

Q1 2025 Market Update

See below: high-level overview of REC and Renewable Fuels markets as of April 2, 2025.

Karbone Research Recent Deliverables and Updates

- Karbone is the IESO of Ontario's REC broker for the **Ontario CEC Program**, the only way to buy unbundled Ontario-sited voluntary Wind & Solar RECs within the province. Contact Karbone's REC Commodity desk for any inquiries.
- The [Karbone Data Hub](#), now includes **20-year Merchant Curves** for 17 renewable energy credit contracts and D3 RINS prices. Contact research@karbone.com to learn more about our trade-informed forecasts across PJM, CAISO, NEPOOL and the National CRS market.

Macro Trends

- As all market participants awaited various will-they-won't-they decisions from the federal government regarding critical renewable incentives... REC prices across the US experienced noticeable volatility, but not for the reasons one might expect.
- Surprisingly, shifting state policies were among the main drivers behind several notable price declines in REC markets in Q1.
 - Lawmakers in several historically pro-renewable states proposed bills that could dramatically alter, or even eliminate certain RPS REC programs.
 - Most surprising of these states is New Jersey, where two bills were introduced that would severely alter the state's longstanding SREC program.
- Ratepayer pushback on higher energy bills has led to a growing contingent of concerned legislators who are looking for ways to keep rates down after several years of record-setting capacity and REC prices.
 - The persistence and effectiveness of this narrative will likely play a major role in REC policy and in turn, REC prices in RPS states across the country.
- Voluntary REC prices experienced a slight uptick for 2024 and 2025 RECs, as buyers re-entered the market looking to sure up their 2024 purchases and potentially purchase 2025 RECs while pricing is relatively low compared to previous years.
 - Long-term voluntary REC hedges continue to become a growing preference for corporate offtakers, who are looking for an inexpensive PPA alternative.
- California REC prices continued to slide after reaching record prices last year.
 - PCC1 and PCC2 prices fell to their lowest levels in the last three years, both dropping below Index+ \$20.00 in the prompt year for the first time since 2022.

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PJM RPS RECs

Q1 was a tumultuous quarter for PJM RECs across numerous asset classes. While Q1 is typically a busy time in PJM, the last few weeks of March were especially volatile.

Major RPS-altering bills were either introduced or progressing in nearly every major PJM states. Surprisingly, several of these bill's intentions are to weaken aspects of state's RPS programs— either pushing back requirements or lowering ACPs.

New Jersey SRECs

Two bills introduced in the New Jersey Legislature rocked the NJ SREC market in late March.

- The first bill would reduce the NJ SREC ACP to \$50.00 starting in 2026, with the ACP rate dropping \$10.00 annually after that, until it reaches \$10.00 / SREC in 2030.
- The second bill, introduced in the NJ Senate, would eliminate the SREC program altogether and replace SRECs with a \$95.00 “incentive payment” paid out by the state BPU to SREC generators for the remainder of their SREC eligibility.

	2026	2027	2028	2029	2030	2031	2032	2033
Current NJ SREC ACP	\$198	\$188	\$178	\$168	\$158	\$148	\$138	\$128
Proposed NJ SREC ACP (Bill A4560)	\$50	\$40	\$30	\$20	\$10	\$10	\$10	\$10
Proposed Flat Rate Payment (Bill A4300)	\$95	\$95	\$95	\$95	\$95	\$95	\$95	\$95

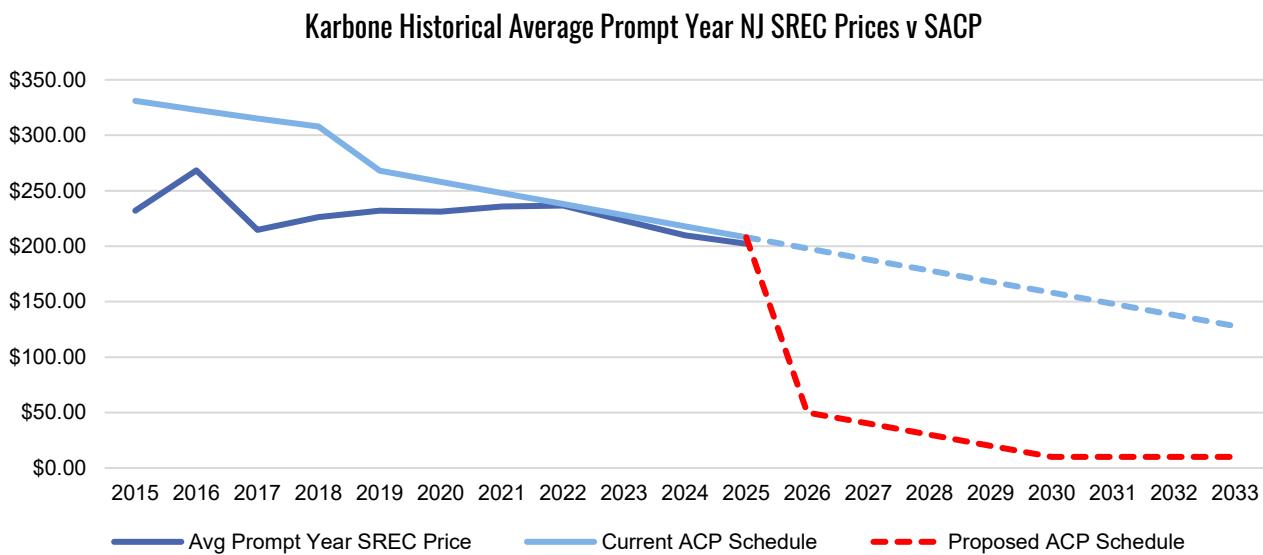
Karbone Research's merchant forecast for NJ SRECs show a \$100-plus gap between current market prices and the proposed revised alternative compliance payment from 2026 through 2033, potentially leaching hundreds of millions of dollars in forecasted SREC revenue from infrastructure developers and NJ business owners that have used that policy to underwrite the buildout of solar power in New Jersey.

