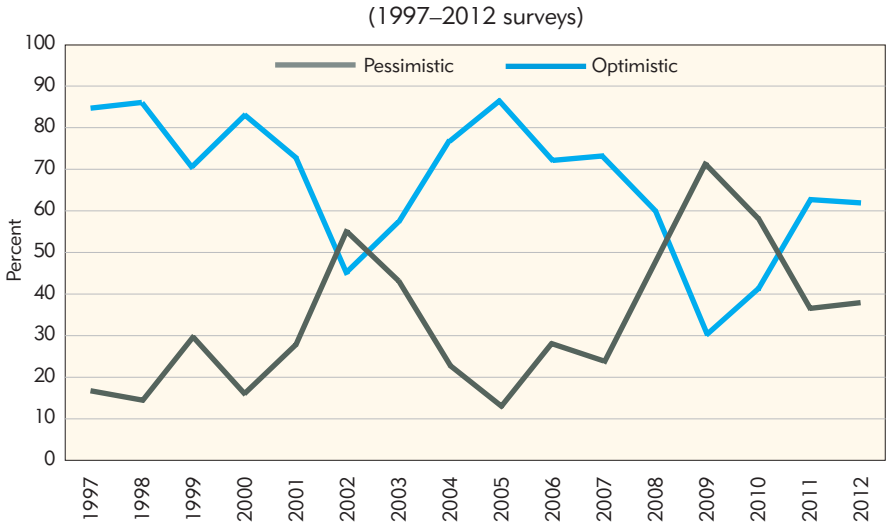
In regard to state economies, most areas of the district expect further

Chart 1 **With regard to your own company, how do you see operations changing during the next year?***



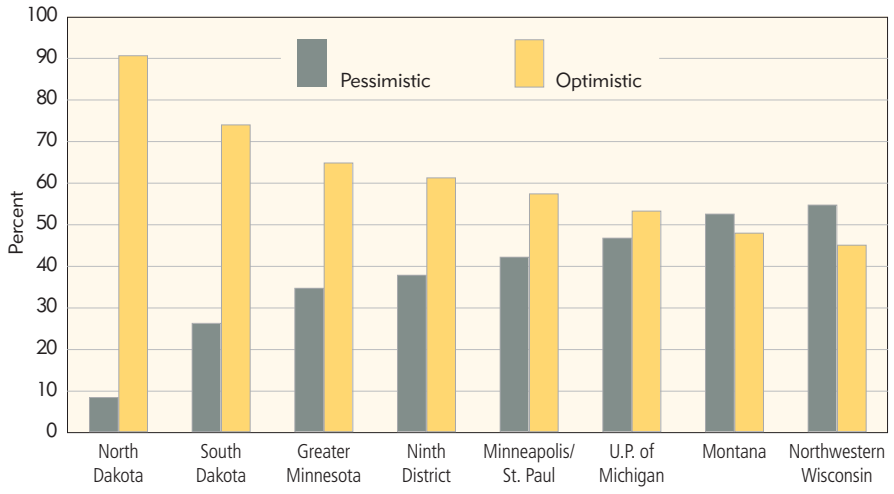

* Above 50 indicates expansion; below 50 indicates contraction
Source: Federal Reserve Bank of Minneapolis, annual business outlook poll

Chart 2 **Overall, what is your outlook for the community's economy in the next 12 months?**
(1997–2012 surveys)




