

INVEST IN PALADIN POWER, INC.

#### Paladin Power is the next generation energy storage system (ESS)

paladinpower.com Carlsbad, CA









#### **Highlights**

- Paladin Power successfully launched product in 2023 and has \$1.2M in sales to date.
- Letter Of Intent (LOI) signed with PowerFund1 for \$30M+ in Power Purchase Agreements (PPAs).



Manufacturing Service Agreement (MSA) signed with JABIL - top 2 global manufacturer in the world.



First sale with national distributor: Greentech Renewables/CED Greentech in Q1 of 2024



Power plant closures, rising utility costs and State incentives are boosting demand in California.

#### **Our Team**



#### Ted Thomas CEO and President

13 years of manufacturing and energy storage system solutions and inventor and patent holder of energy storage system and stackable battery designs.



#### Michael Bennett CFO

Decades of experience working with small and mid cap public companies. 13 years on the Board of Directors of Swiss Capital Group Investment Bank. University lecturer at Cal State Fullerton, Chapman University and University of Hawaii.



#### Derek Cahill CSO

Previously Mr. Cahill was in the founding group and CTO of MediBuy.com, a \$120M funded startup by Kleiner Perkins and Sequoia Capital. Mr. Cahill is also the founder of GoBig, a digital agency working with startup companies on go to market strategies.



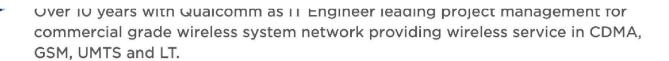
#### Robert Van Heyningen Manufacturing

8 years as VP of Business Development with Flextronics and 7 years with Qualcomm as senior director.



#### Damon Correia. Senior Project Manager

Constant the Conference of Francisco Total and another account of the





#### Allan ONeil Install & Support

16+ years experience installing and supporting solar power and battery storage systems.



#### Bruce Miller Senior Software Engineer

Senior Software Engineer with over 25 years of experience working in embedded systems and real-time designs.



#### Petar Durdevic Senior Software Engineer

20+ years of software experience focused on firmware and embedded system design and development. 9+ years with Quantum Design.



#### Ryan Maliszewski Software Engineer

Software engineer with 10+ years of experience in a wide range of industries. University of San Diego Bachelor of Engineering (B.E.), Electrical and Electronics Engineering.

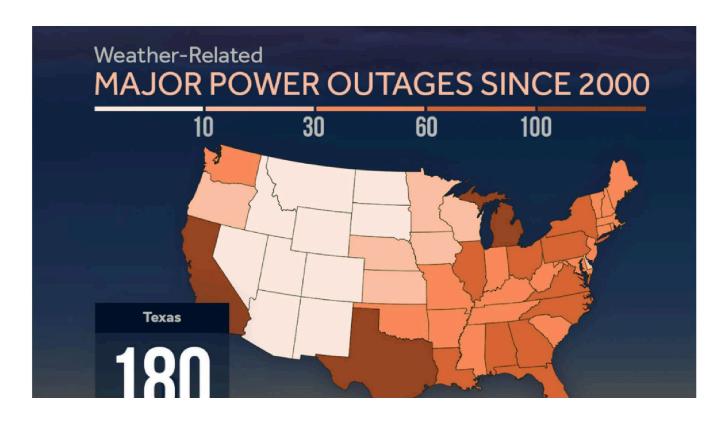
Large and fast growing market, high product demand, proprietary next gen energy storage solution that provides home owners with energy independence and lower utility costs

# The United States has more power outages than any other industrialized nation... and it's getting worse!

As we enter 2024, homeowners have already faced significant challenges due to the weather. In just the first two months, two major storms have left over 1.2 million residential and commercial properties without electricity. Specifically, over 800,000 homes and businesses across 12 Northeastern States were affected in January, while another 400,000+ properties in Northern California experienced power outages in February.

On top of this, North America may face some of the biggest electricity shortages with more than 300 million people in the US and Canada face the growing possibility of electricity shortages beginning as early as 2024 and continuing to 2028 according to NewScientist. NewScientist went on to say "US and Canada may struggle to ensure a reliable electricity supply amid soaring energy demand from the tech industry and electrification of buildings and vehicles."

Major Power Outages Affecting 50,000 Or More People By State:



#### **Electricity Supply & Grid Reliability**

The North American Electric Reliability Corporation (NERC) Report in December of 2023 outlines the elevated and high risk areas throughout North America where the supply of electricity is at high risk or elevated risk. There are shortfalls in electricity generation during normal peak conditions in some markets in the United States, Paladin Power expects ongoing issues with the electricity supply and grid reliability as more coal plants are shut down, increase in electric vehicle adoption accelerates and electricity costs continue to increase, especially in markets such as California and Texas.

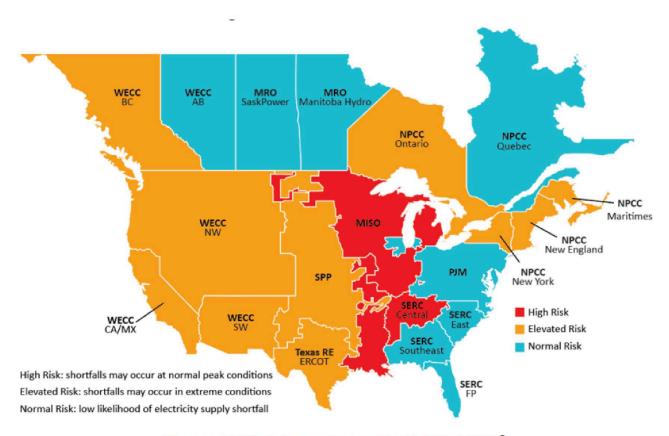


Figure 1: Risk Area Summary 2024–20288

Sources:

- NERC Report December 2023
- <u>Surging Weather Related Power Outages Climate Central</u> September 2022
- Massive Winter Storm Batters US Reuters January 2024
- <u>Customers Affected By Power Outage in Bay Area KRON4 -</u>
   February 2024
- Much of North America May Face Electricity Shortages Starting in
   2024 NewScientist December 2023

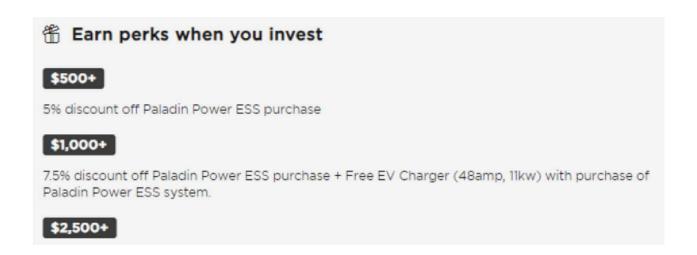
#### **Our Mission**

Join Paladin Power in our mission to allow every homeowner to be self efficient to power their own home without relying on the grid or need for a utility. Paladin Power is leading the transformation on how homes will be powered with our proprietary, reliable, easy to install and powerful energy storage system which not only provides backup power to home owners and small businesses but also energy independence and lower electricity costs. Paladin Power platform also allows customers to seamlessly upgrade the system to power EVs, ADUs, crypto-miners and much more. Learn more about our market growth, proprietary next gen technology and the growing demand for our incredible energy storage system.