The financial effect on SREC generators not be overstated, but the overarching trust when developing solar facilities in New Jersey would also be compromised if the legislature were to vote in approval of either of these bills.

- In the last decade, New Jersey has been a beacon of relative stability for solar developers, with high incentives that have ultimately been backed by the state BPU.
- If the state were to move the goalposts in this instance and short-change SREC generators, there's no guarantee the state will not do the same with its other solar programs in the future. This added layer of risk could sour developer's trust in the state and ultimately lead to less of a solar build out in NJ.

PJM RPS RECs

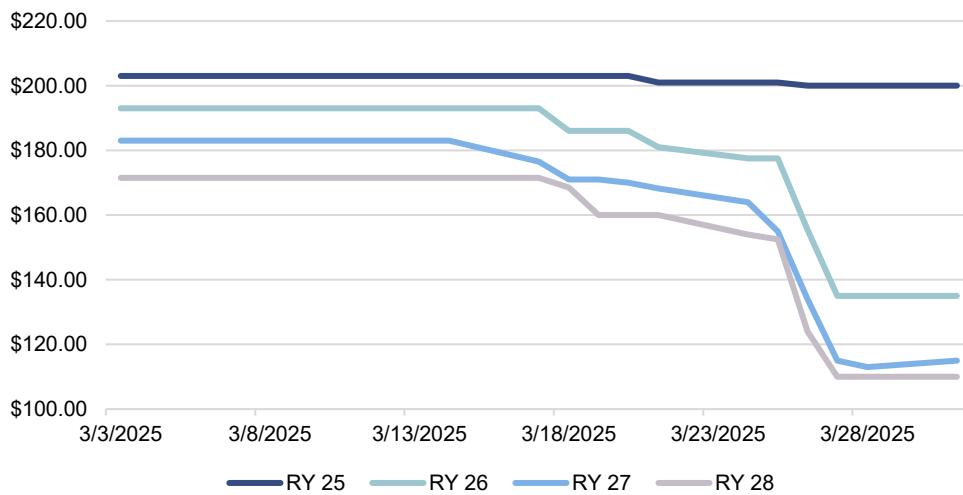
New Jersey SRECs (Continued)



SREC futures crumbled as news of these two bills spread through the market. Large blocks of NJ SRECs traded as IPPs started hedging and traders began de-risking their own positions. Here's how SREC prices have changed in the last 4 weeks –

- EY25 SRECs, unaffected by the proposed legislation, are trading flat still, around \$200.00 -201.00 / SREC
- EY26 SRECs fell from ~\$193.00 / SREC to \$135.00 / SREC, a ~30% decline
- EY27 SRECs have come down further, trading around \$115.00 / SREC, a ~37% decline
- EY28 SRECs have also declined around 37%, currently trading around \$110.00 / SREC

NJ SREC March 2025 Pricing



PJM RPS RECs

PJM Class/Tier 1 RECs

Aside from NJ SRECs, Tri-qualified RECs and the broader Class/Tier 1 RECs bore the brunt of downward volatility in PJM, with prices for RY25 Tris dropping 16% in the span of a month. While the legislative actions in NJ were the direct cause of falling SREC prices, broader PJM volatility can not be attributed to legislation alone.

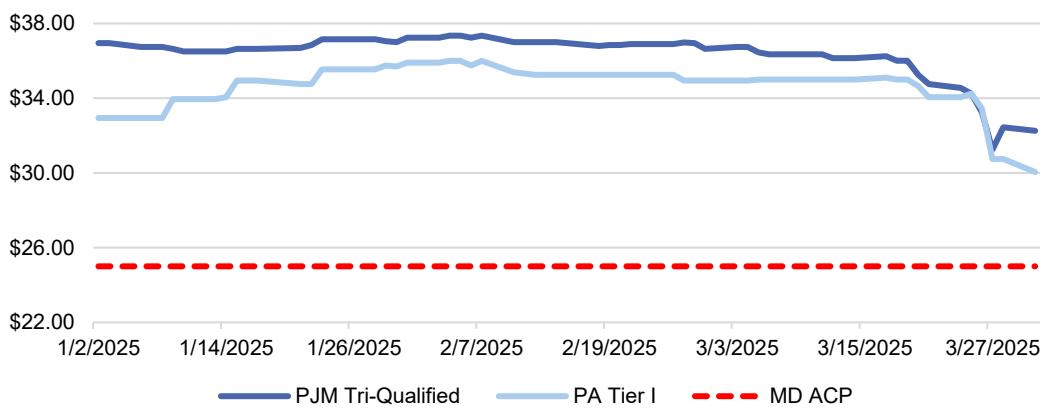
All vintages of Tri-Qualified RECs experienced a rapid decline in price over the last week of March, falling 10-15% in the matter of ~5 days. Tris haven't experienced this level of volatility since late 2023, when prices quickly climbed into the mid to upper \$30.00 range for the first time.

End of Month PJM Tri-Qualified REC Pricing			
	January	February	March
EY 2025	\$37.00	\$36.55	\$32.45
EY 2026	\$38.65	\$37.65	\$32.50
EY 2027	\$39.05	\$38.50	\$32.50

It is hard to predict when the bleeding will stop in the Class/Tier 1 market, but prices are starting to reach at least one hypothetical plateau—the Maryland Tier 1 ACP (\$25 for 2025).