Source: Federal Reserve Bank of Minneapolis, annual business outlook poll

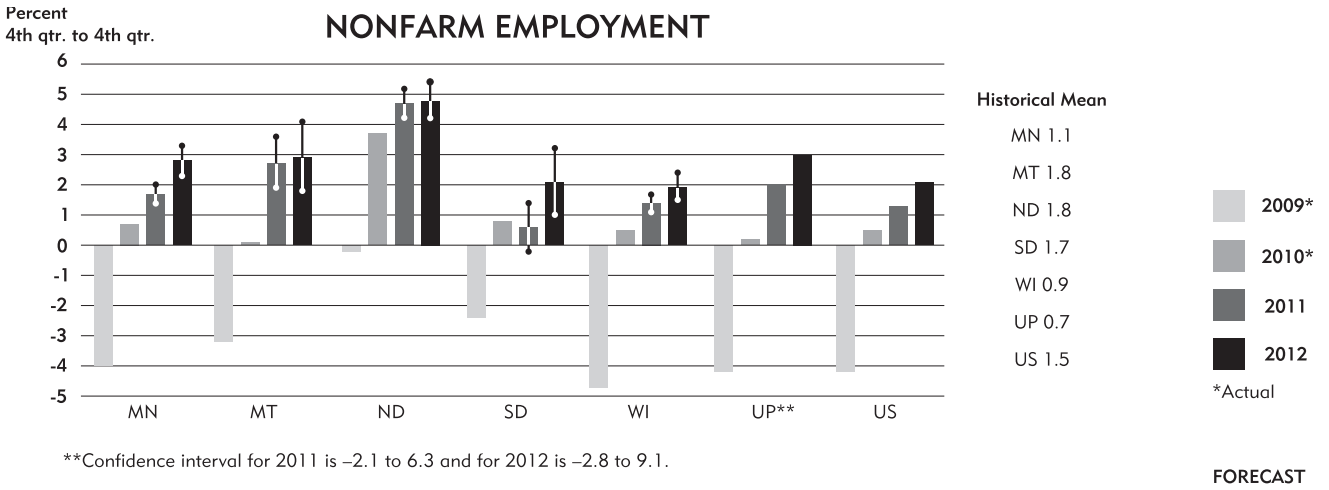
Chart 3 **Overall, what is your outlook for the community's economy in the next 12 months?**
(District states)




Source: Federal Reserve Bank of Minneapolis, annual business outlook poll

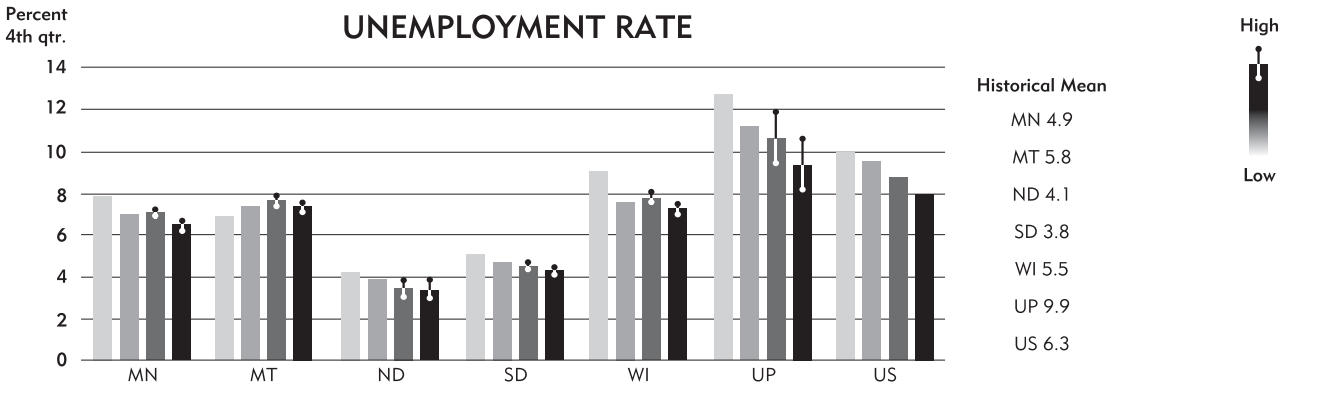
## District Forecast

**Nonfarm employment growth is expected to accelerate across the district. In 2011, employment growth exceeded historical averages in all areas of the district except South Dakota, where employment grew more slowly than its historical average. These gains followed tepid employment growth in 2010, when gains fell short of 1 percent in all areas except North Dakota, where employment grew almost 4 percent. In 2012, nonfarm employment will grow faster than in 2011 in all areas of the district and at rates that exceed historical averages. Growth rates will range from 1.9 percent in Wisconsin to 4.8 percent in North Dakota.**

