

Case Study: Photovoltaic for commercial self-consumption



Subject	Plastics manufacturer
Location	Hessen, Germany
Modules	ZNSHINE
Inverter	Power-One
Monitoring	Solar-Log
Installation	July 2013



Energy consumption	~ 320.000 kWh
PV power	63 kWp
Generated solar energy	~ 60.000 kWh
of which consumed directly	~ 52.000 kWh

“Based on KRAFTWERK’s profitability analysis our decision was clear. By generating and consuming solar energy we become independent from rising electricity costs and achieve greater operational planning reliability. On working days we use 100% of the generated solar energy.”

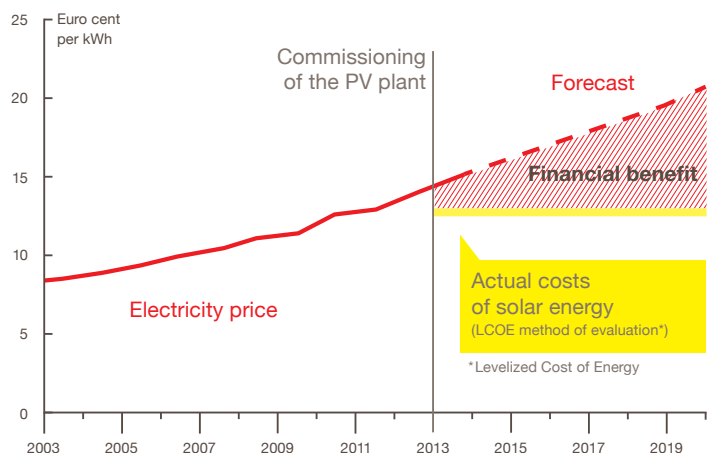
D. Müller, Owner

KRAFTWERK Renewable Power Solutions designs and builds solar power plants tailored to individual requirements.

KRAFTWERK analyzed the load profile and energy costs of a plastics-manufacturing facility. Based on the photovoltaic (PV) potential of the rooftops, the amount of solar energy to be used directly for self-consumption was determined.

Since the manufacturing machines operate during the day, 87% of the generated solar energy can be used directly for business processes. The company is able to decrease its annual electricity bill by more than 50,000 kWh.

The plastics manufacturer saves electricity costs with inexpensive solar energy.

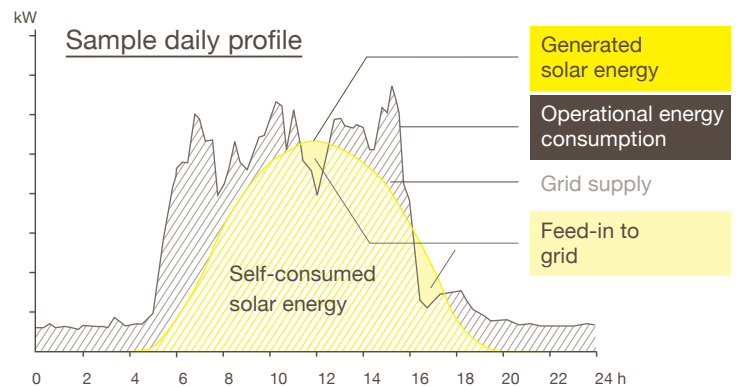


The path to more independence

KRAFTWERK — Analysis

Solar energy for self-consumption

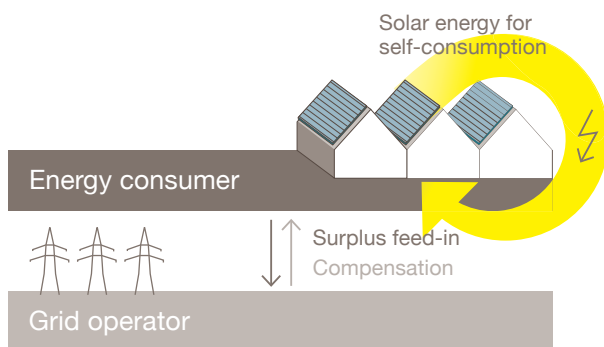
- Energy consumption analysis
- PV-power yield forecast (rooftops, parking lots, open areas)
- Self-consumption rate assessment
- Profitability calculation
- Capacity assessment for energy efficiency measures
- Options for energy storage



KRAFTWERK — Financing

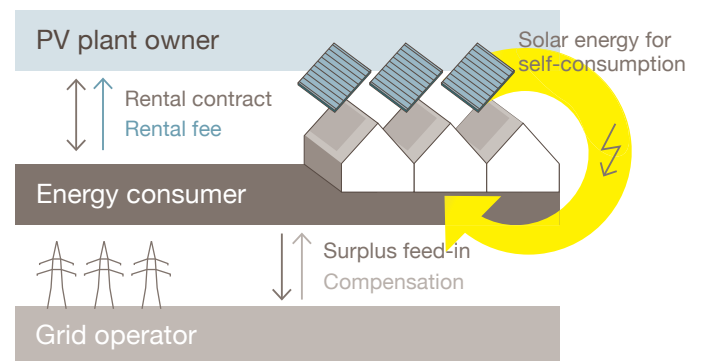
1. Self-financing

The energy consumer invests in the installation of a PV plant.



2. Third-party financing

KRAFTWERK arranges for an external investor to purchase the PV plant. The energy consumer rents the plant from the owner.



KRAFTWERK — Implementation

Turnkey implementation

- Installation
- Commissioning
- Operation and maintenance

Advantages

- Inexpensive solar energy
- Independence from rising energy costs
- High profitability
- Contribution to protecting the environment

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