SB 253 Quick-Start

A tight, data-centre-centric guide to California's Climate Corporate Data Accountability Act — scope, scopes (1/2/3), deadlines, and the operational data you need to start collecting today.

Executive Summary

California Senate Bill 253, the **Climate Corporate Data Accountability Act**, was signed into law in October 2023. It requires US companies with **total annual revenues over $1 billion** that do business in California to publicly disclose their greenhouse gas (GHG) emissions across Scopes 1, 2, and 3, on the schedule and methodology of the **Greenhouse Gas Protocol Corporate Standard** (GHGP), with third-party assurance.

For data centre operators and for large enterprises that consume substantial colocation space, the most consequential bucket is **Scope 2** — indirect emissions from purchased electricity. Scope 2 for a data centre is governed by **two numbers**: how many kWh you used, and what the carbon intensity of those kWh was. The first number is operationally yours to measure. The second comes from grid emission factors and any contracted clean energy you can substantiate.

The statutory schedule (subject to CARB rulemaking refinements):

- **Scope 1 + Scope 2:** First reports beginning **2026**, covering calendar year 2025.
- **Scope 3:** First reports beginning **2027**, covering calendar year 2026.
- **Third-party assurance:** Limited assurance from the first report for Scope 1+2 (2026) and for Scope 3 (2027). Scope 1+2 upgrades to **reasonable assurance** from 2030. Scope 3 remains at limited assurance under SB 253 as enacted; CARB rulemaking may revisit this in future years.

This Quick-Start is the operator-facing brief on what the law requires, where the data has to come from, and how Rackvio's per-site IT energy tracking and per-tenant consumption export fit into the Scope 2 calculation. It is intentionally short — the Greenhouse Gas Protocol itself is the authoritative methodology document; this guide tells you what to do this quarter.

Are You In Scope?

The threshold has two parts, both of which must be true:

1. **Total annual revenue > $1,000,000,000**, on a consolidated basis. Subsidiaries roll up to the parent.
2. **Doing business in California** — a low bar; broadly, any company with CA operations, payroll, sales, or substantial property in CA.

Estimated population in scope: roughly 5,300 companies. Both **public and private** companies are covered. Privately held companies that have historically had no GHG disclosure obligation are the largest population shift.

Frequently confused with SB 261

Law	Threshold (revenue)	What it requires	First report
SB 253	> $1B	GHG emissions disclosure (Scopes 1, 2, 3) per GHGP	2026 / 2027
SB 261	> $500M	Climate-related financial risk report (per TCFD framework)	2026 (biennial)

The thresholds, methodologies, and deliverables differ. A $750M-revenue company is in scope for SB 261 but **not** SB 253. A $5B-revenue company is in scope for **both**. This document covers SB 253 only.

The Three Scopes — For Data Centre Operations

Greenhouse Gas Protocol Corporate Standard defines three scopes. For an organisation operating, owning, or consuming data centre capacity, the mapping is:

Scope	Definition	Data-centre examples
Scope 1	Direct emissions from sources owned or controlled by the reporting company	Backup generator runs (diesel combustion), refrigerant leakage from chillers, on-site fuel storage
Scope 2	Indirect emissions from purchased electricity, steam, heating, cooling	Grid electricity consumed by the data centre — almost always the dominant scope for an operator
Scope 3	All other indirect emissions in the value chain	For an operator: tenants' Scope 2 (Cat 13 downstream leased assets). For a customer: their leased space (Cat 8 upstream leased assets). Also embodied carbon of IT equipment, construction, employee commuting.

For a data centre operator with a typical operations profile, Scope 2 typically represents **70–95% of total emissions**. The Scope 2 calculation is therefore where the SB 253 preparation effort concentrates.

For a large enterprise consuming substantial colocation capacity, **leased data centre emissions are Scope 3 Category 8**. The operator gives the customer the data; the customer reports it as Scope 3 in their SB 253 filing. The operator is the supplier of the underlying number.

