

Regulatory Framework for Spark Community Utility Services in Bolinas, CA

The Bolinas Community Public Utility District possesses clear statutory authority to provide electrical services under California's Public Utility District Act, with PUD-operated systems exempt from CPUC rate regulation under the controlling *County of Inyo v. PUC* framework. This favorable regulatory classification creates a viable pathway for the Spark Community Utility (SCU) model – a modern public power approach distinct from traditional municipalization that builds parallel opt-in infrastructure rather than acquiring incumbent utility assets. The central legal finding is that California law treats publicly-owned utility systems fundamentally differently from private electrical corporations, exempting them from the jurisdictional constraints that have frustrated private microgrid development.

This analysis examines the regulatory implications across all six SCU evolutionary tiers, with particular attention to the novel questions raised by non-grid-connected front-of-meter distribution infrastructure. While early tiers (energy upgrades, BTM services) operate within well-established regulatory frameworks, later tiers involving independent distribution raise questions at the frontier of California energy law where explicit precedent is limited but statutory authority appears supportive.

Constitutional foundations establish POU exemption from CPUC jurisdiction

California's constitutional framework provides robust protection for publicly-owned utility operations. Article XII, Section 3 explicitly limits CPUC jurisdiction to "**private corporations and persons**" that furnish heat, light, water, or power to the public. This constitutional language creates an implicit exclusion of public entities from Commission regulation – a distinction repeatedly upheld by California courts.

The California Supreme Court's landmark decision in **County of Inyo v. Public Utilities Commission (1980)** established the controlling precedent: absent express legislative authorization, the CPUC lacks jurisdiction to regulate publicly-owned utilities. The court held that municipal utilities operate in a "proprietary and only quasi-public capacity" but this does not transform them into "private corporations" subject to Commission oversight. The ballot argument for the 1911 constitutional amendment extending Railroad Commission jurisdiction explicitly stated it would apply to "every kind of public service **excepting that furnished by municipally owned plants.**"

Article XI, Section 9(a) grants municipal corporations explicit constitutional authority to "establish, purchase, and operate public works to furnish its inhabitants with light, water, power, heat, transportation, or means of communication." While this provision directly applies to cities and charter municipalities, the Legislature has extended parallel powers to Public Utility Districts through the PUD Act.

Article XIII, Section 3(b) provides property tax exemption for "property owned by a local government," which would apply to BCPUD-owned electrical infrastructure. This exemption supports the financial viability of public power development by eliminating property tax burdens on distribution assets, generation facilities, and storage systems.

The PUD Act grants comprehensive electrical service authority

Public Utilities Code Division 7 (§§15501-18055) provides BCPUD with explicit statutory authority to provide electrical services without requiring additional legislative action or CPUC approval.

Section 16461 is the central enabling provision:

"A district may acquire, construct, own, operate, control, or use, within or without or partly within and partly without the district, works for supplying its inhabitants with **light**, water, **power**, heat, transportation, telephone service, or other means of communication..."

This statutory grant is comprehensive: it authorizes PUDs to **acquire** (including by purchase or condemnation), **construct** (new infrastructure), **own** (hold title to facilities), **operate** (manage day-to-day services), **control** (exercise management authority), or **use** (lease or utilize existing facilities) electrical works. The phrase "within or without or partly within and partly without the district" confirms that facility locations are not limited to district boundaries – though service must be provided to "inhabitants of the district."

Section 224.3 defines "local publicly owned electric utility" to explicitly include "a public utility district furnishing electric services formed pursuant to the Public Utility District Act set forth in Division 7 (commencing with Section 15501)." This means BCPUD would **automatically qualify** as a "local publicly owned electric utility" upon providing electrical services – not by discretionary determination but by statutory definition.