- Most Maryland buyers have not reached above the ACP to make their REC purchases in recent years, so if the market continues to fall to the ACP level, a new buyer pool could be unlocked and provide at least temporary support.
- Keeping this in mind, RPS buyers across PJM are feeling no particular rush to catch the falling knife, so prices could continue to decrease past the MD ACP threshold if buyers remain on the sidelines and the sell-off continues.

2025 MD Tier I ACP vs. RY 25 PJM Tri-Qualified and PA Tier I Pricing



PJM RPS RECs

Not to be outdone by New Jersey, Virginia legislators introduced their own bill that sent ripples across the state's REC market.

- 2025 was widely expected to be the first year Dominion would need to procure 75% of its REC demand from in-state resources, a lofty benchmark that would be impossible for the utility to meet long-term.
- A bill pushing that requirement back to 2027 quickly moved through the legislature, but Governor Youngkin sent a poison pill back to the legislature— proposing instead to suspend the RPS entirely until 2028.
- The near-unanimous consensus is that the governor's bill will not be considered, leaving the original bill with an uncertain future for the time being.

PJM Class/Tier 1 RECs

The unfortunate news for PJM solar developers amid this recent volatility is – PA Tier 1 pricing was **not** immune to this quarter's price decreases.

- PA Tier 1 REC pricing has still decreased ~15% over the last few weeks.
 - RY25 is trading around \$30.50 / REC
 - RY26 is trading around \$28.45 / REC
 - Losses were most acute in the RY25 - 29 range, so for assets coming online in the RY27/28 timeframe, it will be interesting to see how market buyers price the events of the last few weeks: as noise, or a real concern.

PA Tier I REC Price % Change: Jan -> March 2025	
RY 2025	-8.80%
RY 2026	-8.23%
RY 2027	-6.50%
RY 2028	-6.83%
RY 2029	-5.26%
RY 2030	-5.66%
RY 2031	-6.12%
RY 2032	-6.54%
RY 2033	-4.55%
RY 2034	-4.76%

The NJ + VA legislation would have varied effects on the broader Tri-Qualified market.

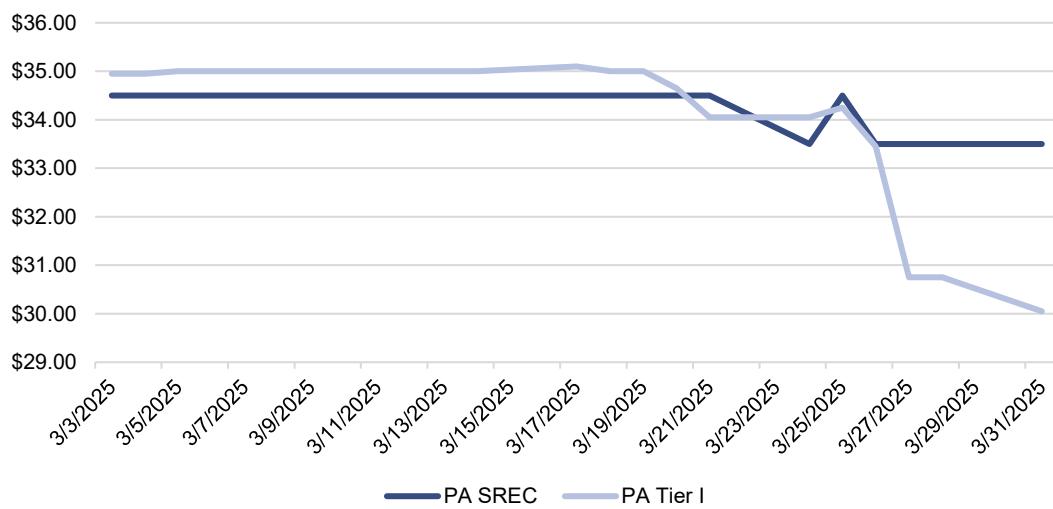
- If no Virginia bill is passed, then out-of-state VA RPS eligible supply will stop flowing to Dominion, reducing the demand for these RECs by excluding one of the bigger compliance markets.
 - The spread between VA in-state RECs compared to generic Tri-Qualified RECs could then grow even larger.
 - The out of state supply selling into VA historically would then need to find a new home with either NJ, PA, MD, or DC's RPS buyers.
- Meanwhile for the first NJ Bill, the ACP for NJ SRECs would be low enough by the 2027 - 2029 timeframe that some (or most) NJ SRECs will flow into the NJ Class 1 market instead, adding new supply into the market several years earlier than most participants had modelled for.

PJM RPS RECs

Regardless of the likelihood of passage, the bills introduced in PJM in recent weeks have instilled some fear into the market.

- There is a clear sentiment among some legislators in PJM that rising energy costs (due in some part to record capacity prices) are an important issue to their constituents. As keeping ratepayer costs down becomes a higher priority, there could be increased scrutiny on high REC prices.
- Keeping that in mind, the bills that states are now considering have changed the way market participants need to consider risk. If there isn't a strong degree of certainty that the states will continue to support their RPS programs, that risk needs to be factored into REC positions, hedging strategies, etc. which ultimately can lead to a steep sell-off.
- Putting the fear in the market aside, the fundamentals for PJM Tri-Qualified RECs remains unchanged—without offshore wind, it will likely be short-supplied market in the future, so long as the current RPS frameworks remain in place.

