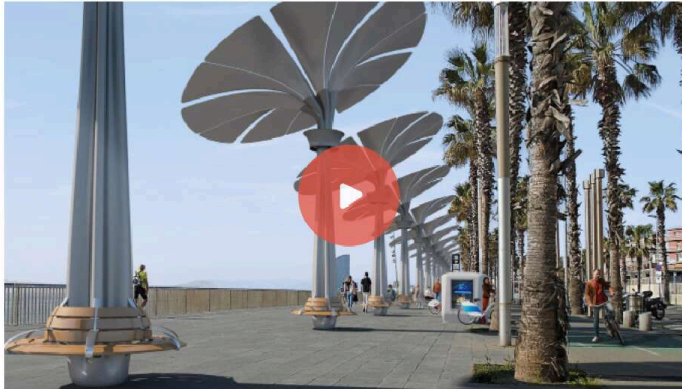


Game-changer in Green Technology: Developing transformative solar energy devices

[PITCH VIDEO](#) [INVESTOR PANEL](#)



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Highlights

Highlights

- 1 Compelling business proposition for customers with estimated payback of 4-6 years at an ROI of 240% (not guaranteed)
- 2 JV with Liberty Access Technologies for electric vehicle green charging ensures strong revenue.
- 3 Team with combined professional experience of 125 years.
- 4 Pioneering, transformative green energy solution that's projected to be 30%-40% more efficient
- 5 Invest in a cleaner future for our children and the children of tomorrow.
- 6 Each Palm-e device projected to reduce carbon footprint by over 21,000 pounds of CO2 per year.

Our Team

 **Rajiv Narain** Founder & CEO

Our Team

 **Rajiv Narain** Founder & CEO

30 years designing and executing significant and complex building projects within timeframe and budget. Long experience in sustainable design.

We are re-imagining on-site clean energy. Current solutions must either be hidden or remain ugly eyesores within the built habitat. They are also inefficient. Our solution Palm-e is inspirational, increases the on-site renewable energy capabilities of campuses, neighborhoods, towns and cities by harnessing areas that have never been used before.

 **Francois Mahu** Founder, COO & Chief Designer

Award winning product designer. Proven track record of product development involving teams and fabricators - from concept to execution.

 **Chris Outwater** Strategic Advisor, Energy & EVs

CEO Liberty Access Technologies. Serial entrepreneur. Inventor and technologist.

 **Jay Kesan** Co-founder & Advisor Legal & Intellectual Property

Professor at UIUC. Extensive startup experience. 20+ patents. Accomplished patent attorney.

 **Samir Varma** Co-founder, CFO & Chairman



Managing Partner VS Asset Management LLC. Quantitative investment and finance expert.
Experienced inventor, investor and entrepreneur.

The Story of Palm Energy

The Problem

Global warming is heating up the earth rapidly, unleashing a devastating cycle of climate change that may soon become irreversible. Rising sea levels, melting ice caps, hurricanes, forest fires and rising pollution levels threaten humanity in ways we haven't experienced before.

The Problem

Global Warming is real! It is driving our planet towards a tipping point - a point of no return!



Net-Zero America Study shows Pathway to Carbon neutral by 2050

[Download the Net-Zero America report](#)

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Solar is Part of the Solution...

Palm-e - A Solar Network Powering Campuses, Communities & Electric Vehicles

An "innovative on-site solar energy solution"



- ✓ Aesthetically Pleasing Design
- ✓ High Efficiency
- ✓ High Power Output
- ✓ Extremely Light
- ✓ Intelligent
- ✓ Palm-e's Strength in Numbers

Utility and Design Patents Pending

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Solar energy is a part of the solution. However, current solar energy systems have limited application and are inefficient as well as unattractive.

Current Campus and Home Solar Solutions

Current solutions are insufficient, inefficient and unsustainable



- ✗ Unattractive
- ✗ Inefficient
- ✗ Heavy
- ✗ Low Power Output
- ✗ Very Expensive per kW
- ✗ Standalone

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As a result, solar panels are hidden away on rooftops, or are mounted as a panel on a post in residential backyards and private gardens. More recently, ground mounted versions called solar trees that claim to be 'beautiful', are beginning to appear in public spaces.

There are no existing solutions capable or deserving of coexisting with us within our built habitat. If there is one unifying feature about all clean energy products today it is that they are inefficient and eyesores.

It is no wonder that clean energy adoption by us, the people, has been sluggish and relies mainly on cost benefit scenarios presented by savvy salesmen rather than people's inherent desire to embrace it willingly and enthusiastically.

