

REBUILD 2026

Electrifying Manufacturing

Lessons Learned from Delivering
an All-Electric Industrial Facility

Siemens Pomona, California



Today's speakers



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RA

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Manufacturing investment and electrification

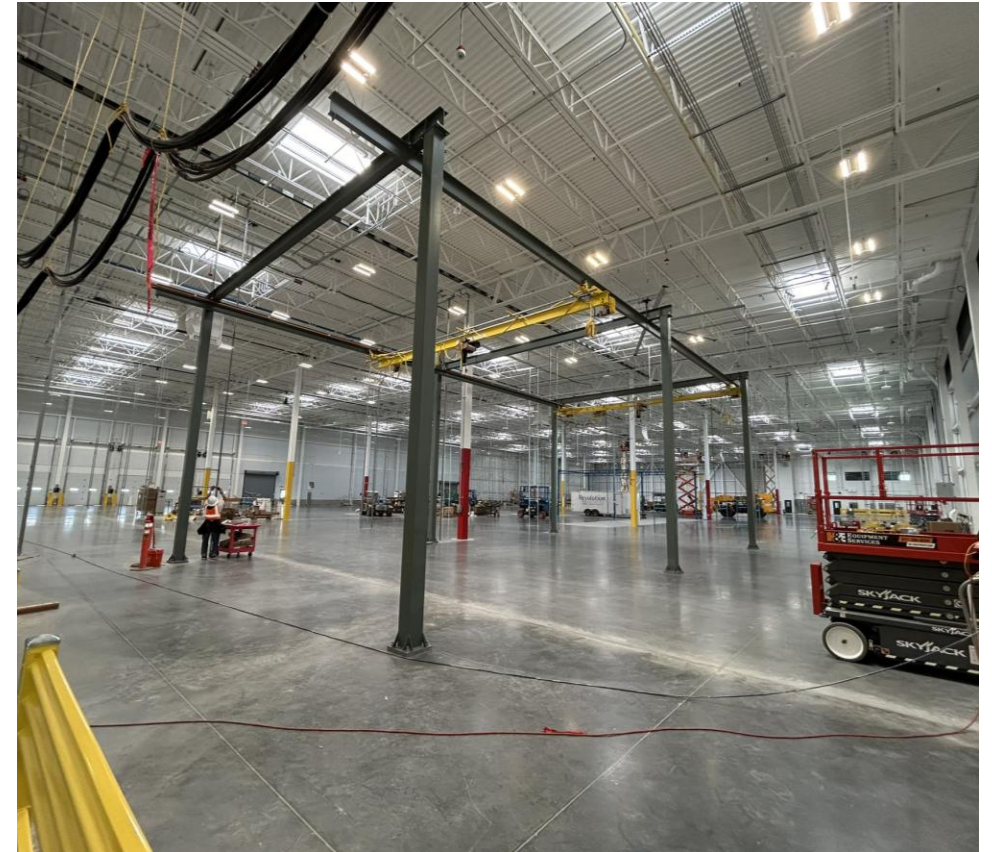
The owner's investment decision

Growth and automation change both production requirements and the workplace.

Energy choices affect that investment

Electrification must support reliable production and long-term operating economics.

California context: energy standards, utility service and site constraints.



Siemens Pomona's connected project goals



Maintain production

Phase expansion around an operating site.

Improve the workplace

Support comfort, daylight and employee needs.

Deliver all-electric

Siemens directed disconnection of existing gas service.

