

[Oregon and Silicon Make For Nice Solar Neighborhood](#)

Go See for Yourself

Toyota becomes a North Mississippi All Star.

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Last year, when Tupelo Community Development Foundation President David Rumbarger was trying to convince State of Mississippi elected officials to step in with funds to prep his town's 1,700-acre (688-hectare) mega-site, more than one told him to come back with a bird in the hand.

In late February, the bird alighted in the form of a US\$1.3-billion, 2,000-worker assembly plant from **Toyota Motor**

Engineering & Manufacturing of North America, Inc.

(TEMA), which by 2010 will begin producing the manufacturer's Highlander vehicle at the rate of 150,000 a year. In short order, the state House of Representatives had voted 119-0 to approve approximately \$300 million in incentives for the company's eighth North American assembly plant, and lead negotiator Gov. Haley Barbour was reporting that news immediately to Toyota officials via cell phone from the capitol.

"It is wonderful to see people when called upon rise to the occasion, even after the controversy of trying to get it financed," says Rumbarger.

But there were more than legislators rising, and on more than one occasion. Key to the decision, say Toyota corporate executives, were the establishment of the tri-county PUL

Alliance among Pontotoc, Union and Lee Counties and the direct observation of how that region's workers really work.

"*Genchi genbutsu* means go and see, and understand for yourself," says Ray Tanguay, the Canada-based executive vice

president of manufacturing for TEMA, and one of the leaders of the Tupelo site selection. "It's a manufacturing concept that is applicable in any situation, and is very much a part of the DNA of Toyota – go to the shop floor. When it applies to site selection, it's no different. We're not going to take a report and make a judgment. We're going there, to meet the people, drive the roads and really check the area."

What Tanguay saw at several manufacturing plants in Tupelo immediately deepened his understanding.

"We were at one plant at the end of the month for their production incentive," says Rumbarger, who reports that Tanguay said at the time, "These people are working fast. This is very good."

"It was one of those times when the steak was better than the sizzle," says Rumbarger.

Tupelo Tango

That episode was a living embodiment of a slogan Rumbarger and his colleagues had taken to repeating: "Win the visit, win the project." Toyota and Mississippi had been visiting for many years, going back to 2001 when Toyota did a quick flyover in



Mississippi Senator Trent Lott; Mississippi Governor Haley Barbour; Toyota Motor Engineering & Manufacturing North America's (TEMA) President and COO, Seiichi Sudo; TEMA Executive Vice President Gary Convis; and TEMA Executive Vice President Ray Tanguay celebrate Toyota's announcement to build new vehicle assembly plant in Tupelo, Mississippi, February 27, 2007. The new plant will produce the Toyota Highlander starting by 2010.

Photo by Marianne Todd

Tupelo in a TVA helicopter. The state lost out in that bid to San Antonio, Texas, for Toyota's truck plant. At that time, Toyota lead site negotiator Dennis Cuneo let Gov. Barbour know that the state's reputation for litigation was in need of repair. Tort reform was assembled in quick fashion.

Cuneo, who helped lead this newest site search too, has now left Toyota to serve as counsel at his former law firm Arent Fox in Washington, D.C., though up to half of his time will still be spent as counsel to Toyota. In an e-mail interview, he says Barbour exemplified the best way to stay in touch with prospects, which Cuneo says is to "be persistent but not overbearing. Keep the contacts low key and business-related, and avoid offering free golf, trips and entertainment as inducements to stay in touch."

Mississippi stayed in touch with progress as well as prospects. As the Tupelo site went about achieving TVA Megasite certification from McCallum Sweeney, it also received scrutiny from Hyundai and then Kia. "Every time, there was another dimension we understood even better," says Rumbarger. As other large sites in Mississippi came on the market in Como, Tunica and Meridian, Toyota was launching a partnership with Subaru to produce the Camry at that company's plant in Lafayette, Ind., as well as opening a new greenfield plant in Woodstock, Ont. The two paths merged as Toyota began its latest site search. In Tupelo they initially called it "Project Tango." The code name later shifted to "Project Galaxy."