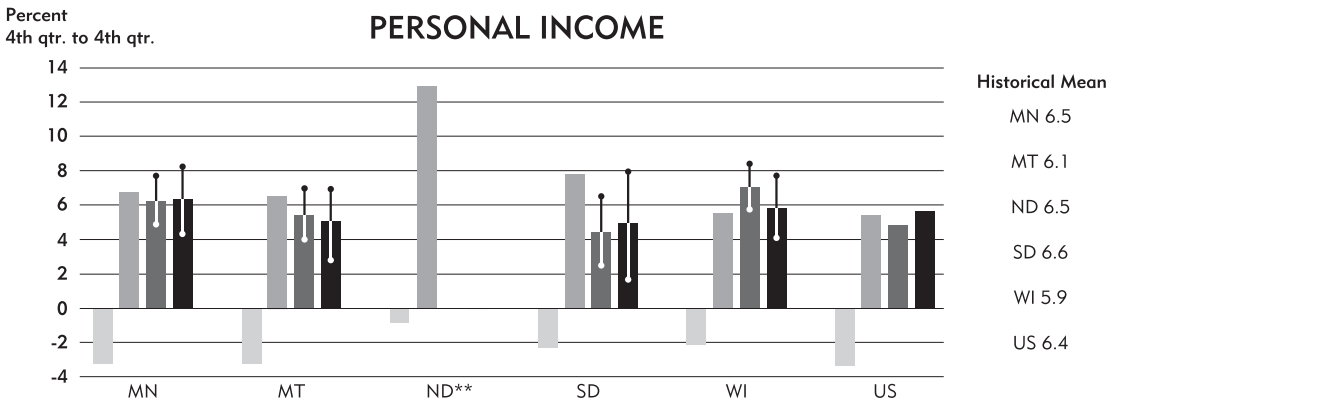



**Confidence interval for 2011 is –2.1 to 6.3 and for 2012 is –2.8 to 9.1.

**Unemployment rates are expected to decrease moderately. Unemployment rates remained relatively steady in 2011 compared with 2010. Somewhat larger changes included a 0.3 percentage point increase in Montana and 0.8 and 0.4 percentage point decreases, respectively, in the Upper Peninsula of Michigan and North Dakota. Unemployment rates were above historical averages in all areas of the district during 2011 except North Dakota, where the unemployment rate dropped below its historical average in 2010. In 2012, unemployment rates are expected to decrease in all areas but stay above historical averages, except in North Dakota, where the rate is predicted to remain below its historical average.**

