

# Confluence Solar CEO Tom Cadwell is definitely in sales mode.

---

While his colleagues were holding a news conference with [Gov. Phil Bredesen](#) announcing the St. Louis company's intent to build a \$200 million, 250-employee manufacturing plant in Clinton, Cadwell was meeting with potential customers and investors on the other side of the world to make the fledgling company's first plant a reality.

Potential clients are now testing the samples of processed silicon used to make solar cells for photovoltaic panels for the quality and the higher efficiency Confluence has been developing over the past two years. The company hopes to hear soon from these companies, hopefully placing orders and even, in some cases, making prepayments for the material.

"Those kinds of demonstrations of support mean a lot to investors," Cadwell says. "I'll probably be back in Asia about the third week in February, hopefully trying to work out some orders with customers."

Since its founding in late 2007 by Cadwell and John DeLuca, whose early career included a stint at Oak Ridge National Laboratory, Confluence has been working on a process to transform raw polysilicon material — made by such companies as Wacker Chemie and Hemlock Semiconductor, which are also building large facilities in Tennessee — into a more refined product to be used in the manufacture of solar cells.

Companies like Confluence process polysilicon into one of two types of material, mono-crystalline and poly-crystalline, used to make the solar cells. Mono-crystal silicon is known to be more efficient, but has been more costly to produce. Confluence has developed a process for making mono-crystalline material that Cadwell says will be both more efficient and about the same cost as the multi-crystalline material.

Announcing the company's intention to site the ingot plant in Tennessee is part of Confluence's pitch to potential customers and investors, Cadwell says.

# Confluence Solar CEO Tom Cadwell is definitely is in sales mode.

---

“It shows that you’re planning to move forward, and it also shows the scale that you’re planning to move forward on,” he says. “The market’s getting bigger, and in order to get serious consideration from these customers you have to have pretty big plans.”

That the company chose Tennessee can be attributed in large part to the decisions by Hemlock and Wacker to locate in the state.

Confluence buys polysilicon from both companies as well as from a Taiwanese company, OCI, with Hemlock serving as Confluence’s largest supplier.

But logistics had less to do with the site selection than Confluence’s need, similar to the polysilicon makers’, for a steady, inexpensive source of electricity.

“We sort of share a similar set of requirements, so it’s not surprising that we’d end up in similar parts of the country,” Cadwell says.

Tennessee competed with Alabama and Confluence’s home state of Missouri, which had power prices slightly higher than Tennessee. The company looked at 17 sites in Tennessee before narrowing the selection to Anderson County.

In addition to TVA’s low-cost power, the business climate in Tennessee — including the state’s tax structure and incentives — and proximity to Oak Ridge National Laboratory sealed the deal.

“We believe that if you add together the cost of labor and the cost of electricity, our total per kilogram or watt ... will be about the same as our Chinese competitors,” he says. “We like the close proximity to the lab and the business guys in Tennessee.”

Confluence executives met with ORNL researchers in early February to discuss potential joint research projects, Cadwell says, and work will likely focus on material characterization to help the company improve the quality, efficiency and cost of its products.

# Confluence Solar CEO Tom Cadwell is definitely in sales mode.

---

If customer orders and investment falls into place, Cadwell says he expects to begin engineering on the project in the second quarter and break ground in mid to late summer of this year.

Until the plant can be built, Confluence will expand the current facilities in Missouri to meet early orders. Ultimately, Cadwell says, the 32-employee company could move its headquarters to Tennessee, as production transitions completely to the Clinton facility.

Construction itself will involve the installation of 125 \$1 million machines, approximately 10 meters tall, to melt the silicon and re-solidify into Confluence's single crystal product.

Provided the business plan moves according to schedule, the project represents a substantial investment that should provide a long-term, stable presence in the state, Cadwell says.

"One thing that won't happen," he says, "is (if) you get a big highly functional ingot plant in Tennessee, it won't be going anywhere."