The practical implications are significant:

- **No CPUC rate approval required** – the PUD board sets rates under §§16462-16463
- **No Certificate of Public Convenience and Necessity required** – CPCN requirements under §1001 apply to "electrical corporations," which PUDs are not

- **No service territory restrictions from CPUC** – though territorial overlap with PG&E franchise creates separate issues
- **Direct accountability to local residents** through elected board governance

The Over-the-Fence Rule does not constrain public agency distribution

The CPUC's November 2024 decision closing the Microgrids Proceeding (D.24-11-004) **strengthened** interpretation of the Over-the-Fence Rule under Public Utilities Code §218 – but this constraint applies to **private entities**, not public agencies.

The Over-the-Fence Rule provides that private generators are exempt from "electrical corporation" classification only when distributing electricity to their own use, tenants, or "not more than two other corporations or persons solely for use on the real property on which the electricity is generated or on real property immediately adjacent thereto." The CPUC now interprets service beyond these parameters as creating a "conclusive presumption" of public dedication triggering utility status.

Critical distinction for SCU: Public Utility Districts are not subject to this constraint because they are not seeking to avoid "electrical corporation" classification – they are expressly authorized to provide electrical service under an entirely separate statutory framework. The PUD Act does not incorporate §218 limitations. A PUD serving multiple properties within its district is exercising its core statutory function, not attempting to circumvent utility regulation through exemptions.

The regulatory logic differs fundamentally:

Entity Type	Regulatory Framework	Distribution Authority
Private generator	§218 exemptions; Over-the-Fence Rule	Limited to 2 adjacent properties
CCA	§366.2; procurement only	No distribution authority (uses IOU infrastructure)
IOU	Full CPUC jurisdiction	Unlimited within certificated territory
PUD providing electrical service	PUD Act (§16461); exempt from CPUC rate regulation	Service to district inhabitants

Tiered analysis: Regulatory implications for each SCU evolution stage

Tier 1: Energy upgrades and on-bill financing

Regulatory classification: Energy audits, efficiency retrofits, and fuel-switching services do not constitute "electrical service" under the PUD Act and can be provided under BCPUD's general district powers without invoking electrical utility authority.

Consumer lending regulations: On-bill financing programs implicate:

- Department of Financial Protection and Innovation (DFPI) licensing requirements under the California Financing Law
- Truth in Lending Act (Regulation Z) disclosure requirements
- California Constitution Article XV usury limits (currently 10% for non-exempt lenders)

BCPUD may qualify for governmental exemptions from certain lending requirements, though specific legal counsel should verify. Alternative structures include Property Assessed Clean Energy (PACE) financing under Government Code §26066, which creates a municipal special tax assessment rather than a loan.

Building permits: Standard local permit requirements apply through Marin County Community Development Agency. No CPUC involvement.

Risk level: Low – established regulatory pathways exist for all Tier 1 activities.

Tier 2: Behind-the-meter DER services

Legal classification: BTM solar and storage systems owned and operated by BCPUD on customer premises present an interesting hybrid situation. The customer's premises remains interconnected to PG&E for grid services, while the PUD owns generating/storage equipment.

Under Net Energy Metering 3.0 (Net Billing Tariff, D.22-12-056), the customer of record receives bill credits for exported electricity. If the PUD owns the equipment but the customer holds the PG&E account, contractual arrangements must address:

- NEM enrollment eligibility (typically requires customer ownership or lease with qualifying power purchase agreement)
- Rule 21 interconnection – smart inverter requirements apply regardless of ownership
- Metering arrangements and bill credit allocation

"Electrical service" question: BTM DER services where the PUD owns equipment but the customer retains the utility account likely do **not** constitute "electrical service" under the PUD

Act because the customer receives electricity through their existing PG&E interconnection. The PUD is providing an equipment service, not delivering electricity.

However, if BTM systems are designed to island from the grid during outages – providing backup power from PUD-owned storage – this more closely resembles electrical service provision. The distinction may be immaterial given BCPUD's authority under §16461, but clarity supports defensible structuring.