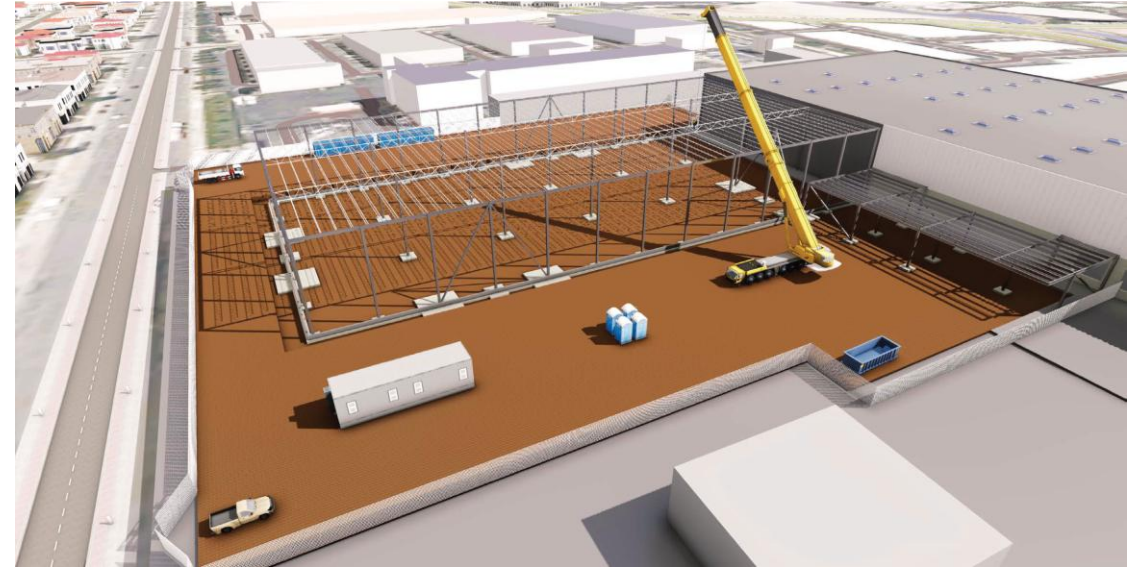
About 153,000 SF of campus redevelopment

Maintaining production during expansion

Phase 1: Build beside existing production



Phase 2: Expand after the move



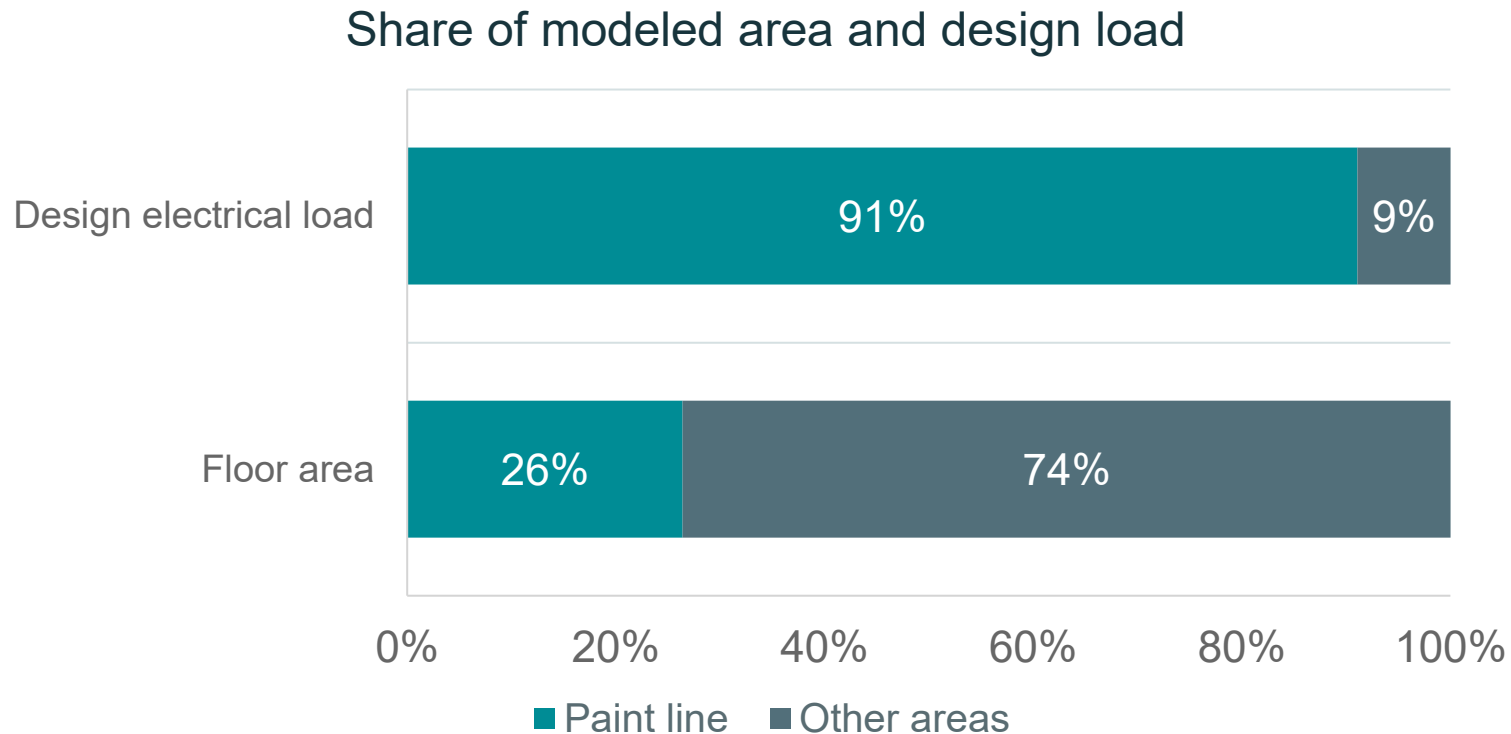
Complete the new building, relocate operations, then release the next construction area.