#### Why Invest

- For a limited time this opportunity is open to non-accredited investors to invest in a revolutionary technology that disrupts how homeowners power their homes
- The energy storage market, currently in its early stages, is expected to grow by 28% annually (CAGR) and is projected to exceed \$15 billion by 2027, presenting a significant opportunity for high growth

- Demand is being driven by lack of energy security and unreliable grid because of weather related power outages and/or shortfalls in grid capacity
- In California, product demand is being driven by green energy regulatory changes, closing of coal power plants, EV sales and rising utility costs
- Homeowners more than ever rely on electricity for internet access, gaming, security, online learning and even recharging phones and EVs
- Paladin Power's is the next generation of home backup and battery storage. Our proprietary and patented inverter technology is completely integrated consumer mobile app and IoT services
- Paladin Power Energy Storage System (ESS) was launched in Q4 of 2023 with sales of \$1.2M to date
- Founder and CEO Ted Thomas has 16+ years of energy storage experience and pioneer in energy storage solutions
- Early Bird Special The first \$1 million (\$1M) of investments will be at \$0.40/share a 33% discount compared to \$0.60/share
- Product Discount investors receive a discount of 5% to 30% off the purchase of a Paladin Power energy storage system (ESS) and free EV charger with purchase of a Paladin Power ESS\*



10% discount off Paladin Power ESS purchase + Free EV Charger (48amp, 11kw) with purchase of Paladin Power ESS system.

#### \$10,000+

15% discount off Paladin Power ESS purchase + Free EV Charger (48amp, 11kw) with purchase of Paladin Power ESS system.

#### \$20,000+

20% discount off Paladin Power ESS purchase + Free EV Charger (48amp, 11kw) with purchase of Paladin Power ESS system.

#### \$50,000+

30% discount off Paladin Power ESS purchase + Free EV Charger (48amp, 11kw) with purchase of Paladin Power ESS system.

#### 2024 Goals

Paladin Power goal is to raise \$5 million to increase manufacturing capacity to meet product demand and fulfill LOI agreement with PowerFund1 resulting in \$6M to \$10M in revenue. Funds will also be used to expand our sales, support and operational team.

**EXECUTIVE SUMMARY AND FINANCIAL OVERVIEW** 



RAPID GROWTH IN ENERGY STORAGE AND RENEWABLES MARKET.

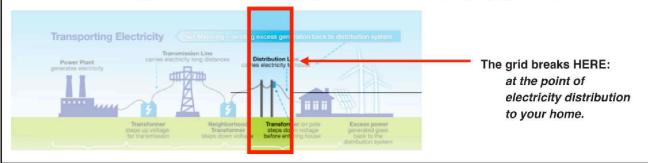
Scaling revenue to \$300M+ by end of 2028 with 40% net profit. Power Purchase Agreement of \$30M, high demand in the California market due to rising utility costs.



the Big Idea in 60 seconds

#### California needs new sources of electric power because the grid consistently fails at a draw of 51GW, causing brownouts and blackouts. There is more demand than supply and the problem is about to get worse:

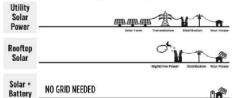
Yet another million electric vehicles (EVs) are expected to hit CA roads in 2023-2024. Accordingly, analysts are expecting energy cost increases and ongoing supply shortages.



## **DEMAND DRIVERS**Solar Plus Storage

Only 80 thousand out of 15 million California homes have an energy storage solution. Those units can power HVAC, EV, or Appliances, but not all at once.

HERE'S WHAT'S DRIVING OUR \$25 MIL./MONTH CURRENT SALES PIPELINE: Solar power is simple



- 1. Regulatory Changes: NEM 3.0
- Adopted April 14, 2023, NEW 3.0 eliminated net metering which allowed sales back to the grid from Solar.
- 2. EV Sales Surge: result: at 51 GW, the grid crashes
- Despite adding new power plants, building huge battery storage systems and restarting older fossil fuel generators, California relies heavily on energy from other states in a fragile buy-sell system that does not adapt rapidly to changes in demand.
- 3. Electricity Cost \$.56 .87 kwh and increasing

While "average" rates can be quoted lower, the reality is our customers with larger homes in high-use areas like San Diego, Los Angeles, Santa Barbara and the Bay Area pay among the highest rates in the country rivaling only Hawaii.

HUGE DEMAND FOR BATTERIES

#### **28% CAGR IN BATTERY STORAGE**

Can California's power grid handle a 15-fold increase in electric cars? NO. Instead, EV'S are pushing the grid towards failure.

THIS IS ONE REASON THE BATTERY

#### California hit a cumulative one million plug-in vehicles, as it aims for five million by 2030

This market is growing rapidly as grid modernization and growth to 5M EV's are causing an increase in demand for grid energy storage; To date, market growth has been restrained by the high cost and complexity of installing battery storage systems.

#### STORAGE MARKET HAS A PROJECTED CAGR OF 27.9% FOR THE NEXT 5 YEARS.

According to the Markets and Markets Research Group, the battery storage system market is projected to surge 27.9% per year, from \$4.4 billion in 2022 to \$15.1 billion by 2027.

#### PALADIN IS WELL POSITIONED FOR RAPID REVENUE GROWTH GIVEN OUR BOOKINGS, DEPOSITS AND LOI'S

\$30M
2024 Approximate Value of Current LOI's

INTRODUCING

#### Paladin Power ESS

PARTIERS BATTERIES

21 KW 48 KW

range 7-21kw 24-48kw

#### **SMALL FOOTPRINT AND PRE-WIRED:**

Solar energy is only useful if it can be utilized even when the sun is not shining, and if it can meet the power demands of larger appliances and electric vehicles (EVs).

#### INVERTERS, BATTERIES, CHARGE CONTROLLER, MPPT, ALL-IN-ONE ENCLOSURE

- · AC / DC coupled
- Factory pre-wired
- · No panel upgrades
- · Built in soft-start
- Scalable inverters: 7-21 KW
- Stackable batteries: 24-48 KWh (LiFePO4 Batteries)
- SGIP, UL 1741, IEEE, UL 9540, rule 21 SB (pending), UL 9540a
- · Self consumption and TOU management
- Vehicle to home (V2H) / vehicle to grid (V2G) / V2X



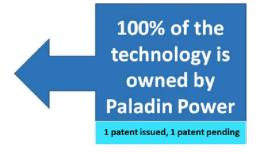
INTRODUCING

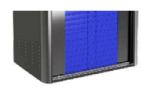
#### PALADIN POWER ENERGY STORAGE SYSTEM

For homeowners who are not satisfied with depending on a failing energy, the Paladin Power ESS is a new category solution that allows them to power nearly every circuit in a home without compromising their daily lifestyle. Unlike existing solutions that either require complex installations or have low output or both, Paladin Power ESS a one-enclosure solution.