Risk level: Low to Moderate – BTM services operate within established NEM/interconnection frameworks, with ownership structures requiring careful documentation.

Tier 3: Proto-microgrids with local distribution lines

This tier represents the threshold where SCU begins providing front-of-meter electrical service through independent distribution infrastructure.

Governing law for inter-property connections: California law distinguishes between:

- **Premises wiring** (California Electrical Code) – electrical systems within a single property
- **Distribution** (CPUC General Orders 95/128) – lines carrying electricity between properties or to multiple customers

The PUD Act does not define "distribution" and does not incorporate CPUC definitions. However, CPUC General Order 95 (overhead lines) and General Order 128 (underground lines) establish engineering standards that courts may treat as the standard of care for electrical construction regardless of regulatory classification.

Key legal finding: Neither the Public Utilities Code nor case law explicitly addresses non-grid-connected distribution lines owned by a public agency connecting multiple premises. This is a **novel regulatory territory** where:

- PUD Act authority (§16461) appears to encompass such infrastructure
- CPUC jurisdiction should not apply under *County of Inyo*
- No explicit prohibition exists in California law
- No case law precedent directly addresses this configuration

Easement and right-of-way requirements:

- Private property crossings require recorded utility easements
- Public right-of-way use requires encroachment permits from Marin County
- Coastal Zone location (Bolinas) triggers California Coastal Commission jurisdiction for development potentially requiring Coastal Development Permit, though "electric utility lines" may qualify for categorical exclusion under E-81-2/E-81-6

Fire safety considerations: Bolinas is located in a fire-prone area subject to:

- Public Resources Code §§4292-4293 vegetation clearance requirements (apply to "any person" maintaining electrical lines, not just utilities)
- California Fire Code Chapter 12 requirements for energy storage systems
- CAL FIRE Fire Hazard Severity Zone standards

Recommendation: Underground distribution strongly recommended to minimize fire ignition risk and reduce ongoing vegetation management burden.

Risk level: Moderate – statutory authority exists but implementation enters novel regulatory territory requiring careful documentation and potentially defensive litigation posture.

Tier 4: True microgrids with tiered resilience (VOR123)

SB 1339 (2018) microgrid framework: Section 8372 requires POUs to "develop and make available a standardized process for the interconnection of a customer-supported microgrid, including separate electrical rates and tariffs, as necessary." This requirement applies to BCPUD directly – not through CPUC oversight but through its own governing board.

The statutory definition of "microgrid" in PUC §8370(d) encompasses:

"An interconnected system of loads and energy resources... within a clearly defined electrical boundary that can act as a single, controllable entity, and can **connect to, disconnect from, or run in parallel with**, larger portions of the electrical grid..."

This definition contemplates grid-connected systems with islanding capability, but does not exclude permanently islanded configurations.

CPUC microgrid regulations applicability: The CPUC's Microgrid Rulemaking (R.19-09-009), which closed in November 2024 with D.24-11-004, developed tariffs and rules for **IOU-territory microgrids**. These regulations do not extend to POU territory. BCPUD would develop its own microgrid standards consistent with §8372 but without CPUC procedural requirements.

Islanding requirements: IEEE 1547-2018 provides technical standards for DER interconnection including intentional islanding, but applies primarily to grid-connected systems. For permanently isolated systems, IEEE 1547 requirements do not directly apply though they provide good engineering practice guidance. IEEE 2030.7 (microgrid controller standards) and IEEE 2030.8 (testing) offer industry-consensus specifications.

Resource adequacy: CPUC resource adequacy requirements apply to Load Serving Entities purchasing from CAISO markets. An isolated microgrid not participating in wholesale markets would not face formal RA obligations, though prudent engineering would suggest maintaining **15-20% planning reserve margins** for reliability.

Risk level: Moderate – clear POU authority but engineering complexity increases; novel questions about POU-operated community microgrids without direct precedent.

