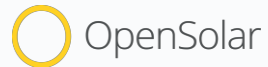


From Design to Permit to Interconnection, **Seamlessly**

Speakers



Andrew Birch
("Birchy")
Co-Founder and CEO



Matthew McAllister
CEO



Joe Beer
VP Product Management



End of IRA economics

September 2025

What's changing at the end of 2025?



ITC

30% tax credit on residential installs goes to 0%



Solar leases & PPA's vs Loans

Removes tax credit for loans, and preserves the tax credit for solar leases and PPAs (third-party owned systems under Section 48E) through the end of 2027



How we operate

We have to attack our cost stack in four areas in order to survive, and thrive!

Customer proposition post IRA

What happens to US resi solar if we don't adapt

Solar Payback Period

15+ Years

CASH PURCHASE

Solar Loan
Payments

Grid
Electricity

Solar will become
more expensive than grid energy **40%**

USA Stack Attack

Aggressively eliminating costs
to stay competitive

Competitive pricing post IRA

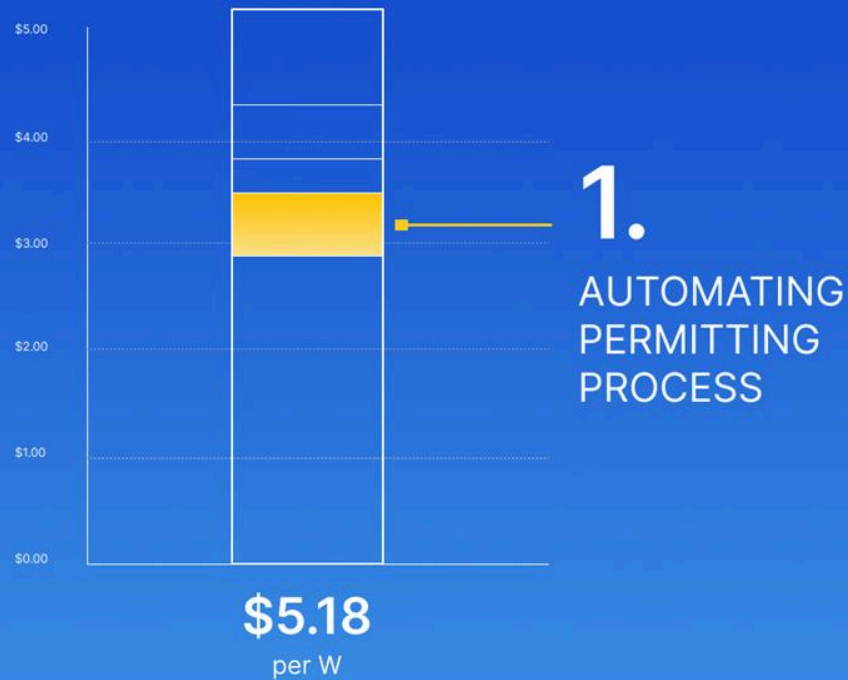
\$2.49 / watt is achievable if we attack the stack in
four key ways, saving the US customer 30% vs grid energy



1. Automated permitting

with SolarAPP+

Automated permitting
slashes soft costs
by reducing permitting
timelines



Standardized plan review benefits everyone



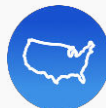
Fewer iterations for jurisdictions to review