Scope 2 in Detail

GHGP requires Scope 2 to be reported using **both** of two methods:

Location-based method

```
Scope2_location = electricity_consumed (kWh) × grid_emission_factor_for_region
```

Uses the average emission factor of the regional grid where the load is physically located. Sourced from EPA eGRID (US), Defra (UK), or equivalent regional regulator publications.

Market-based method

```
Scope2_market = (consumed_kWh − clean_energy_kWh_with_instruments) × residual_mix_EF
              + clean_energy_kWh × 0 (or contract-specific EF)
```

Recognises contractually purchased renewable energy (RECs, PPAs, green tariffs) with valid market instruments. Result is typically lower than location-based for companies with renewable PPAs in place. Both methods must be reported.

Why hourly granularity is becoming the standard

A 2025 kWh consumed at 02:00 in the Pacific Northwest on a windy night is lower-carbon than the same kWh consumed at 18:00 on a still summer evening. Increasingly, sophisticated reporters apply **time-matched emission factors** — hourly grid carbon intensity multiplied by hourly load — rather than annual averages. The result is more accurate, often lower-carbon, and aligns with the **24/7 carbon-free energy** movement that several SB 253 reporters are also signing up to publicly.

To support hourly-matched Scope 2 reporting you need:

1. **Hourly electricity consumption** by site (or by metered boundary)
2. **Hourly grid emission factor** for the region (published by ISOs / regulators; commercial datasets aggregate these)
3. **Hourly clean energy generation** (from owned generation or hourly PPA accounting)

The first of these is what data-centre operators typically lack. Rackvio's per-site IT load is refreshed continuously and supports building this dataset; native long-horizon hourly time-series storage in Rackvio itself is on the Phase 5.5 roadmap, so today's hourly accumulation is typically done by pairing Rackvio's per-site state with a utility-meter historian or commercial energy-data service.

Where the Data Lives

A complete Scope 2 calculation for a data centre operation pulls from three operational systems:

Data point	Authoritative source
Total electricity consumption (kWh)	Utility revenue meter (whole site)
IT-side load and per-tenant consumption	**DCIM with ongoing power-state tracking → Rackvio**
Cooling, lighting, auxiliary kWh	Sub-metered or computed as residual (utility – IT)
Grid emission factor by region (annual)	EPA eGRID (or regional regulator)
Grid emission factor by hour (advanced)	ISO public data feeds, commercial datasets
Renewable energy procurement records	PPA contracts, REC registry, green tariff records

A typical SB 253-preparation workflow looks like:

1. Pull annual kWh from utility revenue meters (the regulator-authoritative number).
2. Pull per-site IT load and per-tenant monthly consumption from Rackvio (the operationally-resolved IT-side picture).
3. Reconcile: facility total = utility kWh; IT portion should align with Rackvio's reported IT load × hours within PUE-explainable bounds. Discrepancies > 5% point to metering or boundary issues.
4. Apply location-based emission factors → Scope 2 location-based.
5. Subtract REC/PPA-matched kWh, apply residual mix → Scope 2 market-based.
6. Aggregate Scope 1 (gensets, refrigerants) from operations records.

7. Compile Scope 3 from supply-chain and leased-asset data (Category 8 / Category 13).

What Rackvio Provides for SB 253

For Scope 2, Rackvio's three-state capacity model and ongoing power-state tracking produce the **electricity consumption denominator** — the operational input that gets multiplied by emission factors to produce tCO2e.

Data Rackvio produces directly today

- **Per-site and per-room IT load (kW)**, refreshed continuously from PDU and branch-circuit telemetry where intelligent metering is integrated. The IT-side load is the operational input the Scope 2 calculation requires.
- **Per-tenant monthly consumption** (for colocation operators). The tenant-portal CSV export carries `contracted_kw`, `consumed_kw`, and `recoverable_kw` per cabinet for a specified billing period — the data structure colocation operators need to populate customer-attributable energy disclosures (Scope 3 Category 13 for the operator, Scope 3 Category 8 for the customer).
- **Sold vs. consumed reconciliation.** Surfaces tenants whose contracted capacity is significantly above actual consumption — relevant for Scope 3 allocation methodologies that use contracted capacity as the allocation basis (rather than measured).
- **Three-state values aggregated to site / building / room.** Lets reporters allocate energy at the granularity their methodology requires.