Tier 5: Federated multiple independent microgrids

Regulatory treatment of microgrid federation: California law does not address interconnection of multiple independent microgrids that remain disconnected from the macro-grid. This configuration raises questions without clear regulatory answers:

- Does connecting multiple microgrids create a single "distribution system"?
- Would federation trigger different engineering standards (GO 95/128 vs. premises wiring codes)?
- Are there threshold capacity levels that change regulatory treatment?

CAISO participation: CAISO participation requires interconnection to the CAISO-controlled grid. Systems with no transmission interconnection have no CAISO relationship and no balancing authority membership requirements. CAISO explicitly does not have jurisdiction over "behind-the-meter" resources or isolated systems.

FERC jurisdiction: The Federal Energy Regulatory Commission has jurisdiction over wholesale sales and transmission in interstate commerce. An isolated system with no interconnection to the interstate transmission grid would not fall under FERC jurisdiction for:

- Wholesale rate regulation
- Transmission access requirements
- Market participation rules

However, if federated microgrids ever interconnect with the macro-grid, prior FERC-jurisdictional requirements could potentially apply to wholesale transactions.

Risk level: Moderate to High – regulatory ambiguity increases as system complexity grows; defensive structuring advisable to maintain clear separation from jurisdictional triggers.

Tier 6: Substation connection to macro-grid

Grid interconnection fundamentally changes regulatory posture. Connection to the macro-grid triggers requirements that isolated systems avoid:

Load Serving Entity (LSE) status: Under Public Utilities Code §380, an entity serving end-use customers with electricity procured from the wholesale market becomes an LSE subject to:

- Resource adequacy requirements (§380-380.5)
- Renewable Portfolio Standard compliance (§399.11 et seq.)
- Integrated Resource Plan filing (for POUs with >700 GWh average load, under SB 350)

BCPUD at full build-out would likely remain below the 700 GWh IRP threshold (Bolin has approximately 1,800 residents), but would face RA and RPS obligations as an LSE.

CAISO membership considerations: Grid connection may require:

- Scheduling Coordinator certification for market participation
- Metering and telemetry infrastructure meeting CAISO standards
- Balancing authority arrangements (either join CAISO BA or establish own BA – the latter impractical at community scale)
- Transmission service agreements

CPUC jurisdiction implications: Even for POU, certain activities trigger limited CPUC authority:

- Safety jurisdiction over distribution facilities (GO 165 extended to POU in D.98-03-036)
- Potential CPUC involvement in interconnection disputes
- Stranded cost allocation (Power Charge Indifference Adjustment for departing load)

Risk level: High – grid connection substantially increases regulatory complexity, cost, and ongoing compliance burden. This tier should only be pursued after careful cost-benefit analysis and with sophisticated utility counsel.

Non-grid-connected FOM infrastructure: Deep legal analysis

The central legal question

Does building parallel distribution lines that never connect to the transmission grid constitute "public utility" service subject to CPUC regulation?

The research supports the conclusion that **it does not**, for a PUD operating under the statutory framework:

1. **Constitutional basis:** Article XII, Section 3 limits CPUC authority to "private corporations and persons" – BCPUD is neither
2. **Statutory classification:** PUDs providing electrical service are "local publicly owned electric utilities" under §224.3, not "electrical corporations" under §218
3. **Controlling precedent:** *County of Inyo v. PUC* holds CPUC lacks jurisdiction over POU absent express legislative authorization; no such authorization exists for PUD electrical distribution
4. **Grid connection irrelevance:** Neither constitutional provisions nor the PUD Act distinguish grid-connected from non-grid-connected systems; the jurisdictional test is

public vs. private ownership, not grid interconnection status

What distinguishes regulated "distribution" from private/community wiring?