Employee needs and the building design



Workplace comfort also depends on the heat created by manufacturing.

The paint line drives the energy challenge



2,000 kW

Paint-line design load

The cooling challenge

Keep process heat out of occupied space and evaluate useful recovery.

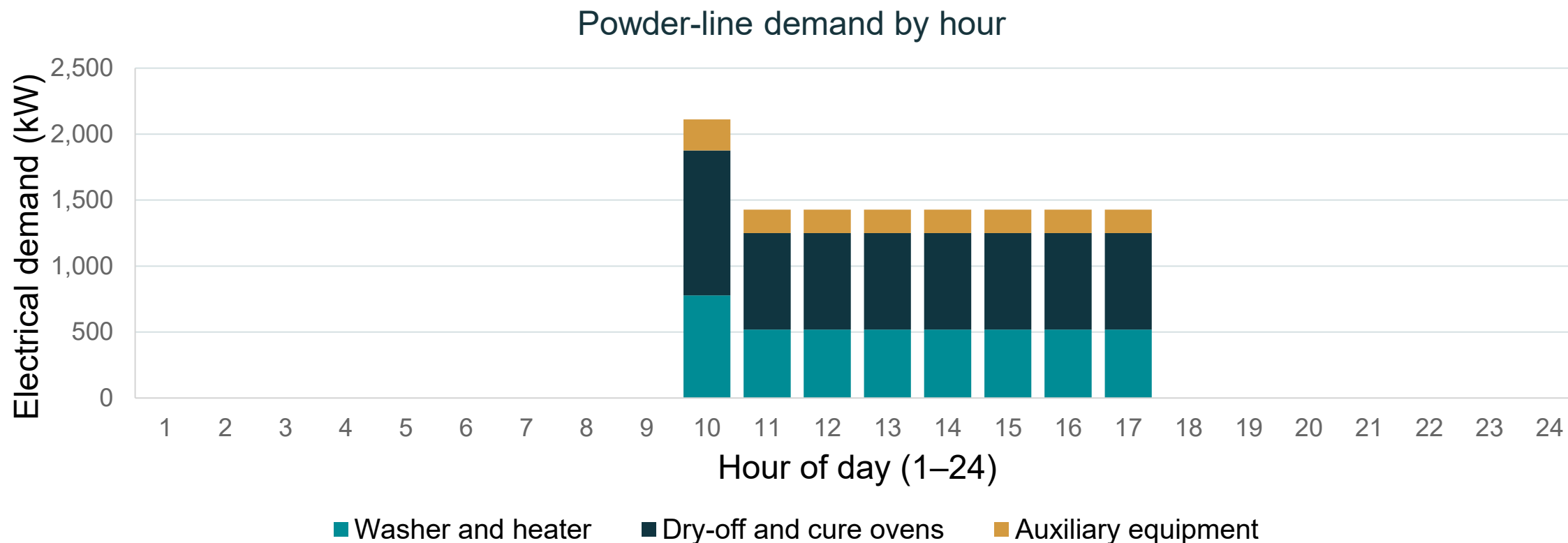
Design inputs: paint line 2,000 kW; other modeled areas 195.5 kW

HVAC for the climate and manufacturing loads

Evaluation stage	System concept	Key distinction
Reference baseline	Central VAV Chilled water + electric reheat	Conventional reference system 90.1-2010 envelope and lighting
Option 1	VRF in offices Heat-pump RTUs elsewhere	Decentralized electric systems RTU: 9.7 EER / 3.2 COP
Option 2	VRF + RTUs + DOAS	Separate outdoor ventilation air 10.6 EER / 3.2 COP + lower LPD

