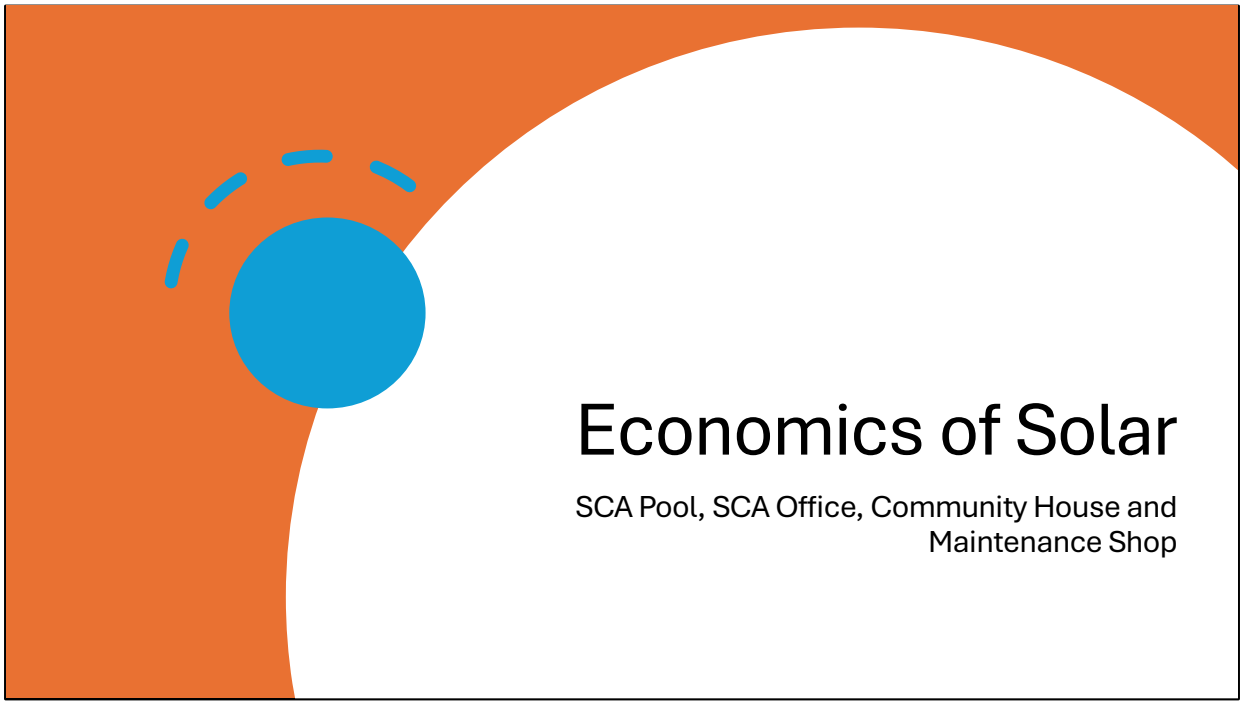
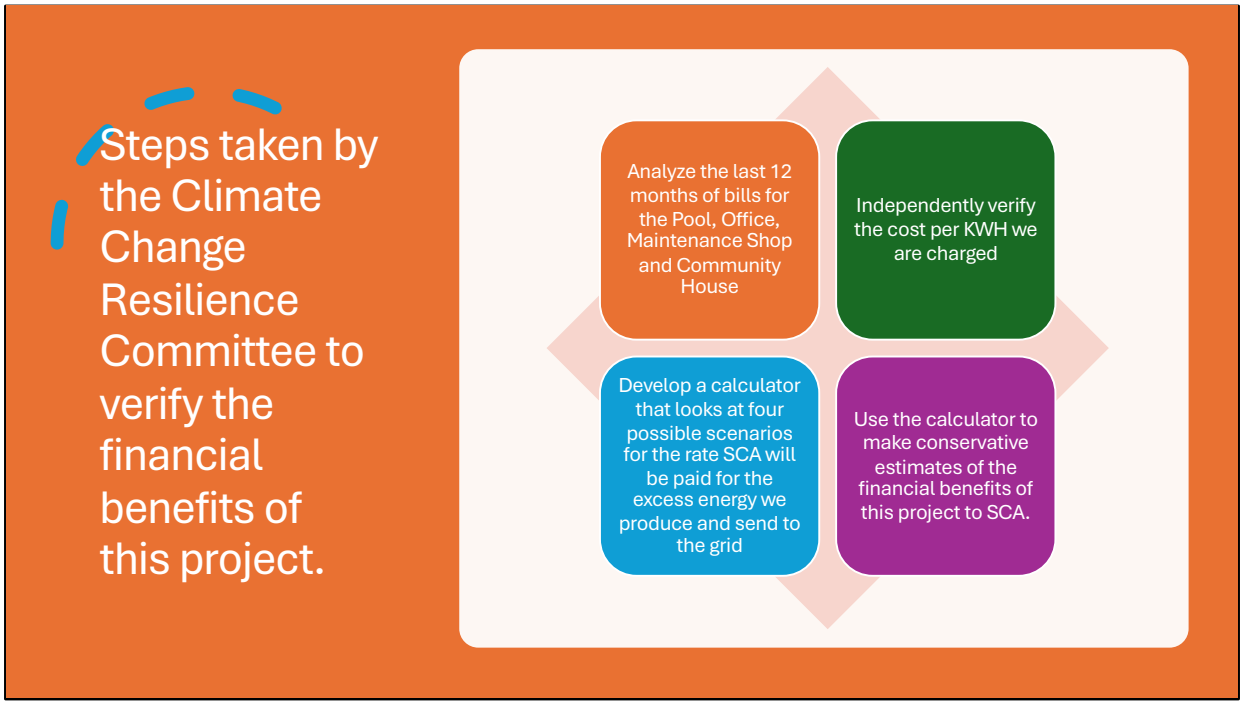