California law establishes these distinctions:

Classification	Characteristics	Regulatory Treatment
Premises wiring	Within single property; building electrical systems	California Electrical Code (Title 24, Part 3)
Private electrical system	Landlord-to-tenant; campus/industrial park	§218 exemption; not CPUC-regulated
Over-the-fence exempt	≤2 adjacent properties; non-commercial	§218(b) exemption; not CPUC-regulated
IOU distribution	Multi-customer; dedicated to public use	Full CPUC jurisdiction; CPCN required
POU distribution	Public agency serving inhabitants	PUD Act authority; no CPUC rate jurisdiction

For a PUD, the relevant question is not whether infrastructure constitutes "distribution" under some abstract definition, but whether the PUD is exercising authority granted under its enabling statute. The PUD Act authorizes "works for supplying inhabitants with light... [and] power" without limiting the form such works may take.

Case law on private electrical systems

Mobile home park precedent: Public Utilities Code §§2791-2799 establishes a framework where mobile home park operators own and operate electrical distribution systems serving multiple premises without becoming "electrical corporations." Park operators are classified as "master-meter customers" – a distinct category. This demonstrates legislative capacity to create non-utility distribution categories.

University/campus systems: Stanford University operates extensive internal distribution infrastructure (12 kV and 4 kV networks) under the §218 private property exemption combined with Direct Access wholesale procurement. The university is a single legal entity operating on owned property – distinguishing it from multi-property community distribution.

Blue Lake Rancheria tribal microgrid: This federally recognized tribe operates a microgrid connecting multiple facilities on tribal land. Tribal sovereignty provides regulatory exemption

different from what would apply to BCPUD, but the project demonstrates technical feasibility of community-scale islanding microgrids.

Gap in precedent: No California case directly addresses a PUD operating non-grid-connected distribution lines serving multiple private properties. This configuration is novel but appears to fall within the statutory grant of §16461.

Jurisdictional boundaries

CPUC jurisdiction: Begins when a "public utility" (§216) or "electrical corporation" (§218) provides service; does not extend to public agencies absent legislative authorization.

FERC jurisdiction: Applies to wholesale sales and transmission in interstate commerce; does not extend to facilities with no transmission interconnection.

CEC jurisdiction: The California Energy Commission has oversight responsibilities for POUs including:

- Renewable Portfolio Standard verification
- Energy storage target reporting (AB 2514)
- Integrated Resource Plan review (for large POUs under SB 350)
- EPIC program funding administration

CEC jurisdiction is reporting and compliance-oriented, not rate-regulatory.

Local government: Marin County has jurisdiction over building permits, encroachment permits, and land use. California Coastal Commission has jurisdiction in the Coastal Zone.

Engineering and safety standards applicability

CPUC General Orders

General Order 95 (Overhead Lines): Establishes construction and clearance standards for overhead electrical lines. GO 95 technically applies to facilities "within the jurisdiction of this Commission." CPUC has extended GO 95 application to municipal utilities for safety purposes (distinguishing it from rate regulation). A PUD-operated overhead system would likely face GO 95 standards as the applicable standard of care, even if direct CPUC enforcement authority is disputed.

Recommendation: Design overhead infrastructure (if any) to GO 95 standards regardless of formal jurisdictional questions. Non-compliance would establish negligence liability in any accident.

General Order 128 (Underground Lines): Parallel requirements for underground construction. Same analysis applies – design to GO 128 standards.

General Order 165 (Inspections): Establishes inspection cycles for distribution facilities. Extended to POU's by D.98-03-036. BCPUD would need to establish inspection programs consistent with GO 165 intervals:

- Patrol inspections: Annual in rural/fire-prone areas
- Detailed inspections: Every 5 years for overhead conductors
- Intrusive inspections: Every 10 years for wood poles >15 years old

California Electrical Code

The California Electrical Code (Title 24, Part 3) applies to all electrical installations regardless of ownership:

Article 705 (Interconnected Power Sources): Covers systems operating in parallel with primary sources; includes microgrid provisions (§§705.150-705.165)

Article 706 (Energy Storage): Applies to ESS with capacity >1 kWh; covers sizing, protection, and safety

Article 710 (Stand-Alone Systems): Directly applicable to non-grid-connected systems; requires capacity equal to largest connected load; specific provisions for isolated operation

Article 712 (DC Microgrids): Covers DC distribution systems; may apply to DC microgrid configurations

Fire safety requirements

California Fire Code Chapter 12: Energy storage systems exceeding thresholds (20 kWh for lithium-ion) trigger compliance requirements including signage, ventilation, separation distances, and smoke detection.