RY25 PA SRECs v PA Tier I



PA SRECs

- PA SREC pricing has overall improved in the last quarter, with RY25 starting the year at \$32.50 and now settling around \$33.50.
- RY2026's started the year trading at \$32.75 and have also jumped into the new quarter at \$34.00.
- PA SRECs have for the time being withstood the downward price pressure that has brought PA Tier 1 REC pricing lower in recent weeks. The re-emergence of a PA SREC / PA Tier 1 spread is a tad surprising, given that PA Tier 1 RECs pushed PA SREC prices higher in the last few years.

PJM RPS RECs

MD SRECs

- MD SREC spot prices continue to trade within a couple dollars of their respective ACPs with little to no pricing volatility year to date.
- The potential for new legislation that would increase the MD SREC ACP down the curve has led to increased interest for mid to long-term strips holds as end users work to lock down volume for the foreseeable future.

DC SRECs

- Cal25s began the year trading around \$429.25 and ended the quarter trading around \$432.50, a relatively tame pricing change for the product.
- Cal26 vintage followed a similar pricing trajectory, starting the year off at \$420.00 and ending the quarter at \$424.75.

NJ Class 2s

- RY25s and RY26s had a quiet start to the year until halfway through the quarter when the two vintages converged at ~\$38.50. They both remained at this level for around a month before both stepping down in tandem to ~\$35.25 to end the quarter.
- Though not a sharp drop in prices, this is the lowest that RY25s and RY26s have traded since May of 2023.

PA Tier 2s

- RY25s and RY26s are currently trading at \$34.50 and \$34.75 respectively. The two vintages began the quarter at \$36.40 and \$36.75 before ticking slightly up, and then ultimately dropping down to current levels.
- Towards the end of Q1, RY25s and RY26s traded places several times, with RY25s occasionally surpassing RY26s as the more expensive vintage.

Karbone now has Merchant Curves available on the Karbone Data Hub for all PJM SREC markets and Tier//Class 1 markets. Curves for most markets are 20 year forecasts and include low, base, and high case supply and demand scenarios, factoring in several key PJM variables like offshore wind deployment timing, and cross-qualification between products. If you have exposure to PJM REC markets and would have interest in this type of merchant forecast, please let us know.

Voluntary REC Markets

CRS Listed RECs

- Alongside the typical seasonal buyers in the market in Q1 were some major buy-side RFPs, some of which were for several million RECs for RY24 and//or RY25.
 - A handful of large RFPs for RY26 and beyond also stirred up liquidity and pricing for the front half of the CRS curve.
- RY24 pricing fell from \$1.80 to start the year, to as low as \$1.50 in late January, the lowest point that vintage had traded to date.
 - Then, buyers began entering the market with large orders to fill, leading to RY24 trading above \$2.00 to close the quarter, the highest point it's traded since July 2024.
- RY25, now the prompt vintage, also declined into January, closing the month at \$1.78 (the lowest the vintage had traded at the time), before climbing as high as \$2.30+ in recent weeks, where it has since leveled off.

Long-term CRS REC Trends

- Even with some price improvement on the first few years of the curve, the CRS 15 year curve is still in steep contango, trading above \$5.50 - \$6.00 + for fifteen years for some new build assets.
 - Post 2033, the CRS curve plateaus between \$5.50 and \$5.95, meaning the back ⅓ of the curve carries its average price up substantially.
- Buyers' sophistication levels continue to evolve and move into different camps-
 - Several of the larger multi-year RFPs in the market at the moment are calling for asset-specific offerings, with preference for assets in "dirtier" e-grid regions.
 - Meanwhile some of the RFPs earlier in Q1 for RY24 or RY25 RECs didn't even require CRS-Listed status, just generic wind or solar to fit the bill.

CRS REC Price % Change: Jan 2025 -> March 2025	
Cal 2024	12.92%
Cal 2025	4.48%
Cal 2026	8.21%
Cal 2027	8.11%
Cal 2028	6.13%
Cal 2029	-3.54%
Cal 2030	-3.41%
Cal 2031	-1.11%
Cal 2032	1.75%
Cal 2033	0.00%

Voluntary REC Markets

US & Canada Voluntary RECs

National Hydro REC pricing has not experienced as much of a rebound as the CRS market in recent months.

- 2024 Hydro pricing has fallen below a dollar as the vintage effectively “expires” from being the prompt year in the voluntary market.
 - This leaves a \$1.00+ spread between hydro and CRS wind for 2024, a much larger spread than the end of 2024, when CRS prices were falling closer to the hydro range.
- MISO Sited hydro has fetched steep premium, maintaining its > \$1.00 price while national hydro has fallen.
- Multi-year hydro strips are still trading at a premium, fetching \$2.00+ / REC.

US sited biomass & other thermal techs’ pricing has remained stable.

- 2024 Wood Waste and LFG RECs are trading around \$0.50 - \$0.60 / REC
- 2024 BLQ and Waste Heat Recovery RECs are trading around \$0.25 - \$0.40 / REC
- A premium for specific regions, notably MISO, has grown for voluntary RECs. While trades are infrequent and illiquid, a 25-50% premium can materialize compared to national prices.

Ontario CECs (Voluntary RECs)

Karbone has been selected by the Independent Electricity System Operator (IESO) to design, market, and execute the sales of the organization's one of a kind voluntary Clean Energy Credit (CEC) program for the province of Ontario, Canada.

