SCHALLER GEMÜSE IN NUREMBERG SELF-GENERATES POWER FOR A NEW GREENHOUSE

Sustainable energy for regional vegetables

Vegetables are its core business: Over the course of six generations, Schaller Gemüse – a Nuremberg-based, family-run business – has evolved from a typical farm with livestock to a modern vegetable-growing operation. Today the company cultivates various types of tomatoes along with mini cucumbers and zucchini in greenhouses, as well as growing radishes, potatoes, and beans on ten hectares of open fields. Schaller Gemüse is especially committed to low-impact and sustainable production, which is why the company relies on the ecological use of beneficial organisms and smart, future-oriented energy-saving concepts.

Task: Lower consumption despite a larger growing area

Schaller Gemüse relies on sustainable growth, and not just in terms of vegetables. When the company expanded its tomato greenhouse from 1.5 to 2.3 hectares, the energy that would be required was a main concern during planning. The future costs of electricity and heat had to be as tightly controlled as the cost of the technical CO_2 used as fertilizer. Other factors included security of supply, reducing carbon emissions, cost-efficient production, and a focus on the core business. What made Siemens so attractive was its personal contact with customers, which enabled the development of a solution that was both customer-specific and turnkey. The customer requested a comprehensive energy concept with extensive services and guaranteed cost savings

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Solution: Self-generated power for targeted savings

The Siemens solution offers more than just a reliable power supply for electricity and heat. Thanks to renewable energies, it actively contributes to reducing CO_2. With the Desigo energy management system, technical equipment can be optimally controlled, thanks to the flexible and need-based regulation of the interaction between power generation and heat provision.

The Desigo energy management system controls the individual power generators and storage units based on demand, which ensures a reliable and cost-efficient power supply for the greenhouse. The energy data management platform displays shows consumption on a transparent and user-oriented display. Two CHP plants of 50 kW each meet the company's own energy needs and feed excess power into the grid. The installation of a 30-kWp photovoltaic system on the hall roof increases the supply of self-generated, carbon-free electricity even more. To complete the concept, a 600-cubic-meter thermal storage allows the energy system to be operated more flexibly. A comprehensive energy savings contract with Siemens guarantees Schaller's long-term success and provides the company with extensive services.

Benefits: Contract guarantees sustainable savings potential for the customer

Despite the greenhouse expansion, the Nuremberg-based company is striving to boost its annual energy cost savings. Thanks to the systems' flexible operation, carbon emissions can be reduced by more than 1,000 tons per year. And as a result of the integrated funding and cost savings, the investment in the new power supply concept will be amortized in just five years. More than 75 percent of the necessary power is now self-generated on-site. Schaller Gemüse will also have access to comprehensive services and guaranteed savings for eight years, thanks to Siemens' extensive expertise.

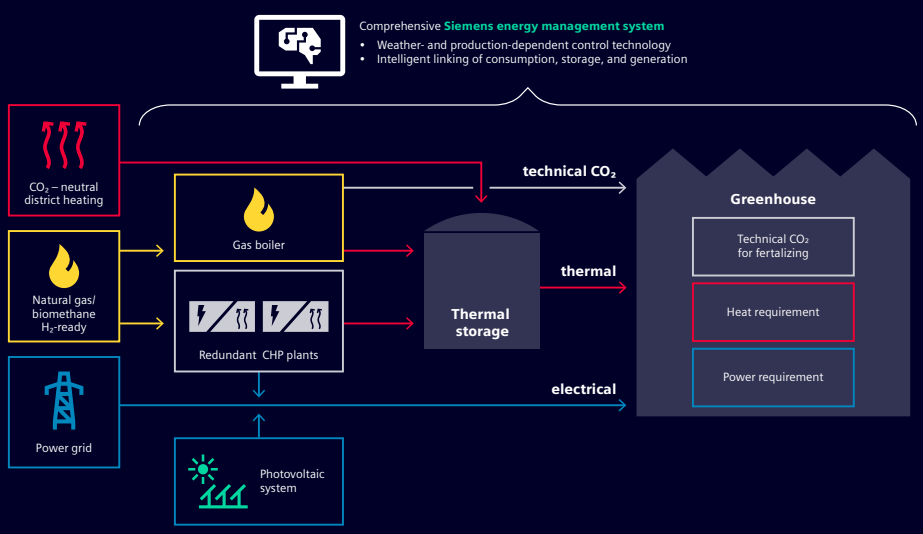
Highlights

- High annual cost savings
- CO_2 reduced by about 1,000 tons per year
- 75 percent of the power requirement is self-generated
- Innovative and flexible building and energy data management with Siemens Desigo
- Weather- and production-dependent control technology
- 2 CHP plants for flexible, on-site electricity and heat generation
- Photovoltaic system for a carbon-free, self-generated power supply
- Integrated thermal storage for a flexible power supply

"Thanks to the comprehensive optimization of the power supply, we're reducing our energy costs over the long term and are emitting more than 60 percent less CO_2."

Michael Schaller – CEO of Schaller Gemüse, Nuremberg

At Schaller Gemüse, energy for cultivating tomatoes is sustainably generated.



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