

# SYNC 3.0: Fresno County Agricultural Symbiosis Blueprint — Litigation-Hardened Counsel Edition

County Counsel / Special Counsel / Water Counsel / Administrative Record Support Edition

July 1, 2026

**Notice.** Proprietary consulting framework; not stamped engineering; not legal advice; site-specific implementation requires licensed professional review and public-agency findings.

This counsel-oriented edition reframes the Fresno County Agricultural Symbiosis Blueprint as a permitting, findings, and defensibility architecture. It is intended to assist review by county counsel, special counsel, water counsel, environmental consultants, and agency staff preparing an administrative record capable of withstanding hostile challenge. It preserves the underlying SYNC 3.0 architecture and license posture while adopting disciplined legal framing, evidentiary qualifiers, and explicit separation among conceptual protocol, illustrative assumptions, and site-specific items requiring independent validation.

## THE SYNC RECIPROCITY LICENSE (v3.0)

This architecture and its associated engineering blueprints are open and free for municipal, academic, and non-profit use.

For commercial hyperscale developers: a license is granted to utilize the hardware efficiencies of SYNC 3.0 (Pillars 1-4) **if and only if** the facility is legally and contractually bound to the Municipal Collapse-Prevention Layer (Pillars 5-7).

Implementing the cooling and edge efficiencies of this protocol without implementing Hard Demand Caps and Interconnection Ledgers constitutes a violation of this license and copyright.

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This document is strongest when used as a structured basis for permit drafting, agency findings, interagency coordination, environmental review scoping, and negotiated service conditions. It should not be treated as self-executing authority or as a substitute for licensed engineering, utility review, hydrologic analysis, CEQA review, SGMA consistency analysis, or project-specific public findings.

# 1. Executive Summary for Counsel

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This is a county-counsel-oriented version of the Fresno County Agricultural Symbiosis Blueprint. Its core proposal is a bounded 50 MW SYNC 3.0 immersion compute node sited adjacent to suitable agricultural and utility infrastructure in Fresno County, with a design intent of converting what could otherwise function as a purely extractive data-center load into a locally conditioned, permit-bounded, thermally productive, agriculturally subordinated facility.

The legal objective is not to regulate wholesale electricity rates or dictate market outcomes. Rather, the objective is to condition local land use, water use, wastewater service, thermal reuse, emergency response integration, nuisance prevention, road and facilities impacts, and related franchise or service relationships so that any approved facility operates within locally supportable externality limits and under enforceable public-interest conditions.

In this framing, the project is designed to be reviewed as a subordinate, bounded, and conditioned local facility. Its defining features are an absolute 50 MW cap enforced by Level-1 control logic, PFAS-free single-phase dielectric immersion cooling, closed-loop thermal recovery for agricultural and compatible industrial uses, agricultural pumping protection logic, a no-routine-groundwater-extraction posture, and contractual tools designed to subordinate compute operations to locally adopted environmental and agricultural resilience conditions.

## 2. Scope, Purpose, and Use Limitations

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This document distinguishes among four different categories of content:

1. **Conceptual protocol.** The SYNC 3.0 governance architecture, including the concepts of bounded node capacity, thermal reciprocity, exhaustion budgeting, and hardware-linked operational constraints.
2. **Illustrative engineering assumptions.** Non-stamped, preliminary assumptions used to explain how the architecture could function if validated for a specific site.
3. **County findings support.** Proposed factual themes and record-building topics that may assist the County in articulating a rational basis for permit conditions and mitigation measures.
4. **Final permit conditions.** Site-specific, legally adopted conditions and agreements that must be drafted, reviewed, negotiated, and approved through applicable public processes.

Numeric values, capacities, thermal uses, control thresholds, water balances, and implementation schedules in this document are illustrative unless and until confirmed through stamped studies, utility review, CEQA analysis, SGMA consistency review, water and wastewater service analysis, and final agency approvals. Nothing in this document should be interpreted as an approved operating entitlement, interconnection right, or guaranteed technical outcome.