- The program gives buyers the choice to purchase from four tiers of CECs, the highest tier being from new COD facilities, and the lowest tier being Hydro CECs from legacy Ontario dams, with Solar and Wind CECs as tier 2 and 3 respectively.
- Buyers will be provided full price transparency and will be facing the owner of the attributes, the IESO, directly in each transaction to ensure the program is free from speculative motives and re-selling.

Ontario CEC Pricing (\$CAD)				
	New Solar & Wind	Solar	Wind	Hydro
1 Year (2024)	\$6.06	\$3.10	\$2.48	\$1.03
2 Years (2024-2025)	\$5.94	\$3.04	\$2.43	\$1.01
3 Years (2024-2026)	\$5.82	\$2.98	\$2.38	\$0.99
5 Years (2024-2028)	\$5.57	\$2.86	\$2.28	\$0.95
7 Years (2024-2030)	\$5.33	\$2.73	\$2.18	\$0.91
9 Years (2024-2032)	\$5.09	\$2.61	\$2.08	\$0.87
10 Years (2024-2033)	\$4.97	\$2.55	\$2.03	\$0.85

WECC & Book and Claim RECs

California Book and Claim (B&C) RECs

The California B&C market experienced some choppy trading at times in Q1.

- In late February, CARB's revised LCFS rule proposal, which would have set stricter targets for the LCFS program, was struck down by the state's Office of Administrative Law (OAL).
 - The unexpected announcement, though just a procedural error that can be resubmitted, sent the LCFS market into a nose-dive, which subsequently tapered B&C bids.
 - CARB has 120 days to fix the issues flagged by the OAL, but a member of CARB has recently indicated they will resubmit much sooner
- B&C prices reached as high as \$14.00 / REC before the OAL announcement, but prices quickly fell in tandem with LCFS... trading as low as \$11.00 before recovering into the ~\$13.00 - 14.00 range.
- **Despite the hiccup related to the OAL ruling, long-term B&C hedges are still clearing \$11.00 / REC.**

California PCC3 & Washington RPS RECs

- PCC3 prices climbed slightly for Cal24 and 25 in Q1, with Cal 24 prices starting the quarter around \$4.25 before reaching ~\$5.15 come the end of March.
- Washington CRS + RPS prices fell for Cal24 ahead of BPA's expected deliveries of WECC RECs into offtakers WREGIS accounts.
 - Cal 24 RECs were trading slightly below \$9.00 to start the year, but have since fallen to the \$6.50 - 7.00 range.
 - Cal 25s, which were trading above \$11.00 in January, are now closer to the \$9.50 range.
- Despite falling prices, WA RECs are still trading at a clear premium to PCC3s, and continue to set the benchmark for the WECC unbundled RPS market.

WECC CRS Listed & Oregon RPS RECs

- RY24 WECC CRS REC prices continued to fall in Q1, trading around \$4.75 to close the quarter, a noticeable decline from the \$6.75 price the vintage was trading at for most of the summer last year.
- RY25 pricing also fell, though not as severely, from \$8.00 last summer, to \$6.50 as of the end of March.
 - It is becoming clear in the WECC that if a CRS Listed REC isn't paired with a PCC3 or WA RPS designation, it does not hold nearly as much value as it did a few years ago, when WECC CRS RECs regularly fetched \$8.00 + / REC.
- Oregon RPS REC pricing remained unchanged.
 - Cal24 has traded between \$2.50 and \$3.00 in recent weeks.
 - Cal 25 has traded between \$2.75 and \$3.25 since the beginning of Q1.

CAISO RECs

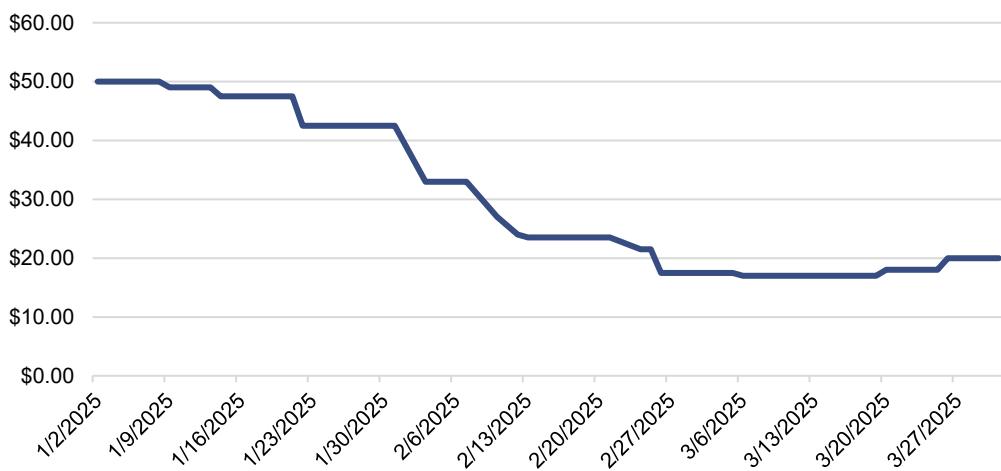
REC Pricing across California continued on its downward spiral in Q1, finally reaching a potential bottom in recent weeks for some vintages.

PCC1 RECs

After clinging slightly below the penalty level for several weeks, Bal 2025 prices dropped over 70% in Q1, trading as low as Index + \$16.00 / REC in February.

