

CERTIFIED FOR PUBLICATION

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

FIRST APPELLATE DISTRICT

DIVISION THREE

CENTER FOR BIOLOGICAL
DIVERSITY, INC., et al.,

Petitioners,

v.

PUBLIC UTILITIES COMMISSION,
Respondent;

PACIFIC GAS AND ELECTRIC
COMPANY et al.,

Real Parties in Interest.

A167721

(Cal.P.U.C. Dec. No. 22-12-056)

For nearly 30 years, California has used a net energy metering (NEM) tariff to encourage public utility customers to install renewable energy systems (renewable systems). In practical effect, the tariff requires utilities to purchase excess electricity exported by renewable systems to the electrical grid at the price paid by a utility's customers for electricity. Utilities have long been rankled by the tariff, contending it overcompensates owners of renewable systems for their exported energy and thereby raises the cost of electricity for customers without such systems.

In 2013, the Legislature responded to these concerns by enacting Public Utilities Code section 2827.1 (undesignated statutory references are to this code), which requires the Public Utilities Commission (Commission) to adopt

a successor tariff to govern utility billing of customers with renewable systems. Among other objectives, section 2827.1 requires the successor tariff to promote the continued sustainable growth of renewable power generation while balancing costs and benefits to all customers. (*Id.*, subds. (b)(1), (3), (4).) In 2022, the Commission adopted a successor tariff, which significantly reduces the price utilities pay for customer-generated power.

Petitioners Center for Biological Diversity, Inc., Environmental Working Group, and The Protect our Communities Foundation (collectively, petitioners) filed a petition for writ review of the successor tariff, contending it fails to comply with various requirements of section 2827.1. Among other claims, petitioners argue it does not take account of the social benefits of customer-generated power, improperly favors the interests of utility customers who do not own renewable systems, fails to promote sustainable growth of renewable energy, and omits alternatives to promote the growth of renewable systems among customers in disadvantaged communities.

In this writ matter, the scope of our review is “limited” (*City and County of San Francisco v. Public Utilities Com.* (1985) 39 Cal.3d 523, 530), and there’s a “strong presumption” in favor of the Commission decision’s validity. (*Toward Utility Rate Normalization v. Public Utilities Com.* (1978) 22 Cal.3d 529, 537.) Applying the applicable deferential standard of review, we conclude the successor tariff adequately serves the various — albeit sometimes inconsistent — objectives of section 2827.1 and thus affirm.

BACKGROUND

The supply of power generated by renewable systems is neither constant nor consistent. Residential solar power systems, for example, generate electricity only when the sun shines, and the amount of power they generate depends on the intensity of the sunlight. By contrast, the use of

electricity by a residence with a solar power system is independent of the supply of sunlight. Such systems often produce more electricity than needed by the residence during sunny days, and they produce no power after dark — notwithstanding the residents’ continuing need for electricity. Utilities remedy this imbalance. They supply supplemental electricity to customers with renewable systems when the systems do not generate sufficient power to meet the customers’ needs, and the power grid accepts and uses the excess electricity available when a renewable system produces more power than needed by the generating residence.

The NEM tariff governs the way that owners of renewable systems are billed by their utility. The state’s first NEM tariff was created in response to the enactment of section 2827 in 1995. (Stats. 1995, ch. 369, § 1.) The purpose of the legislation was to clear regulatory hurdles to utilities’ purchase of excess power generated by residential solar power systems and to create a regulatory structure for that purchase. (See Assem. Com. on Utilities and Commerce, Analysis of Sen. Bill No. 656 (1995–1996 Reg. Sess.) as amended June 7, 1995, at pp. 1–2 (Assem. Analysis).) The purchase of excess energy was expected to “encourage private investment in renewable energy resources” by helping to defray the then-substantial costs of solar power system installation.¹ (§ 2827, subd. (a); Assem. Analysis, at pp. 1–2.) Under the original NEM tariff (NEM 1.0), residences with solar power systems were allowed to install an electricity meter that measured the

¹ Originally, the NEM tariff required by section 2827 applied only to solar power systems operated by a utility’s residential customers. (Former § 2827, subd. (b).) The tariff now applies to any “renewable electrical generation facility” with a total capacity of less than one megawatt operated by a utility customer, regardless of the way the power is generated or the nature of the customer. (§§ 2827, subd. (b)(4)(A); 2827.1, subd. (a).)

difference between the quantity of electricity supplied to the residence by the utility and the quantity of electricity supplied to the grid by the residence — thus the name, “net energy metering.” (Former § 2827, subds. (c), (d).) The residence was charged only for this difference, which represented the residence’s *net* use of electricity from the power grid. (*Id.*, subd. (f)(2).) By offsetting exported power against imported power, NEM 1.0 functionally required utilities to purchase excess power generated by residential solar power systems at the price paid by their customers for electricity.

Even prior to the enactment of section 2827, the proposed NEM tariff was criticized as “provid[ing] an electric ratepayer subsidy to purchasers of expensive residential photovoltaic systems.” (Assem. Analysis, at p. 3.) As characterized in a contemporary bill analysis, the NEM tariff’s opponents argued such an approach “assumes that [exported and imported power] have the same value, when they [do] not. A kwh [kilowatt-hour of electricity] delivered to a customer is a retail commodity while a kwh sold to the utility is a wholesale commodity and the prices for the two commodities are different. Instead of netting out kilowatt hours sold, opposition believes a more accurate system would net out the relative prices of the commodities that have been exchanged.” (*Ibid.*)

The 2013 enactment of section 2827.1 required the Commission to adopt a successor tariff to replace NEM 1.0. (§ 2827.1, subd. (b); Stats. 2013, ch. 611, § 11.) The Commission characterized the general purpose of the legislation as granting it “the ability to ‘address current electricity rate inequities, protect low income energy users and maintain robust incentives for renewable energy investments.’” A bill analysis prepared by the Senate Rules Committee explained a more specific purpose, observing that “[a]s transmission and distribution costs are typically one-half to two-thirds of a

residential customer’s billing, full retail NEM offers a substantial subsidy to NEM customers with the costs being shifted to non-NEM customers. . . . The Legislature has in the past justified this subsidy as it stimulates the solar industry, helps the state reach its renewable energy goals, and provides other external benefits.” (Sen. Rules Com., Off. of Sen. Floor Analysis, 3d reading analysis of Assem. Bill No. 327 (2013–2014 Reg. Sess.) as amended Sept. 3, 2013, pp. 6–7.)² Under section 2827.1, however, “[t]he [Commission] would be required to ensure that the [successor tariff] is based on the electrical system costs and benefits received by nonparticipating customers and prevents a cost shift to non-NEM customers.” (3d reading analysis, at p. 4.)

