



SunClear

Clean - Efficient - Automated

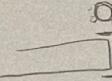
SC

why should they do it?

Compared to Cleaning crews

- castor
- controller our work computer
- forward → panels are always open, clean at full capacity (more income)
- no planning with own needs
- no human error

ON TOP ✓
OR SIDES?



mounting → clamps, screws
not reliable

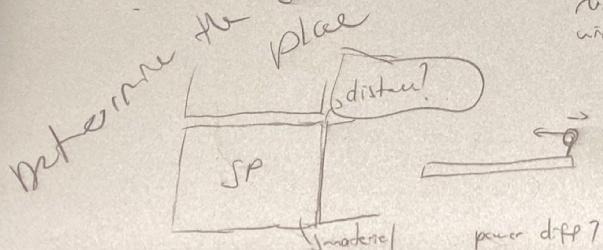
can be fitted to any size

plastic?

metal? (al)

glass cleaning products

cold (heat)
water
dust
snow → storms
heat
rain
wind



cleaner
sprinkles
constriction
mounting
flexibility of pools

motor feed from solar panel?
+ DC
+ No controller - may not be enough
- cannot be controlled with sensors

o it necessary
2 panels
control with SC

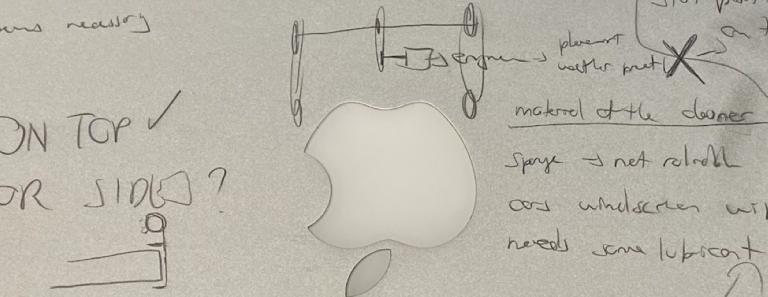
3D printer
bicycle chain
electric motor
water pump

start plating

on top
plaster water bath

Marble
soot
(15 ft max)

How do they
clean it?



spray → not reliable
as wipers wipers of (reliable)
needs some lubricant

system should fit between panels

cheap compared to cleaning crews

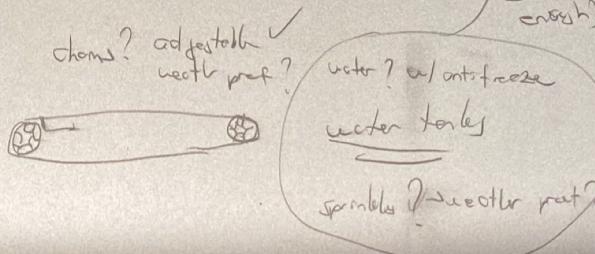
per panel ✓

water
pump
(or ones
that have
enough)

3D
drawing
Ready?