Potential errors are automatically flagged within the system



Faster permitting times for installers

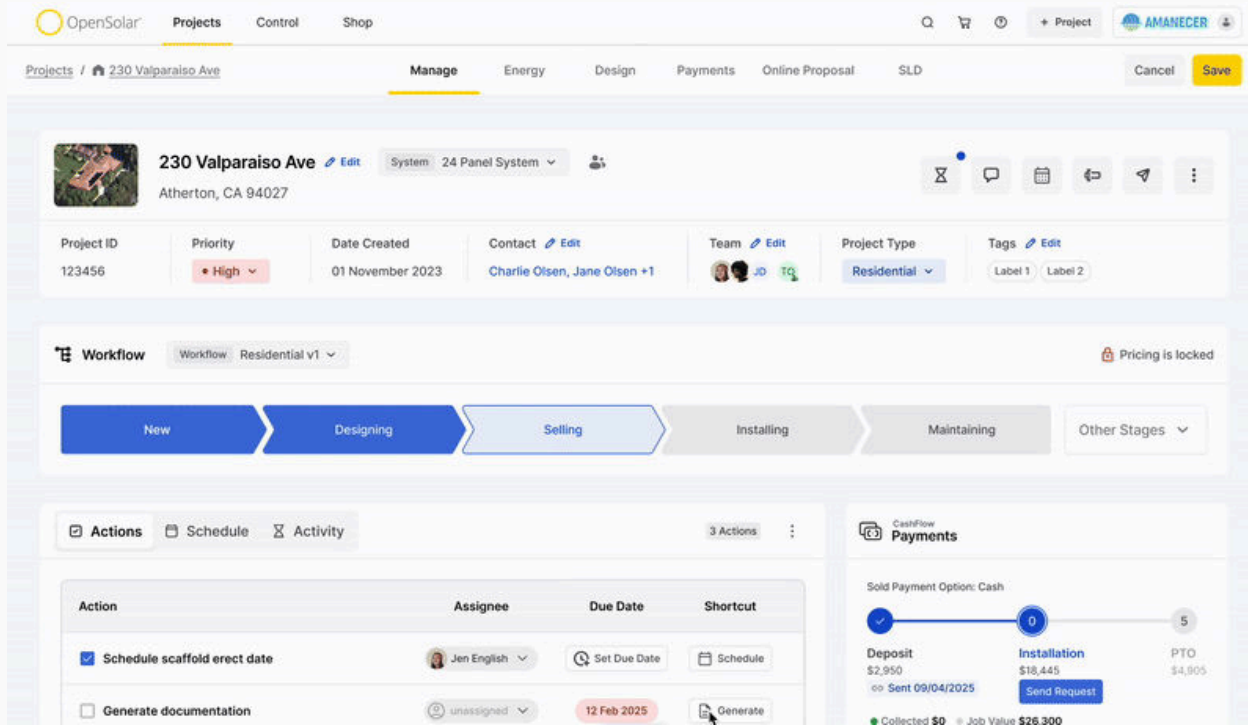
Print the permit once approved, no need to visit city offices



Easily replicated for expanded impact

Standardized format allows for maximum impact across the cities across the country