Slide 1 — Title

This presentation answers one question: does putting solar on two of our community buildings make financial sense for SCA?

The Climate Change Resilience Committee spent several months on this. What follows is what we found, how we found it, and what we'd like you to decide.



Slide 2 — How the committee verified the numbers

We didn't want to hand you a vendor's sales pitch. So we built the analysis ourselves, in four steps.

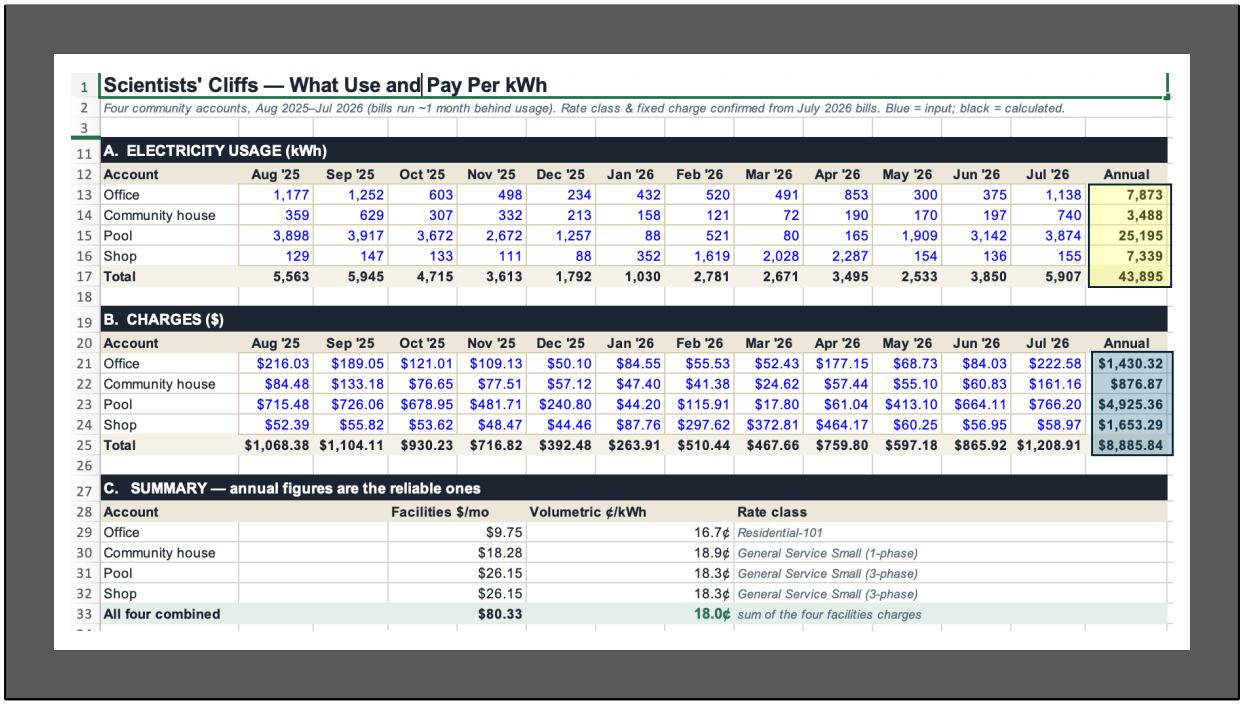
First, we pulled twelve months of actual electric bills for all four buildings — the Pool, the Office, the Community House, and the Maintenance Shop. Real bills, not estimates.

Second, we confirmed exactly what SMECO charges us per kilowatt hour. That rate turns out to differ by building depending on the service to each meter.

Third, we built a financial model. Nobody knows what rate the state will set for the excess power we send back to the grid, so the model runs four different rate scenarios rather than betting on one.

Fourth, we ran the numbers conservatively at every point where we had to make an assumption. Where we had a choice between an optimistic input and a cautious one, we took the cautious one.

The model is a spreadsheet. It will be posted on the website so any member can open it, change the assumptions, and see what happens to the answer.