1-2 h
dinner

controlled with
solar system

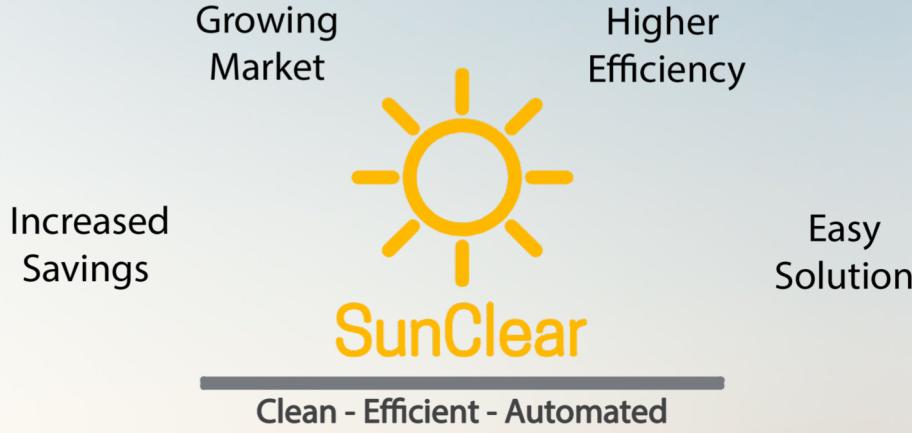


electric motor

reliable
water pref

pour water
input =
processor
time

water system
with time



Primary Research

They will all buy if

- it is profitable
- it works
- simple
- looks good



Bird Droppings



Dust



Rain



Solar Panel Efficiency



Air Pollution



Pollen



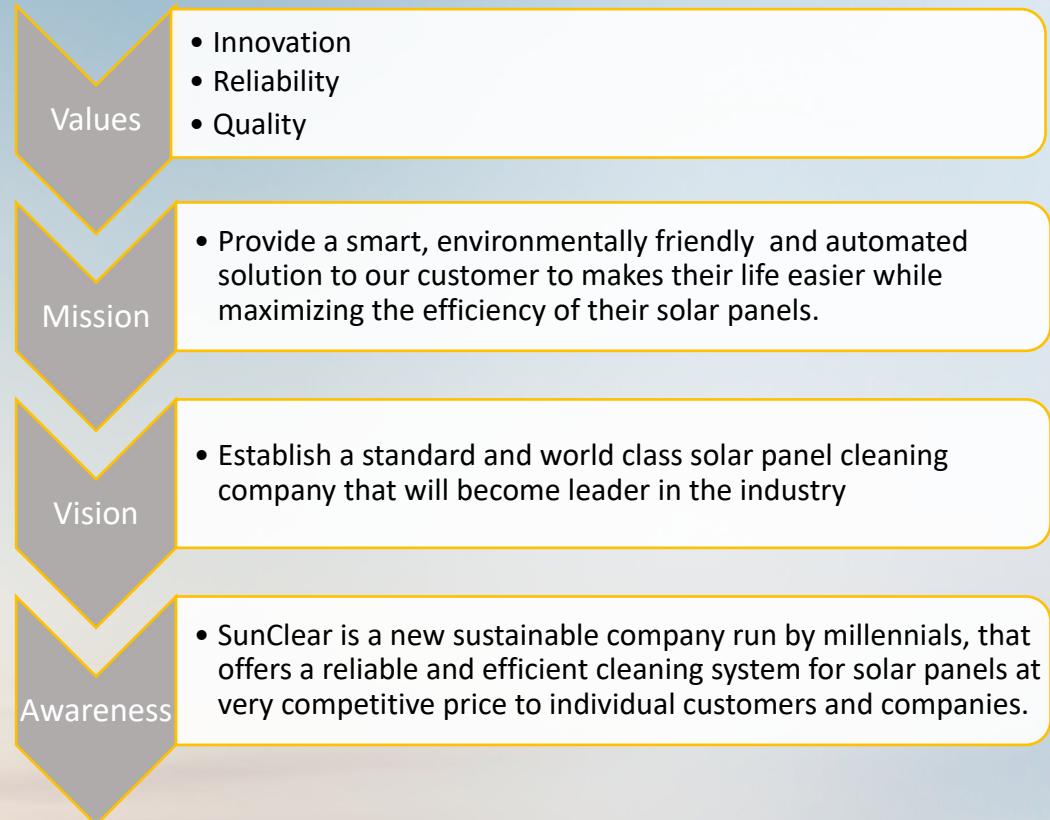
Pesticides

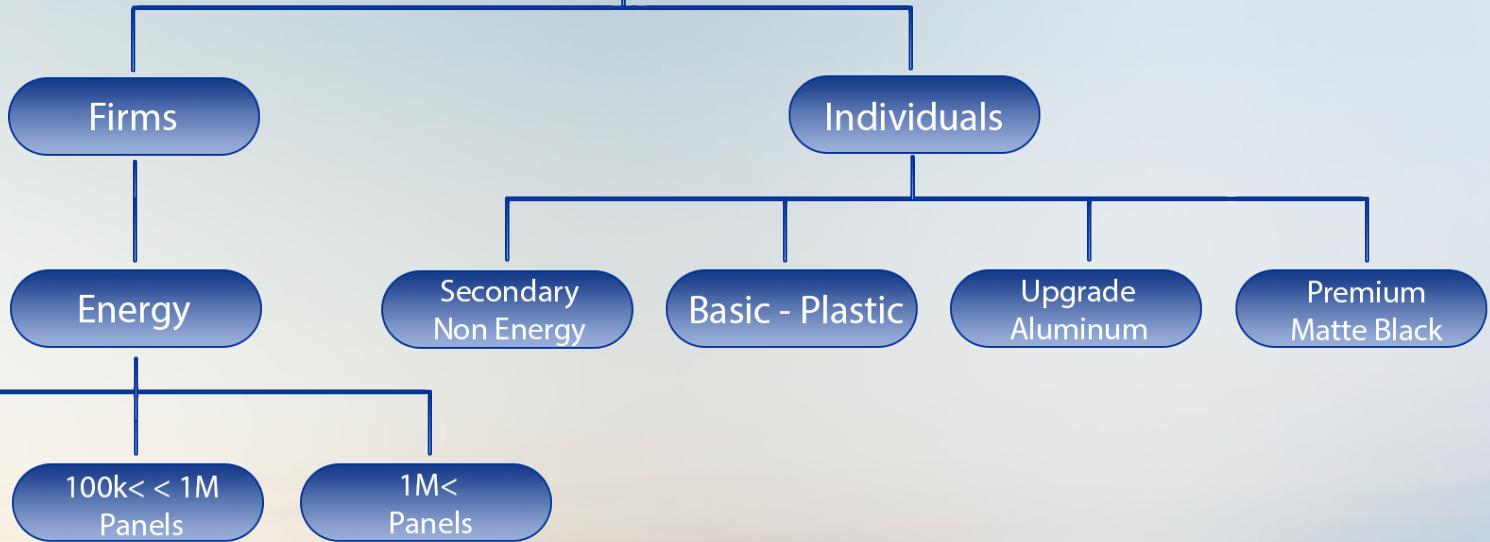
Situation Analysis and Primary Research



Clean - Efficient - Automated

- The logo portrays a solar panel with the sun above it.
- The name SunClear is descriptive, it gives the idea of the functionality of our product.
- The tagline Clean, Efficient, and Automated portray the effects of the product on solar panels.







Customer

Target customer

- Solar panel owners and power plants

The needs of the customer

- Easier and more efficient cleaning solution

Meeting customer needs

- Easier: self operating after installation
- Efficient: frequent, low power usage



Beneficiary