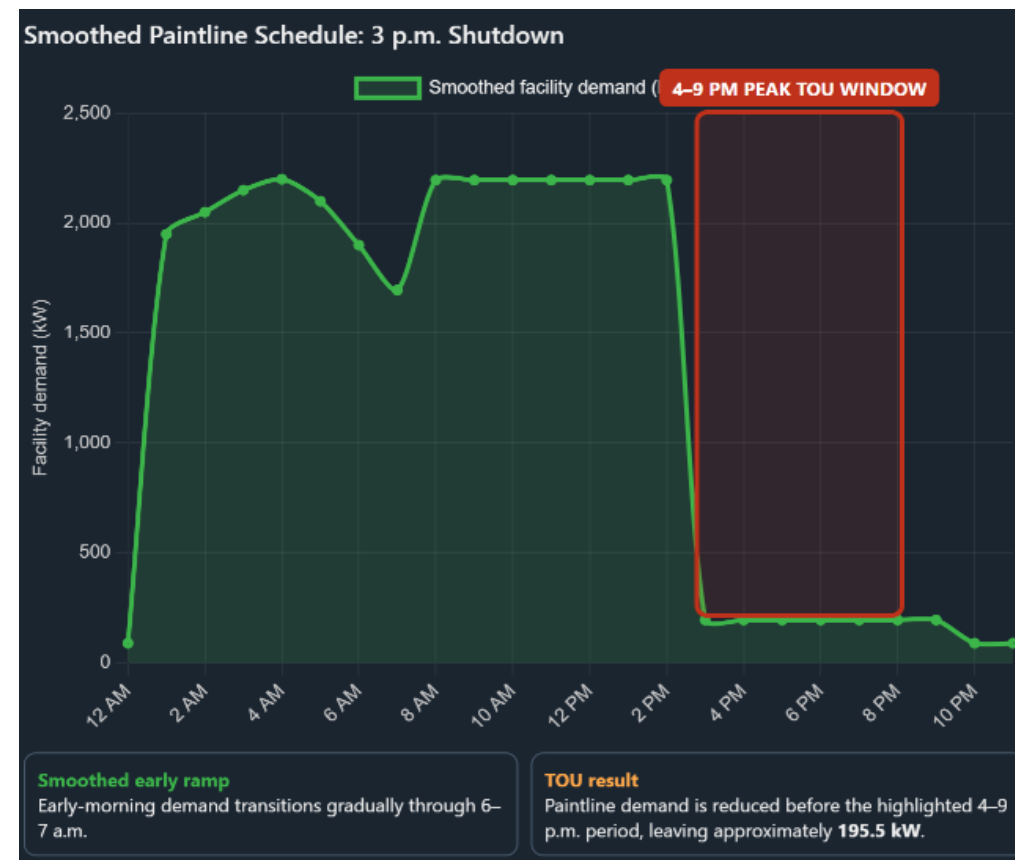
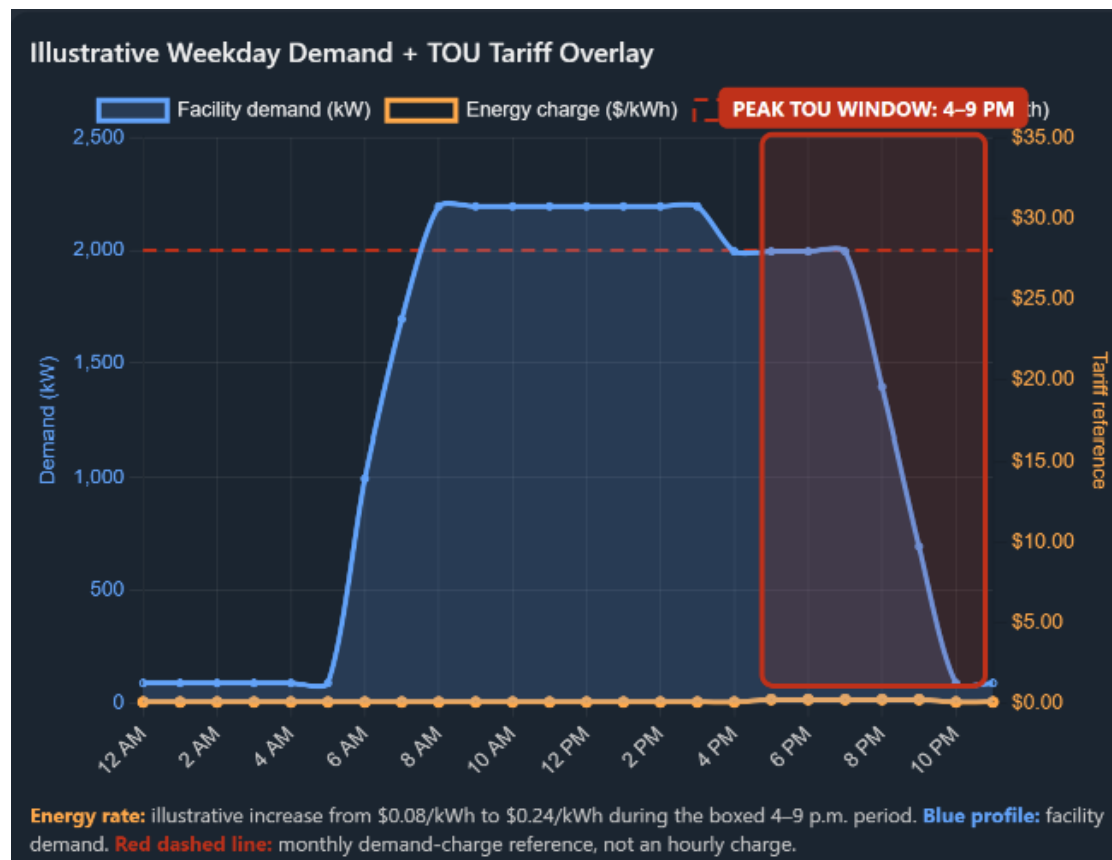
Mild-climate heating supported electrification. Process cooling required closer coordination.