Scientists' Cliffs — What Use and Pay Per kWh

Four community accounts, Aug 2025–Jul 2026 (bills run ~1 month behind usage). Rate class & fixed charge confirmed from July 2026 bills. Blue = input; black = calculated.

A. ELECTRICITY USAGE (kWh)

Account	Aug '25	Sep '25	Oct '25	Nov '25	Dec '25	Jan '26	Feb '26	Mar '26	Apr '26	May '26	Jun '26	Jul '26	Annual
Office	1,177	1,252	603	498	234	432	520	491	853	300	375	1,138	7,873
Community house	359	629	307	332	213	158	121	72	190	170	197	740	3,488
Pool	3,898	3,917	3,672	2,672	1,257	88	521	80	165	1,909	3,142	3,874	25,195
Shop	129	147	133	111	88	352	1,619	2,028	2,287	154	136	155	7,339
Total	**5,563**	**5,945**	**4,715**	**3,613**	**1,792**	**1,030**	**2,781**	**2,671**	**3,495**	**2,533**	**3,850**	**5,907**	**43,895**

B. CHARGES ($)

Account	Aug '25	Sep '25	Oct '25	Nov '25	Dec '25	Jan '26	Feb '26	Mar '26	Apr '26	May '26	Jun '26	Jul '26	Annual
Office	$216.03	$189.05	$121.01	$109.13	$50.10	$84.55	$55.53	$52.43	$177.15	$68.73	$84.03	$222.58	$1,430.32
Community house	$84.48	$133.18	$76.65	$77.51	$57.12	$47.40	$41.38	$24.62	$57.44	$55.10	$60.83	$161.16	$876.87
Pool	$715.48	$726.06	$678.95	$481.71	$240.80	$44.20	$115.91	$17.80	$61.04	$413.10	$664.11	$766.20	$4,925.36
Shop	$52.39	$55.82	$53.62	$48.47	$44.46	$87.76	$297.62	$372.81	$464.17	$60.25	$56.95	$58.97	$1,653.29
Total	**$1,068.38**	**$1,104.11**	**$930.23**	**$716.82**	**$392.48**	**$263.91**	**$510.44**	**$467.66**	**$759.80**	**$597.18**	**$865.92**	**$1,208.91**	**$8,885.84**

C. SUMMARY — annual figures are the reliable ones

Account	Facilities $/mo	Volumetric ¢/kWh	Rate class
Office	$9.75	16.7¢	*Residential-101*
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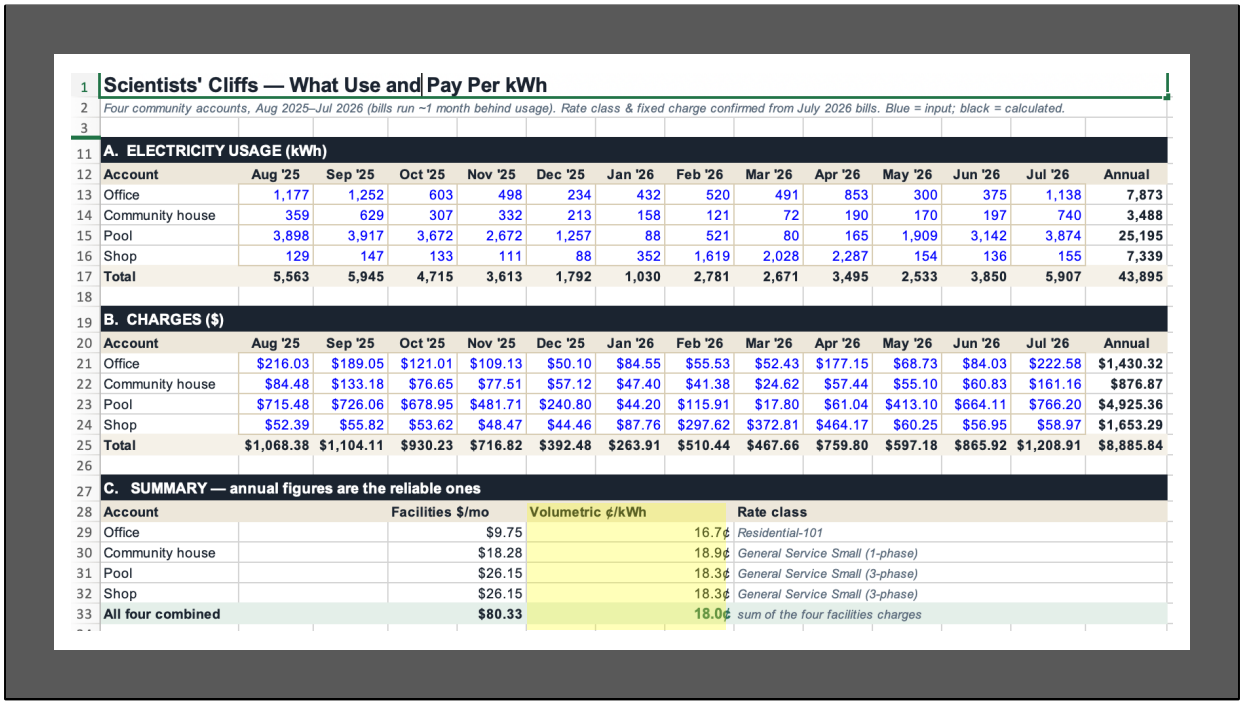
All four combined	**$80.33**	**18.0¢**	*sum of the four facilities charges*

Slide 3 — What we currently use

This is our actual electricity consumption, building by building, month by month, for August 2025 through July 2026.