As an interim measure, the Commission adopted a revised tariff (NEM 2.0) in 2016 that sought to address some of the concerns surrounding NEM 1.0. NEM 2.0 continued to allow customers with renewable systems to offset excess electricity generated by their systems against electricity used, but these customers were charged a onetime interconnection fee and other periodic “non-bypassable” fees. It was anticipated NEM 2.0 would be subject

² Petitioners and real parties in interest Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company have collectively filed three requests for judicial notice of various Commission decisions, legislative history materials, and other state agency documents. Finding such materials to be appropriate objects of judicial notice (Evid. Code, § 452, subd. (c)), we grant the requests. We grant judicial notice of exhibit 2 to the Commission’s request for judicial notice for the same reason.

Given the extensive record of exhibits lodged by petitioners, we declined to require the Commission to file an administrative record but permitted the parties to request supplementation. We grant the Commission’s request to supplement the administrative record with exhibit 1 to its request for judicial notice. Although petitioners contend this document is not relevant, it appears to be appropriate for inclusion in the record. In granting these various requests, we do not mean to suggest a view on the relevance for our decision of any of the documents.

to Commission review in or after 2019, when a more permanent replacement for NEM 1.0 would be adopted.

In 2020, the Commission initiated a proceeding to “revisit” NEM 2.0. It ultimately adopted a successor tariff — which it calls a net billing tariff — in *Decision Revising Net Energy Metering Tariff and Subtariffs* (2022) Cal. P.U.C. Dec. No. D.22-12-056 (Decision). The “foundation” for the successor tariff was the Net-Energy Metering 2.0 Lookback Study, January 21, 2021 (Lookback Study), an evaluation of NEM 2.0 by outside consultants Verdant Associates, LLC, which concluded “NEM 2.0 participants benefit from the structure, while ratepayers see increased rates.” (Lookback Study, at p. 1.)

Drawing on the Lookback Study, the Commission found the NEM tariff “negatively impact[s]” utility customers who do not own renewable systems, particularly low-income customers, and is not cost-effective for the utilities’ customers. (Decision at pp. 10, 39, 43, 207.) The Commission reasoned the tariff allows owners of renewable systems to avoid paying their proportionate share of the “infrastructure and other service costs” associated with electrical service because these costs are “embedded in” the rates charged for electricity.³ When owners of renewable systems reduce their purchase of electricity from the grid, they necessarily reduce their payment of these costs. (*Id.* at p. 208.) A portion of renewable system owners’ share of the utilities’ fixed costs is thereby shifted to customers without renewable systems. The Commission found these shifted costs to be one of three drivers of high electricity rates, along with costs of transmission and distribution and wildfire mitigation. (*Ibid.*)

³ In addition to the costs of servicing customers and maintaining the power grid, these costs include funding for various public policy programs, such as those subsidizing utility service to low-income customers.

In addition, the Commission was concerned NEM takes no account of the time of day and season when the owner of a solar power system imports electricity. Yet the cost of electricity varies significantly with the time of its use — peaking in late afternoon and early evening. By overriding these cost variations, NEM fails to incentivize more efficient use of power by owners of renewable systems. (Decision at pp. 217–218.) Further, the Commission concluded, by equating the prices of imported and exported electricity, NEM overcompensates owners of renewable systems for the electricity they generate, effectively paying such owners at a rate from 3.8 to 5.4 times greater than the benefit conferred on the grid by their exported power. (*Id.* at p. 216.)

Based on these and other findings, the Commission adopted the net billing tariff. The most fundamental change from a NEM tariff is that charges for electricity under the successor tariff are no longer based on the difference between the quantity of electricity imported by a customer and the quantity exported. Instead, the meter of a residence owning a renewable system will separately measure the power imported from and exported to the grid. The value of the exported and imported energy is determined independently, and customers are billed for the difference between the *value* of the power imported and exported by the residence, rather than the difference in *quantity*. (Decision at p. 237.) Imported and exported power, in other words, are no longer treated as equivalent.

Under the successor tariff, the price paid for exported power is determined by the “Avoided Cost Calculator” (calculator), an algorithm developed earlier by the Commission that aims “to determine the primary

benefits of distributed energy resources [i.e., customer-generated power].”⁴ (*Decision Adopting Changes to the Avoided Cost Calculator* (2022) Cal. P.U.C. Dec. No. D.22-05-002, at p. 3; Decision at p. 237.) As explained by the Commission, the calculator “ ‘calculates seven types of avoided costs: generation capacity, energy, transmission and distribution capacity, ancillary services, Renewable Portfolio Standard, greenhouse gas emissions, and high global warming potential gases.’ . . . [¶] [These] costs . . . are the utilities’ marginal costs of providing electric service to customers. Those costs can be avoided when the demand for energy decreases because of distributed energy resources, and are, thus, the benefits of using distributed energy resources.” (Decision at p. 59.) In other words, the calculator estimates the cost to the utilities of providing an additional increment of electrical power; this is the cost “avoided” when a customer’s renewable system supplies that increment. Under the successor tariff, this avoided cost is the price paid by the utilities for exported energy.

The successor tariff determines charges for imported electricity under “[h]ighly differentiated time-of-use rates” specified in the Decision. (Decision at p. 239.) By imposing time-of-use rates, the successor tariff is intended to encourage renewable system owners to purchase batteries that permit excess energy generated during times of low power demand to be stored and subsequently used by the customer or exported to the grid during times of higher demand. The use of renewable system batteries is also incentivized by the calculator, which grants a higher price for energy exported during periods of peak demand. The successor tariff also includes a so-called “glide path,” a

⁴ Customer-generated renewable energy is sometimes referred to as “distributed energy resources,” presumably because the generating systems are decentralized.

five-year transition period during which more generous terms are granted to the owners of renewable systems. (*Id.* at p. 237.)