## 3. Fresno Case Framing and Findings Predicate

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Fresno County presents a combination of stressors relevant to this framework: chronic SGMA-related overdraft pressure in portions of the region; sensitivity of agricultural pumping and irrigation reliability during peak summer conditions; utility congestion and summer peak load constraints; the presence of industrial-agricultural thermal uses that may be compatible with recovered low-grade heat; and strong public policy pressure to avoid new routine groundwater

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The findings predicate for this blueprint is therefore not simple compute expansion. The project purpose is more narrowly framed as agricultural symbiosis and collapse-prevention: that is, a facility design intended to operate only if it can be made subordinate to local resilience conditions, agricultural priority logic, thermal productivity requirements, and water-protective operating rules. This framing is intended to narrow legal risk by tying permit conditions to local externalities and local public purposes rather than to abstract objections to data-center use as such.

## 4. Technical Architecture Preserved From Prior Blueprint

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The prior Fresno blueprint is preserved in substance, but restated here in disciplined terms suitable for counsel review.

### 4.1 Bounded 50 MW Node

The Fresno case study assumes a single bounded 50 MW SYNC 3.0 node. The absolute capacity cap is intended to be enforced by Level-1 safety PLC logic and hard-trip architecture rather than by unenforceable policy aspiration alone. Some prior source materials modeled a broader twenty-by-fifty-megawatt fractal architecture. This edition does **not** assume approval of a 1 GW campus and should not be cited as requesting one.

### 4.2 Cooling and Heat Recovery

The node is designed around PFAS-free single-phase dielectric immersion cooling in a closed-loop configuration. The project concept contemplates closed-loop thermal recovery for greenhouse climate control, crop drying, soil warming, and compatible industrial or agricultural process heat uses. Any statement of “100%” thermal reuse should be treated as a proposed operating mandate or design target subject to engineering validation, seasonal demand analysis, and enforceable fallback conditions, not as an unqualified thermodynamic guarantee.

### 4.3 Agricultural Priority Controls

The prior blueprint’s Ag-First SCADA interlock concept is preserved. In counsel-facing terms, that concept means the facility would be designed to operate under control logic and permit conditions intended to avoid aggravating agricultural pumping stress during defined grid-constrained periods. The precise control thresholds, telemetry requirements, and trip or ratchet logic would require utility coordination, licensed controls review, and final permit language.

### 4.4 Hardware Refresh Capacity Ratchet and Exhaustion Budget

The Hardware Refresh Capacity Ratchet and Exhaustion Budget remain core governance concepts. For administrative-record purposes, they should be understood as locally conditioned operational limitations tied to permit and service conditions rather than as standalone legal authorities. Their legal defensibility will depend on precise drafting, clear nexus to local impacts, equal-treatment analysis, and enforceability through adopted agreements.

### 4.5 Water Posture

The project concept preserves a recycled municipal effluent preference and a zero-routine-groundwater-extraction posture. This posture is intended to align the facility with local water-protection objectives, but it requires verification of source reliability, treatment compatibility, regulatory constraints, drought contingency rules, emergency bypass limits, and any needed

| Core Feature   | Preserved Concept                                                     | Counsel-Side Qualification                                                   |
|----------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------|
| Capacity cap   | 50 MW absolute cap with hard operational enforcement                  | Requires validated control architecture and enforceable permit language      |
| Cooling method | PFAS-free single-phase dielectric immersion                           | Requires product, safety, and environmental review                           |
| Thermal reuse  | Greenhouses, crop drying, soil warming, compatible industrial/ag uses | Requires offtake commitments, seasonality analysis, and fallback protocols   |
| Ag-first logic | Agricultural pumping protection / SCADA interlock                     | Requires utility coordination, telemetry agreement, and validated thresholds |
| Water posture  | Recycled effluent preference; no routine groundwater extraction       | Requires service reliability analysis and drought contingency conditions     |

## 5. Jurisdictional Basis and Anti-Preemption Framing

The defensibility of this framework depends on maintaining a disciplined line between matters generally committed to federal or statewide electricity regulation and matters properly within local land-use, service, and police-power authority. This blueprint is designed to operate on the latter set of authorities.

In general terms, local government may condition land use, building and site operations, water service, wastewater service, thermal discharge and reuse arrangements, nuisance prevention, fire and emergency response integration, truck and road impacts, local franchise or facilities relationships, and performance obligations reasonably tied to local impacts and findings. By contrast, permit language should not be drafted to set wholesale electricity rates, directly control transmission operations, or declare authority over market structures outside local jurisdiction.