The number to notice is the Pool. It burns 25,195 kilowatt hours a year — well over half of our 43,895 total. And it burns them in exactly the months when the sun is strongest. Look across the Pool row: the heavy usage is April through September.

That timing is what makes this project work. Solar produces the most when the Pool needs the most. We use the power as we generate it, rather than selling it cheap and buying it back expensive.



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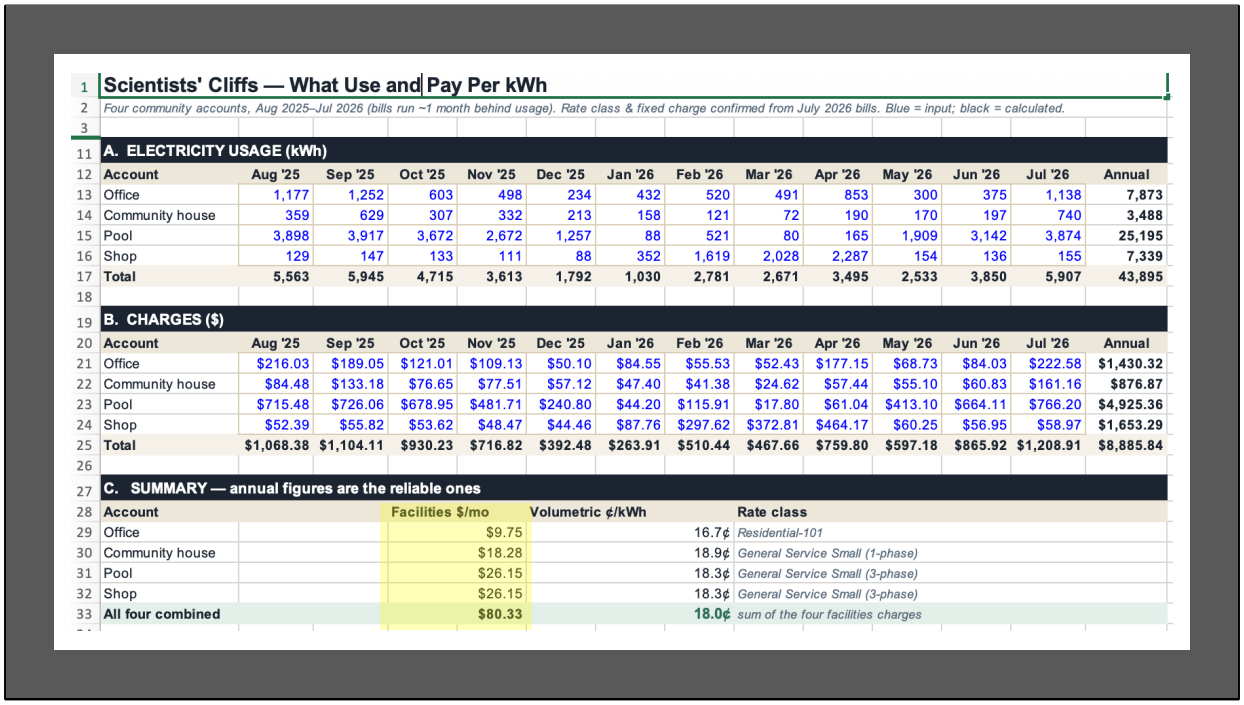
Slide 4 — What we pay per kilowatt hour

Highlighted in yellow is the volumetric rate — the cents SMECO charges us for each kilowatt hour we actually consume.

It's not one number. The Office is on a residential rate at 16.7 cents. The other three are on General Service Small at 18.9 and 18.3 cents. Weighted across all four accounts, we pay 18.0 cents per kilowatt hour.

Every kilowatt hour our panels produce and we use on site is a kilowatt hour we don't buy at 18 cents.