Data quality and time resolution

The Scope 2 calculation requires annual kWh totals. For market-based reporting with hourly emission factors (the emerging best practice), hourly kWh series is preferred. Rackvio today produces continuously-refreshed instantaneous and aggregated values; native long-horizon hourly time-series storage inside Rackvio is on the Phase 5.5 roadmap. Operators preparing for the 2026 deadline typically pair Rackvio's per-site IT load with externally retained kWh time-series — either utility-meter exports, BMS historians, or commercial energy-data services — to populate hourly market-based calculations.

What Rackvio does not produce

- **Total facility electricity consumption** (Rackvio is IT-side; facility kWh comes from the utility meter or BMS).
- **Emission factors** — external regulatory data, change annually.
- **Scope 1 data** (combustion, refrigerants).
- **Scope 3 supply-chain data** outside the leased-asset category.
- **The final tCO2e numbers** — Rackvio supplies kWh; emission-factor multiplication and assurance happen in your sustainability / accounting stack.

For colocation operators, the per-tenant consumption export is the highest-value SB 253 artefact Rackvio produces today. Customers reporting under SB 253 will start asking for this; operators who can produce it on demand have a sales differentiator.

Worked Example — A 500 kW Colocation Site

To make the calculation concrete, here is a representative Scope 2 walk-through for a moderately-sized colocation operator with one site in California subject to SB 253.

Inputs (representative):

Quantity	Value
Average IT load (per Rackvio site-level export)	280 kW
IT energy (kWh = avg load × 8,760 h)	2,452,800 kWh
Facility PUE (computed from utility + BMS)	1.5
Total facility electricity (= IT kWh × PUE)	3,679,200 kWh
Regional grid emission factor (CAMX, illustrative)	0.230 kgCO2e / kWh
Renewable PPA coverage (REC-backed)	25%

Scope 2 location-based:

```
3,679,200 kWh × 0.230 kgCO2e/kWh = 846,216 kgCO2e
                                 = 846 tCO2e
```

Scope 2 market-based (assuming residual-mix EF ≈ 0.30 kgCO2e/kWh):

```
Renewable kWh:    3,679,200 × 0.25 = 919,800 kWh (×0 by REC contract)
Residual kWh:     3,679,200 × 0.75 = 2,759,400 kWh
                                   × 0.30 = 827,820 kgCO2e
                                   = 828 tCO2e
```

Both numbers are reported. The location-based figure does not change with procurement strategy; the market-based figure reflects the renewable PPA. A reporter that improves its PPA coverage from 25% to 75% would drop the market-based figure to approximately 276 tCO2e — a meaningful disclosure delta that is both auditable and operationally driven.

For a colocation operator allocating this to tenants: the same denominator (the per-tenant `consumed_kw` × hours) yields per-customer kWh that the operator passes through as the customer's attributable energy. The customer multiplies by the same regional EF in their own SB 253 filing.

Deadlines and Assurance

Year	Event
2025	Reporting year for first Scope 1+2 report
2026	**First Scope 1+2 report due** (covering CY2025) with limited assurance
2026	Reporting year for first Scope 3 report
2027	**First Scope 3 report due** (covering CY2026) with limited assurance
2030	Scope 1+2 transitions to reasonable assurance; Scope 3 to limited assurance

CARB has signalled flexibility on enforcement of initial deadlines as the implementing rules are finalised. Operators should track CARB rulemaking notices for definitive dates. The **statutory schedule** above is the dating against which compliance preparation should be planned.