We decided to try and change this because we believe there exists an unrealized potential of altering the relationship that people shared with clean energy devices in their neighborhoods, towns and cities. We also believe, to bridge the dangerous disconnect between the 'reality of global warming' and the myth that 'everything is ok at home', there is an urgent need for us to embrace clean energy and make it an integral part of our lives.

Why - Questioning first principles

What if we could generate clean energy without worrying if we have enough roof space for solar panels, if our roof was facing the right direction, if our roof was shaded most day or if we had a roof at all?

What if we could generate clean energy from inspiring devices that didn't need to be hidden away but live amidst us in our streets, squares and parks?

What if we could generate significantly more energy and at a lower cost from these devices?

What else would this enable us to do that isn't currently possible currently?

What - Our initial response

The solution would be a highly efficient urban artifact. It would be an inspiring and powerful device, which could be placed anywhere within our campuses, towns and cities, and which would be enthusiastically embraced by people. Most importantly, it would not occupy expensive ground space but hover above. It would remove the need to occupy vast tracts of valuable land to create community solar farms within our neighborhoods, and it would exist amidst us within our streets and squares.

It would redefine the 'aesthetics of clean energy', increasing its acceptance, and alter our perception of how we would live with it in the years ahead.

Understanding the opportunity

The Opportunity

Vast tracts within our campuses and communities lie unused ...

... which can be harnessed by "innovative on-site energy solutions"



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Delving deeper, we realize that there exist vast tracts of previously unused spaces, right where we live, work and play, which could form captive zones for the generation of significant amount of clean energy.

What if many of these devices could be linked together to form micro-grids of clean power. What if these devices were plug and play, and could talk to each other and be controlled and managed in real-time by a remote digital platform? And what if the digital platform could also provide realtime information about the system - its performance and projections?

It would be able to power communities and campuses and a whole range of user facilities such as Electric Vehicle charging, personal device charging, emergency facilities, and news and advertisement display options etc. - making it an integral part of our lives.

It is our passion to make this possible.

How - Our Solution

Palm-e: Powerful Astute Linked Modular and Efficient

Palm-e - Our Solar Network Solution



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A radically inventive solution with game-changing opportunities

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Palm-e - Our Solar Network Solution

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A day in the life of Palm-e

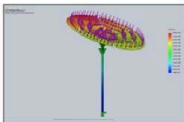


Building and Testing the Virtual Prototype

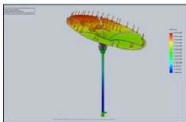
Prototype

Virtual Simulated Prototype - Structural Engineering

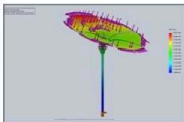
Structural Simulation Results for the Final Design			
Case	Maximum Stress	Maximum Displacement	Minimum Factor of Safety
Case #1	9.75MPa	5.05mm	23
Case #2	9.28MPa	5.03mm	27
Case #3	108.68MPa	4.45cm	1.3



Displacement profile for Case #1



Displacement profile for Case #2



Displacement profile for Case #3

The structure exhibited a **minimum safety factor of over 5** under several different loading conditions, which is **well above the general safety factor of between 1.5 - 2** emphasizing the inherent degree of safety within the design.

Prototype

Virtual Simulated Prototype - Solar Engineering

6- System Simulation

- Simulation software: Physys V6.34
- Location: Spain, Madrid, Plane tilt: 35°
- Daily energy demand: 35KWh/day

Simulation Sizing and results

Input	Output
Simulation software: Physys V6.34	Simulation software: Physys V6.34
Location: Spain, Madrid, Plane tilt: 35°	Location: Spain, Madrid, Plane tilt: 35°
Daily energy demand: 35KWh/day	Daily energy demand: 35KWh/day

Palm-e has an average daily energy generation of 55 kWh/day, and total yearly energy generation of 20.2 MWh.

The resultant PV energy is 38-48 kWh/day.



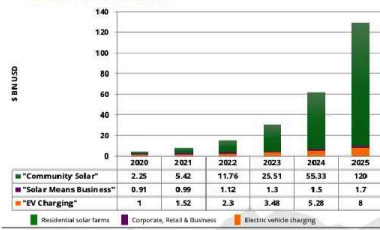
Energy to produce energy in the winter and 58-72 kWh/day in the summer season.

The PV energy should be sufficient to charge EV's that travel between 253 and 432 km per day in the winter and summer, respectively.