When fully implemented, these changes will cause a noticeable increase in the energy bills of utility customers who own renewable systems. Peak period electricity rates can be more than double the price during morning and nighttime hours, and the price paid for exported power determined by the calculator is typically less than one-third of the retail price. Despite these changes, the Commission concluded the purchaser of a residential solar power system will still see energy bill savings of \$100 a month, which will repay the cost of system installation within nine years.

Petitioners sought leave to challenge the Decision by filing a petition for a writ of review in this court. (§ 1756, subd. (a).) We granted the petition. Answers in support of the successor tariff were filed by the Commission and real parties in interest.

DISCUSSION

“[T]he PUC is not an ordinary administrative agency, but a constitutional body with broad legislative and judicial powers.” (*Wise v. Pacific Gas & Electric Co.* (1999) 77 Cal.App.4th 287, 300.) The scope of our review of its decision is “limited.” (*City and County of San Francisco v. Public Utilities Com.*, *supra*, 39 Cal.3d at p. 530.) “There is a strong presumption favoring the validity of a Commission decision.” (*Toward Utility Rate Normalization v. Public Utilities Com.*, *supra*, 22 Cal.3d at p. 537.) Under section 1757, judicial review of a Commission decision “shall not extend further than to determine, on the basis of the entire record . . . whether” the Commission “acted without, or in excess of, its powers or jurisdiction”; failed to proceed “in the manner required by law”; rendered a decision unsupported by the findings; made findings unsupported

by substantial evidence; rendered a decision that “was procured by fraud or was an abuse of discretion”; or issued an order or decision that violates the petitioner’s state or federal constitutional rights. (*Id.*, subds. (a)(1)–(6).) “We do not conduct a trial de novo, nor weigh nor exercise independent judgment on the evidence. [Citations.] The Commission’s findings of fact ‘are not open to attack for insufficiency if they are supported by any reasonable construction of the evidence.’ ” (*Southern California Gas Co. v. Public Utilities Com.* (2023) 87 Cal.App.5th 324, 339 (*SoCalGas*).)

When, as here, the Commission is charged with interpreting a provision of the Public Utilities Code, “[w]e give great weight to the Commission’s interpretation.” (*SoCalGas, supra*, 87 Cal.App.5th at p. 339.) We will disturb the Commission’s interpretation only if “ ‘it fails to bear a reasonable relation to statutory purposes and language.’ ” (*Southern California Edison Co. v. Peevey* (2003) 31 Cal.4th 781, 796.) “This judicial deference acknowledges a role for the Commission’s administrative expertise: ‘[W]e give presumptive value to a public agency’s interpretation of a statute within its administrative jurisdiction because the agency may have “special familiarity with satellite legal and regulatory issues,” leading to expertise expressed in its interpretation of the statute.’ ” (*Pacific Gas & Electric Co. v. Public Utilities Com.* (2015) 237 Cal.App.4th 812, 839.)

Section 2827.1, the statute at issue here, requires the Commission to “develop a standard contract or tariff, which may include net energy metering,” for utility customers owning noncommercial renewable systems. (§§ 2827.1, subds. (a), (b); 2827, subd. (b)(4)(A).) The statute sets out seven requirements for the tariff. (§ 2827.1, subds. (b)(1)–(7).) As relevant here, the successor tariff “shall do all of the following” (*id.*, subd. (b)): (1) ensure renewable system installation “continues to grow sustainably” (*id.*,

subd. (b)(1)); (2) include “specific alternatives designed for growth among residential customers in disadvantaged communities” (*ibid*); (3) be based on “the costs and benefits of the renewable electrical generation facility” (*id.*, subd. (b)(3)); and (4) equalize the “total benefits” and “total costs” of the tariff “to all customers and the electrical system” (*id.*, subd. (b)(4)).

I.

Petitioners first contend the successor tariff fails to satisfy the requirement of section 2827.1 that it balance various costs and benefits because the calculator fails to take account of all the benefits of renewable energy, particularly those conferred on society generally. In particular, petitioners contend the calculator fails to take account of (1) the value of resiliency, (2) avoided out-of-state methane leakage, (3) avoided land use impacts, and (4) certain avoided transmission costs. In addition, petitioners contend the Commission “improperly dismis[s]” an alternative test for determining the benefits of distributed power, the “Societal Cost Test.”

Section 2827.1, subdivision (b), contains several requirements. Two subdivisions, (b)(3) and (4), respectively require the Commission to consider “the costs and benefits of the renewable electrical generation facility” and to ensure “the total benefits of the [successor tariff] to all customers and the electrical system are approximately equal to the total costs.” (*Ibid.*)

Petitioners argue the use of the definite article “the” in the phrase “*the* costs and benefits” in subdivision (b)(3) “means that the clause refers to *all* costs and benefits. . . . [¶] The failure to properly account for the costs and benefits of distributed generation . . . constitutes legal error requiring that the Decision be set aside.”

Although petitioners characterize their argument as challenging the omission of various purported benefits of renewable energy, it is more

generally an attack on the Commission’s approach to valuing exported energy from renewable systems by means of the calculator. As previously explained, the Commission chose — through the calculator — to value exported energy by the marginal cost to utilities of providing power. This marginal cost, in turn, is measured by the various costs the utilities need not incur because of their use of exported energy. (Decision at p. 59.) Petitioners effectively argue section 2827.1 requires the Commission to take all of the benefits of renewable energy generation into account when valuing exported energy, rather than merely the economic costs avoided by the use of customer-generated power.