- ► Delivered in an all-in-one enclosure
- Pre-wired for fast and easy installation
- When properly sized, the Paladin Power ESS, is able to do this through its groundbreaking stackable battery bussing system and totally disruptive scalable inverters that require no wiring for adding additional capacity;
- All components are fully contained inside a single enclosure.
- The standard default configuration is rated for indoor and comes DC Coupled for





maximum efficiency, AC coupling is optional.

 Assuming the solar panels and inverter capacity is sized correctly, The Paladin Power ESS is ideal for homeowners interested in offgrid applications. solution. The projection is that by 2030, 50% of solar installations will incorporate storage solutions. Consequently, the solar battery storage market is expected to expand significantly, reaching an estimated value of \$368 billion by 2030.

\*Paladin Power is battery agnostic and works with many battery partners.

UNRESOLVED PROBLEMS

#### WHY PALADIN IS NEEDED NOW

#### **Residential Use Case**

### TODAY, the increase of EV adoption means these vehicles must be charged at home.

- The public charge stations are congested, and home charging without solar can be \$200-600 per vehicle per month.
- Solar installations have have zero economic value without battery storage under the new regulatory change.
- Energy independence, aka full home power or autonomous power is a highly coveted status for all California households.
- Solar installers need immediate supply of battery storage systems,

A typical California household uses about 30 kWh each day, with a projected 4x increase if an EV is added. A typical Energy Storage Solution has a capacity of around 10kWh; in other words, typical units come up short by 20kWh or more.

This means that the average ESS in today's market cannot power all the circuits in the house.

And more importantly, it doesn't have enough power to start any of the major household appliances, the HVAC system, refrigeration, and water heaters.

These appliances are up to 73 percent of the total load in residential buildings, and are often critical during extreme weather conditions and emergency situations.

UNRESOLVED PROBLEMS

#### TYPICAL "POWER BLOCK" INSTALLATIONS ARE NOT STRAIGHT FORWARD

If you want the backup batteries to power "lite & limited" loads like lighting, refrigerator, internet, and a garage door opener, then only one Tesla Powerwall is needed. Two Powerwalls would be needed to power medium size HVAC systems and other large appliances. Three Tesla Powerwalls would be needed to power heavier loads at a home like a large HVAC system, washer/dryer and a large water pump.

#### How you imagine your house to be powered off-grid:



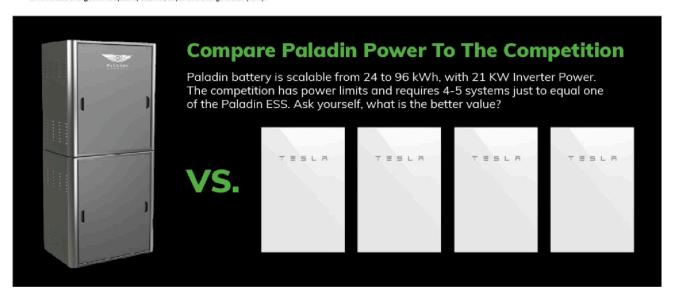
#### What it actually takes to have your home and EV off-grid by solar: complex wiring, new permits and difficult-to-install CT



Installers dislike the current crop of solar battery systems. Current energy storage system technology is heavy; at 130 lbs just for the inverters, it can require 2-3 people to install over the course of several days.

UNRESOLVED PROBLEMS

If you want the backup batteries to power "lite & limited" loads like lighting, refrigerator, internet, and a garage door opener, then only one Tesla Powerwall is needed. Two Powerwalls would be needed to power medium size HVAC systems and other large appliances. Three Tesla Powerwalls would be needed to power heavier loads at a home like a large HVAC system, washer/dryer and a large water pump.



INTRODUCING

#### PALADIN POWER ESS SIMPLE INSTALLATION

INSTALLERS LOVE PALADIN: IT'S SIZED TO HANDLE LARGE HOMES, EASY TO INSTALL AND HAS A 20 YEAR WARRANTY

The system is build with solar installers in mind. Reducing installation from days to 45 minutes. Providing an easy upsell option that creates huge value for the customer. While not taking up more space than a refrigerator. Unlike a refrigerator, Paladin Power ESS comes with a 20 year warranty.







The Paladin Power ESS is mobile enough to be moved and installed by one contractor in 45 minutess. Unlike competing products, Paladin does not require excessive conduit, wire and junction boxes all over the wall, as it is a pre-wired system. The only conduit required is from the top of our box to and from solar and to and from sub-panel.

REVIEW

#### **INVESTMENT THESIS**

Battery storage is the leading initiative in California for the next 20 years

SUMMARY: Management believes the newest technology from Paladin Power will be adopted by consumers because it's easy to install, provides a unique, patented and subsidy eligible product (SGIP and IRA) that provides grid independence and access to low cost electricity. Management further believes this technology supremacy will enable allow them to capture a share of the fast growing energy storage market.

Through this evolution, management further believes they have the opportunity to build a completely vertically integrated, energy storage manufacturing and distribution company, right here in America.

To do this, they anticipate the need to become a publicly traded company in the near future, and in order to build a world class demostic manufacturing facility, they anticipate future funding









requirements of both equity and debt, a separate capital raise from this current offering.

Capital attractive space with IPO or acquisition exit path











# What is Paladin Power Energy Storage System (ESS)?

Paladin Power is the next generation of energy storage system (ESS) that captures solar energy, stores the energy and uses that energy to power your entire home or recharge your electric vehicle (EV).

Paladin Power is unlike any other technology on the market. Paladin Power ESS is scalable for small or large homes, easy to install, easy to operate and can easily be upgraded.

Paladin Power ESS is delivered in a beautiful cabinet about the size of a refrigerator, everything comes pre-wired and pre-programmed and can run completely off-grid when properly sized.

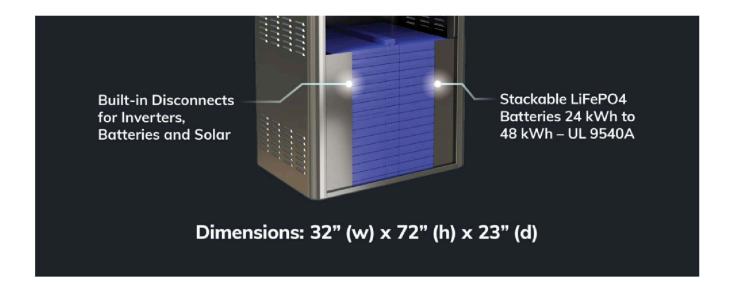


Paladin Power's proprietary IP is in how the system captures the solar energy, stores it and then uses that energy in a way that's never been done before through it's novel innovations in power electronics, software and inverter technologies.

Paladin Power ESS is agnostic to solar panel brand or battery brand allowing the system to be future proof and work with any advancements in new solar panel design or new battery technologies.