Integrations across the industry

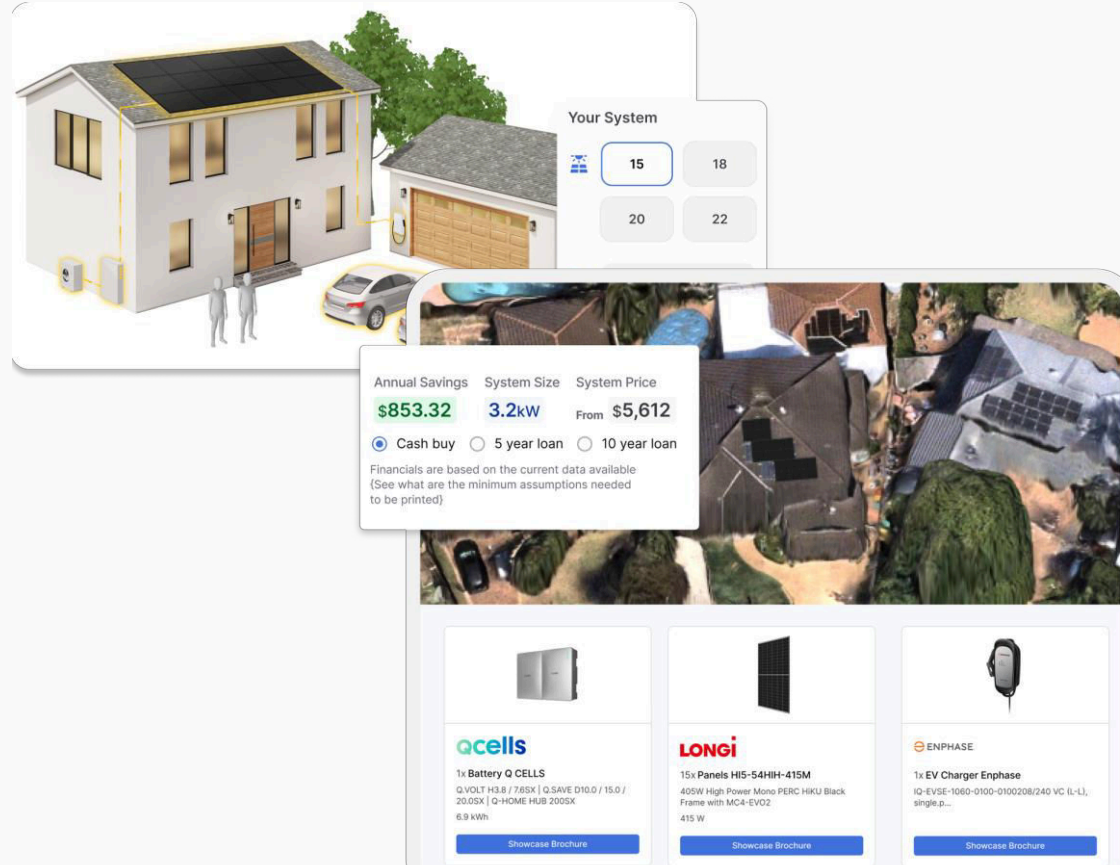
The screenshot shows the OpenSolar web application interface. At the top, there's a navigation bar with the OpenSolar logo, tabs for "Projects", "Control", and "Shop", and a search bar. Below this is a sub-navigation bar for the "230 Valparaiso Ave" project, with tabs for "Manage", "Energy", "Design", "Payments", "Online Proposal", and "SLD". The "Manage" tab is active. The main content area displays project details for "230 Valparaiso Ave" in Atherton, CA 94027. It includes a project ID of 123456, a high priority, a creation date of 01 November 2023, and contact information for Charlie Olsen and Jane Olsen. The project type is "Residential". Below this is a workflow section showing stages: New, Designing, Selling, Installing, Maintaining, and Other Stages. The "Selling" stage is currently active. At the bottom, there are two panels: "Actions" and "CashFlow Payments". The "Actions" panel lists tasks like "Schedule scaffold erect date" and "Generate documentation". The "CashFlow Payments" panel shows a progress bar for the payment process, with a deposit of \$2,950 and an installation cost of \$18,445.

2. Cut hardware and software costs

Reducing
hardware costs
by \$0.71 per watt



Reducing
software costs,
saving 5-10%
on overheads



Your System

15 18
20 22

Annual Savings **\$853.32** System Size **3.2kW** System Price From **\$5,612**

☒ Cash buy ☐ 5 year loan ☐ 10 year loan

Financials are based on the current data available
(See what are the minimum assumptions needed to be printed)

Component	Details
Q CELLS	1x Battery Q CELLS Q.VOLT H3.8 / 7.65kWh Q.SAVE D10.0 / 15.0 / 20.05kWh Q-HOME HUB 2005kWh 6.9 kWh
LONGi	15x Panels H15-54H1H-415M 405W High Power Mono PERC HKU Black Frame with MC4-EVO2 415 W
ENPHASE	1x EV Charger Enphase IQ-EVSE-1060-0100-0100208/240 VC (L-L), single p...