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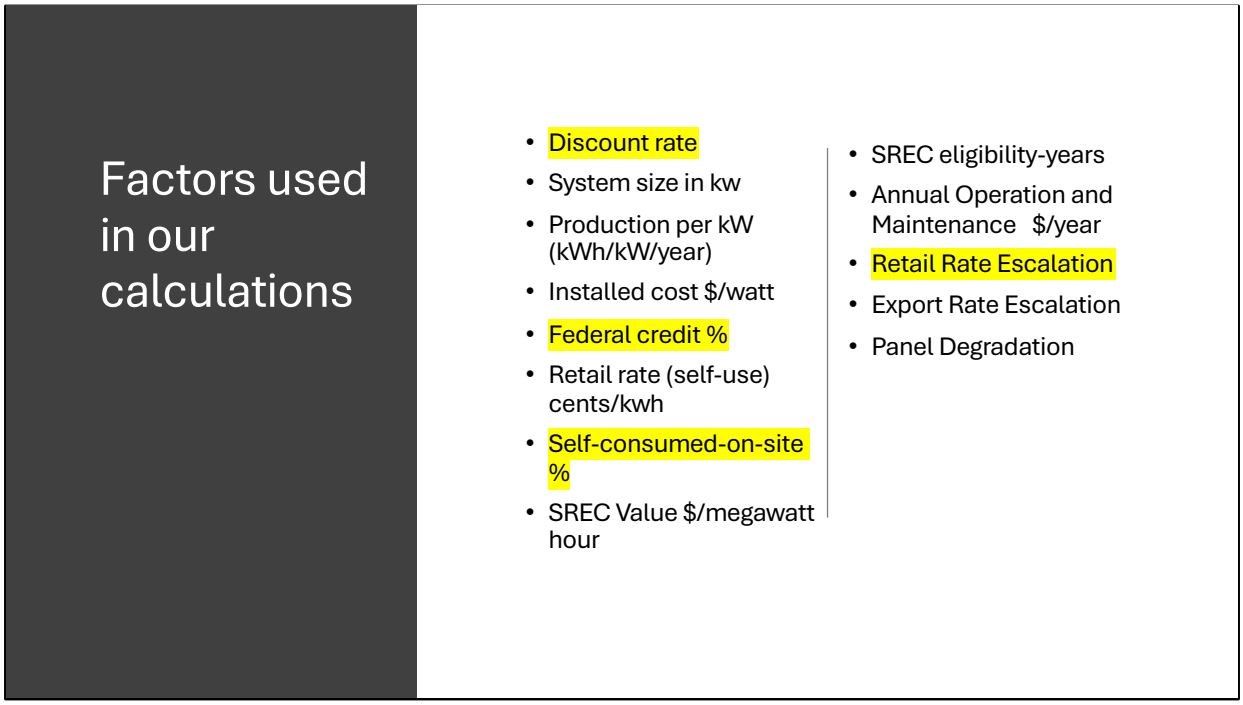
Slide 5 — Why the facility charge doesn't enter into this

The other line on our bill is the fixed facility charge — $80.33 a month across the four accounts. That's what SMECO charges for metering, billing, and staying connected to the grid.

We pay it whether or not we install solar. It's the same number either way, so it plays no part in this analysis. We've excluded it from every figure that follows.



Slide 6 — The assumptions behind the model

Thirteen inputs drive the calculation. Four of them do most of the work, and you should know what we chose and why.

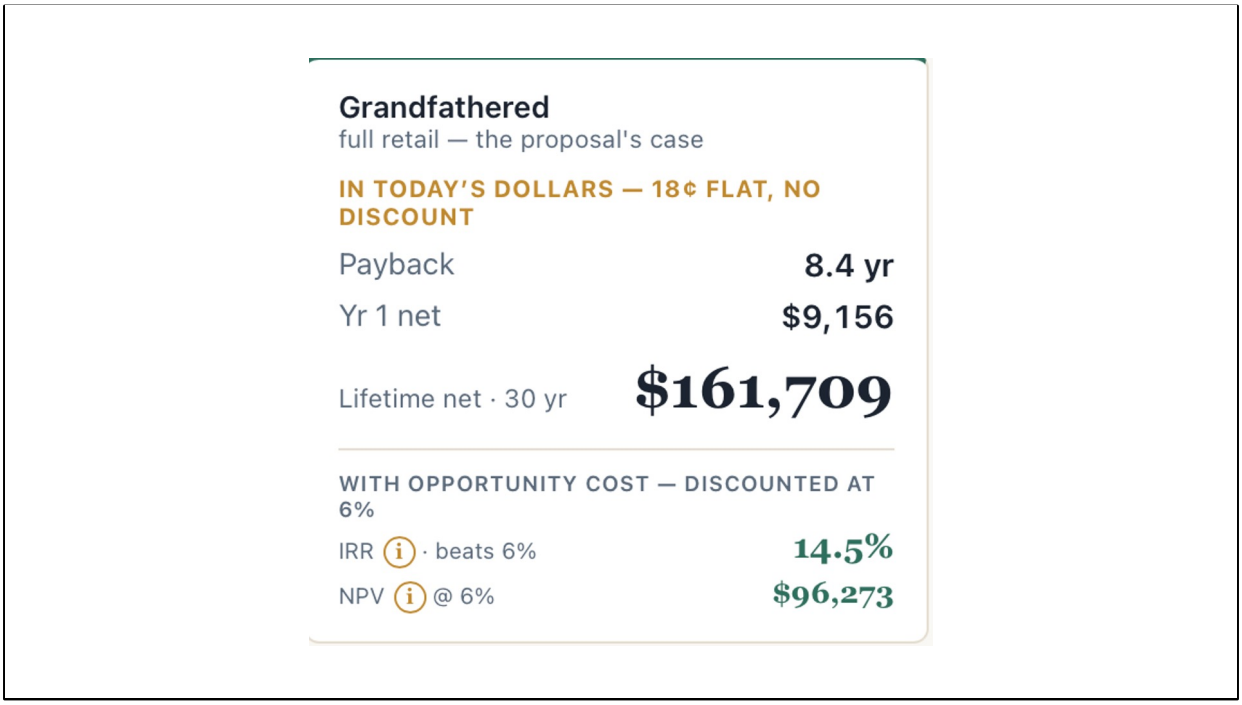
Self-consumed on site — 52%. This is the share of the power our panels produce that we use immediately, without it ever going to the grid. It's the main way the project saves money, because that power is never billed to us. We set it at 52%.