Operating schedules change the energy strategy



The shift schedule changes when demand occurs and how much solar can serve.

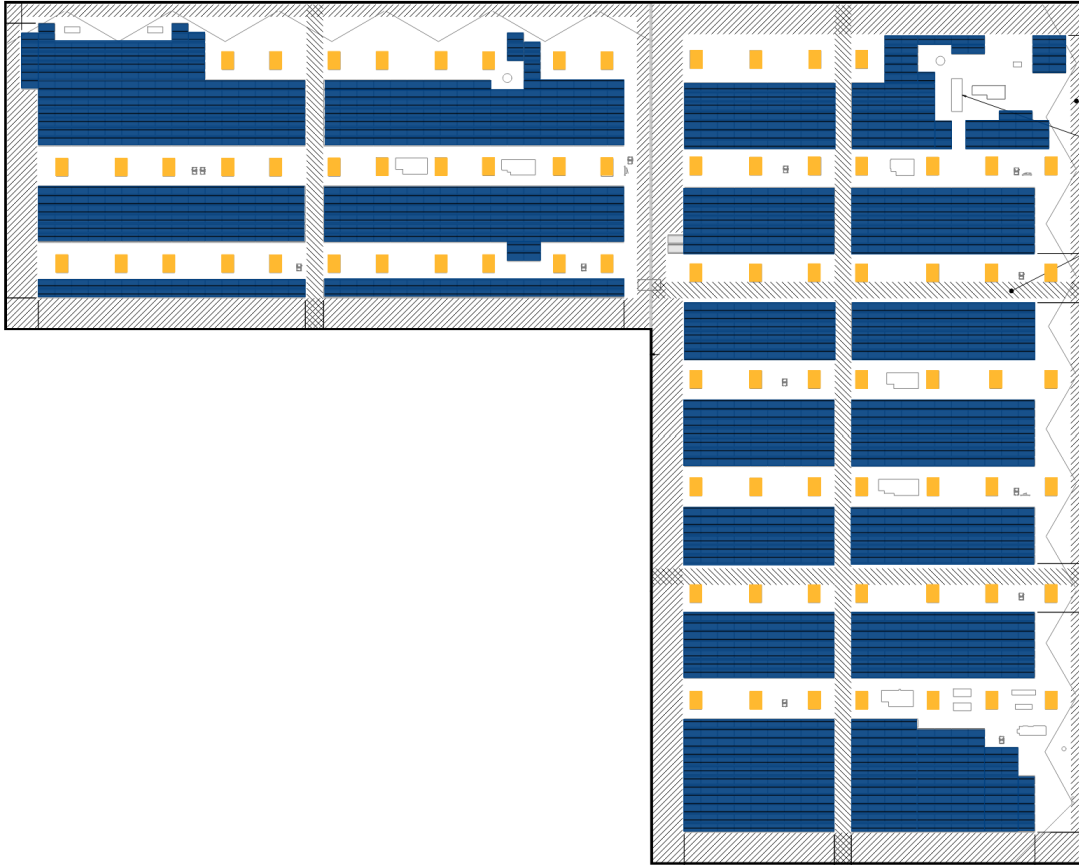
The demand window affects electrification cost