Showcase Brochure Showcase Brochure Showcase Brochure

3. **Reduce** customer acquisition costs

Reduce CAC by \$0.43 / watt



Join us at the launch of OS 3.0



4. **Slash** finance and other overheads



● Collected
\$38,131

● Job Value
\$48,131

Automate:

- payments
- ordering
- project management



Deposit
\$8,000

Paid



Installation
\$20,066

Paid



Milestone
\$10,066

Paid



Consultation
\$800

Overdue



PTO
\$9,200

Send Invoice

\$5.00
\$4.00
\$3.00
\$2.00
\$1.00
\$0.00

\$2.49
per W

-\$0.57
lower

Enhanced Customer proposition post IRA

How resi solar
survives and
thrives if we adapt

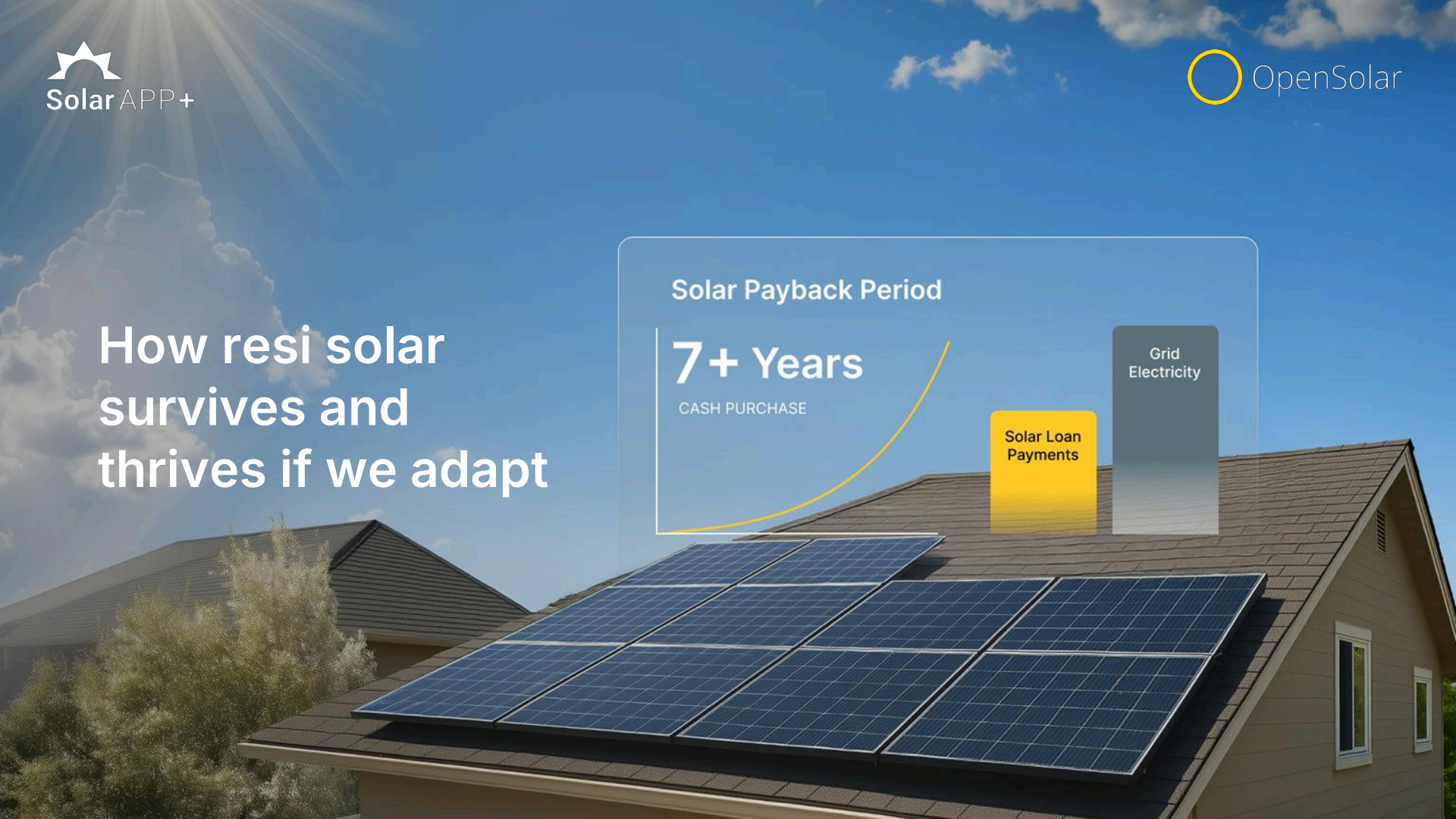
Solar Payback Period

7+ Years

CASH PURCHASE

Solar Loan
Payments

Grid
Electricity



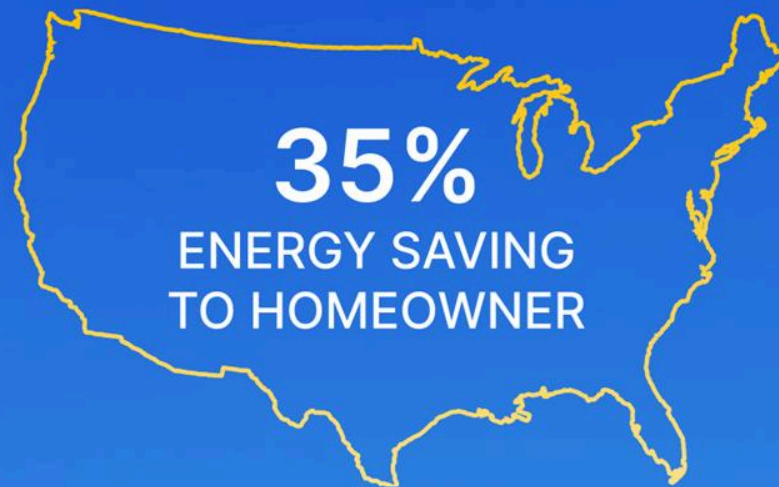
Cost of Solar
and Storage



Cost of Solar
and Storage



=



Cost of Solar and Storage



2029
REMOVE
THE TARIFFS



33%
**OF HOMES
HAVE SOLAR**

35,000,00
homes

\$300,000,000,000
in sales

Let's start to **adapt**
right now



Clean Power
Research®

Advancing the energy
transformation for
25+ years

Trusted Software & Data Products



No-code workflow automation



Your view behind the meter



Trusted energy advisor



Solar data & intelligence

Utilities are Reducing Time and Costs with Workflow Automation

Common workflows/use cases we see automated:



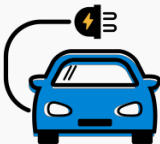
Distributed Generation
(DG) Interconnection

~50%

of USA PV interconnection applications



Utility-scale (FERC)
Interconnection



Transportation
Electrification



Building
Electrification



Large Load &
Other Service
Requests



Joint Use
Management

Our insights come from: -200 “programs”, 3.1+ million “applications”, across 85+ Utilities and Energy Agencies

Interconnection Workflow – Common Steps

Basic automation: Gain core operational efficiency and meet regulatory deadlines

What is an interconnection workflow? (*exemplary common steps*)