"When we first started, we had up to 40 possibilities, and we quickly narrowed it down," says Tanguay of the five finalists, which included sites in Marion, Ark., and Chattanooga, Tenn.

Jim Wiseman, vice president for external affairs for TEMA, says all finalists were worthwhile, and the states they're in still stand to benefit.

"Observers sometimes mistakenly think that because Mississippi was our decision, Arkansas or Tennessee or Alabama lost," he says. "That's not true." For one, the sites were neck-and-neck competitors. Second, the robust supplier network Toyota has developed throughout the mid-South was not only a site selection factor, but a site selection beneficiary.

"We already have 50 suppliers in Tennessee who will get extra business from this," says Wiseman by way of example. "They'll have to add five jobs here, 10 jobs there, and it adds up. In addition to those suppliers that already exist, you can look for the same sort of spinoff impact we've seen in Woodstock, where about 10 suppliers are building facilities nearby. There will be something like 10 to 15 [for the Tupelo plant], especially for larger parts like seats, that will choose to locate nearby, because logistics costs are too big to transport from further away."

Problem Solvers

The Toyota team is just as focused on reaching out to more and more team members in its site selections. Asked if the introduction of community or economic development into the job titles of some corporate site seekers is a sign of a more



Dennis Cuneo

holistic approach catching on, Cuneo says, "If I can paraphrase an old saying, site selection is too important to be left to the site selectors. When a company like Toyota locates a plant, it is making a decision that will affect it for many years into the future. To make sure that the decision is optimal, you need input from all relevant functions. If the facilities/real estate function controls the decision, it may be optimal from a real estate viewpoint, but sub-optimal for the company as a whole."

Tanguay says the team on the project was essentially the same as for the Woodstock decision, led first by forays from its environmental group and production engineering group, responsible for plant construction.

As in San Antonio, dual rail capability needed to be created. Topography was another challenge.

"It was very hilly, with an elevation difference of about 100 feet, and we saw a lot of trees," says Tanguay. "That was a challenge, because it was difficult to visualize what it would be when it was flat."

In this case, however, geology beat topography and turned a negative to a positive.

From the geotechnical evaluations and soil borings that CDF and its partners had performed, says Rumbarger, they knew the soil compacted well and that "the hills would fill the valleys. It's what the engineers call a balanced site," he says. It also helped to differentiate the site from its Mississippi cousin: At the Nissan plant site in Canton, the company had had to strip out a large amount of soil because of its clay mix.

"We're out of that range in North Mississippi," says Rumbarger. "In fact, we had dirt taken off the site to go into the regional mall and the WalMart distribution center just down the road."

Achieving the company's dual rail requirement was another challenge.

"We were concerned about how to bring the rail over the highway. But between TVA, CDF and the governor, they really had a 'can do' attitude," says Tanguay.

"Anytime that we faced a potential obstacle or problem, [Gov. Barbour] found a win-win solution," says Cuneo. "He knew that we wanted dual rail access, so he worked this out in advance with Matt Rose, the CEO of BNSF, and we didn't have the delays as we did with the rail situation in Texas."

"It showed they really have the ability to solve the problems we gave them," continues Tanguay. "To me that was one of the most important elements – the fact that you bring up the issue and somebody takes care of it. It's an environment of problem solvers, of people who make things happen."

Dense with Talent

Those people include the workers who are part of the region's manufacturing heritage, especially in the slowing upholstered furniture industry. One tool Rumbarger's team put before Toyota officials was a map showing relative manufacturing employment densities within a 60-mile (97-km.) radius of automotive assembly plants across the Southeast U.S. Toyota's Georgetown, Ky., complex has 17 percent, while its Huntsville, Ala., engine plant and BMW's operation in South Carolina boasted 26.1 percent. Hyundai in Alabama showed 15 percent. Tupelo's circle, with 76,000 manufacturing workers, led them all with 32.4 percent.