Companies selling solar panels

- Makes their product more efficient
- Bundle-pricing

Manufacturers

- Increasing sale of parts



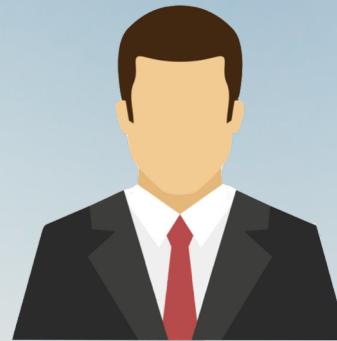
Donald

Business man

Wants to make money

Will buy if it is profitable

Hard to sell to



Steve

Cares for environment

wants to pay less for
electricity

Sees it as an investment



Brad

Wants to be responsible

Wants to be seen as
environmentalist

Cares about design

Valuable home, SunClear is an
future proof Investment

Basic

- Plastic
- Comes with Smart Controller
- Standard Service Included

Upgraded

- Aluminum
- Comes with Smart Controller
- Service choice of Standard or Premium

Premium

- Matte Black
- Aluminum
- Comes with Smart Controller
- Premium Service Included

Standard Service

- Free installation
- Paid replacement parts
- Paid on-site service

Premium Service

- Free installation
- Free replacement parts
- Paid on-site service

4 products in total

Promotion

- SEO
- Online Payed Adv
- Word of Mouth
- PR
- Social Media (YouTube)