For that reason, recommended permit conditions should be written to regulate local externalities and service conditions rather than to dictate wholesale market outcomes. The County’s record should repeatedly explain that its concern is not who buys or sells electricity at wholesale, but whether a proposed local facility can operate without unacceptable impacts on water reliability, agricultural continuity, emergency systems, nuisance conditions, thermal waste, and service infrastructure.

### Likely Challenge Theories and Risk-Narrowing Approach

- **FERC preemption.** Risk is reduced by drafting conditions around local services, physical operations, and externalities rather than market participation or rates.
- **Dormant commerce clause.** Risk is reduced by using neutral, locally grounded findings and by applying impact-based criteria rather than favoring or disfavoring out-of-county commerce as such.
- **Unlawful exaction.** Any impact fee or mandatory contribution should be supported by a documented nexus and proportionality record tied to actual local impacts.
- **Unequal treatment.** The County should compare the proposed framework against similarly situated high-load industrial users and explain any distinctions in impact profile.

- **SGMA inconsistency.** Water assumptions must be grounded in a no-routine-groundwater posture, service-source reliability, and explicit drought contingencies.
- **TRPA/coastal mismatch in source analogies.** Analogies drawn from other regions should be presented only as conceptual precedent, not as controlling Fresno-specific authority.

Fresno-specific drafting narrows these risks when it focuses on local conditions: groundwater stress, agricultural pumping sensitivity, agricultural thermal offtake opportunities, wastewater reuse potential, and county-specific emergency and infrastructure concerns.

## 6. Counsel-Facing Permit and Agreement Stack

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### 6.1 Conditional Use Permit / Development Agreement

**Purpose:** Establish site authorization, use limitations, performance standards, phasing, and monitoring obligations.

**Legal function:** Create the land-use envelope within which the facility may operate, including absolute capacity limits and operational conditions.

**Sample enforceable conditions:** 50 MW maximum permitted load; prohibition on routine groundwater extraction; requirement to maintain validated thermal offtake pathways; mandatory reporting; emergency response coordination; suspension or revocation triggers for persistent noncompliance.

### 6.2 Water and Wastewater Service Agreement

**Purpose:** Define water source, quality, treatment compatibility, return flows, emergency restrictions, and drought contingencies.

**Legal function:** Place enforceable operational dependence on approved service conditions rather than discretionary future substitutions.

**Sample enforceable conditions:** recycled-water preference where available; no routine use of groundwater wells absent separate public approval; specified maximum service quantities; Title 22 compliance where applicable; emergency curtailment protocols.

### 6.3 Thermal Offtake / Agricultural Symbiosis Covenant

**Purpose:** Bind the project to identified thermal reuse pathways serving agricultural or compatible local uses.

**Legal function:** Convert thermal productivity from a marketing claim into a monitored operating condition.

**Sample enforceable conditions:** minimum validated offtake capacity before occupancy; seasonal operating plan; fallback restrictions if offtake fails; reporting of delivered heat; obligation to maintain compatible end-use infrastructure.

### 6.4 Franchise or Facilities Agreement, if Applicable

**Purpose:** Address use of public facilities, rights-of-way, utility interfaces, access roads, and local infrastructure obligations.

**Legal function:** Tie facility operation to lawful use of public assets and local maintenance responsibilities.

**Sample enforceable conditions:** road repair contributions; rights-of-way limitations; access protocols; inspection rights; emergency shutoff coordination.

**Purpose:** Document non-rate community commitments, implementation milestones, transparency, and local coordination measures.

**Legal function:** Supplement, but not replace, enforceable permit conditions.

**Sample enforceable conditions:** local workforce reporting, agricultural partnership milestones, district coordination, periodic compliance reviews.

## 6.6 Administrative Enforcement Provisions

**Purpose:** Ensure that the project’s bounded and subordinated character is enforceable in practice.

**Legal function:** Provide monitoring, cure periods where appropriate, emergency enforcement authority, and permit consequence structure.

