Ampra Grid

# Peak Shaving Insider's Guide

## The 4 Facility Types That Deliver Profitable Peak Shaving Projects

# Introduction:

## Why does the facility type determine peak shaving success?

01

**Commercial Office Buildings**

Multi-tenant buildings, corporate headquarters, medical office complexes

02

**Educational Facilities**

K-12 schools, colleges, universities, vocational training centers

03

**Manufacturing & Processing Facilities**

Factories, processing plants, fabrication shops running single daily shifts

04

**Municipal & Public Infrastructure**

Government buildings, utilities, emergency services, public works

# Overview

Not all commercial facilities are created equal for peak shaving. While the technology works everywhere, the economics only make sense for specific building types with the right load characteristics.

After analyzing thousands of load profiles across diverse facility types, we've identified four categories that consistently deliver the fastest paybacks, highest customer satisfaction, and most predictable ROI. These facilities share common traits: significant demand spikes (typically 2.0+ peak/average ratios), predictable operational patterns, and decision-makers who understand the value of both energy savings and backup power.

> **INFO:** Peak/Average Ratio is calculated by dividing peak demand (kW) by average demand. Higher ratios indicate "spiky" loads perfect for peak shaving. Ratios above 2.0 are excellent candidates, 1.5-2.0 are good, below 1.5 are poor prospects.

Here's your roadmap to the most profitable peak shaving opportunities.

# 1. Commercial Office Buildings

**Multi-tenant buildings, corporate headquarters, medical office complexes**

**Examples:** Class A office towers, corporate campuses, professional buildings, medical plazas

## Why They Win:

➔ 2.0-3.0 peak/average ratios (perfect for peak shaving).
➔ Predictable 9-to-5 patterns with HVAC-driven peaks.
➔ Demand charges can often represent 40-60% of their electric bill.
➔ With detailed modeling from Ampra Grid you can present clear ROI calculations that building owners or CFO's can understand.

## Key Messaging Points:

- "Your building's consistent schedule means predictable savings"
- "Reduce operating costs while improving building resilience"
- "Keep critical systems running—elevators, security, emergency lighting"

## Sales Approach:

**Entry Point:** Free demand charge analysis using 12 months of utility bills

**Target:** Building owners, property managers, facilities directors

**Competitive Edge:** "Our controls learn your patterns—basic systems leave 30% of savings on the table"

## Objection Handling:

- "We already have a generator": Generators cost money to run—batteries save money every month
- "ROI too long": Factor in backup power value and rising demand charges—payback improves to 4-5 years

**Target System Size:** 25-100 kW

**Typical Payback:** 4-6 years

# 2. Educational Facilities

**K-12 schools, colleges, universities, vocational training centers**

**Examples:** Public school districts, community colleges, university campuses, trade schools

## Why They Win:

- ➔ Strong seasonal patterns ideal for battery cycling (summer/winter breaks)
- ➔ Longer acceptable payback periods (7-10 years for infrastructure)
- ➔ Access to federal and state funding programs[1]
- ➔ Mission-driven decision making focused on fiscal responsibility and sustainability goals

## Key Messaging Points:

- "Reduce utility costs to free up budget for educational priorities"
- "Meet district sustainability goals while demonstrating fiscal responsibility"
- "Schools as emergency shelters with backup power"
- "Infrastructure projects often qualify for state and federal funding programs[1]"

## Sales Approach:

**Entry Point:** "Free energy audit" focused on demand charges and backup power needs

**Target:** Facilities directors, superintendents, school board members

**Timing:** Budget season (spring/summer for fall installation)

**Focus:** Essential loads (kitchens, admin, safety systems)

## Unique Positioning:

- "Create hands-on STEM learning opportunities while reducing operating costs"
- "Monthly reports show exactly how much the district is saving"

**Target System Size:** 50-300 kW

**Typical Payback:** 6-8 years (often grant-assisted)

# 3. Manufacturing & Processing Facilities

**Factories, processing plants, fabrication shops running single daily shifts**

***Examples:*** *Automotive parts manufacturing, food processing plants, pharmaceutical production, metal fabrication shops, plastic injection molding, packaging facilities*