- January was for the most part, a continuation of the last few months of 2024 for PCC1 RECs, with buyers sitting on the sidelines, and sellers slashing offer prices on a weekly basis in a search for much needed liquidity.
- In February, buyers began appearing as prices dropped into their personal price-tolerance levels.
- Despite improved liquidity, Groundhog Day 2025 called for 6 more weeks of PCC1 winter, and prices continued to fall throughout the month, finally bottoming (at least for the time being) around index + \$16.00 in late February.
- Once prices reached the teens, more buyers swooped into the market seeking bargains, and large volumes began trading. Given the lack of liquidity and ever-changing prices, trades began clearing OTC anywhere from \$16.00 to \$26.00 depending on the trade specifics.

Bal 25 PCC1 Pricing: Jan 25 – Present



Unlike last year, where Bal25 pricing took the steepest nosedive in the PCC1 market, Cal 26 and Cal 27 PCC1 prices also dropped materially in Q1, with prices falling over 60% for both vintages.

- Unlike Bal25, prices for these vintages continued to fall as Q1 progressed, and have yet to display any signs of “bottoming out”.
- Pricing for these years was still above \$65.00 in January, but by February prices had reached the mid \$30.00s.
 - Both Cal 26 and 27 were trading as low as index + \$25.00 in the last week of March.

CAISO RECs

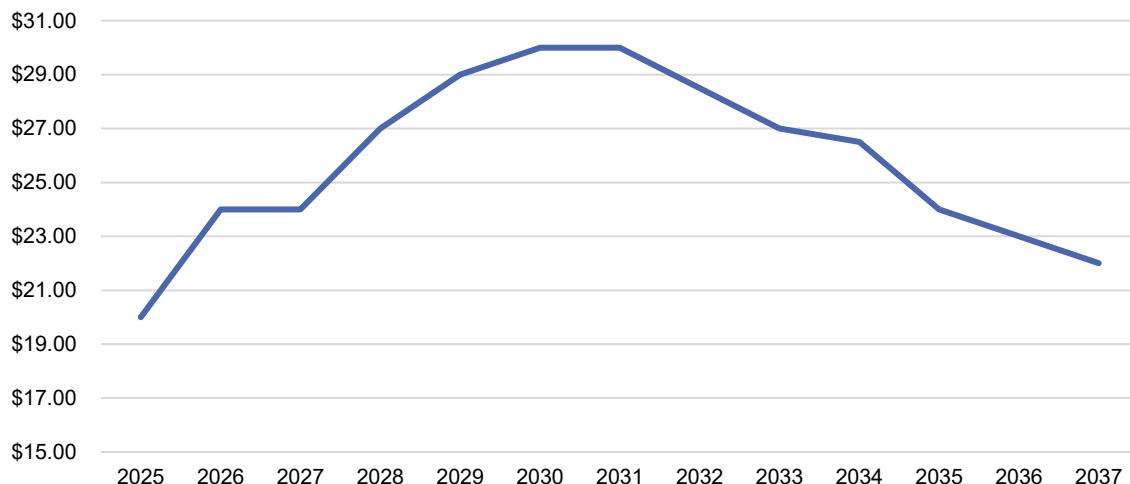
Looking at the longer timeline, prompt year PCC1 RECs are trading at their lowest levels since November 2022, meaning it's been nearly 900 days since we experienced sub \$20.00 PCC1 RECs.

- It is shocking to think that a product trading \$50.00 above the penalty 8 months ago is now trading \$70.00 lower than its August 2024 highs, but that is the reality faced by PCC1 market participants this year.
- Despite a bearish load forecast for 2025 released late last year, the fundamentals of the PCC1 market have remained relatively unchanged. There is still an expected short supply of merchant PCC1 RECs for the next compliance period, but a lack of liquidity has led to big swings in pricing, dependent on who's in the market at any given time.

The long-term PCC1 curve has not gone unscathed by the recent fall of Bal 25-Cal 28 REC prices.

- Though PCC1 prices have decreased down the curve, project economics have only become more expensive for developers, who in the past year were net-beneficiaries of higher PCC1 prices.
- It is currently unclear where developers will make up the difference in their PPAs, but it could be likely that long-term REC prices in the generic market potentially diverge from REC prices in one-off PPAs for new build assets that are MTR eligible.

PCC1 Forward Curve



CAISO RECs

PCC2 RECs

PCC2 RECs experienced a near identical drop in pricing as PCC1 over the last few months.

- Bal 2025 RECs traded as high as Index + \$40.00 to start the year, but continued last year's steady price decline, with prices dropping weekly until bottoming between Index + \$10.00 and Index + \$12.00 in late February and early March.
- 2026 and 2027 PCC2s experienced similar declines, with both vintages trading ~50% lower compared to when the year began.

Since early March, Bal25 pricing has improved from the Index+ \$16.00 to Index+ \$18.00 range, which can be partially attributed to the differing economics of PCC1 and PCC2 RECs.

- If the price of PCC1 is at \$18.00, or \$95.00, the incentive for CAISO generators (notwithstanding curtailment considerations) is largely unchanged. Any REC not sold as PCC1 will have lost value, so it's better to try and catch the falling knife rather than wait for alternatives.
- For a large portion of the new sellers in the PCC2 market however, once price dips below a certain threshold, the trade doesn't pencil, and the sellers simply won't sell into the PCC2 market.
 - Power marketers and neighboring utilities who have power already scheduled into CAISO will still have the strong incentive to sell PCC2 regardless of price.
 - But, for large generators in Alberta, Colorado, etc. who are reliant on another entity importing replacement power, there reaches a point where the alternative environmental attribute—either a WECC PCC3 REC, Alberta Offset, or WA RPS REC, becomes the more lucrative (and less time/resource intensive) option.
 - Each seller's personal price tolerance threshold will dictate how much of this market trades beyond the traditional out of state utility imports. For the time being however, sub-\$20.00 PCC2 prices will likely keep many prospective sellers on the sidelines waiting for a stronger price environment.
 - At this point in time, it can likely be assumed that the PCC2 import play has been at least explored, if not implemented by nearly every eligible WECC wind and solar facility that has merchant power.