The Opportunity

Market Size / Dynamics / Drivers

Market Size 2025 - \$130 BN



Tailwinds

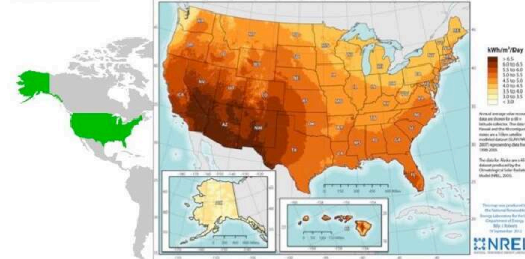
1. Today, the world has 2.0 million EV chargers. By 2025 it will require 12.0 million.
2. Most EV charging today uses dirty brown power. We Green Power electric vehicles - making EVs 100% Green.
3. Several locations are not connected to the grid - our solution Green Powers EVs anywhere the sun shines.

Based on SEI/NTM Research US Solar Market Insight Report, April 2018
Solar Power World - <http://www.solarpowerworld.com/news/16171/ev-charging-from-community-solar-could-grow-up-to-50-60-times>
SEI/NTM Research - <https://www.sei-ntm.com/research/ev-charging-from-community-solar-could-grow-up-to-50-60-times>
Source: IEA International Energy Agency, World Economic Outlook, High-growth report - October 2020

Utility and Design Patents Pending

Market Canvas

U.S. solar photovoltaic map



The Palm-e System

The Palm-e is a powerful, ground-mounted, sun-tracking solar photovoltaic device rated at 10kW - 14 kW. It is estimated to be 30% to 40% more efficient and 70% lighter* than fixed rooftop solar panels. Its modular design allows for rapid, flexible and versatile deployment at scale as an autonomous (full battery backup) system, a hybrid (partial battery and partial grid connect) system or a grid connect (full grid connect) system. Each system is capable of supporting a powerful micro-grid and a wide range of user services.

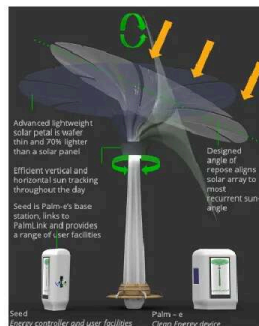
* These are best estimates and are not guaranteed.

Palm-e Technology

A Transformative Clean Energy System

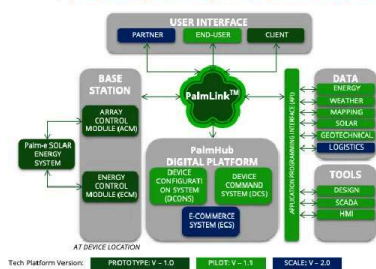
- 01 Inspirational Design
"Fluid minimalist" design and engineering simplicity
- 02 Full Stack Technology
High Power Output: 10kW
Highly efficient*: 40%
Lightweight*: 70%
Dust resistant
Hurricane resistant
- 03 Intelligent Platform
WiFi and 5G ready PalmLink Tech Platform configures, operates and monitors solar plant remotely.

* As compared to a conventional solar panel



Palm-e Tech Platform

Increasing Ease, Efficiency and Economy for Clients, Customers & Partners



Tech Platform Version: PROTOTYPE V-1.0 PILOT V-1.1 SCALE V-2.0

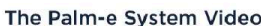
- 01 Astute
Operates, manages and monitors power plants remotely.
- 02 The Power of W
PalmLink and PalmHub enable powerful, linked micro-grids connecting multiple devices.
- 03 Agile
Modular design facilitates rapid scale deployment, adaptability and future proofing.
- 04 Versatile
Autonomous (full battery back-up), Hybrid (battery + grid connect) or Grid-tie (full grid integrated) environments.

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Palm-e Networked Solar Farm Case Study

Company Campus, TX





Palm-e – EVs & Communities

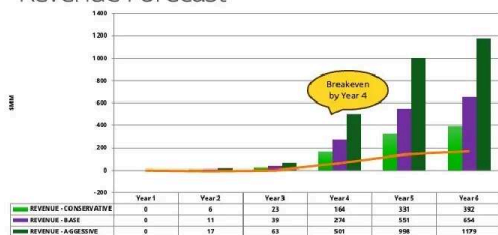
What can be **powered** by a Palm-e device **each day of a year**?