Cuneo points out that the site selection process, like any other at Toyota, is subject to *kaizen* principles. He points to the Texas site selection as "the first one where we really reached out beyond the facilities folks to include many others in the decision – including purchasing, logistics, finance/ tax, HR, and sales/ marketing – in fact, the Texas decision was driven in significant part by our marketing folks." The process improvement this time around was "a more thorough and sophisticated HR analysis."

Tanguay says the diversity of the area's manufacturing base was also impressive, in sectors ranging from medical research to metal stamping to polymers. On closer inspection, the work force's skill sets and sense of craftsmanship were a good match. Its work ethic was an even better one.

"The pride of people was one component that would support them in making furniture or anything else in Mississippi," says Tanguay. "We had a lot of things in common in terms of trust. People believe strongly in a day's pay for a hard day's work, and they understand flexibility – all of these things were important."

A Quiet Ride

The ability to keep a secret remains important too.

"The first time we visit, we have to be careful to not be identified," says Tanguay. "We are careful to see what's around, and we don't speak to a lot of people – it's a kind of secret mission. By the second time, we said we were an investor looking to create jobs in the area, and started talking about the quality of the work force."

The whole process calls for discretion, both external and internal.

"It was amazing," says Tanguay of the project team's ability to keep mum. "We involved more people this time from the Toyota group, rather than a small group, because we wanted to be sure it's an organization rather than two or three individuals. The risk of a leak is more than, but Toyota people did a great job." He also lauds the professionalism of the CDF and TVA staff.

"For 12 months, we never used the word 'Toyota,'" says Rumbarger of the team that stretched from CDF to the Mississippi Development Authority to the governor's office. "From the very beginning, the governor set that tone from the top down. We never used the company name, always talked in the third person, and always prefaced and ended our conversations talking about the need for confidentiality and how much information we should share to accomplish our goals. It was difficult, because we were asking a lot of people to run a lot of traps in a short amount of time."

"Governor Haley Barbour was just tremendous in terms of this entire search process," says Wiseman. "He was 100-percent



An abundance of trees (above) were an issue at one point for the PUL Alliance Wellspring site, but an abundance of vision (below) was not.



accessible, found answers, was very non-partisan, kept everybody on the same page and confidential."

He gives credit as well to the PUL Alliance, which allowed the company to shrug off worries about community rivalry by guaranteeing a regional effort from the start. Rumbarger says the fact that the Alliance had weathered some controversy in the site acquisition talks with the state also worked to its advantage, giving it strength and resolve that a single municipality might not have had.

Heart for Growth

Now the resolve is in the hands of Toyota, which had its hands full of fast growth even before Tupelo. While past new plants have often looked to a "mother plant" to shepherd their ramp-up phases, Tanguay says this time it may instead be more of a family affair. And Wiseman is quick to quell the speculation that Toyota will just keep growing indefinitely.

"We've been growing extremely fast as it is," he says. "We have a lot on our plate. People assuming a new plant every six months are incorrect. Assuming that sales continue to grow, we'll always be on the lookout, but we have plants under construction or in operation now that we'd look to expand before we look for new greenfield sites." Cuneo says it might be some combination of new plants and expansions.

However the mix shakes out, Mississippians are glad to get into it, and thankful to have some dreamers in their midst.

"We were focused on trying to give folks a hope and a future," says Rumbarger of his group's strategy for weathering the departure of some of its manufacturing base. What didn't leave was its heart.

"Some locally thought it was a pipe dream," says Rumbarger of the group's mega-sized ambitions to attract one of the most sought-after companies in the world. "I can't find many of those people today."

Oregon and Silicon Make For Nice Solar Neighborhood

Just a stone's throw from Hillsboro's Intel complex, west of Portland, Ore., German solar energy firm **SolarWorld AG** will invest US\$400 million in a never-used semiconductor plant in which Japan's Komatsu had invested nearly twice that amount.

Announced in March, the 422,000-sq.-ft. (39,204-sq.-m.) solar cell and silicon wafer complex will be the largest in the U.S., producing 500 MW of solar cells, as well as producing the silicon wafers from which those cells are made. While several hundred will initially staff the facility when it opens in summer 2007, SolarWorld expects to employ as many as 1,000 by the time full capacity is attained in 2009.