Carbon Free Power + RECs

Carbon free prices for Bal25 and Cal26 both dipped mildly in Q1.

- Bal 25 prices fell from \$18.00 to \$12.00, while Cal 26 declined from \$20.00 to \$16.00.
- The convergence of Carbon Free and PCC2 has led some market participants to wonder if buying CF RECs is worthwhile when PCC2s are only slightly more expensive.

NEPOOL RECs

Class 1 Markets

- MA & CT Class 1 RECs continue to see limited volatility, hugging the market's \$40.00 / REC ACP.
- Class 1 pricing remains within a dollar of the ACP for the Cal 24,25, & 26 vintage respectively.
- Long-term pricing remains strong down the curve:
 - Cal 25-Cal 27: ~\$38.50 / REC
 - Cal 25-Cal 29: ~\$38.50 / REC
 - Cal 25-Cal 31: ~\$37.00 / REC
 - Cal 25-Cal 34: ~\$33.00 / REC
- The largest factor affecting pricing continues to be the expected halting of offshore wind projects with the new federal administration.
 - These project delays and general development uncertainty embolden current bullish market trends further out on the curve for all Class 1 products.

Karbone now has Merchant Curves available on the Karbone Data Hub for all NEPOOL Class 1 REC markets. Curves for most markets are 20-year forecasts and include low, base, and high case supply and demand scenarios, factoring in several key NEPOOL variables like offshore wind deployment timing, and cross-qualification between products. If you have exposure to NEPOOL REC markets and would have interest in this type of merchant forecast, please let us know.

MA SRECs

- MA SREC-II pricing has held steady for the quarter with Cal 25 RECs trading at \$235.50 based on the current market.
- Each forward vintage down the curve is trading at a discount from the previous year's vintage amid the upcoming expiration of the SREC-II program.
- MA SREC -Is had a stagnant quarter with Cal2024s & Cal2025s trading at \$307.00 & \$305.00 respectively.

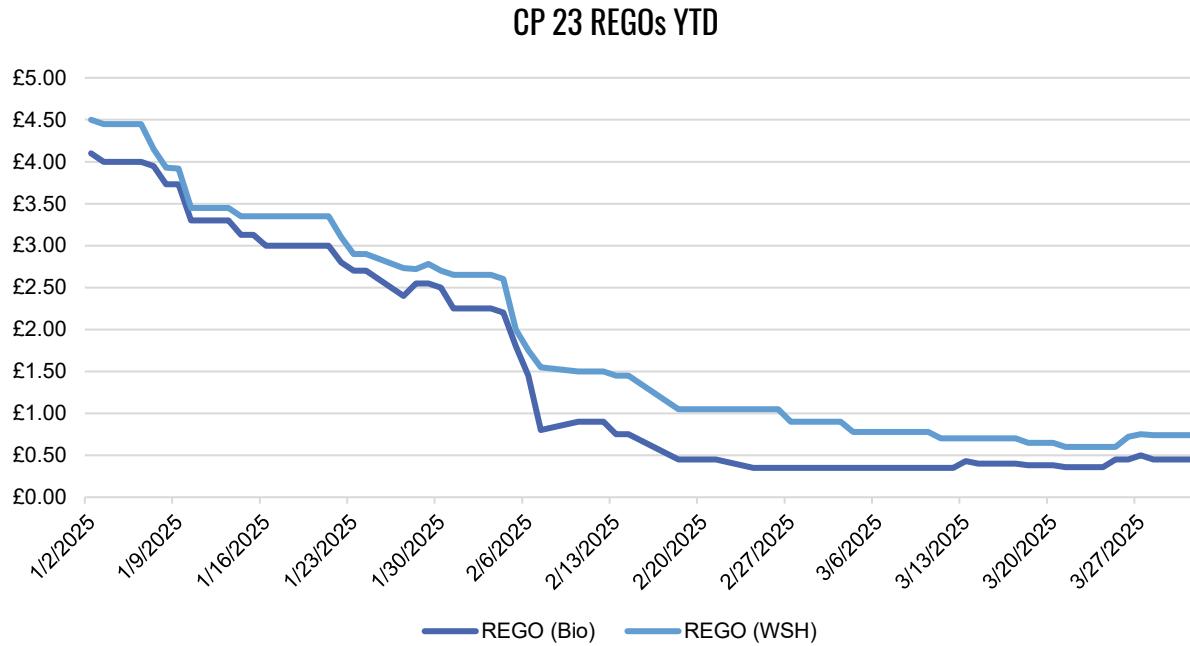
MA Clean Peak Energy Standard

- Starting in January the MA CPEC emergency legislation increased the ACP to \$65.00, making Q4 Cal 2024 generation the last generation to honor the previous \$45.00 ACP.
- 3-5 year buy-side interest remains strong for utility scale projects as buyers continue to aggregate small volumes from existing assets waiting for larger projects to come online.
 - Developers continue to push toward 2026/2027/2028 COD's on larger scale projects as they look to factor the new ACP into CPEC pricing outlook.
- If you are looking for mid to long-term offtake on your CPEC Eligible project, please reach out to Karbone's REC brokerage desk.