We must give “great weight” to the Commission’s interpretation of provisions of the Public Utilities Code. (*SoCalGas, supra*, 87 Cal.App.5th at p. 339.) In light of the Commission’s expertise in energy regulation, we are permitted to overturn its interpretation of a statutory mandate only if the interpretation “‘fails to bear a reasonable relation to statutory purposes and language.’” (*Southern California Edison Co. v. Peevey, supra*, 31 Cal.4th at p. 796.) Further, “[t]here is a strong presumption favoring the validity of a Commission decision.” (*Toward Utility Rate Normalization v. Public Utilities Com., supra*, 22 Cal.3d at p. 537.) This uniquely deferential standard of review is accorded the Commission because of its status as “a constitutional body with broad legislative and judicial powers.” (*Kerman Telephone Co. v. Public Utilities Com.* (2023) 94 Cal.App.5th 920, 931.)

We conclude the successor tariff adopted by the Commission bears a reasonable relation to the statutory purposes and language. Petitioners argue the statute requires the Commission to “properly account for the costs and benefits of distributed generation” in formulating the successor tariff. Notably, neither section 2827.1, subdivision (b)(3) nor subdivision (b)(4)

refers to the costs and benefits of “distributed generation.” Subdivision (b)(3) requires the Commission to base the successor tariff on “the costs and benefits of the renewable electrical generation facility.” The meaning of this subdivision is not wholly clear; its reference to the costs and benefits of “the . . . facility” appears to require the tariff to be based on the costs and benefits of renewable systems. In any event, the language certainly does not compel the Commission to consider the costs and benefits of renewable energy generally.

Similarly, section 2827.1, subdivision (b)(4) requires the Commission to ensure “the total benefits of the standard contract or tariff to all customers and the electrical system are approximately equal to the total costs.” Again, there is no reference to the costs and benefits of distributed generation. Instead, the statute speaks of the costs and benefits of the “standard contract or tariff” — that is, the successor tariff — to “all customers.” In accord, the Commission strove to ensure the successor tariff is fair to both owners and nonowners of renewable systems. Although some of the benefits of renewable energy presumably factor into that calculus — and certainly did factor into the Commission’s formulation of the calculator — we find nothing in the statutory text that indisputably requires the Commission to take account of “*all* costs and benefits” of “distributed renewable generation.”

The Commission’s decision to base the price of exported energy on the marginal cost of energy to the utilities serves this goal of equity between generating and nongenerating customers. Generating customers are compensated for the economic benefit they confer on the grid — and thereby on their fellow utility customers — by supplying excess energy. On the other side of the ledger, nongenerating utility customers are no longer required to subsidize generating customers by purchasing excess energy at a premium

above its economic value. As directed by the Legislature, the calculator compensates generators for the benefits they confer on “all customers and the electrical system” (§ 2827.1, subd. (b)) by supplying excess energy without burdening ratepayers with additional costs — such as compensating system owners for the purported benefits conferred on society at large, as advocated by petitioners.⁵

The Commission presumably could have elected to adopt some version of petitioners’ approach by compensating customers who export energy to the grid for the social, as well as economic, benefits conferred by the distributed generation of power. Indeed, the Commission’s counsel conceded as much at oral argument. But of course, it’s a zero-sum game; such an approach necessarily would have lessened the extent to which the successor tariff reduced the cost shift targeted by section 2827.1. By requiring utilities to factor social benefits into the price paid for exported power, petitioners’ approach would effectively require customers who do not own renewable systems to compensate owners of the systems for the value of these social benefits, as well as for the economic benefits conferred on the grid. It can be debated whether this approach would better satisfy the Legislature’s command to balance the equities among all customers, but we needn’t choose

⁵ Petitioners rely primarily on *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.* (9th Cir. 2008) 538 F.3d 1172, which holds that, when an administrative agency is directed to evaluate the costs and benefits of a regulatory action, “it cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs” of the action. (*Id.* at p. 1198.) In that case, the administrative agency was found to have “assigned no value to the most significant benefit” of the regulatory action when making its cost-benefit analysis. (*Id.* at p. 1199.) As the statute did not compel the Commission to consider societal costs and benefits, we find this case inapposite.

a side. Plainly, the successor tariff adopted by the Commission bears a reasonable relation to statutory purposes and language.

Accordingly, we find no error in the Commission's decision to restrict the calculator to economic benefits conferred on the grid by exported power. Because two of the specific benefits cited by petitioners are manifestly social — the avoidance of methane leakage in other states that occurs when the utilities' need for out-of-state natural gas is reduced by the export of excess power and the reduced use of land for utility infrastructure made possible by distributed generation — they need not be discussed further. Nor did the Commission err by selecting an approach that excluded the two other benefits cited by petitioners, nor by deciding not to use the Societal Cost Test.

Petitioners first contend the Commission erred in failing to give renewable system owners credit for the “benefits of increased resiliency—that is, the ability to maintain power during a blackout or other grid disruption—and reliability conferred by distributed renewable generation.” The Commission considered and rejected the suggestion that the calculator, in valuing excess power, should take account of the purported increased resilience of the energy grid afforded by renewable energy. The Commission explained proponents had not provided “convincing evidence” the benefits of resiliency accrued to the grid, rather than to the owners of renewable systems. This is a finding of fact we must accept if supported “ ‘by any reasonable construction of the evidence.’ ” (*SoCalGas, supra*, 87 Cal.App.5th at p. 339.) We find no reason to question the Commission's conclusion. Although petitioners claim the benefits of resiliency accrue “not just to individual participants,” the only examples they cite are the type of owner benefits to which the Commission referred: the ability of a renewable system owner to generate power during a heat wave, system owners'

avoidance of food spoilage due to loss of refrigeration, and the ability of households with a renewable system to participate in educational activities during a power outage. Because these benefits are not conferred on utilities or the electrical system from the export of excess energy, but instead are benefits realized by generating customers from their installation of a renewable system, there was no statutory basis compelling their incorporation into the calculator.