**Sample enforceable conditions:** notice of violation procedures, mandated corrective action plans, permit suspension triggers, independent audit rights, and documentation retention requirements.

| Instrument                       | Primary Purpose                                 | Key Counsel Focus                                   |
|----------------------------------|-------------------------------------------------|-----------------------------------------------------|
| CUP / Development Agreement      | Land-use envelope and operating conditions      | Nexus to local impacts; clear enforcement language  |
| Water/Wastewater Agreement       | Source, use, quality, contingency limits        | No-routine-groundwater posture; service reliability |
| Thermal Offtake Covenant         | Agricultural symbiosis and thermal productivity | Feasibility, fallback rules, monitoring             |
| Franchise / Facilities Agreement | Public asset and access conditions              | Authority, maintenance, emergency access            |
| Implementation Agreement         | Supplemental commitments                        | Avoid reliance on aspirational language alone       |

## 7. Water Counsel Analysis

The proposed posture is no routine groundwater extraction for cooling or ordinary operations. The preferred operating concept relies on recycled municipal effluent and closed-loop systems, with any auxiliary or emergency water uses separately identified, limited, and publicly disclosed. This posture is intended to reduce conflict with groundwater sustainability concerns and to align the project more closely with local resource constraints.

Water counsel review should focus on the reliability and legal availability of the proposed source; compatibility with treatment standards, including Title 22 issues if applicable; discharge and reuse pathways; RWQCB coordination; complete water balance; drought-stage operating restrictions; and explicit emergency bypass rules that do not silently convert the project into a groundwater-dependent facility during constrained periods.

| Water-Risk Issue   | Potential Concern                                                           | Recommended Mitigation Measure                                                                              |
|--------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Source reliability | Recycled source unavailable during maintenance or drought-stage constraints | Service reliability study; backup protocol limited by permit; no automatic shift to routine groundwater use |

| Water-Risk Issue           | Potential Concern                                             | Recommended Mitigation Measure                                                                               |
|----------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| RWQCB / discharge pathway  | Unclear return flows or emergency disposal route              | Documented discharge pathway review; emergency handling protocol; permit cross-reference                     |
| Water balance accuracy     | Underestimated losses or auxiliary demands                    | Stamped water balance and periodic audit requirement                                                         |
| Drought contingency        | Project persists by degrading agricultural or public supplies | Drought-stage curtailment conditions; hierarchy favoring essential public and agricultural reliability       |
| Groundwater migration risk | Emergency exceptions become ordinary practice                 | Narrowly drafted emergency exception; reporting; sunset; separate public approval for any longer-term change |

## 8. CEQA and Administrative Record Support

Before relying on this blueprint, the County should assemble a record capable of explaining not only what the project proposes, but why the County's conditions are factually grounded, reasonably related to local impacts, and administratively manageable. The following table identifies principal record elements.

| Record Element                           | Purpose                                                                                        | Primary Reviewer                                             |
|------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Engineering study                        | Validate cooling architecture, thermal systems, control logic, and facility assumptions        | Licensed engineers / County consultants                      |
| Utility interconnection analysis         | Assess grid compatibility, control coordination, and operational constraints                   | Utility / energy counsel / technical reviewers               |
| Agricultural thermal offtake commitments | Substantiate reuse feasibility and end-user demand                                             | Project sponsor / agricultural counterparties / County staff |
| Water balance study                      | Document sources, losses, reuse, emergency scenarios, and no-routine-groundwater posture       | Water counsel / hydrologists / service provider              |
| SGMA consistency memo                    | Analyze compatibility with basin sustainability objectives and local water policy              | Water counsel / groundwater specialists                      |
| Emergency operations protocol            | Define response to outage, thermal sink failure, source interruption, and public safety events | Fire / OES / facility engineers / County staff               |
| Alternatives analysis                    | Support CEQA review and demonstrate consideration of less impactful configurations             | CEQA consultants / County staff                              |

| Record Element                        | Purpose                                                                             | Primary Reviewer                                        |
|---------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------|
| Comparables / equal-treatment review  | Test whether conditions are rationally differentiated from similarly situated users | County counsel / planning staff                         |
| Draft monitoring and enforcement plan | Show how conditions will be measured, reported, and enforced                        | Planning staff / County counsel / technical consultants |