Illustrative savings: about \$200,000/year at a \$0.10/kWh difference

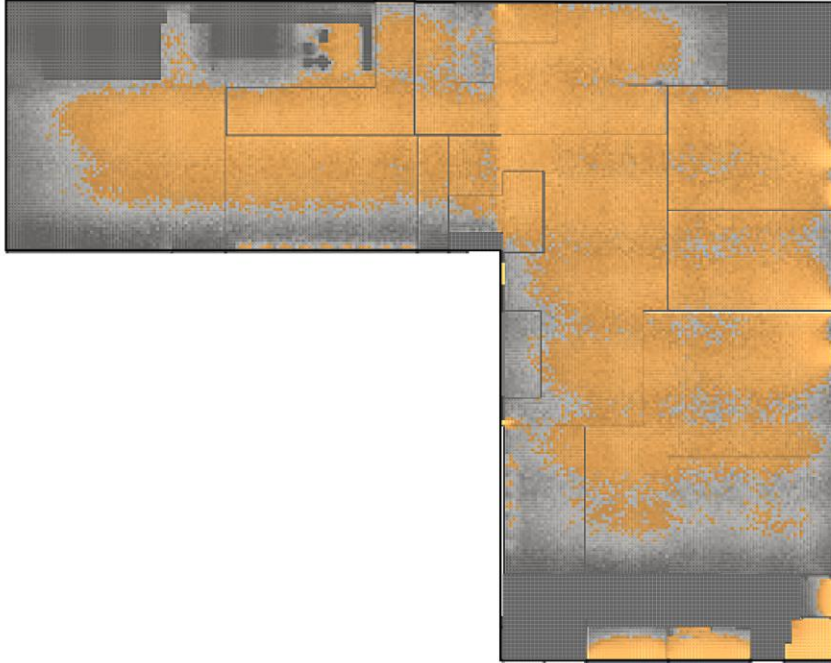
Requires ~2 million kWh/year shifted. Chart uses a separate \$0.16/kWh illustrative spread.

The roof connects workplace and energy goals



Daylight openings, PV and equipment share the roof.

Daylight and PV share the available roof



Daylight model

56.8% spatial daylight autonomy
3.6% annual sunlight exposure



934 kW of rooftop PV

1,700 MWh/year modeled generation
33% modeled electricity offset

Battery storage and the operating strategy



Electrical utilities shown without BESS; storage installation remains pending.

Battery integration

How should storage operate alongside production, rooftop PV and utility power?

Its value depends on the operating plan and controls.

What the team would repeat or change

Process and building integration

What resolved the hardest heat-management constraint?

Architectural decisions

Which architectural choice would you repeat?

Operating schedules

What operating assumption would you test earlier?

Daylight and solar

Would you make the same roof tradeoffs again?

Battery integration

What data will determine storage's value?

Lessons for future projects

What should owners resolve earlier?

Lessons for future projects

Phasing and production

How did construction phasing shape the building layout?

Digital coordination

How did digital modeling help coordinate architecture and systems?

Employee experience

Which employee needs most influenced your design decisions?

Future flexibility

How did you plan for future changes in production equipment?

Repeatable standards

Which Pomona design decisions could work at other facilities?

Earlier decisions

What did architects need sooner from the process-equipment team?

Questions and discussion

What would it take to apply these lessons at your facility?

Keeping production running?

Improving the workplace?

Electrifying the process and building?

Tell us the facility type and the decision you are working through.

What to carry into your next project

Dustin / Planning

Plan growth around operating realities and the people using the facility.

Adam / Engineering

Let process loads and schedules guide the energy strategy.

Daniel / Business

Make these decisions together, early enough to influence the investment.



Contact



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