Retail rate escalation — 3.86%. This is how fast we expect SMECO's rates to climb. We used the twenty-year average. The five-year average has been nearly 8%. We deliberately used the lower figure.

Federal tax credit — 30%. Under current law the federal government covers 30% of the project cost. Because SCA is a nonprofit, this comes as a direct payment rather than a tax reduction.

Discount rate — 6%. This is the return SCA could reasonably expect if we

invested the money instead. It's how we measure opportunity cost — the fair comparison isn't solar versus doing nothing, it's solar versus the next best use of the same dollars. Six percent is our judgment call, and the posted calculator lets you change it.



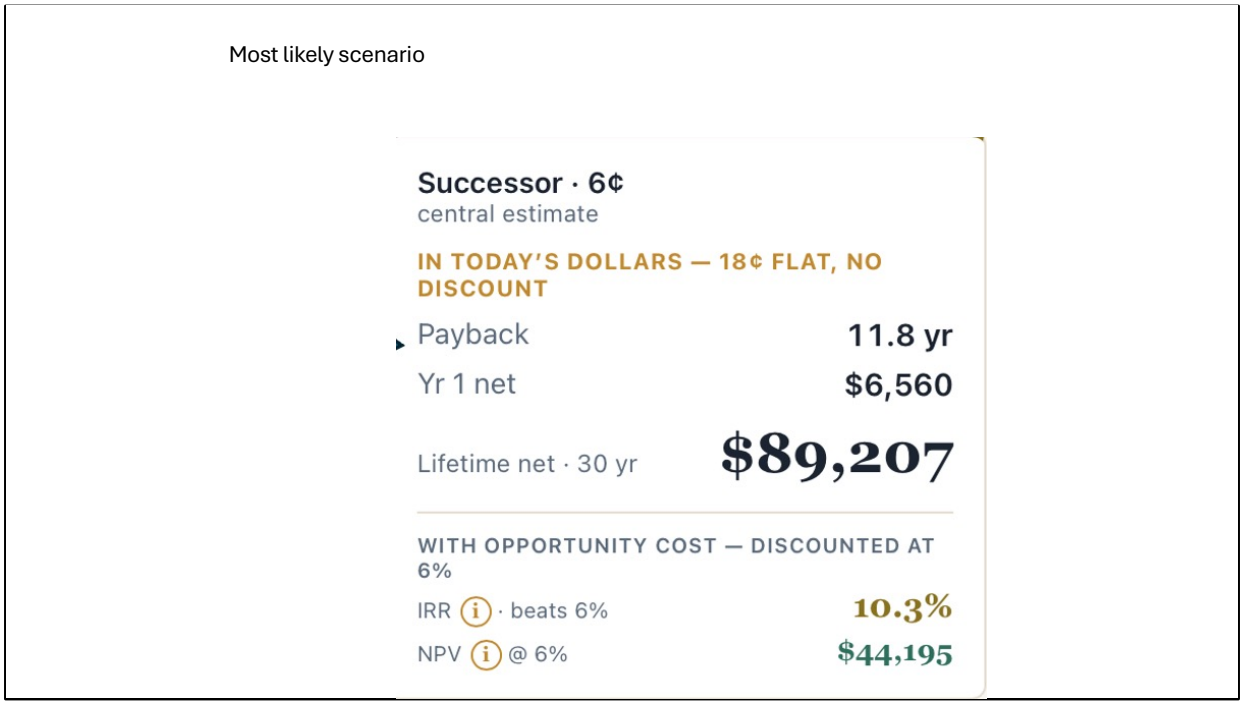
Slide 7 — Best case: if we beat the deadline

Right now, Maryland requires SMECO to pay us full retail rate for the excess power we export. The Public Service Commission is expected to lower that rate. If our system is connected to the grid before the change takes effect — the deadline appears to be July 1, possibly sooner — we are grandfathered at the current rate for the full thirty-year life of the system.