What “limited” vs. “reasonable” assurance means

- **Limited assurance** is roughly equivalent to a review-level engagement. The assurance provider performs procedures to identify material misstatements but does not provide an audit-level opinion.
- **Reasonable assurance** is the audit-equivalent standard. More extensive procedures, higher cost, lower tolerance for data quality issues.

A reporter must be able to substantiate every number it discloses with auditable records — meter readings, contracts, calculation worksheets. **Excel files without underlying data sources do not survive assurance**. Continuous instrumentation-backed records from a DCIM are far easier to defend than monthly point estimates derived from utility bills alone.

First-Year Preparation Checklist

For a company in scope for the 2026 Scope 1+2 deadline.

Now — Q2 2026

- [ ] Confirm in-scope status: revenue > $1B and CA business.
- [ ] Identify reporting-year boundary (CY2025 for first Scope 1+2).
- [ ] Inventory all data-centre operations: owned sites, colocation contracts, cloud spend (Scope 3).
- [ ] For owned data centres: confirm continuous electricity metering is in place at every site for CY2025. Where it is not, the gap is a primary data-quality issue.

Q3 2026

- [ ] For each in-scope data centre site: extract CY2025 hourly consumption data. If only monthly utility-bill data is available, work with assurance provider on accepted approximation methods.
- [ ] For colocation operators: prepare per-tenant kWh exports for CY2025. Customers will start requesting these.
- [ ] For colocation customers: request per-site kWh attestation from each colo for CY2025.
- [ ] Apply 2025 regional emission factors (EPA eGRID for US, regional equivalents for international).
- [ ] Compile Scope 1 records: genset runs, refrigerant logs, etc.

Q4 2026

- [ ] Compute draft Scope 1, Scope 2 location-based, Scope 2 market-based.
- [ ] Engage limited-assurance provider; provide working files.
- [ ] Reconcile any assurance findings.

Filing — per CARB schedule, 2026

- [ ] Submit through CARB’s reporting platform (format and channel to be finalised in CARB rulemaking).
- [ ] Retain submission and assurance records for the statutory retention period.

Forward-looking — Scope 3 for 2027 deadline

- [ ] Begin Scope 3 inventory in parallel. Categories most relevant for data-centre-heavy operations: Cat 8 (upstream leased assets — your colo space), Cat 13 (downstream leased assets — your tenants’ use of your space), Cat 1 (purchased goods — IT hardware), Cat 11 (use of sold products — for IT vendors).

References

- **California SB 253** — Climate Corporate Data Accountability Act, Stats. 2023, Ch. 382.
- **California SB 261** — Climate-related financial risk disclosure (companion law, separate scope and threshold).
- **Greenhouse Gas Protocol Corporate Standard** — the methodology referenced by SB 253. World Resources Institute / WBCSD.
- **GHG Protocol Scope 2 Guidance (2015)** — defines location-based and market-based dual reporting.
- **California Air Resources Board** — implementing agency; track rulemaking notices for definitive deadlines and reporting format.
- **US EPA eGRID** — annual US grid emission factors by subregion.

Next Steps

- **Confirm in-scope status** — the $1B + CA test is binary. Do this first.
- **For each in-scope data-centre operation, confirm CY2025 kWh data quality** — if you cannot produce site-level kWh for the reporting year from instrumented sources, the 2026 deadline is a real risk. Rackvio's per-site IT-load tracking and per-tenant monthly consumption export fill the IT-side of this gap going forward; pair with utility-meter or BMS historians for the facility-total numerator.
- **Read the companion documents** — *The Stranded Power Problem* explains the capacity model that produces the IT-side kWh data the Scope 2 calculation depends on. *EED Compliance Playbook* covers the parallel EU regime for operators with multi-region exposure.
- **Bring an inventory to a working session** if you'd like Rackvio to map your existing telemetry to SB 253 Scope 2 reporting needs. Book at rackvio.com/demo.