#### Paladin Power ESS - Technical Overview



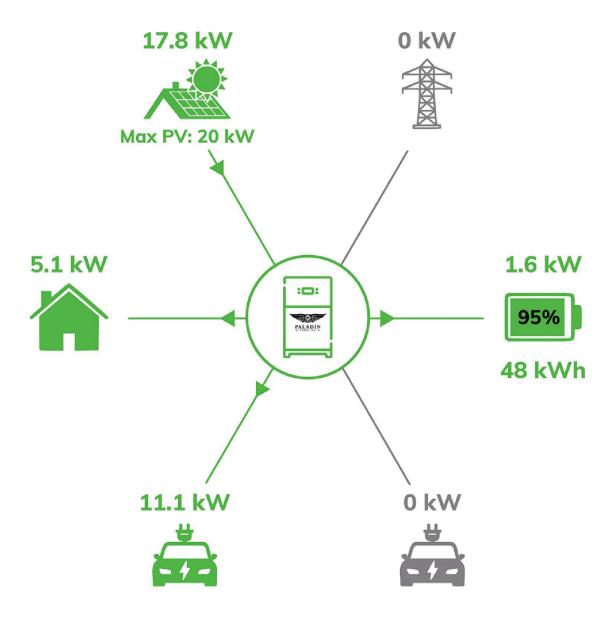


#### **Customer Testimonial**



#### Paladin Power ESS - Mobile App

In this example, the mobile app shows 17.8 kW of solar energy is captured and converted in real-time to power the house, the electric vehicle and charge the batteries, all at the same time.



Unlike most competition, Paladin Power ESS can power all circuits in your home.

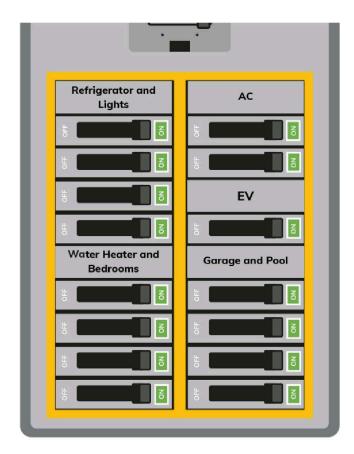
Paladin Power can deliver more power in real-time vs. most competitors.

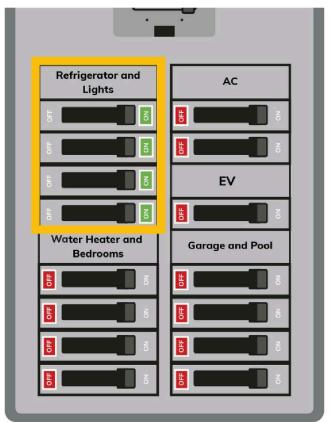
**Powers All Circuits Plus EVs** 

**Powers Only a Few Circuits** 









#### 2023 Milestones

After successfully raising \$5M and closing our first crowdfunding campaign in December of 2022, Paladin Power was able to hit many key milestones in 2023.

- Product manufacturing took less than 1 year despite global supply chain issues
- In Q4 2023, Paladin Power successfully launched product and has over \$1.2M in sales to date.
- LOI for \$30M+ in Power Purchase Agreements (PPA) with PowerFundOne - final agreement is pending higher volume manufacturing
- Signed Manufacturing Service Agreement (MSA) with JABIL.
   JABIL is one of the world's largest contract manufacturers and can scale production to match Paladin's growing demand

- Built amazing software technology:
- IoT device that allows for remote updates to the system
- Utility grade monitoring and fleet management
- Real time customer support data with 300+ data points
- Customer mobile app on Apple and Android
- Reprogrammed system and inverters to meet NEM 3.0 requirements in California
- Overcame global supply chain issues and finalized bill of material (BOM) and resource allocation
- California NEM 3.0 regulation changes in April of 2023 are driving new demand for Paladin's system
- Working with division of Lloyds of London to carve out 20 year warranty
- Expanded upon our key patents for StackBattTM and proprietary inverter technology. StackBattTM technology allows battery cells to be connected without wires and organized into packs providing a smaller system footprint, faster manufacturing and easier deployment of systems.

# Examples of Current Paladin Power Installations in 2023 throughout California





#### 2024 Goals & Milestones

Paladin Power is one of the most advanced technologies on the market with a strong IP position. Now that we've built, tested and installed our systems throughout California, our goal is to scale manufacturing and sales.

Paladin Power goal is to raise \$5 million to increase manufacturing capacity to meet product demand and fulfill LOI agreement with PowerFund1 resulting in \$6M to \$10M in revenue. Funds will also be used to expand our sales, support and operational team.

- Paladin is working on reducing manufacturing risks and global supply chain issues through our partnership with JABIL, one of the world's largest contract manufactures. The plan is to manufacture in the United States, allowing Paladin Power to qualify for Federal credits from the Inflation Reduction Act. Paladin Power already has a manufacturing service agreement or MSA to begin manufacturing once the funds are in place.
- Paladin has an LOI for \$30M+ in Power Purchase (PPA) financing.
   This equals about 2,000 units in sales and about \$80M in revenue.
- Recently hired Michael Bennett as CFO who has public market experience. Mr. Bennett's goals are to build out internal controls, prepare audits and financials and support the company in going

public. Many factors impact the company going public such as industry conditions, revenue, market timing and many other factors.

- Direct to consumer demand is being driving by California Net Energy Metering utility regulation changes. NEM 3.0 no longer provides discount on utility for solar install, the result is customers must purchase a battery system like Paladin to get an ROI on their solar system.
- Paladin recently brought in it's own installation arm to control product installs, quality, timing and support.
- Expand our direct to consumer marketing and social media program. \$200k marketing budget resulted in over \$2M in sales leads and over \$1.2M in sales in California alone.
- Continue to work with California's Self Generation Incentive
   Program or SGIP. Over \$200,000 in Paladin Power sales were tied to the program last year.

SGIP Example: A recent California customer was able to file for \$79,000 rebate from the State of California through the Self Generation Incentive Program or SGIP for their Paladin Power and solar system.

Thank you for interest in the Self Generation Incentive Program (SGIP). This e-mail serves to confirm that we are reviewing your Reservation Request application for the following SGIP project:

Project ID:	SCE-SGIP-2024-24746	
Host Customer:	Mark	
Site Address:	Huntington Beach, CA 92647	
Equipment Type:	Electrochemical Storage	
Energy Storage Capacity:	79.700 kWh	
Rated Capacity:	20.000 kW	
Incentive Step:	Equity Resiliency Step 5	
Requested Incentive:	\$79,700.00	

## JABIL - A leader in energy storage

#### manuracturing

To prove out our technology, Paladin Power hired JABIL, top 2 contract manufacturer globally, to analyze and test the Paladin Power system for reliability, manufacturing scale and future design changes. Through this process, Paladin Power signed a manufacturing service agreement (MSA). A key part of our capital raise is to bring on JABIL as our manufacturing partner, providing better margins and manufacturing scale.