## 9. Hostile-Challenge Resilience

### Arguments the Administrative Record Must Be Prepared to Withstand

| Likely Argument                                                                 | Why It Matters                                 | Recommended Record Response Strategy                                                                                                                                                      |
|---------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| “This is disguised rate regulation.”                                            | Could trigger preemption framing               | Show that conditions regulate land use, water, thermal externalities, emergency integration, and local service relationships rather than wholesale price or transmission market outcomes. |
| “The thermal reuse mandate is infeasible.”                                      | Could undermine findings and CEQA analysis     | Support with engineering review, end-user commitments, seasonal analysis, and fallback conditions that limit operations when reuse pathways fail.                                         |
| “The County cannot privilege agriculture over compute.”                         | Could be framed as arbitrary or discriminatory | Ground conditions in local impact mitigation, water stress, agricultural infrastructure protection, and emergency reliability findings rather than sector favoritism alone.               |
| “The impact fee is an unlawful taking/exaction.”                                | Could invalidate fee structure                 | Develop documented nexus and proportionality findings; separate optional negotiated benefits from mandatory exactions; avoid untethered fee claims.                                       |
| “The protocol is proprietary and therefore not an enforceable public standard.” | Could attack transparency and enforceability   | Adopt public-facing permit conditions in plain language; treat proprietary framework as background design logic rather than as the sole operative legal standard.                         |
| “The project will migrate to groundwater in drought conditions.”                | Could undercut water findings and public trust | Draft explicit no-routine-groundwater conditions, narrow emergency exceptions, mandatory reporting, sunset triggers, and separate approval requirements for any change in source.         |

## 10. Implementation Pathway

- 1. Pre-application phase.** Identify candidate site conditions, service-provider appetite, agricultural offtake partners, and threshold legal risks.
- 2. Baseline studies.** Prepare engineering, water, interconnection, CEOA scoping, and agricultural

3. **CEQA path selection.** Determine the appropriate environmental review path based on actual site, infrastructure, and impact profile.
4. **Utility and water negotiations.** Clarify source reliability, control coordination, emergency protocols, and service limitations.
5. **Draft permit stack.** Prepare CUP or development agreement conditions, service agreements, covenant language, and enforcement provisions.
6. **Public hearing record.** Assemble findings, responses to anticipated objections, equal-treatment analysis, and draft monitoring plans.
7. **Post-approval monitoring.** Implement audit, reporting, operational review, and enforcement processes before and after occupancy.

## 11. Risks, Caveats, and Required Professional Validation

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This document is candidly limited. All site-specific engineering, legal interpretations, water assumptions, interconnection timelines, cost estimates, thermal offtake economics, and control thresholds require independent confirmation. No public agency should rely on this document as a substitute for licensed engineering, technical due diligence, environmental review, or formal legal analysis.

Analogies drawn from other regions, other utility systems, or other model outputs are illustrative only and are not self-executing authority for Fresno County. Likewise, the existence of a proprietary protocol does not itself create legal entitlement, establish nexus, or satisfy CEQA. The County's strongest position will depend on Fresno-specific facts, a disciplined findings record, transparent permit language, and operational conditions tied to documented local impacts and service realities.

Particular caution is warranted regarding: the feasibility of year-round thermal offtake; the enforceability of hardware-linked caps if utility or operator systems change over time; any implied claim that closed-loop cooling fully eliminates all water dependencies; and any draft fee program not backed by documented impact analysis and proportionality findings.

## 12. Conclusion

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The Fresno County Agricultural Symbiosis Blueprint is strongest when treated as a permitting and governance architecture for a bounded, subordinated, locally conditioned facility rather than as a claim of categorical entitlement. Properly framed, it offers a structured way to examine whether a 50 MW immersion-compute project can be made consistent with local agricultural resilience, water-protective operation, and county service realities. Improperly framed, it risks overclaiming both technical certainty and legal authority.

Accordingly, this litigation-hardened counsel edition recommends that any County use of the framework proceed only through site-specific studies, carefully drafted permit conditions, service agreements, enforceable monitoring provisions, and a factual record prepared to withstand hostile challenge on preemption, CEQA, water, and exaction grounds.

**Prepared as a counsel-support drafting framework.**

Not stamped engineering. Not formal legal advice. Subject to licensed professional review, agency findings, and project-specific approvals.