Public Resources Code §§4292-4293: Vegetation clearance requirements apply to "any person" maintaining electrical lines on mountainous, forest-covered, brush-covered, or grass-covered land. BCPUD would be subject to these requirements regardless of utility classification.

Bolinas fire-prone status: Underground distribution strongly recommended to eliminate ignition risk from overhead lines and reduce vegetation management burden.

LAFCO and environmental considerations

LAFCO requirements

The Marin Local Agency Formation Commission (LAFCO) has jurisdiction over changes to BCPUD's services and boundaries. Key considerations:

Service change: Adding electrical services to BCPUD's authorized functions likely requires LAFCO approval as a "change of organization" or amendment to the district's authorized services. LAFCO would review:

- Plan of Service demonstrating technical and financial feasibility
- Environmental review (CEQA)
- Impacts on other service providers (PG&E)

Sphere of influence: BCPUD operates within its established sphere; electrical service would be within existing boundaries, minimizing LAFCO concerns.

CEQA compliance: Distribution infrastructure construction would require environmental review. Potential pathways:

- Categorical Exemption (if qualifying under CEQA Guidelines §15301-15333)
- Mitigated Negative Declaration (for limited environmental impacts)
- Environmental Impact Report (unlikely necessary for community-scale infrastructure)

Coastal Zone permitting

Bolinas lies within California's Coastal Zone. Most development requires Coastal Development Permit from California Coastal Commission or Marin County under the Local Coastal Program.

Categorical exclusions: "Electric utility lines" may qualify for categorical exclusion (E-81-2, E-81-6) when located outside tidelands, wetlands, beaches, or lots immediately adjacent to beaches. Underground distribution in previously developed areas would likely qualify.

Risk assessment and potential challenges

Expected IOU response

Based on historical patterns, PG&E may pursue multiple strategies to challenge or delay SCU development:

Legal challenges:

- Argue PUD is operating as unregulated "electrical corporation"
- Assert franchise agreement violations
- Challenge stranded cost allocation
- Intervene in LAFCO proceedings

Regulatory strategies:

- Request CPUC declaratory ruling on jurisdiction
- File complaints regarding safety or reliability
- Seek legislative changes restricting PUD electrical authority

Political/public relations:

- Fund ballot measures opposing PUD electrical service
- Raise safety and reliability concerns with local officials
- Emphasize interconnection value and grid services

Risk mitigation: BCPUD should secure supportive legal opinions early, build public support through transparent community engagement, document safety compliance rigorously, and prepare for litigation with adequate reserves.

Areas of regulatory uncertainty

Novel configuration: Non-grid-connected PUD distribution serving multiple premises lacks direct precedent. While statutory authority appears clear, untested legal theories create litigation risk.

Safety jurisdiction: CPUC may assert safety oversight authority over PUD distribution facilities even without rate jurisdiction, based on GO 165 extension to POUs.

Territorial questions: Relationship between PUD service authority and IOU franchise agreements in overlapping territory remains unclear. PG&E franchise agreements typically grant non-exclusive rights, but interpretation could be contested.

Future grid connection: If SCU eventually interconnects with the macro-grid, prior structures may face retroactive regulatory scrutiny.

Risk mitigation strategies

Phased implementation: Progress through tiers sequentially, validating regulatory treatment at each stage before advancing. This allows course correction and builds precedent documentation.