#### JABIL Report On The Reliability Prediction of Paladin Power Inverter Technology. Mean Time Between Failure is 664,599 hours or 75 years.

	VAVE -Reliability Prediction				
JABIL	Parts Count Report - Reliability Prediction				
	Revision	A.1	Released Date	20-Oct-2023	

#### 1. Calculation summary

Test	Result / Summary		
Reliability Prediction According Telcordia	MTBF prediction according to BOM using Telcordia Issue 3		
Issue 3	Calculated total MTBF: 664,599 hours (FIT = 1504.666207)		
Method I Case 1	All calculations are done with a confidence level of 90% Stress used default 50% for parts count. Temperature used 40C for parts Count. Duty cycle 50% Environment: GF, GU- Ground Fixed, Controlled		
	<ul> <li>Remarks:</li> <li>All connectors are set on 'general.'</li> <li>Inductors are entered with subcategory 'coil', this is a tool restriction.</li> <li>All custom inductors are defined as "power filter" type.</li> <li>All custom transformers are defined as "power, filter choke".</li> <li>Some Integrated Circuit parts information are provided by manufacturers and re-calculated.</li> <li>Part KTY82/220,215 is not included due to EOL status.</li> </ul>		

#### **Extra information**

```
MTBF = Mean Time Between Failure
MTBF = 1/Failure rate \times 10^6
MTBF = 1/FIT \times 10^9
1 year = 8760h
R(t) = e-\lambda t
FPMH = Failure Per Million Hours
FIT = Failure in time = Failures per billion device hours
AFR = Annual Field call Rate
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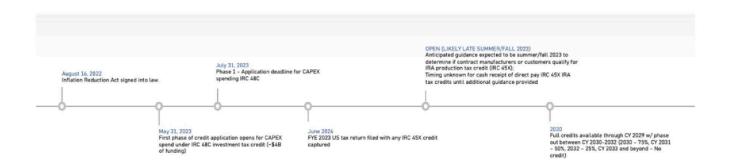
# Manufacturing in the USA qualifies Paladin Power for Federal credits through the Inflation Reduction Act (IRA)

Paladin Power system can be fully manufactured in the United States. Competitor energy storage (ESS) products, including low cost, subsidized Chinese inverter technologies do not qualify for the Inflation Reduction Act (IRA).

#### **IRA** Timeline

#### Investment Tax Credit (48C) Application Timeline

- The program will begin accepting concept papers on May 31, 2023, for a first round of \$4 billion in credits, with approximately \$1.6 billion reserved for projects in energy communities. Concept papers will be due no later than July 31, 2023.
- Once an applicant is allocated a credit by Treasury, it has two years from the date of allocation to provide evidence, such as permits, that the requirements have been met, after which
  Treasury will provide certification for the credit. Within 2 years of receiving certification, the applicant must place the project in service and notify Treasury; the location cannot be
  materially different from the location specified in the application. Treasury will make the awardees and the credit amounts public after awarding the tax credits.



Example Inflation Reduction Act (IRA) credits for residential inverter. Margins will significantly improve if Paladin Power qualifies for the IRA tax credit.

#### California Market

California is the one of the world's largest solar market in the world, but due to California's Net Energy Metering or NEM regulatory changes, the solar industry started to topple in California. This resulted in a 50% drop in valuation of solar companies and a huge hole in the market for a system that could offset the majority of power in the home or office.

Through 2023, most solar installs didn't include a battery system because regulations incentivized customers through net energy metering (NEM) providing a discount on their electricity bill. All competitor products built technology for NEM regulations and didn't create a system to offset power. In April 2023, California stopped offering NEM electricity discounts due to the increasing sales and power consumption of electric vehicles. This positions Paladin Power as one of the only systems that can fully offset power and save customers money on their power bill.

#### California Net Energy Metering (NEM) Regulations:

California Regulation Changes to NEM 3.0 in April of 2023 are driving demand for Paladin Power's ESS platform. Learn more about NEM 3.0 from Paladin Power's CEO, Ted Thomas:







#### **Investor Summary and Business Model**

Paladin Power is a manufacturer of the next generation of energy storage solution for both the residential and commercial markets. The problem with traditional solar energy storage and battery systems is the limitation of inverter technology to power the entire home or office. Paladin Power solves this problem through their proprietary and patented inverter technology which can simultaneously power the house, recharge an electric vehicle and charge batteries all at the same time. Unlike most competitor systems, Paladin system is easy to install and takes up half the storage space. This allows Paladin Power system to be installed quickly and efficiently.

Paladin Power has signed agreements to outsource manufacturing with JABIL, a leading contract manufacturer. Paladin learned early on that supply chain shortages, employee turnover and manufacturing expertise is hard to come by. By outsourcing manufacturing, Paladin can

focus on rapid sales growth and building a strong cash flow. Paladin systems run on a proprietary IoT platform, allowing remote updates for any future regulatory or utility changes and remote management of the system in the field. Paladin system is also upgradeable, as the customer ads more solar or consumes more electricity, Paladin Power system can easily be updated with additional inverter power or additional battery storage.

#### Paladin Power™ ESS

#### The Next Generation of Energy Storage



- Complete Off-Grid Solution
- Power Every Circuit in a Home + EVs
- · Easy to Install No heavy lifting
- Scalable Inverters: 7-21 kW (in the same box)
- Stackable Batteries: 24-96 kWh
- NEM 3.0 Solution
- Eliminates True Up Costs







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Through 2023, most solar installs didn't include a battery system because regulations incentivized customers through net energy metering (NEM) providing a discount on their electricity bill. All competitor products built technology for NEM regulations and didn't create a system to offset power. In April 2023, California stopped offering NEM electricity discounts due to the increasing sales and power consumption of electric vehicles. This positions Paladin Power as one of the only systems that can fully offset power and save customers money on their power bill.

#### **Product Demand**

Paladin Power can be sold directly to customers, financed through power purchase agreements (PPAs) or leased on a recurring revenue model. Currently Paladin has a LOI with a large PPA for \$30M (1,500 units with solar) allowing for millions in pre-order sales for customers to purchase a system directly from Paladin. To meet this market demand, Paladin Power needs to scale manufacturing.

In Q4 2023, Paladin Power successfully launched, installing our systems throughout Southern California, marking a significant step forward in our operational growth. This expansion has directly contributed to achieving a milestone of over \$1 million in revenue and underscores our strong market demand. We achieved this goal through a \$200,000 online marketing campaign, resulting in a 5:1 return on our marketing spend.

#### Manufacturing

To scale manufacturing, Paladin has been working with JABIL, a leading manufacture of solar equipment in the world. JABIL has the resources, access to global supply chain and the knowledge to help Paladin Power scale manufacturing. Paladin Power has signed a master manufacturing agreement (MSA) with JABIL. As part of this process, Paladin is

working Lloyds of London subsidiary on a 20 year warranty. Both of these partnerships allow Paladin to scale quickly and activate the \$30M power purchase agreement (PPA).

#### **New Market Opportunities**

There are many other long tail benefits of the Paladin system. If Paladin leases systems directly to customers, Paladin can aggregate and act as a utility grade generation facility and utilize the extra energy storage to sell back to the utilities. As an example, 70 residential installs would represent 1MW of power.