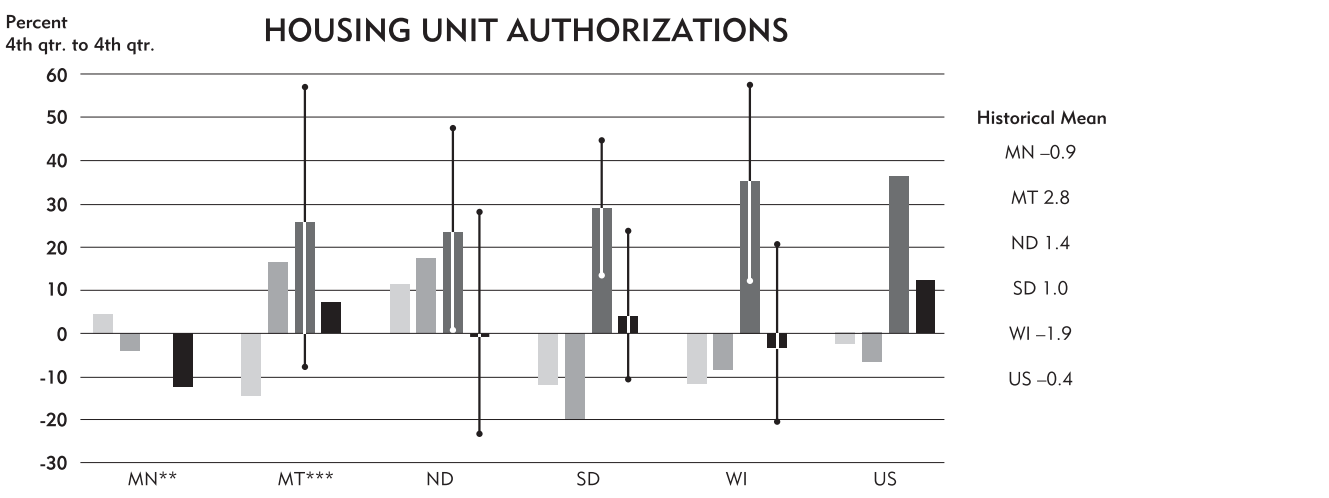



**Growth in personal income is expected to remain steady. During 2011, personal income growth was positive but slower than in 2010 in all areas except Wisconsin, where the pace of personal income growth increased. In 2012, personal income growth will remain steady on balance, with modest increases in growth rates in Minnesota and South Dakota and decreases in Montana and Wisconsin. The forecast for personal income in North Dakota indicates a decrease during 2012, but this forecast is likely attributed to the volatile nature of farm income. The confidence intervals surrounding the 2011 and 2012 figures are wide for North Dakota, indicating a relatively high degree of uncertainty.**




**Value for 2012 is –7.3. Confidence interval for 2011 is –22.0 to 25.7 and for 2012 is –32.6 to 33.6.

**The number of housing units authorized is expected to remain subdued after some improvement in 2011. During 2011, authorizations made gains in all district states after about five to six years of declining activity. In 2012, housing units authorized are expected to grow in Montana and South Dakota, remain level in North Dakota and decrease in Minnesota and Wisconsin. Overall, authorizations will remain at historically low levels, except in North Dakota, where 2012 levels will exceed prerecession levels. Note that the confidence intervals for home building predictions span a relatively wide range, indicating a much higher degree of uncertainty compared with forecasts for employment, unemployment rate and personal income.**




**Value for 2011 is 67.3. Confidence interval for 2011 is 37.5 to 101.9 and for 2012 is –35.3 to 13.0.
***Confidence interval for 2012 is –22.9 to 48.3.

decreases in housing starts in 2012 compared with 2011. The only exception is North Dakota, where respondents expect flat housing activity. Respondents from the construction and manufacturing sectors were the most pessimistic. "The housing industry is the worst I have seen in over 40 years," commented a U.P. construction firm.

Expectations for wage increases are somewhat mixed. Over half foresee increases in their community of 2 percent to 3 percent, and 37 percent expect a 0 percent to 1 percent increase. Respondents in manufacturing and services expect larger wage increases, while the construction and finance, insurance and real estate sectors expect the lowest increases in wages in their communities.

Respondents are concerned about national economic conditions. One in eight expects a recession next year, and 72 percent expect GDP growth of 1 percent to 2 percent. "I am concerned about the stagnant condition of the national economy and that it will continue into 2012," commented a Minnesota financial firm. Inflation is also a concern, as 30 percent expect CPI to increase by 4 percent or more. "Costs still trending up," commented a Minnesota manufacturer.