Petitioners also contend the calculator fails to take full account of the transmission costs avoided because of exported energy. For the three major public utilities, the calculator projects a total expenditure of over \$481 million for transmission costs during the period 2021–2025. A Commission report in the record, however, states that a regulatory category called “transmission revenue requirements” for the three utilities exceeded \$4 billion in 2021. Characterizing the latter figure as “actual transmission spending,” petitioners argue the real avoided transmission costs must be much greater than accounted for in the calculator. The calculator does not, however, include all “actual transmission spending.” Rather, it includes only transmission spending that is avoided — that is, rendered unnecessary — by the export of electricity by owners of renewable systems. Petitioners make no attempt to demonstrate that the transmission revenue requirements listed in the report represent avoided costs. Moreover, an examination of the Commission report makes clear that the category sweeps much broader than avoided transmission costs, including, for example, “wildfire mitigation work, including enhanced inspections and vegetation management efforts.” These are the type of ordinary overhead costs that are unaffected by the export of energy from renewable systems. Given the uncertain relationship between transmission revenue requirements and avoided transmission costs,

petitioners' argument fails to convince that the calculator's estimate of avoided transmission costs is not supported by substantial evidence.

Petitioners also quibble with the Commission's accounting for avoided transmission costs in the calculator, citing various items of evidence in the record to argue transmission costs avoided by use of exported energy are greater than the value assigned in the calculator. Having reviewed the arguments, we are not persuaded the Commission's chosen value is not supported by substantial evidence.

Finally, petitioners contend the Commission erred in failing to adopt the Societal Cost Test — an evaluative tool under development by Commission — as a measure of the benefits of renewable energy use. The Commission rejected a request to use the test in connection with the successor tariff as “premature because the evaluation to determine the final details of the test has not been completed.” (Decision at p. 66.) Contrary to petitioners' claim, there was nothing “improper[]” in the Commission's refusal to use a test that was not fully developed. (Of course, the Commission might revisit the issue if and when it deems the Societal Cost Test fully developed.) To the extent petitioners are arguing more generally that the Commission erred in basing the successor tariff on the costs and benefits of renewable power to generators and ratepayers, rather than the costs and benefits to society at large, we find the Commission's approach to bear a reasonable relation to its statutory mandate. Our standard of review allows for no further inquiry.⁶

⁶ This argument is followed in petitioners' brief by an extended criticism of the Commission's use of the calculator in this context. The discussion, which mentions neither our standard of review nor the statutory language, appears to be premised on the assumption that we can reverse or

II.

Petitioners next contend the Decision fails to properly account for the costs of renewable energy because it treats reduced energy usage by owners of renewable systems as a cost rather than a benefit. The argument arises in the context of the successor tariff's attempt to address the long-standing criticism that the NEM tariff permits owners of renewable systems to shift a disproportionate share of the fixed costs of energy supply to customers who lack such systems. The shift occurs because the utilities' fixed costs are recovered through the rates charged for energy use. Every utility customer pays a portion of the fixed costs through their monthly bill, with the amount of the payment proportional to the amount of energy the customer uses. To the extent self-generated power reduces owners' use of energy from the grid, these customers necessarily reduce their payment of the utilities' fixed costs; the utilities' remaining customers must collectively pay the portion avoided by renewable system owners. The NEM tariff magnifies this effect by permitting renewable system owners to offset their exported energy against imported energy, thereby *further* reducing their purchase of energy. As noted, the Legislature anticipated in enacting section 2827.1 that the successor tariff would mitigate this shift, and the statute's instruction in subdivision (b)(4) to equalize costs and benefits of the *successor tariff* to all customers effectuates that intent.

Petitioners do not dispute this cost-shifting effect of a NEM tariff. Rather, they take issue with a more general discussion in the Decision of the extent to which the adoption of distributed energy shifts utility costs to nonowners. Petitioners contend the Commission should have treated the

modify the Decision merely because we find another approach to be preferable. We cannot.

reduction in energy purchases as a benefit of renewable energy — rather than a cost — because reduced demand for utility-generated energy represents a social good. They point out that customers' efforts to reduce energy consumption through conservation are not treated as a cost, even though these reductions similarly result in reduced purchases of energy from the grid, thereby shifting costs to those who do not conserve.

Petitioners' arguments about the proper treatment of reduced energy use are legally immaterial because they are not pertinent to the successor tariff. Contrary to petitioners' claim, the successor tariff does not charge, or otherwise penalize, renewable system owners when they reduce their use of imported electricity by substituting self-generated power. Owners are billed only for the energy they actually import, regardless of the degree to which they reduce their use of imported energy by generating power. In this way, the successor tariff makes no attempt to address any shift of costs that results solely from the reduction in renewable system owners' use of imported energy. Rather, it remedies only the cost shift that occurs when the NEM tariff permits renewable system owners to avoid paying for imported energy by offsetting exported energy against it. Because this approach is consistent with the statutory language and clearly serves the statutory purpose of equalizing the successor tariff's costs and benefits to all customers, it provides no basis for challenging the Decision.

With this understanding of the role of cost shift in the successor tariff, it is clear petitioners' argument regarding energy conservation misses the point. It is true, as petitioners contend, that customers who do not own renewable systems are not penalized when they reduce their purchases of energy through conservation. But owners of renewable systems are not penalized when they reduce their purchases of energy either — whether

those reductions result from conservation or energy generation. There is no inconsistency in the tariff's treatment of reduced energy consumption by owners and nonowners.

Petitioners also argue the utilities' charges for electricity imported by owners of renewable systems should be based on the actual cost of serving such customers, rather than on ordinary service rates. Although this was presumably a viable option for the Commission to consider, it was by no means required by the statutory language. The Commission rejected the suggestion as inconsistent with prior precedent. Because the Commission's chosen approach represents a proper application of the statutory language, our standard of review does not permit the type of regulatory second-guessing petitioners advocate.

III.

Petitioners contend the Decision's "focus on addressing the purported cost shift" improperly placed the interests of customers who do not own renewable systems over "cost-effectiveness to the electrical system as a whole." According to petitioners, section 2827.1, subdivision (b)(4), which requires the Commission to "[e]nsure that the total benefits of the [successor tariff] to all customers and the electrical system are approximately equal to the total costs," requires the successor tariff to be premised on "cost-effectiveness for the system as a whole, not effects on one ratepayer group."