Under that scenario, the top half of this card holds electricity prices flat at 18 cents and applies no discounting:

- The project pays back its full cost in 8.4 years.
- It nets $9,156 in the first year.
- Over thirty years it returns $161,709 to the community.

The bottom half accounts for opportunity cost. The internal rate of return is 14.5%, well above the 6% we assumed we could earn elsewhere. Net present value is $96,273 — that's the value the project creates *beyond* what the same money would have earned at 6%.



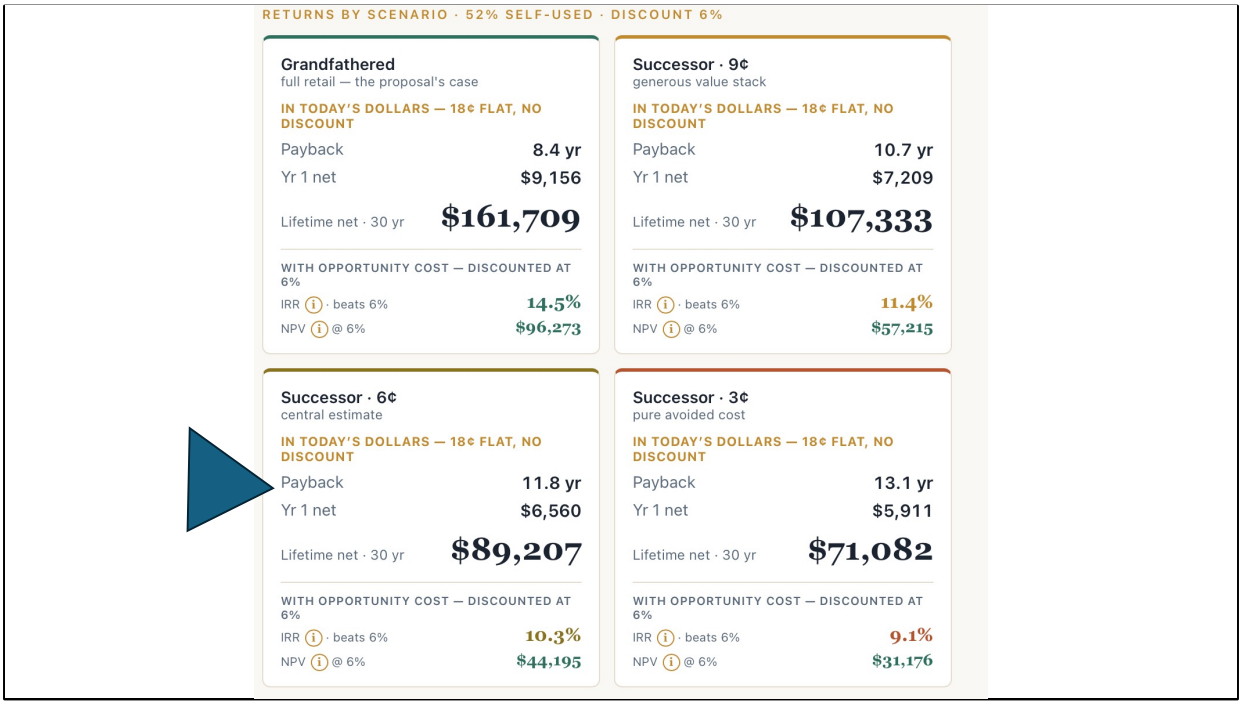
Slide 8 — What we think will actually happen

We are not asking you to bank on the best case.

If we miss the deadline, the Commission sets a successor rate for exported power. Our central estimate is 6 cents. Under that assumption:

- Payback takes 11.8 years.
- The first year nets $6,560.
- Thirty-year return is $89,207.
- Internal rate of return is 10.3%, still comfortably above 6%.
- Net present value is $44,195.

This is the number to hold in your head. It's the one we consider most likely, and the project is clearly worth doing on these terms alone.