 **APPLICANT**

 **INTERNAL USERS**



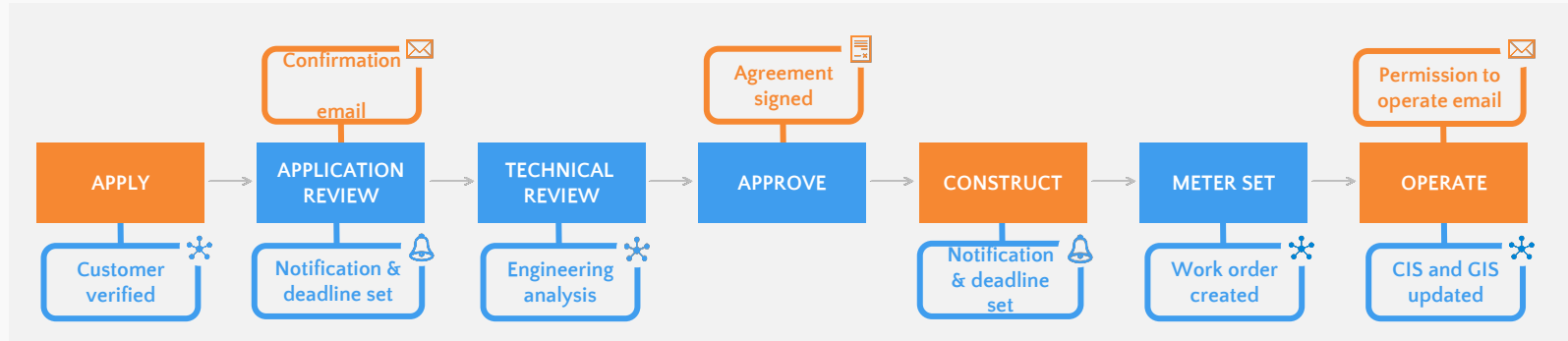
Interconnection Workflow – Common Steps

Basic integrations: Achieve current best practice streamlining

What are the basic integrations?

 **APPLICANT**

 **INTERNAL USERS**



Proven Results with a Proven Solution – PowerClerk

80%

faster turnaround times

**Operate efficiently*
with automation**

Source: REC, JEA, ORU, APS [case studies](#)

* shorter queues & lower costs

Taking it to the Next Level

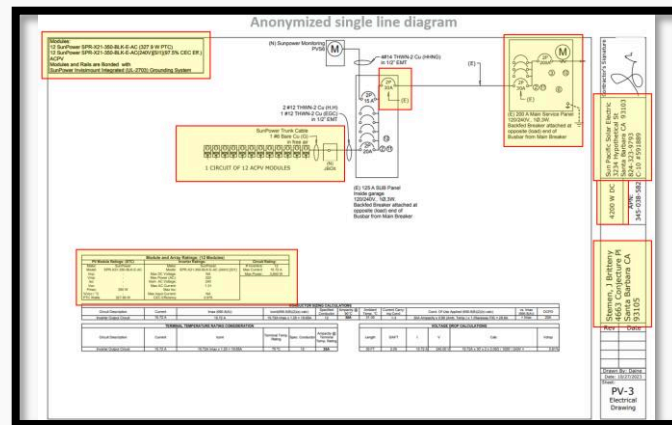
Additional Streamlining Opportunities

1. Embrace emerging AI capabilities

Many DER tools and systems are now using AI to augment the work

Example: PowerClerk AI Attachment Analysis

Limited Preview



Using AI to augment human work speeds processes and reduces per application labor costs

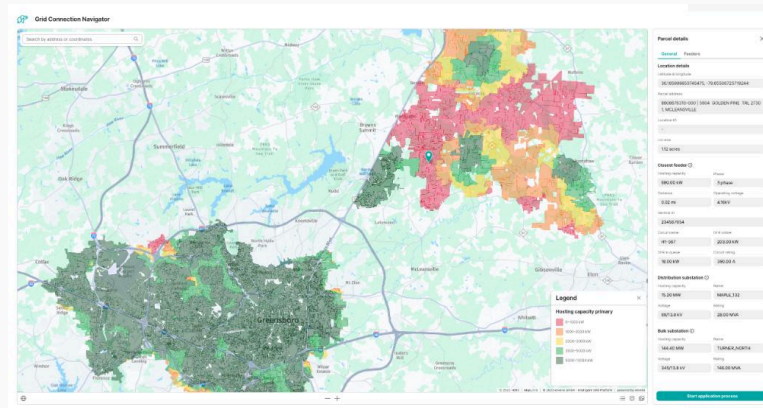
Taking it to the Next Level

Additional Streamlining Opportunities

1. Embrace emerging AI capabilities
2. Implement Pre-application Capacity Checks

Before DER application is submitted, query grid capacity in real-time (e.g., available feeder or transformer capacity at the applicant's location).