We find no error in the Commission's interpretation of its statutory mandate. Contrary to petitioners' characterization, the Commission's decision to reduce the subsidy provided to renewable system owners did not constitute an improper focus on one ratepayer group. The statute directs the Commission to ensure the costs and benefits of the successor tariff to all customers and the electrical system are approximately equal. The

implication of that language, honored by the Commission in formulating the successor tariff, is to ensure the successor tariff does not grant unwarranted benefits or impose unwarranted costs on any particular group of ratepayers.

In evaluating the successor tariff's satisfaction of that requirement, it is important to remember the successor tariff was formulated in the shadow of the NEM tariff, which is generally recognized as granting an economically unwarranted subsidy to owners of renewable systems by shifting a disproportionate share of the utilities' fixed costs to nonowners. The successor tariff's reduction of the benefits to system owners — decried by petitioners as a focus on the interests of nonowners — was inevitable because the statutory command to equalize the costs and benefits of the successor tariff required reducing the subsidy granted to renewable system owners by NEM 1.0 and NEM 2.0. Even if this is characterized as a “focus” on the interests of nonowners, it was not improper. It occurred only because the NEM tariffs favored renewable system owners.

In short, although one of the primary differences between NEM 2.0 and the successor tariff was a mitigation of the cost shift imposed by a NEM tariff, that does not mean the Commission placed the interests of nonowners over those of system owners or the entire electrical system. On the contrary, the “primary test” (Decision at p. 65) used by the Commission to evaluate the cost-effectiveness of existing and proposed tariffs, the “Total Resource Cost” (TRC) test, considered the costs to the system as a whole. (Decision at pp. 62–63 [“the TRC test has the ability to indicate whether a demand side program is cost-effective to the grid relative to other resource options”].) The Commission simply concluded accomplishing the directive of section 2827.1, subdivision (b)(4) to equalize costs and benefits both to all customers and to the electrical system required reducing the costs disproportionately shifted to

nonowners by the NEM tariff. This was a reasonable and proper interpretation of the statute.

IV.

Petitioners argue the Decision fails to satisfy the directive of section 2827.1, subdivision (b)(1), that the successor tariff “ensure[] that customer-sited renewable distributed generation continues to grow sustainably.” Petitioners point out the successor tariff “is specifically designed to decrease bill savings and increase payback periods” for renewable systems, thereby making the systems less financially attractive. Petitioners also note similar efforts to reduce the financial advantages of renewable systems in other states have led to a substantial decline in the rate of installation of renewable systems.

There are two answers to petitioners’ contention. First, the directive of subdivision (b)(1) is one of several requirements imposed on the successor tariff by section 2827.1. The Commission is directed by the statute to “do all of the following” (§ 2827.1, subd. (b)), leaving the Commission to decide how best to accomplish the seven aims articulated by the Legislature. To the extent those objectives are in tension, it was left to the Commission to decide how to satisfy the conflicting demands. As the Commission observed, “[i]t is the Commission’s responsibility to balance the multiple and, sometimes, conflicting requirements of the statute.” (Decision at p. 108.) In adopting the successor tariff, the Commission affirmed it intended to “balance the multiple requirements of the Public Utilities Code and the needs of the electric grid, the environment, participating ratepayers, as well as all other ratepayers.” (*Id.* at p. 2.)

At the time section 2827.1 was enacted, the NEM tariff had long been recognized to confer a financial benefit on owners of renewable systems and

impose a disproportionate burden on nonowners. Remedying this inequity necessarily required the Commission to adopt a successor tariff making the installation of renewable systems less financially attractive to utility customers.⁷ Subdivision (b)(1) cannot be interpreted, as petitioners insist, to require the successor tariff to preserve the financial benefit conferred on system owners by a NEM tariff. When it directed the Commission to devise a successor tariff equalizing the treatment of owners and nonowners, the Legislature was aware the successor tariff would make renewable systems less remunerative. Necessarily, the Commission's task was not to preserve existing advantages for owners of the NEM tariff, but to reduce those advantages without halting the adoption of renewable systems. The mere fact that the successor tariff reduces the financial advantages of renewable system installation does not alone place it in violation of section 2827.1.

Petitioners argue the Commission was not empowered to balance the demands of the statute's potentially conflicting requirements because the Legislature directed the Commission to "do all of the following." (§ 2827.1, subd. (b).) The Legislature, of course, could direct the Commission to have its cake and eat it too; regrettably, the Commission has no such power. The statute's instruction to do all of the following must be understood as requiring the Commission to take into consideration all of the listed objectives in formulating the successor tariff. To the extent those objectives are in tension, it was for the Commission to decide how best to balance the

⁷ Petitioners argue it was not necessary for the Commission to remedy the inequities inherent in a NEM tariff to equalize the costs and benefits because the Commission could have considered the "full" — i.e., social — benefits of renewable systems. Whatever the merits of this argument, the Commission was not obligated to adopt this approach.

demands. We are not persuaded the Commission's decision in this respect constituted an abuse of its discretion.

Second, petitioners' argument is based on a misreading of the language of section 2827.1, subdivision (b)(1). Petitioners assert "continue" means "to maintain without interruption a condition, course, or action'" and argue, based on this definition, "the Legislature directed that any successor tariff may not materially reduce the continued uptake of" renewable systems. Subdivision (b)(1), however, requires continued "growth" of renewable energy — that is, continued installation of new renewable systems. It does not require continued growth *at the same pace*. That the rate of adoption of renewable systems will slow under the successor tariff does not mean adoption will cease. Rather, it will simply grow more slowly than it would have under a NEM tariff.

As noted, we assume the Legislature understood its instruction to reduce the inequity of the NEM tariff would result in a successor tariff less advantageous to renewable system owners. Thus, section 2827.1, subdivision (b)(1) was presumably intended to ensure the successor tariff is not so financially disadvantageous as to make installation of such systems uneconomic. The successor tariff satisfies that requirement. After its implementation, customers who install a renewable system will recover their investment within nine years; after that time, owners will see an energy cost savings for the remaining life of the system. That financial incentive, combined with the environmental benefits of renewable energy, presumably will ensure the continued growth of renewable energy, as required by subdivision (b)(1).

V.