## Why They Win:

- ➔ Highest peak/average ratios (2.5-4.0) due to equipment startup sequences
- ➔ Massive demand spikes when production lines start up each morning
- ➔ $50,000+ annual demand charges from brief but intense power draws
- ➔ Production downtime costs often exceed $10,000+ per hour, making system reliability crucial
- ➔ Clear operational patterns (7am startup, 3pm shutdown)

## Key Messaging Points:

- "Eliminate equipment startup demand spikes—save $50,000+ annually"
- "Smooth power delivery protects sensitive equipment"
- "See savings starting month one—typical 3-5 year payback"
- "Essential equipment stays online during grid outages"

## Sales Approach:

**Entry Point:** "Equipment startup analysis"—show demand spikes visually

**Target:** Plant managers, facilities engineers, CFOs

**Focus:** Target specific production lines, emphasize power quality

**Strategy:** Start small with pilot systems to prove value

## Objection Handling:

"Can't risk production disruption": One production shutdown costs more than the entire system

"Too complex to integrate": Using an edge controller like the Ampra Joule allows seamless system commissioning and financial reporting.

**Target System Size:** 50-250 kW

**Typical Payback:** 3-5 years

# 4. Municipal & Public Infrastructure

**Government buildings, utilities, emergency services, public works**

***Examples:*** *City halls, fire stations, police stations, water treatment plants, wastewater facilities, pump stations, public libraries, community centers*

## Why They Win:

- ➔ Highly predictable demand patterns from equipment cycling (pumps, HVAC, treatment systems)
- ➔ Federal infrastructure funding programs specifically target public facilities[2]
- ➔ Public safety and service continuity drive decision-making beyond pure economics
- ➔ Energy efficiency projects provide positive community visibility and demonstrate fiscal responsibility

## Key Messaging Points:

- "Optimize taxpayer dollars by reducing utility costs without raising taxes"
- "Keep critical services running during emergencies"
- "Demonstrate municipal commitment to clean energy"
- "Federal infrastructure funding available for modernization projects[2]"

## Sales Approach:

**Entry Point:** Free demand charge audit revealing 20-40% demand charge reductions for municipal facilities

**Target:** City managers, public works directors, mayors

**Process:** RFP response, competitive bidding, public meetings

**Focus:** Public safety (fire stations) and water security (treatment plants)

## Objection Handling:

"Budget constraints": Reduce operating costs without raising taxes

"Public scrutiny": Transparent monthly reporting shows taxpayer value

**Target System Size:** 10-500 kW (varies by application)

**Typical Payback:** 6-10 years

# The Winning Strategy Across All Segments

## Start Small, Scale Smart

Begin with essential load backup systems (25-100 kW) rather than whole-building solutions. Lower project risk accelerates approval and builds trust for expansion.

## Lead with Smart Controls Value

Basic inverter controls capture only 60% of potential savings. Advanced edge controllers that learn facility patterns can improve returns by 25-40%. In addition, transparent monthly reporting through Ampra Grids platform helps “show, not tell” how the system is providing ROI to the end user.

## Position Essential Load Backup

Even economic-focused customers value the insurance of keeping critical systems online. This backup value often justifies slightly longer paybacks.

### Your Next Steps

**Phase 1:** Target office buildings for quick wins and cash flow

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**Phase 2:** Develop manufacturing relationships for high-value projects

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**Phase 3:** Build educational portfolio during budget seasons

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**Phase 4:** Enter municipal/government market with proven track record

# The Bottom Line

In our view these four facility types offer the clearest path to profitable peak shaving projects. Focus here first, prove your value with smaller systems, then scale across their portfolios.

**Have a specific project in mind?** Contact our sales team for help qualifying your prospects and developing winning proposals for these high-value market segments.

sales@ampragrid.com

+1 415-295-5051

ampragrid.com

*Want more insights like this? Subscribe to our newsletter for monthly updates on commercial energy storage trends and strategies.*

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## Sources:

[1] Federal funding programs include Department of Energy grants, EPA environmental justice programs, and state-specific energy efficiency rebates.

[2] Infrastructure Investment and Jobs Act (IIJA) allocates billions for municipal energy modernization and grid resilience projects.