The property had sat idle for 10 years in the wake of a semiconductor industry slowdown, passing through two owners on the way to its purchase by SolarWorld for the bargain price of \$40 million. But it was more than ready.

"The facility itself is phenomenal," says Bruce Laird, a member of the national business development team at the Oregon Economic & Community Development Dept. "That it sat there for that long, completely intact, is unbelievable."

He gives full credit to Komatsu. "They literally kept staff in the building, running maintenance and other cycles." While there are several such examples of facilities left behind in the semiconductor industry transition, "it's unique to have one in this condition, with all the engineering documents, everything sitting there."

"There were many reasons to come to Oregon," said Boris Klebensberger, COO of SolarWorld Group and president of SolarWorld Industries America. "But the most important factors probably were that the facility itself is perfect for our needs, the State of Oregon



A Komatsu semiconductor fab in Hillsboro that never ramped up and sat idle for 10 years will now be fully used by SolarWorld, which is investing \$400 million in refurbishing it to meet the company's solar silicon and module manufacturing needs.



supports us with property and business energy tax credits, and we will find highly skilled workers in the area."

The property benefits come courtesy of a newly established Enterprise Zone. The energy tax credits come courtesy of Oregon's Department of Energy, which offers them to companies that invest in energy conservation, recycling, renewable energy resources and less-polluting transportation fuels. SolarWorld in its initial announcement referred to the program as the state's "Anti-Global-Warming-Program."

Oregon is warming up nicely to alternative energy. It was five years ago that Vestas Wind Systems established its headquarters in Portland. More recently, silicon and solar prospects have looked at sites in Salem and Coos Bay. Laird says it's a clean-tech opportunity:

"Biomass, wind, solar, clean water issues – all of those are one of the great ethical economic opportunities," he says.

"Polycrystalline is just one small part of this."

Industry observers expect several new plants to sprout in the next several years to meet what Laird calls a "severely constrained" supply of silicon.

Pacific Northwest All For Plant Recycling

In the first quarter of 2007, for the first time, over half of SolarWorld's sales came from outside its home country. As part of the West Coast expansion, SolarWorld will expand to 100 MW the capacity of its existing solar module plant in Camarillo, Calif. It also has expanded to 500 MW its headquarters production complex in Freiberg, Saxony, where the payroll now exceeds the 1,000-employee mark. However, the new U.S. facility will produce mono-crystalline silicon – based on technology acquired with the purchase of the Royal Dutch Shell solar unit in 2006 – whereas Freiberg produces multi-crystalline silicon.

High-tech alternative facility uses are nearly as popular as alternative energy in the Pacific Northwest. Former semiconductor chip sites in Gresham and Salem have been purchased for reuse. Not far away, in Moses Lake, Wash., Norway-based Renewable Energy Corp. (REC) is investing \$600 million to build a new polysilicon plant next to the one it's used since 2002. That original REC plant, built by Union Carbide in 1984, has more in common with SolarWorld than its industry niche: It too used to belong to Komatsu Group before REC bought it.

The shifts in ownership are not over. There remains the existing SolarWorld silicon plant in Vancouver, just across the Columbia River from Portland. SolarWorld plans to close the facility, and offer Hillsboro jobs to its 100 employees.

"It is our understanding that SolarWorld has remaining time on their long term lease at their EastRidge production facility," says Bart Phillips, president of the Columbia River Economic Development Council. "Tools will be moved to their Hillsboro operation. We are assuming the tech-flex facility is available for lease to similar or other industrial users."

The recycling of companies also continues. In a late March press conference, SolarWorld Chairman and CEO Frank Asbeck suggested that his company might be a juicy takeover target. Among the possible suitors he mentioned, according to Reuters, were Siemens, General Electric and its new next-door neighbor in Hillsboro – Intel.

– Adam Bruns

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[TOP OF PAGE](#)

[Top of Page](#) | [Cover](#) | [Letter to Editor](#) | [Site Selection Online](#) | [SiteNet](#) |

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