Petitioners next contend the successor tariff fails to “include specific alternatives designed for growth among residential customers in disadvantaged communities,” as required by section 2827.1, subdivision (b)(1). Not so.

The Commission designed the successor tariff to satisfy this requirement in two ways. First, the Lookback Study concluded low-income customers were less likely to install renewable systems not only because of the upfront cost of such systems, but also because such customers also received lower bill savings, contributing to a longer payback period. To mitigate this disincentive, low-income and other disadvantaged customers are eligible under the successor tariff to receive a higher rate of compensation for energy exported to the grid, a benefit designed to ensure they can pay back the upfront costs of a system within nine years. (Decision at pp. 175–176, 238.) Second, the successor tariff eliminates a discount applied by NEM 2.0 to the compensation paid for exported energy to customers participating in two programs — California Alternate Rates for Energy and Family Electric Rate Assistance — providing discounted energy rates to low-income customers. (*Id.* at p. 176.)

In addition to these provisions of the successor tariff, the Commission had earlier adopted a series of three programs to make renewable systems more accessible to low-income customers. (See *Alternate Decision Adopting Alternatives to Promote Solar Distributed Generation in Disadvantaged Communities* (2018) Cal. P.U.C. Dec. No. D.18-06-027, at pp. 2–4.) The Disadvantaged Communities–Single-family Solar Homes program, for example, subsidizes the purchase of renewable systems by low-income homeowners. (*Id.* at pp. 2–3, 27–30.) The other two programs provide low-

income customers with access to renewable energy and bill discounts. (*Id.* at pp. 3–4.) The Commission expressly adopted these programs, which will be funded through utility revenues, to satisfy the statutory requirement. (*Id.* at pp. 6, 30–31, A-1.)

Petitioners fault the Commission’s efforts to stimulate adoption of renewable systems in disadvantaged communities because (1) the Commission failed to adopt a proposed “Equity Fund,” (2) the Commission’s calculation of the higher rate for exported energy was based on an underestimate of the cost of solar installation for low-income households, and (3) the Commission improperly deferred consideration of the benefits of renewable systems that particularly accrue to low-income customers. Before addressing these arguments, we note the Commission’s compliance with section 2827.1, subdivision (b)(1) must be measured by what it did rather than by what it chose not to do. The fact that, as petitioners argue, these efforts might be imperfect does not demonstrate the Commission failed to comply with the Legislature’s direction. As noted, the Commission modified the tariff applicable to low-income customers to increase the compensation for exported energy, thereby making renewable systems more financially attractive. Further, it adopted three programs that directly subsidize the cost of solar installation or provide access to renewable energy for such customers. All of these constitute “specific alternatives designed for growth among residential customers in disadvantaged communities.” Petitioners fail to demonstrate (or even try to demonstrate) the benefits provided by these efforts are illusory or so inadequate as to disqualify their consideration. On the contrary, we conclude these efforts bear a reasonable relation to statutory purposes and language and satisfy the requirements of section 2827.1, subdivision (b)(1).

Petitioners contend these earlier-adopted programs cannot be considered because the requirements of section 2827.1 apply only to the successor tariff. Necessarily, however, the successor tariff itself can be of limited use in meeting the goal of subdivision (b)(1) to stimulate “growth [of renewable energy adoption] among residential customers in disadvantaged communities.” Any benefits of the successor tariff accrue only after a system is installed; the tariff cannot directly overcome the primary barrier to the growth sought by the statute — the initial cost of solar system installation. Given this limitation, we find the Commission’s conclusion that subdivision (b)(1) can be satisfied in part by programs subsidizing system installation and promoting renewable energy use among low-income customers to bear a reasonable relation to the statutory purposes and language because these programs provide access to the successor tariff for low-income customers.

Again, we find petitioners’ arguments about the inadequacy of the Commission’s efforts to make renewable system adoption more affordable to be largely beside the point. Petitioners first argue the Commission should have created an “Equity Fund,” which would use a billing surcharge imposed through the successor tariff to assist low-income customers in acquiring renewable systems. The Commission decided against such a fund because the Legislature enacted, shortly before issuance of the Decision, Assembly Bill No. 209, which created a state program to provide incentives for the installation of solar generation and storage systems. (§ 379.10, subds. (a), (b); Decision at pp. 178–179.) At the time, 70 percent of the funds appropriated for this program were earmarked for low-income residents; an amendment of section 379.10 enacted after issuance of the Decision now appears to require all of the funds in the new program to be so allocated. (Former § 379.10, subd. (a); Stats. 2023, ch. 52, § 6.) Although petitioners fault the

Commission's rationale in deciding against the equity fund, they cite no statutory authority requiring its adoption. Further, of course, the programs adopted separately by the Commission serve the same purpose as the suggested equity fund. Because, as noted, the Commission's efforts to satisfy section 2827.1, subdivision (b)(1) are sufficient, it did not err in electing not to implement an equity fund.

Second, petitioners contend the augmented rate for exported energy applicable to disadvantaged customers will not promote their adoption of renewable systems because the Commission did not accurately estimate the cost of solar installation. As a result, they argue, the additional payments will not pay back the cost of installation within the intended nine years. Even if this criticism was well founded, the augmented rate was only one of the methods by which the Commission sought to satisfy section 2827.1, subdivision (b)(1). Its incentives for solar growth must be considered together with those other methods. Further, the augmented rate, even if insufficient to recoup installation costs within nine years, will still provide an incentive for system installation. Finally, the Commission expressly considered petitioners' argument and rejected it, concluding the higher cost figure was derived from a materially different program. (Decision at pp. 83–84.) This factual finding is supported by substantial evidence.

Third, petitioners contend the Commission improperly deferred consideration of promoting the installation of solar systems serving entire communities. Assuming, as petitioners argue, that “[w]ell-designed community solar and storage programs could realize considerable grid and ratepayer benefits,” that alone did not mandate their adoption. Section 2827.1, subdivision (b)(1) does not require the Commission to adopt any particular “specific alternatives” to ensure growth of renewable energy in

disadvantaged communities, and the steps it has taken are adequate to meet its statutory obligation. The Commission's explanation that consideration of community solar is "premature" because such programs are the subject of other ongoing Commission proceedings fully justifies their omission. (Decision at p. 188.)