Example: envelio hosting capacity map



Pre-app screening helps applicants identify constraints upfront and reduce speculative submissions

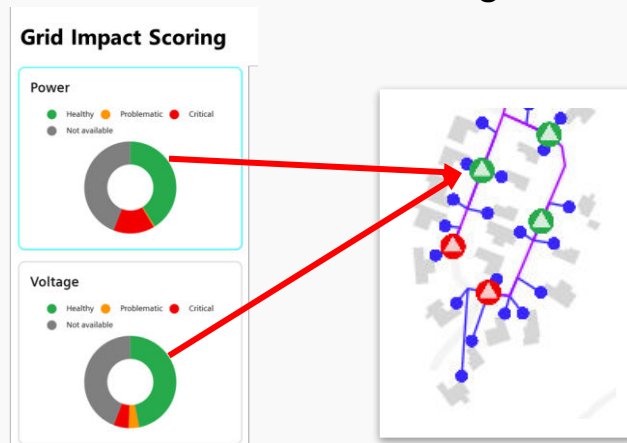
Taking it to the Next Level

Additional Streamlining Opportunities

1. Embrace emerging AI capabilities
2. Implement Pre-application Capacity Checks
3. **Automate Technical Screenings & provide “Auto-approvals”**

Automate exchange of DER asset data and running of screening calculations; get results without manual data re-entry

Example: Siemens GridX DER Insights



If initial technical screening shows sufficient capacity, the project can be auto-approved, cutting down delays.

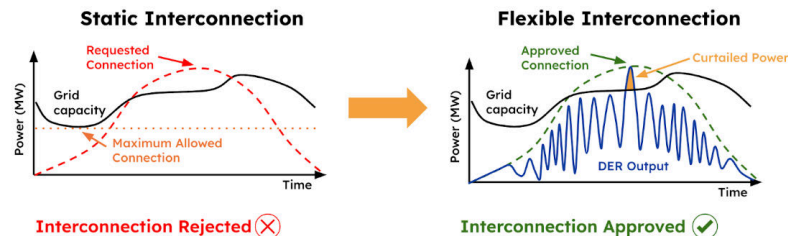
Taking it to the Next Level

Additional Streamlining Opportunities

1. Embrace emerging AI capabilities
2. Implement Pre-application Capacity Checks
3. Automate Technical Screenings & provide “Auto-approvals”
4. Automate “Flexibility” Analysis and Agreement

If initial screen ID's issues, PowerClerk can request that automated flexibility analysis is run. Mitigations might be enrollments in a curtailment program or agree to lower operating envelope.

Example: Static vs. Flexible Interconnection



Distributed Solar example: Flexible interconnection allows solar generation to be actively managed to remain within allowable limits, based on nearby constraints and loading conditions. Here the solar output (in blue) is curtailed only when it exceeds grid capacity (in black). Adapted from [EPRI chart](#).

Agreeing to Flexibility constraints turns a potential “no” into a conditional “yes,” leveraging flexibility programs to resolve constraints.

Taking it to the Next Level

Additional Streamlining Opportunities

1. Embrace emerging AI capabilities
2. Implement Pre-application Capacity Checks
3. Automate Technical Screenings & provide “Auto-approvals”
4. Automate “Flexibility” Analysis and Agreement
5. **Automate DER Asset Enrollment**

Approved DER data flows directly into DER systems eliminating duplicate entry and reducing human error.

Example:



STRATA GRID



New DER assets come online more quickly in the DR, DERM or VPP system; giving grid operators immediate visibility and control.