Defensive documentation: Maintain comprehensive records demonstrating:

- PUD Act authority for each activity
- Compliance with all applicable engineering standards
- Safety inspection programs meeting GO 165 standards
- Community support and opt-in nature of service

Legal preparation: Obtain formal legal opinions from qualified utility counsel; consider seeking Attorney General opinion on PUD electrical service authority; prepare litigation defense strategies in advance.

Political foundation: Build legislative relationships to defend against adverse statutory changes; engage with CEC and other state agencies to establish supportive relationships; document public benefits (resilience, emissions reduction, local control).

Operational precedents informing SCU development

Blue Lake Rancheria microgrid

The **Blue Lake Rancheria** tribal microgrid provides the most instructive precedent, demonstrating:

- Community-scale microgrid feasibility (420 kW solar, 1,150 kW/1,950 kWh storage)
- Successful islanding during extended grid outages (October 2019 PSPS events)
- Utility partnership approach rather than adversarial relationship
- Stacked funding from multiple state programs (CEC EPIC, SGIP)
- \$160,000-\$200,000 annual energy cost savings

Key lesson: Single point of common coupling enables clean grid disconnect/reconnect; community benefit framing (emergency services, resilience) strengthens political position.

Limitation for SCU: Tribal sovereignty provides regulatory exemption unavailable to BCPUD. However, PUD Act authority may provide analogous public-agency protection.

Mobile home park framework

Public Utilities Code §§2791-2799 demonstrates California's willingness to create intermediate categories between full utility regulation and complete exemption:

- Park operators own internal distribution without becoming "electrical corporations"
- Rate caps protect consumers (must charge no more than utility rates)
- Safety oversight maintained through separate mechanisms

Potential SCU application: Similar legislative framework could codify SCU-type operations if regulatory challenges emerge, though existing PUD Act authority may be sufficient.

University campus systems

Stanford University operates comprehensive internal distribution under §218 private property exemption plus Direct Access wholesale procurement. This demonstrates large-scale non-utility distribution feasibility but relies on a single-owner private property framework distinguishable from multi-property community service.

Conclusion: A viable but novel regulatory pathway

BCPUD possesses clear statutory authority to provide electrical services to district inhabitants under Public Utilities Code §16461, with such services exempt from CPUC rate regulation under the constitutional framework confirmed in *County of Inyo v. PUC*. The SCU model – building parallel opt-in infrastructure distinct from traditional municipalization – represents an innovative application of existing public power authority to modern distributed energy resources and community resilience needs.

The regulatory pathway is most clearly established for **Tiers 1-3** (energy upgrades, BTM services, proto-microgrids), where existing frameworks address most questions and PUD authority is well-grounded. **Tiers 4-5** (true microgrids, federated systems) operate at the frontier of California energy law, where statutory authority appears supportive but direct precedent is limited. **Tier 6** (grid connection) significantly increases regulatory complexity and should only be pursued after careful analysis of costs and benefits.

The central finding for front-of-meter non-grid-connected infrastructure is favorable: the relevant regulatory distinction in California is between **public and private** ownership, not between grid-connected and isolated systems. A PUD-operated distribution system serving district inhabitants exercises authority granted under the PUD Act regardless of interconnection status.

Key strategic recommendations:

- **Progress through tiers sequentially**, validating regulatory treatment at each stage
- **Prioritize underground distribution** given Bolinas fire-prone location
- **Design to GO 95/128/165 standards** regardless of formal jurisdictional questions
- **Build public support** through transparent community engagement
- **Prepare for potential litigation** with adequate reserves and documented compliance
- **Engage constructively with PG&E** where possible, while preparing for opposition
- **Secure supportive legal opinions** from qualified utility counsel before each major milestone

The SCU model represents a promising pathway for community energy sovereignty, resilience, and decarbonization – one grounded in California's century-old public power traditions while

adapted to twenty-first century distributed energy technologies. Success will require careful attention to regulatory compliance, safety engineering, community engagement, and strategic risk management.