

ISTC Case Study: Success in Solar

The Community State Bank Story

MAKING A DIFFERENCE



Community State Bank (CSB) was founded in 1980 in Galva, Illinois, by local businessmen selling stock in the bank to local investors. From its humble beginning, CSB has expanded to five permanent locations in surrounding rural communities. The organization serves four local communities providing banking, investment, financial, and insurance services.

SMART ENERGY DECISIONS: ASKING THE EXPERTS

The CSB team goes to great lengths to coach and engage clients. They counsel businesses in improving their profitability, focusing first on reducing expenses and operating costs. The goal is to ensure their clients are operating more efficiently and more effectively in order to maximize profits.

CEO Kevin Yepsen has always applied this low overhead strategy to his own operations. After completing several energy efficiency projects, Yepsen began more in-depth research into energy efficiency strategies and technologies to lower costs. This, he hoped, would help the bank realize greater cost savings in all locations. However, he had questions and needed answers.

Concurrently, Dan Marsch, an Illinois Sustainable Technology Center (ISTC) environmental engineer, had been providing energy efficiency and resource conservation assistance to Galva's local manufacturers. The Galva City Administrator, David Dyer, directed Yepsen to look to ISTC for assistance.

Marsch and Yepsen discussed CSB's desire to be a more sustainable operation. They considered a variety of operational efficiencies, including facility efficiency, lighting, and heating/cooling improvements. Marsch then introduced solar photovoltaic (solar PV), a sustainable, renewable energy source, as a viable opportunity.

ISTC advised CSB to first focus on becoming more energy efficient before implementing solar PV to make the impact of solar greater and to lower system sizes and costs. This resonated with Yepsen since it is the very same approach he coaches clients to employ.

ISTC recommended that CSB consult with another expert and provided a contact to a local, Illinois-based lighting contractor, A & D Electrical Supply, and sister company, IL-Solar, Inc. A & D first addressed lowering CSB's costs through more efficient lighting including retrofitting current fluorescent fixtures with LED T8 replacement lamps, replacing aged fluorescent troffers with LED fixtures, and upgrading remaining inefficient HID exterior lighting to LED. A & D assisted CSB with securing utility incentives which significantly lowered the bank's capital investment and improved ROI.

"Kevin is a strong advocate within the community for the financial and environmental advantages of solar."

David Ronen, IL-Solar, Inc.

KEY STATISTICS

 97.3 metric tons CO ₂ equivalent reduced annually
 100 kW solar installations
 2.4 year breakeven point
 \$87,230 - 1st year incentives (tax credits, SRECS, USDA Grant)
 \$76,000 in power bill reduction for the first 5 years

ABOUT COMMUNITY STATE BANK

Established: 1980

Location: **Corporate Office,**
625 SE 2nd Street, Galva, IL

of employees: 53

Produces: **Financial services including banking, insurance, and investments**

NAICS code: 522110

Website: www.commstatebank.com

ABOUT ISTC

The Illinois Sustainable Technology Center is a division of the Prairie Research Institute at the University of Illinois at Urbana-Champaign.

ISTC's mission is to encourage and assist citizens, businesses, and government agencies to prevent pollution, conserve natural resources, and reduce waste to protect human health and the environment of Illinois and beyond.

Visit our website at: istc.illinois.edu
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BEYOND EFFICIENCY TO RENEWABLE ENERGY

Even with efficiency improvements underway, the thought of a renewable, sustainable energy source was still first and foremost Yepsen's vision.

IL-Solar emphasized that the bank's roof construction and south-facing orientation were ideal for solar PV and provided CSB with an estimate including costs, energy savings, state and federal incentives, and ROI. After consulting with ISTC and seeing there to be a strong case for solar PV, CSB made the decision to move forward.

Within 1 month, construction of the first solar array in Galva was completed in April 2017. The installation proceeded smoothly, including permitting and working with the utility company, Ameren Illinois. The only delay was waiting for the proper bidirectional meters. The 50 kWh system is expected to generate 65% of the bank's annual energy needs.

Subsequently, construction of solar systems at the Kewanee and Franklin bank locations was completed in June and August 2017, respectively. These 25 kW systems are expected to generate 41% and 81%, respectively, of the annual power for the two locations.

SHAPING THE LANDSCAPE OF THE COMMUNITY

The social impacts of these solar projects within the communities were unexpected. Catching the vision, bank employees became engaged in the process, grew knowledgeable about solar's benefits, and answered bank clients' questions. Local high school students became involved in documenting the construction with drone filming and students in kindergarten through junior high have visited to learn about active solar.

The visibility of the solar arrays and the confidence local residents have in the actions of CSB created momentum in local interest. The installations are sound financial investments, and the positive social and environmental impacts are farther reaching than anticipated. Since completion of the bank's arrays, several bank clients and local businesses have investigated solar as their renewable energy source, resulting in 513 kW of additional solar PV installations in the bank's service area.

"Helping others improve their financial position motivates me. While the financial benefit of solar caught my attention, the environmental benefits reward everyone."

Kevin Yepsen, CSB

IF IN GALVA, WHY NOT ELSEWHERE?

CSB is not a large multi-national bank. They are a rural community bank. Their employees, clients, and stakeholders are neighbors, family, or friends. So, CSB cares deeply about its effect on their communities and the environment in which they live and work.

CSB continues to be a positive influence within their community, local economy, and the environment. They lead by example showing that a rural business can play a major role in effecting change and making a positive impact in the community while improving its own financial bottom-line... **a good business case for sustainability.**

ACKNOWLEDGEMENT

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istc.illinois.edu/tech

SOLAR PV INSTALLATION SPECS

Galva

Size: 50.25kW

PV Panels: 150 - 335W Canadian Solar

Inverters: 3 - 15 kW Fronius String

Breakeven: 1 year 3 months

ROI Year 12: 235%

(Fronius app with capabilities of real-time and historical reporting of Galva's power for each of its 3 inverters, by color)



Kewanee

Size: 24.46 kW

PV Panels: 73 - 335W Canadian Solar

Inverters: 2 - 12kW Fronius String

Breakeven: 2 years 4 months

ROI Year 12: 183%



Franklin

Size: 25.35 kW

PV Panels: 78 - 325W Trina

Inverters: 2 - 12kW Fronius String

Breakeven: 2 years 5 months

ROI Year 12: 183%



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