“In-queue” assets can also be previewed

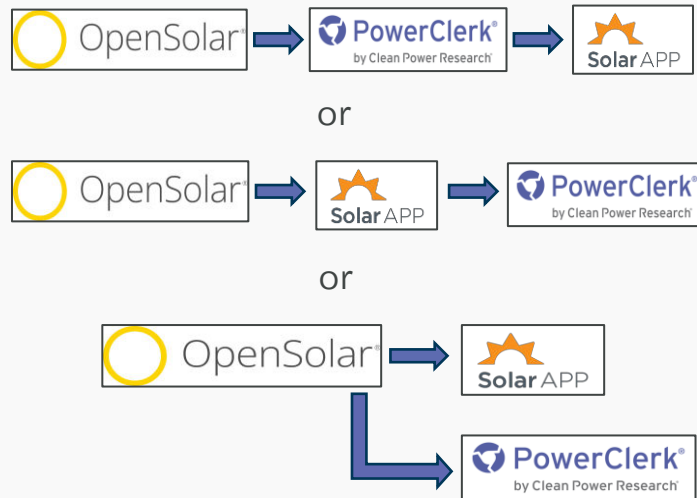
Taking it to the Next Level

Additional Streamlining Opportunities

1. Embrace emerging AI capabilities
2. Implement Pre-application Capacity Checks
3. Automate Technical Screenings & provide “Auto-approvals”
4. Automate “Flexibility” Analysis and Agreement
5. Automate DER Asset Enrollment
6. **Automate Application Submission and possibly Permitting**

Integration options with OpenSolar and SolarApp+

Options:



Multiple approaches possible; talk to us to learn more

Results: Greater Benefits for All

Accelerated DER Interconnection, Permitting and Onboarding – Automation eliminates bottlenecks and speeds up DER interconnections – turning multi-week processes into near real-time approvals for qualified projects.

Increased Customer Communication and Engagement – Built-in communication tools keep DER owners and installers informed, while also enabling seamless enrollment into programs like DR or VPPs.

More Flexible & Resilient Grid – A more flexible grid that can handle growth without costly and time-consuming upgrades. Utilities can safely “say yes” to additional load and DERs, while maintaining reliability. Plus, customer rate increases to pay for grid upgrades can be minimized.

Seamless Data & Visibility – Integrated systems ensure a single source of truth for clean DER data. Grid operators gain up-to-date visibility of new assets from day one, improving operational decision-making.

Increased cashflow and revenue opportunities – Installers get to PTO and permits sooner, accelerating payments from customers. Utilities accommodating more load have higher energy sales revenue.

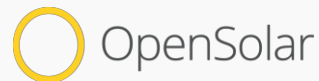
Connect with SolarAPP+, OpenSolar and Clean Power Research



Learn how to bring
SolarAPP+ to your
jurisdictions



Attend the OS 3.0
Launch



Learn more about streamlining
your interconnection processes



Learn more about streamlining your interconnection processes

Contact me:

Joe Beer

jbeer@cleanpower.com

VP Product & Customer
Success

Come to my AI talk:

**Streamlining your DER
Interconnections with AI**

Weds, 9/10 10:30

Venetian Expo Hall
SEPA Booth, v1, Level 2,

Read my Blog:

cleanpower.com/blog/

**Better together: How
PowerClerk partner
integrations enable utilities
to “say yes to more load”**

Visit our booth, V7537:

Join Clean Power Research® at RE+ 2025

Meet our **Utility team** in booth #V7537 to learn about cloud-based solutions for workflow automation, DER insights and customer engagement



Jeff Ressler
Chief Executive Officer



Alan Saunders
Chief Growth Officer



Joe Beer
V.P. Product Management
& Customer Success



Hiro Hiraiwa
Principal Solution Strategist



Andrew Price
Director of Business Development



Lauren Gottschalk
Business Development Manager



September 8-11, 2025
Las Vegas, NV
Booth #V7537



**Clean Power
Research®**



Thank you