Another market opportunity, any extra battery storage or power can be used to run cryptocurrency miners. Miners can easily be installed inside the Paladin Power system where they are cleanly powered by solar energy.

Another scenario is Paladin system can be connected to EV vehicles providing a vehicle to home connection to power your home from both the Paladin system and from your EV. Future versions of Paladin Power plan to offer off-grid EV charging directly from solar.

Beyond the consumer residential market, future versions of Paladin Power systems can run small commercial facilities or convenience stores providing both lower utility cost and backup power for refrigerators or other services.

#### **IoT Software & Mobile App**

Paladin Power has already developed IoT software to remotely manage and update the systems in the field. The system tracks over 300+ variables on each device and assists installers and our own in-house customer support team. The IoT software was put in place after the passage of new Net Metering regulations in California in April of 2023. Due to this change, Paladin software had to be re-written to not only support California's changing regulatory environment, but also other States that have similar regulations. Plus for PPA and leasing programs, the IoT software provides utility grade monitoring and fleet

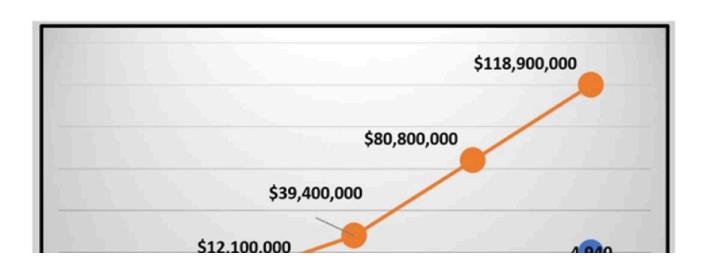
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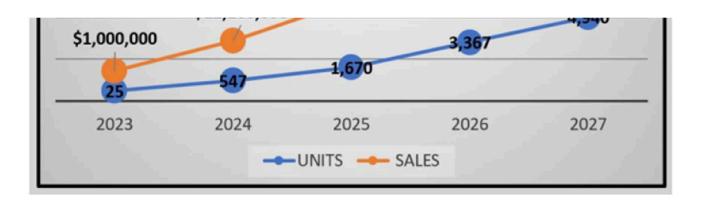
management capabilities. This provides a central system to install, manage and support the systems. Paladin Power's customer mobile app for Android and Apple is already finished and provides customer real time data on their power usage, consumption and status of the Paladin system.

#### Sales Growth

Sales growth is based on direct sales, PPA sales and distributor sales. Although Paladin Power has been focused on the California market, we are able to deploy systems anywhere in the United States or Puerto Rico. Paladin Power remote software (IoT) makes it easier to scale and provide install and remote support services.

California is a major market opportunity for Paladin Power. California regulations and energy issues are the perfect market conditions for Paladin's system. Ramping up to 5,000 homes in California is a very small part of the overall market, yet represents over \$225M+ in revenue over the next 4 years. We anticipate to scale at a faster rate. Systems are currently installed in customer homes throughout Southern California and it took Paladin most of 2023 to solve supply chain issues and modify the software system to adjust to California's new NEM 3.0 regulatory changes. We've overcome these issues by partnering with JABIL on the manufacturing side and bringing on talented software engineers who have extensive experience working with QUALCOMM and other companies.





\* Final numbers for 2023 have not been audited. Paladin Power anticipates \$800k in sales for 2023. Future sales are not guaranteed.

Although Paladin is only focused on the California market at this time, it can sell and deploy systems anywhere in the United States including Puerto Rico. California market is one of the top five largest solar markets in the world.



## Want to learn more about Paladin Power?

Below are more technical details and examples of the energy storage market, the market potential and example consumer scenarios.

#### **Mission**

Our mission is to revolutionize the solar industry with a reliable, easy to install and powerful energy storage system (ESS), that not only provides backup power, but also offsets the majority of your electric bill.

# How long could your family survive if the power went out?

It's a question millions of Americans in California, Louisiana, and Texas have already asked themselves in the last 18 months...

And as grid operators warn of increasing risks of blackouts this summer, millions more could be at risk as temperatures rise, water reserves fall, and the threat of recession grows.

While the United States has historically had one of the world's most reliable, affordable, and increasingly clean electric systems...

Today, the US Power Grid has more power outages than any other industrialized nation... and it's getting worse!

Going back three decades, the US grid loses power nearly 4x more often than it did in 1984, when record keeping began.

The primary reason for failure? Severe weather.

Weather used to account for about 17 to 21 percent of all root causes. In recent years, its accounted for 68 to 73 percent of all major outages.

It's a problem that costs the U.S. economy an inflation-adjusted annual average of \$18 billion to \$33 billion.

Why? It's all thanks to a critical design flaw inside the centralized electrical grid; when one part of the grid breaks down, it can cause a phenomenon called "cascading failure," causing the whole grid to progressively collapse like a row of dominoes.

That's why the US Government has invested billions of dollars to transform our aging energy infrastructure into a more adaptable, efficient, reliable, and responsive national electrical network called the "Smart Grid."

Not only do we need to overhaul our aging grid to become more reliable...

But in order to power the next generation of technologies - like electric vehicles, the Internet of Things, artificial intelligence, and next-generation medicines - we need more power.

More importantly, if we're ever going to hit our ambitious "Net Zero" goals, we need to transition away from fossil fuels towards renewable energy.

For entrepreneurs - and investors - who are willing to provide the capital, labor, innovation and leadership needed to make this transition...

This once-in-a-civilization shift has the potential to not only serve as the backbone of what's being called the Fourth Industrial Revolution, it could become...

#### The largest economic shift in history

Goldman Sachs predicts \$16 trillion could be invested through 2030 in renewable energy infrastructure.

US Energy Secretary Jennifer Granholm's estimate is even higher: a \$23 trillion market by 2030.

According to Kassia Yanosek, a partner at McKinsey & Co. "If more than

70% of current oil and gas demand is replaced by renewables, investment of some \$225 trillion is needed-\$7 trillion per year between now and 2050."

But even with the billions invested so far... and the trillions that could be invested over the years and decades to come... we can't defend American energy security with a centralized grid.

Whether it comes from the increasing amounts of extreme weather conditions - or from a cyber terrorist attack - a country-wide blackout would be catastrophic; a prolonged collapse of this nation's electrical grid could result in the death of up to 90% of the American population through starvation, disease, and eventual societal collapse.

That's why experts are saying the answer could come from distributed energy resources (DER); instead of building massive centralized generation with lots of expensive wires, build generation and distribution as close to the end markets as possible.

Why? Because as of 2020, the price of residential solar cost the same amount as regular electricity provided by the grid.

By 2027, estimates show that residential solar could cost half as much as the residential grid.

But even if we had solar panels on every home and business in America, it wouldn't solve our growing energy crisis.

As we all know, solar only works if the sun is shining... wind only works when the wind is blowing... and hydro only works if we have enough water (which is becoming an increasingly large problem as of late).

This means it doesn't matter how many renewables we bring online, how many energy efficient appliances we install in our homes, or how many electric vehicles we make...

Without a scalable energy storage solution (ESS), there doesn't seem to be an obvious way to unlock the potential of affordable and renewable energy generation...

And without that, there's little chance of ever achieving true Energy Freedom - the state of having all of our energy needs met, at effectively zero cost - as individuals, as a nation, and as a planet.

Even though utilities are making a significant effort to install "grid-scale" renewables and energy storage...