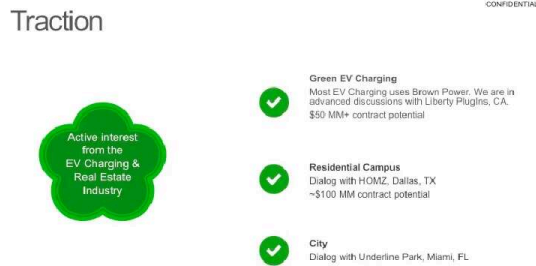
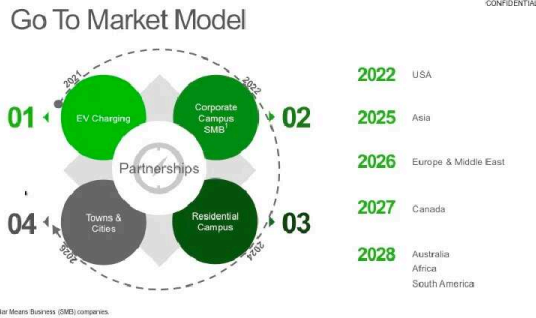
How much **greenhouse gas emissions** does Palm-e offset **each year** in everyday terms?



We are looking for investors who share our vision of highly efficient, inspiring and transformational clean energy systems within our built habitat that would have a meaningful impact on our lives.



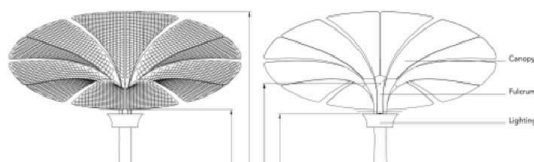
Please note that these numbers may change once we start production. These are future projections and cannot be guaranteed.

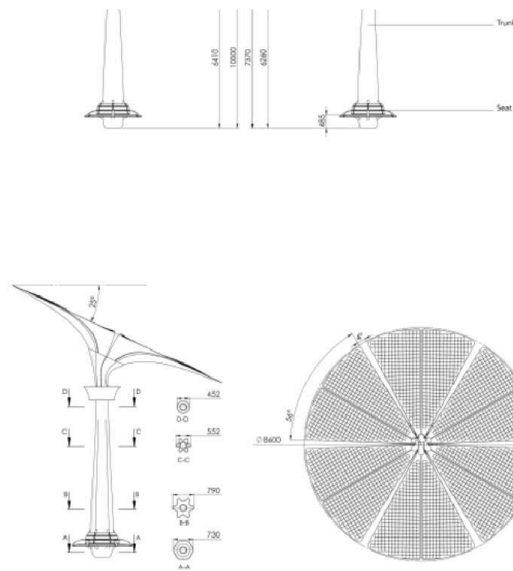


There can be no assurance that the projected results will be realized, the projected and actual results will vary.



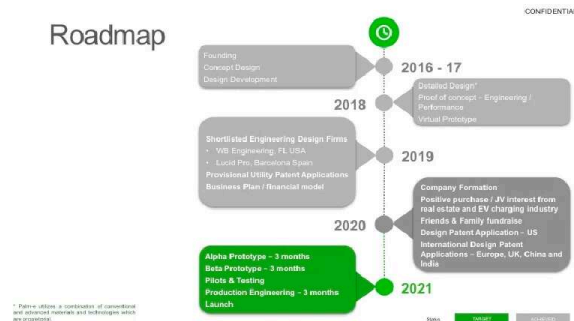
Technical Drawings





The story of Palm Energy

Our journey started in 2016 from a passion to fight climate change and global warming - as conscious designers and global citizens - and our frustration with the limited clean energy solutions available for our neighborhoods, towns and cities. There is a universal obsession with quantitative solutions (how much, how big and how cheap) and no attention is given to qualitative solutions (how efficient, how productive and how experientially enriching). Clean energy solutions rely on inefficient, impersonal and insensitive industrial design solutions focussed on the conventional (ugly and inefficient) rectangular solar panel.



Forward-looking projections cannot be guaranteed.

Invest in Palm Energy

We are often told that we have an ambitious vision - perhaps too ambitious. Our answer is simple: This is the future and it is waiting to happen - the only question is how soon can we make it a reality? If dreams are built on passion, then we are passionate dreamers, designers and engineers who are on a mission to redefine how we live with clean energy in the years ahead.

Join us to be the first to market as pioneers of this transformative and urgently required movement.

Join us to set benchmarks that we are working hard to redefine.

Join us to be a part of the change.

Join us by investing in Palm Energy.

Note: All images and videos featuring the Palm-e device in this presentation are simulated.

Downloads