VI.

Petitioners finally argue the modifications of the NEM tariff for nonresidential customers effected in the successor tariff are "based on erroneous and unsupported findings." We disagree.

The Lookback Study found, based on the TRC test, that the NEM 2.0 tariff was cost-effective for nonresidential customers.⁸ The tariff's average TRC score was 1.25, where a score of 1.00 represents no net cost or benefit. Yet the Commission declined to adopt this conclusion because the NEM tariff for nonresidential customers performed poorly on the "Ratepayer Impact Measure" (RIM) test, earning an average score of .57, suggesting costs predominated over benefits. That test "is useful for examining whether disproportionate impacts occur on non-participants" (Decision at p. 50), a measure of cost-effectiveness particularly pertinent to the requirement of section 2827.1, subdivision (b)(4) that the successor tariff should balance costs and benefits for all customers. Citing its conclusion that "the use of retail rates as a foundation for compensating customers for exporting electricity to the grid [has] no connection to the actual costs of the exports or the benefits the exported electricity provide to customers and the grid," the Commission elected to use the calculator to determine the price paid to nonresidential customers for exported energy, just as it did for residential

⁸ The TRC test measures cost-effectiveness of a program for the entire electrical grid. (Decision at p. 62.)

customers. (Decision at pp. 107–108.) In effect, the Commission applied the successor tariff to both residential and nonresidential customers, although nonresidential customers were not afforded the benefit of the phase-in granted to residential customers. (*Id.* at p. 238.)

Petitioners fault the Commission’s conclusion that NEM 2.0 is not cost-effective for nonresidential customers. Petitioners note the Commission designated the TRC test as the primary test to determine the cost-effectiveness of the successor tariff for the electrical system. Accordingly, they argue, the Commission committed “legal error” when it “determined the NEM tariff for [nonresidential] sectors is not cost-effective based on its RIM test scores *alone*.”

By treating cost-effectiveness as a single concept, petitioners distort the nature of the Decision. As petitioners argue, the TRC test is a measure of the cost-effectiveness of the tariff *for the electrical system*. Section 2827.1, subdivision (b)(4), however, does not require the successor tariff to be cost-effective only for the electrical system. Instead, it requires the Commission to ensure the costs and benefits of the successor tariff “to all customers and the electrical system” are approximately equal. As the Commission found, the RIM test is a better measure of cost-effectiveness for all customers because it measures the impact of a policy on nonparticipants. The Commission was therefore faced with test results suggesting that, while the nonresidential NEM 2.0 tariff conferred a fairly small net benefit on the electrical system, it failed, to a substantial degree, to equalize the costs and benefits among customers. As discussed above, it was for the Commission to balance the various legislative objectives expressed in section 2827.1. We find no abuse of discretion, and certainly no legal error, in the Commission’s

decision to strike a balance in favor of rectifying a substantial inequity among its customers.⁹

VII.

In section 2827.1, the Legislature specified several general objectives for a successor to the NEM tariff, leaving the Commission — in the exercise of its institutional expertise — to strike an appropriate balance among the many important — but sometimes conflicting — public policy interests. In reviewing the Decision, we may neither second-guess the Commission’s balancing of those interests nor substitute our own view of the optimal policy outcome. To the contrary, in recognition of the Commission’s unusual standing as a constitutional body, our review is limited to ensuring that the successor tariff bears a reasonable relation to the statute’s purpose and language and that the Commission did not otherwise err under section 1757. For the reasons discussed above, this deferential standard of review leaves no basis for faulting the Commission’s work. In reaching this conclusion, we mean to express no views about the Commission’s resolution of the policy issues implicated, except that the Decision is properly sensitive to — and consistent with — the objectives established by the Legislature.

DISPOSITION

The decision of the Commission is affirmed. The Commission and real parties in interest shall recover their costs in this proceeding.

⁹ Petitioners also argue nonresidential customers were required under the NEM 2.0 tariff to pay higher utility bills than the cost for the utilities to provide them service. The intended legal significance of this argument is unclear. Section 2827.1 directed the Commission to devise a successor tariff balancing costs and benefits among all customers, but it did not require the Commission to ensure no customers were charged more by the utilities than the cost to serve them.

Rodríguez, J.

I CONCUR:

Petrou, J.

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TUCHER, P. J., Concurring.

With the following additional observations, I concur in the court’s opinion.

The Legislature established, as the first requirement for the successor tariff, that it “*ensure[]* that customer-sited renewable distributed generation *continues to grow* sustainably.” (Pub. Util. Code, § 2827.1, subd. (b)(1), italics added.) If petitioners’ worst fears are realized, and the successor tariff devastates solar adoption rates instead of fostering sustainable growth, the Commission will have to course correct when it revisits its work. The Legislature intended for the Commission to “revise the . . . tariff as appropriate to achieve [statutory] objectives” (§ 2827.1, subd. (b)), and the Commission has already committed to studying the performance of the successor tariff after its first three years.

When the Commission undertakes this study, it may choose to look closely at its Societal Cost Test or at some other measure that fully accounts for the environmental detriments of conventional electricity generation. In adopting the successor tariff, the Commission determined it was “premature” to apply the Societal Cost Test, as the test was still under development. But when complete, that test may turn out to be a more refined and appropriate measure of the total benefits of customer-sited generation than the avoided cost calculator that the successor tariff currently incorporates. Section 2827.1 allows for a tariff that captures the noneconomic benefits of renewable electricity. The Commission understands this, as evidenced by its actions in adopting and defending NEM 2.0 and its counsel’s response to questions at oral argument. And once a tariff is able to capture the full spectrum of costs avoided with renewable energy, it would seem optimal that it do so.

But the issue before the court today is, as the majority notes, not whether the Commission has chosen the best possible tariff. Rather, we are asked simply to decide whether the Commission has chosen a course that complies with the law and is reasonably supported by the evidence. (See maj. opn. *ante*, at pp. 9–10.) Given the limited scope of our review, I agree that the decision of the Commission must be affirmed.

Tucher, P. J.

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