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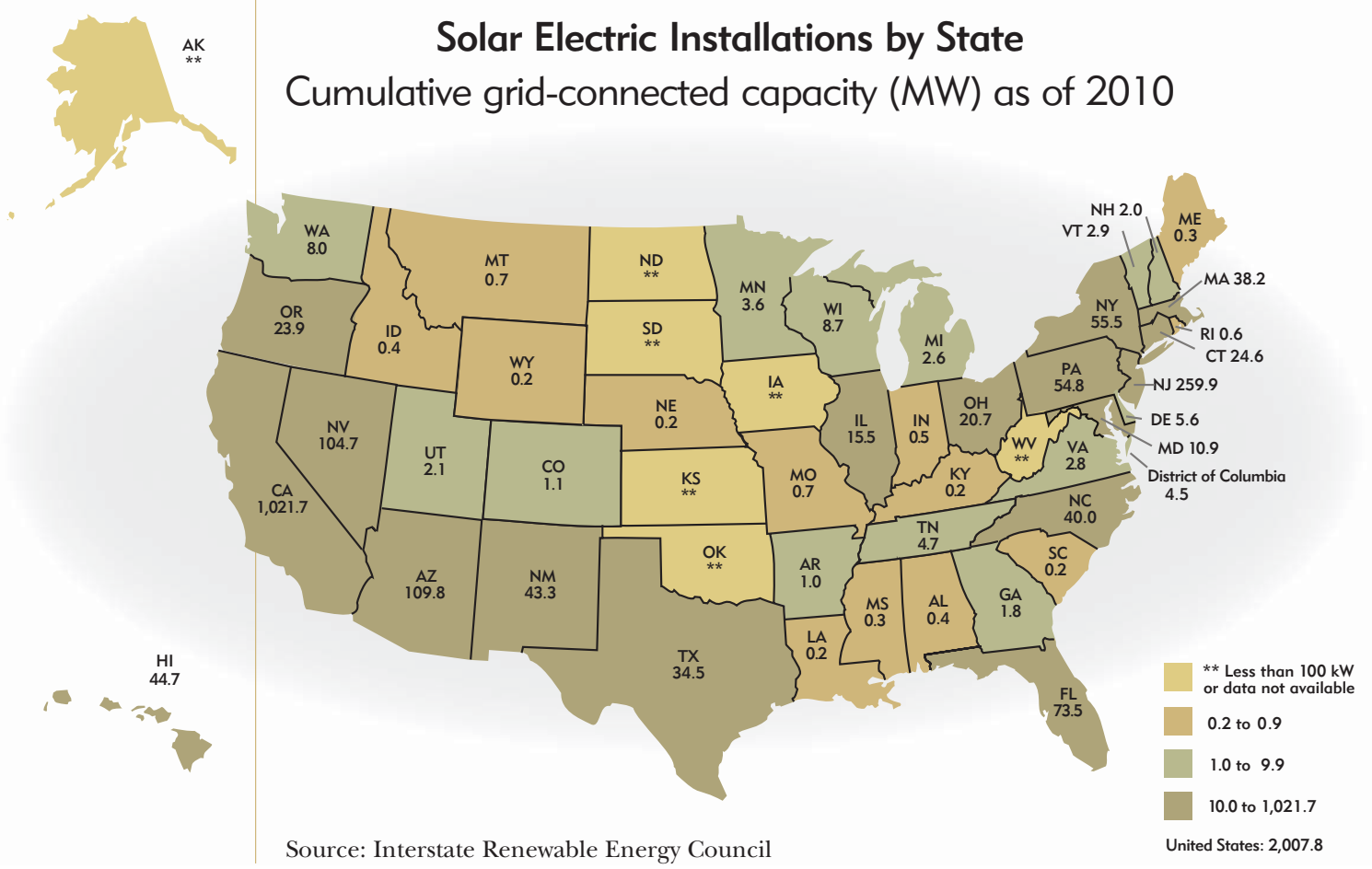
January 2012



## Solar Electric Installations by State

Cumulative grid-connected capacity (MW) as of 2010




Source: Interstate Renewable Energy Council