They simply aren't being built fast enough to deal with the problems we are facing today.

That's why it's no surprise to see the small-scale energy storage market skyrocket; from 13 MW/20MWh in 2017 to 235 MW/540MWh in 2020 (with more than 80% of all small-scale installed in California).

The increase in installations was primarily driven by rising demand for backup power in response to power outages and changes to utility net metering and rate structures; These changes significantly increased the financial benefits of installing energy storage.

Despite the recent supply chain and pricing issues, projects are still being built at record-setting pace and remain on track for exponential growth.

According to Jason Burwen, Vice President for Energy Storage at American Clean Power: "Even in the face of continued macro-economic headwinds, interconnection delays, and lack of proactive federal policy, increasing demand for resilient clean energy and volatility in the price of fuel-based generation will drive energy storage deployment forward."

According to research firm Wood Mackenzie, by 2026, annual installations in the residential segment are expected to hit 2GW/5.4GWh - 10x more than the record setting 2020 - with California, Puerto Rico, Texas, and Florida leading the way.

At today's prices, an energy storage system (ESS) costs ~\$1,000 for every kilowatt-hour of storage capacity.

This means 5.4 GWh - which is equal to 5.4 million KWh - would represent ~\$5.4 billion in revenue per year.

# But in order to meet this growing demand, several major problems still need to be solved

We already know that consumers are interested in both financial savings and the desire for emergency backup; According to the EnergySage Installer Survey, published May 2022...

"As energy storage adoption rates continue to increase nationwide, it's important to track the primary drivers and barriers to greater storage adoption.

Interestingly, while solar shoppers on Energy Sage indicate that financial savings are the primary driver of their interest in energy storage, installers report consumer interest is primarily due to a desire for emergency backup power."

We also know that for the majority of consumers, the upfront cost-perkWh is the #1 factor when choosing to install rooftop solar + storage.

After upfront costs, the next consideration is how quickly the system will pay for itself and start generating a profit (i.e. the "payback period").

However, the vast majority of residential energy storage systems (ESS) being installed simply aren't big enough to power every circuit in the house, meaningfully lower (or eliminate) electricity costs, charge electric vehicles (EV), or qualify for the best incentive programs and financing options.

Here's why...

The average American household uses about 30 kWh each day, with a projected 4x increase if an EV is added: the typical solar system size has

a capacity of around 10kWh, with even less inverter capacity, and most of these systems have no battery. Adding just one EV would require doubling the solar size and adding an ESS that now equals the total consumption which is now over 50kWh.

According to EnergySage, average quoted system sizes ranged from a minimum of 6.7 kW in Louisiana to a maximum of 13.4 kW in the state of Washington.

This means that the average ESS in today's market cannot power every single circuit in the house...

And more importantly, it doesn't have enough power to start many of the major household appliances; the HVAC system, pool pumps and other motor loads.

Seeing as how these larger appliances are the largest loads in any

household - approximately 73% of the total load in residential buildings - they are often critical during extreme weather conditions and emergency situations.

However, in order to even start many of these appliances, the ESS must be able to generate enough power to turn them on (and then keep them running).

When an electric motor is at a full stop, the rotor is "locked." In order to get the rotor moving, it will require ~5x more amperage (amps) than normal - during the first half second- to get it started; this is called locked rotor amps (LRA).

For example, here is the ratings sticker found on a typical AC unit.

This is a 3-ton system. With an LRA of 94 amps, this means it requires 22 KW to start this motor; The Tesla Powerwall comes with 5KW, but rated at .85 Power factor, and only 90% RTE, which translates to an real power output of 3,825 Watts.

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required startup power.

To start both at the same time? It would require ~50 KW of power.

The end result? For millions of Americans who already have solar + storage - or are planning to purchase it in the future - they won't have a large enough system to provide true Energy Freedom.

That's why it's crucial for those seeking the best financial savings and strongest energy resilience to get the right system that...

- combines all of the key enabling technologies made by different manufacturers - the solar panels, batteries, and inverters - into a unified system that can power every single circuit in the house...
- Is easily serviceable, expandable, and upgradable; adding (or replacing) either more storage or more solar if energy needs change over time...
- Will continue to operate if an inverter or battery cell fails...
- And do it in a cost effective manner.

#### So why hasn't this problem been solved yet?

One of the main reason has to do with the rules and regulations about product certification and safety required by the US Federal Agency, Occupational Safety and Health Administration (OSHA),

The most well known company approved to perform safety testing is the for-profit global safety certification company, Underwriters Laboratories (UL), headquartered in Northbrook, Illinois.

Established in 1894 as the Underwriters' Electrical Bureau (a bureau of the National Board of Fire Underwriters), it was known throughout the 20th century as Underwriters Laboratories; the company participated in the safety analysis of many of that century's new technologies.

Everything needed to build an energy storage system has some sort of

UL code that certifies the product under US and Canadian safety standards.

In recent years, installation codes and standards have been updated to address modern energy storage applications which often use new ESS technologies.

These codes and standards have one thing in common: they all require electrochemical ESS to be listed in accordance with UL 9540, the

Standard for Safety of Energy Storage Systems and Equipment, which was first introduced in November 2016.

#### Why is this important?

The current edition of UL 9540 limits the maximum energy capacity of an individual electrochemical ESS for residential use to 20 kWh (72 MJ).

But as we've already discussed, the average household requires 30 kWh per day, and upward of 120KWh just by adding one electric vehicle.

This means in order to achieve true Energy Freedom, a substantially larger system is required.

In practice, this means consumers typically must purchase multiple components that must be linked together to form a battery of appropriate size and power.

The end result can look something like this; an expensive eyesore that weighs thousands of pounds and takes days to install.

Not only does this configuration require multiple batteries, it also requires all of the other electronic power systems; inverters, sub panels, energy gateways, and anything else needed to properly balance load.

What do you need to build a larger system inside of a single enclosure? The UL 9540A - a more data intensive fire test report that describes the fire and explosion characteristics of the battery ESS - allows for

#### Who Has UL9540A Approved Systems?

Before installers sell to solar shoppers, distributors and manufacturers must first sell to installers.

Although the Tesla Powerwall remains the most widely requested brand by consumers, over half of installers surveyed in the EnergySage Solar Installer Survey: 2021 Results (published March 2022)...

Enphase and Generac are preferred by installers.

However, only the Enphase IQ Battery 3, 10, 3T, and 10T have achieved UL9540A certification.