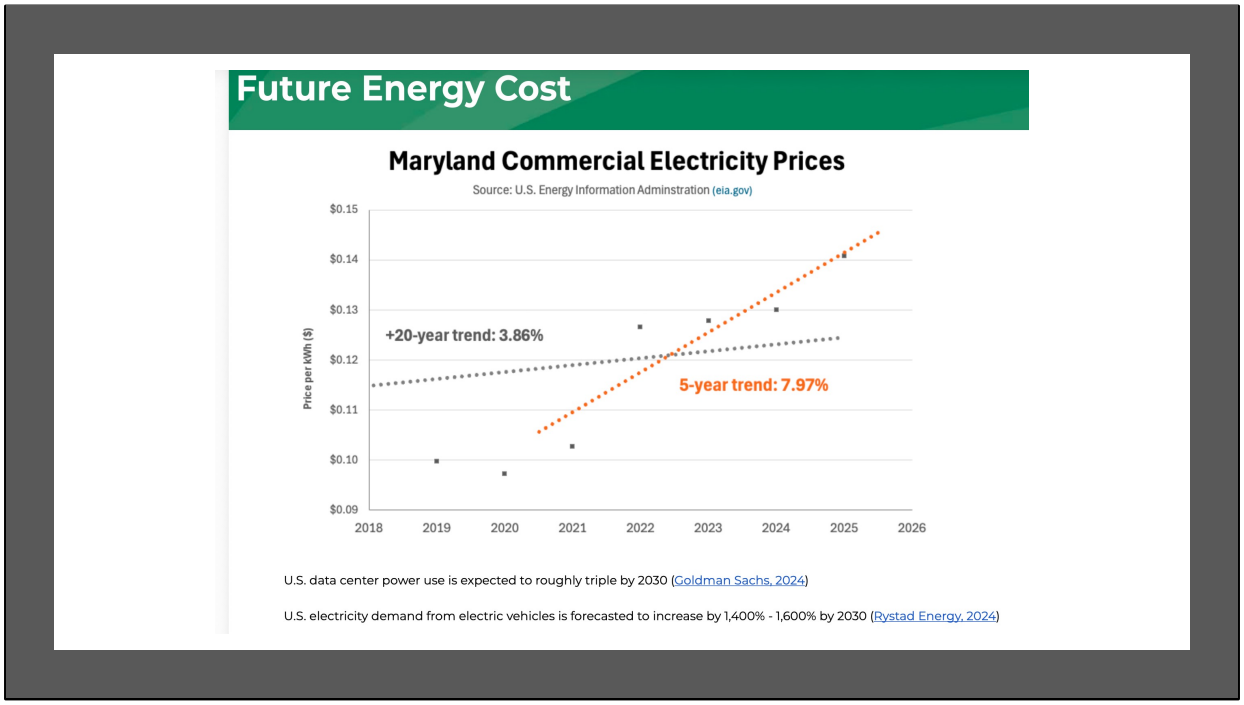
Slide 9 — All four scenarios

Here is the full range, so you can see how much the export rate actually matters.

Upper left is the grandfathered case — full retail, if we make the deadline. The other three assume we miss it and the Commission sets a new rate: 9 cents in the generous case, 6 cents in the central case the arrow points to, 3 cents if the Commission allows only pure avoided cost.

The worst of the four still pays back in 13.1 years, returns $71,082 over thirty years, and earns 9.1% — better than our 6% benchmark.

That is the important point on this slide. We do not need to guess right about the export rate. Every scenario is a profitable investment. Meeting the deadline makes a good project substantially better, but missing it does not make it a bad one.



Slide 10 — Where electricity prices are heading

This is EIA data on Maryland commercial electricity prices.

The gray line is the twenty-year trend: 3.86% a year. The orange line is the last five years: 7.97% a year. We built our model on the gray line.

The two notes at the bottom explain why prices have accelerated. Data center power demand is projected to roughly triple by 2030, and electric vehicle demand to rise many times over. Neither pressure is easing.

If rates rise faster than 3.86% — and recent history says they will — every number in this presentation understates what the project is worth.

An estimated breakdown of the costs (based on Dept. of Energy Benchmarks).

Component	Estimate	Share
Solar modules (84 panels)	~$17,000	~16%
Microinverters + monitoring (Enphase, one per panel)	~$15,000	~14%
Racking & mounting hardware (two separate roofs)	~$6,500	~6%
Electrical balance-of-system (wiring, conduit, disconnects, two service tie-ins)	~$11,000	~10%
Installation labor (crew, two buildings, roof work)	~$17,000	~16%
Engineering & design (incl. stamped structural + electrical plans)	~$5,000	~5%
Permits, inspection & interconnection (two sites)	~$3,700	~3%
Contractor overhead, sales & profit margin	~$32,000	~30%
Total	**~$107,200**	**100%**

Slide 13 — What it costs

Here's where the money goes, benchmarked against Department of Energy figures for projects of this type and size.

Total installed cost is approximately $107,200 for 84 panels across two roofs serving four buildings. Hardware — modules, microinverters, racking, and wiring — comes to roughly $49,500. Labor, engineering, and permitting add about $25,700. Contractor overhead and margin is the largest single line at roughly $32,000, which is normal for commercial rooftop work at this scale.

The 30% federal credit brings SCA's net cost to approximately $75,000.

These are benchmark estimates, not a signed bid. Actual proposals will vary, and the calculator lets you test how sensitive the returns are to a higher or lower installed cost.

This project is expected to prevent 18.7 tons of Co2 going into the atmosphere in yr 1

Slide 11 — The longer view

The financial case stands on its own. But there's a second reason to do this.

In its first year, this system keeps roughly 18.7 tons of carbon dioxide out of the atmosphere. Over thirty years, that compounds.

A child born today will likely see the 2100s. What that world looks like — the coastline, the reefs, the summers — depends on decisions being made now, in a great many places, most of them small.

This project won't change that trajectory by itself. But it's a real step, it pays for itself, and it may be a useful model for other Maryland communities looking at the same question.