Global Products

REGOs

- UK REGO prices continued to fall amid low liquidity in Q1 2025, with the price curve flipping into contango as buyers prop up liquidity further out the curve.
- Liquidity was most prominent in trades of non-bio CP26-28 strips throughout the quarter, which followed the momentum of price drops on the front of the curve closing the quarter trading around £1.80-1.85. The expectation of more regulatory developments over this period has encouraged buyers to take advantage of the current low pricing.
- CP23 has seen the largest price drop, falling 80% since the beginning of the year. Due to the record high pricing seen in 2023, energy suppliers and corporate end users opted to reduce their renewable energy commitments which is seen in the overall demand for the current CP.
- The market downturn has made prices more manageable for buyers who may look to step back into the market at low prices. There was a liquidity burst in the prompt year contract at the end of March in bio and non-bio that allowed for large volumes to clear OTC as well as via auction and prices have found support at £0.45 and £0.75 respectively.

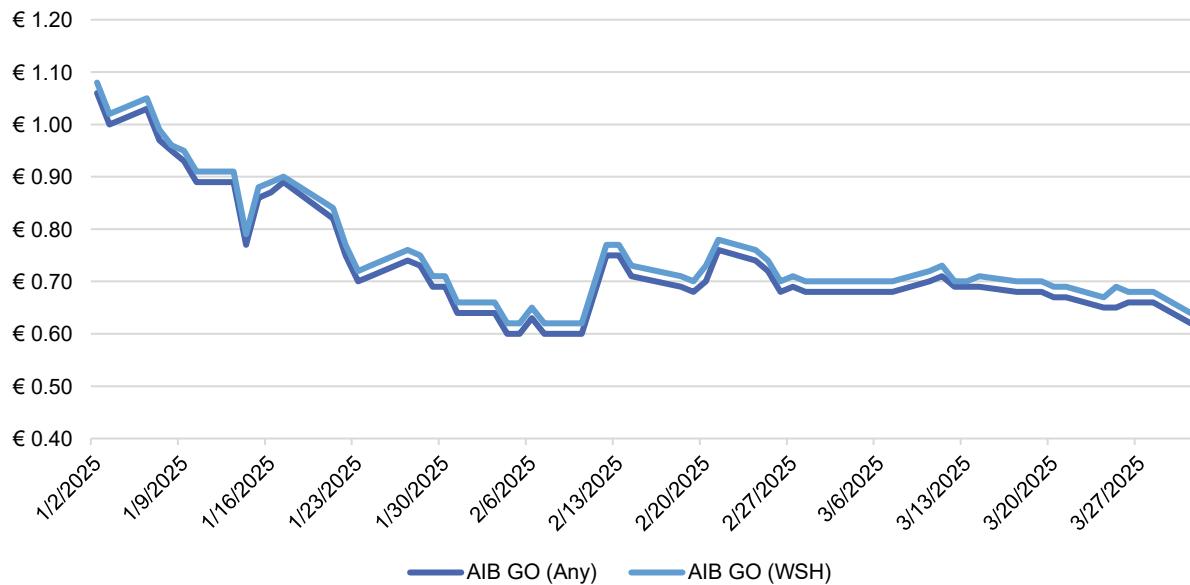


Global Products

GOs

- European GO prices have stayed low to start 2025 after their steep decline throughout 2024. A heavily oversupplied market has contained any hope of a rebound despite being far more liquid than the REGOs mentioned above.
- 2024 volumes have held just below €0.20 / MWh, held up by the carry forward eligibility changes implemented in some countries. This allows end users to retire previous year GOs for their current year reporting purposes, and has added to current and future inventories.
- 2025 volumes have hovered around €0.65-€0.75 / MWh to start the year, with future years each about €0.15 / MWh higher than the last.
- AIB GOs continue to be the most liquid product, and have taken over a majority of the traded market. Each new country admitted to the Association of Issuing Bodies over the past 2 years have become net exporters, adding to the supply glut.
- Even with prices out the curve moving closer to the spot market, GOs remain in contango. This is largely due to expected regulatory changes, the most prominent regulation being the Corporate Sustainability Reporting Directive in the EU. While that will increase corporate sourcing, it is not expected to be implemented until 2029.

2025 GOs YTD



Global Products

I-RECs

- The I-REC market has continued to grow in Q1 2025, with trading activity in Latin America particularly picking up pace. The total I-REC redemptions during February 2025 totaled 45.1 TWh, up 37.5% during the same period in 2024. 20.9 TWh of these redemptions were Brazil I-RECs. Another 9.1 TWh was retired from the rest of Latin America and the Caribbean putting the region around 64.5% of all redemptions in February 2025.
- Mexico I-RECs saw prices jump over Q1 2025, with 2024 vintage credits going from \$1.80 at the beginning of January to as high as \$4.15 USD/MWh in mid-February. The price spike was mainly due to spot demand outweighing already issued credits and overall supply from producers in the country. Now pricing is holding up around \$3.40-\$3.90 for 2025 vintage Mexico I-RECs, as some sellers are withholding from offering volumes while they wait for the volumes to issue.
- Guatemala demand increased year-on-year while prices for 2024 vintage credits jumped during Q1 2025. Guatemala I-RECs which have previously been considered very illiquid have seen an increase in demand causing prices to reach as high as \$1.15-1.40 USD/MWh for Solar technology, previously prices stood stagnant around \$0.50 USD/MWh. This has been driven by the overall increase in demand for I-RECs in the Latin America.
- China GEC prices have come down quite heavily as the market has become more oversupplied. By Dec 2024, there were just under 5 PWh of GECs issued, against a trading volume of only 500 TWh. Prices currently stand around \$0.75-90 USD/MWh, down from \$1.20-1.40 USD/MWh at the beginning of the year.