#### The C-Rating Problem:

Why These Solutions Don't Work

Here's what most people who purchase solar + storage don't know; in order to qualify for many of the available tax credits, all electricity must first pass through the battery.

- In order to qualify for the Investment Tax Credit (ITC), at least 75 percent of the energy used on an annual basis to charge the storage device comes only from solar (or other qualifying) technology, for a period of five years.
- In order to to meet the definition of "qualified solar electric property expenditure" under section 25D(d)(2) of the Internal Revenue Code of 1986 as amended on March 2, 2018 100% of the energy used by the battery must come "from the sun," therefore allowing the 30% tax credit for the energy-storage device.

With this in mind, it's critical to understand something called the "C rating": defined by the rate of time it takes to charge or discharge a

battery.

According to Paladin Power CEO, Ted Thomas...

"If you have a 10kW solar system on your roof, but a C rating of .5, your battery becomes the bottleneck.

You can never charge the battery fast enough to offset the load in the house in real time. This represents a 15% efficiency."

Generally speaking, this means most households would require a battery with a C rating between 1-3 to provide enough energy to continuously power all loads in the building (assuming you have correctly sized solar array and inverters).

If you don't have the right C rating and Inverter, it could permanently damage batteries and the Inverter hardware in your ESS, resulting in thousands of dollars in replacement costs.

The second reason why many ESS systems will not work is due to inverter technology; the leading brand has 7.6 KW of output, weighs hundreds of pounds, and cannot be put into a small compact enclosure.

#### **Introducing: The Paladin Power ESS**

The Paladin Power ESS is designed for homeowners who want to power nearly every circuit in a home without compromising their daily lifestyle.

The Paladin Power ESS, when properly sized is able to do this through its groundbreaking stackable battery bussing system, and totally disruptive scalable inverters that require no wiring for adding additional capacity; All components are fully contained inside of a single enclosure.

The Paladin Power ESS solution is Built in America. The standard default configuration is rated for indoor and comes DC Coupled for maximum efficiency, AC coupling is optional.

Assuming the solar panels and inverter capacity is sized correctly, The Paladin Power ESS is ideal for homeowners interested in off-grid applications.

#### What makes Paladin Power ESS unique?

Unlike other ESS that are designed for less energy-intensive Asian or European markets, the Paladin Power ESS was designed for the power hungry American homes that have largely been built with energy intensive appliances.

To power all of those appliances, we need inverter capacity - and a battery - that can handle the surge of AC/DC charging and discharging.

The Paladin Power ESS was designed with these five requirements in mind.

#### #1) More Power Per Sq Foot:

The Paladin Power ESS is self-contained in a single,  $2 \times 3 \times 6$  ft enclosure. At a 21 kW output, it would take about 4-5 Tesla Powerwalls - along with inverters and space consuming junction boxes and conduit - to produce the same output.

#### #2) Scalable to Any Size:

Under UL9540A, the Paladin Power ESS can be scaled from 24 kWh to 80 kWh inside the same enclosure; the inverters can be scaled from 5 KW to 21 KW, under the current configuration and up to 42 KW under the newly designed Ver2 coming soon.

Management has indicated that with a small amount of modifications to the enclosure, the current platform can allow a larger capacity of; up to 120 kWh and larger in battery storage and up to 42 kW in inverter power inside a single enclosure, under UL 9540AB

Management is currently in the process of applying for UL9540A.

To increase advertisable battery capacities, requires additional fire safety testing.

Paladin Power can energize the entire EV charging circuit in the electrical panel without any additional wiring.

#### #3) Faster - and cheaper - to Install:

Current energy storage system technology is heavy; at 130 lbs just for the inverters, it can require 2-3 people to install over the course of several days.

The Paladin Power ESS is mobile enough to be moved and installed by one contractor in 45 minutes; There is no unnecessary conduit, wire, and junction boxes or large wall space required for installation.

In the upper right hand corner of the enclosure, all the contractor has to do is make two connections; "out-to-load" and "in-from-grid."

That's it!

#### #4) Net-Zero Cost - in year 1 - for Qualified Buyers:

According to EnergySage, it takes ~8.7 years to "break even" on the upfront costs of a residential solar system; even longer if they add the cost of storage. Depending on certain financial incentive programs, qualified

Paladin Power customers can receive \$25k-\$80k in rebates, additional tax incentives, and immediate savings on electricity bills.

These financial incentives are a critical competitive advantage for Paladin Power.

Keep in mind that all of these rebates are approved under the current design and UL parameters; the current requirements for the SGIP only require UL1741 for the inverter and UL1973 for the battery.

Currently, the SGIP program in California is funded through 2027.

However, management believes it will likely continue beyond 2027 as

electric vehicle adoption and renewable energy mandates increase.

# Example: 3,100 sqft California Home + 2 EVs

A homeowner we will call Mr. Chen lives in a 3,100 sq ft home in Murrieta, California.

Even though he owns two Teslas, he owns zero Tesla Powerwalls.

Before he purchased the Paladin Power ESS, he had no viable options for charging his vehicles at home. Instead, he was forced to take each vehicle to a fast charging station, roughly 5 miles from his house.

Assuming Mr. Chen could even find an available station, it takes ~1-3 hours to fully charge from 50% battery life.

That all changed once he installed the Paladin ESS. Not only can he charge both EVs at once from the comfort of his own home, his entire home is effectively "off grid."

Mr. Chen not only works from home, he homeschools his children. This means having power - at all times in his home is mission critical.

#### **Example: Car Dealership**

The other major use case we see is helping dealerships handle the increase in EV sales; with hundreds of EVs on the lot, charging vehicles - usually during peak hours - is extraordinarily expensive.

That's why when Jason Gardner\* - owner of six car dealerships - heard about the potential cost savings that Paladin Power could provide, he jumped at the chance to become a customer and an investor in the company.

The first commercial Paladin ESS is slated to be installed at one of his

Dealerships in Q4 of 2022.

Not only is he saving money by having proper EV charging infrastructure onsite... he never has to worry about California blackouts shutting his dealerships down for the day.

When the grid goes out, Mr. Gardner can still sell cars.

\*Name has been changed to protect the privacy of the customer.

#### **Risk Disclosures**

Investing in private or early-stage offerings (such as Reg A, Reg S, Reg-D, or Reg CF) involves a high degree of risk. Securities sold through these offerings are not publicly traded and, therefore, are illiquid. Additionally, investors will receive restricted stock that is subject to holding period requirements.

Companies seeking capital through these offerings tend to be in earlier stages of development and have not yet been fully tested in the public marketplace. Investing in private or early-stage offerings requires a tolerance for high risk, low liquidity, and a long-term commitment. Investors must be able to afford to lose their entire investment.

Such investment products are not FDIC insured, may lose value, and have no bank guarantee.

See subscription agreement, offer documents, risk disclosures and WeFunder disclosures for full risk disclosures.