Place

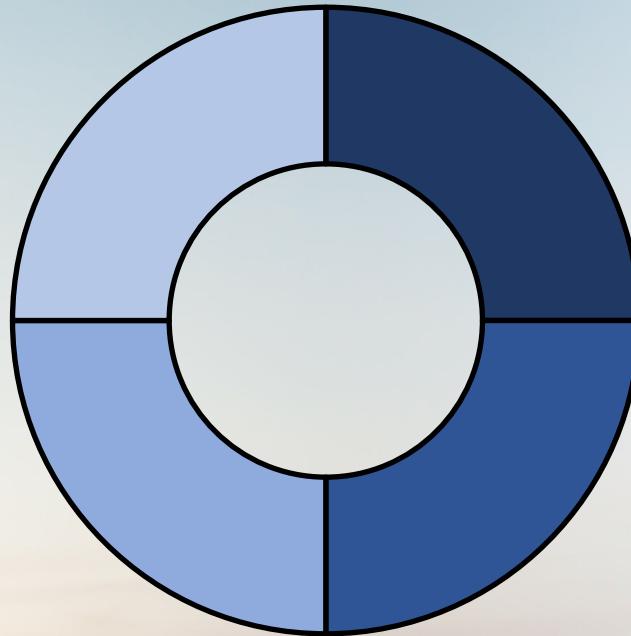
- Website
- Partner's showrooms

Product

- Maximize solar panel's efficiency
- automatic, easy and fast
- Own device remoter

Price

- Saving money on long run
- No direct competitors, elastic costumer
- Unlimited and Normal plan



[www.sunclear.com](#)

Call us today: +1 (857) 251-4556



SunClear

Clean - Efficient - Automated

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[SOLAR PANEL CLEANING](#)

[THE IMPORTANCE OF CLEAN PANELS](#)

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Business Partners

Tesla
Vivint
Sunlux
SunPower bu SV
SunRun
Ameco
Imperial Power



Bird Droppings



Rain



Air Pollution



Solar Panel Efficiency



Dust



Pollen



Pesticides



Placement

Product picture and pricing for each one of them

Basic Package \$200

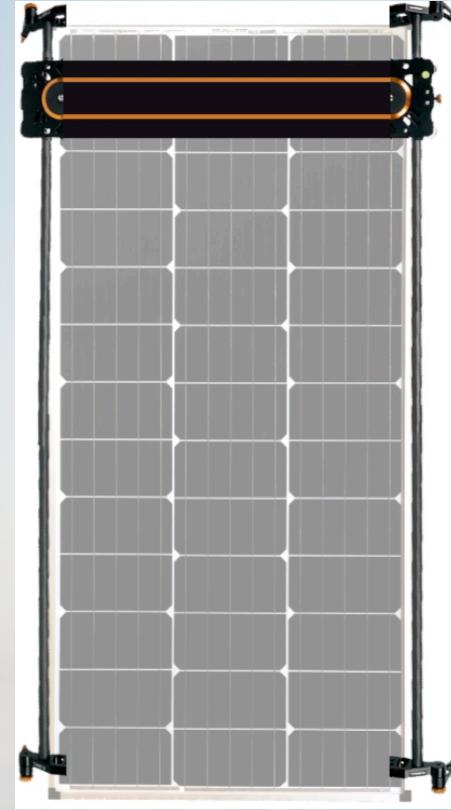
Upgraded Package

 without Premium Coverage \$250

 with Premium Coverage \$300

Premium Package \$350

Bundle Pricing with Partner Products will come with discounts



Selected solar panel system: California, private, 18 solar panels

Base Price for SunClear system per panel: \$200

Solar Panel System

System Cost	\$23,000
Average Monthly Savings	\$170
Time to Amortization	11.3 years

Solar Panel system with SunClear

System Cost	$\$23,000 + 18 * 200 = \$26,600$
Average Monthly Savings	$\$170 * \%115 \sim 130 = >\200
Time to Amortization	11.1 years

Competitive Analysis	Price (10%)	Ease of Use (15%)	Control Ability (15%)	Amortization Time (30%)	Effectiveness (30%)	Overall Score
SunClear	2	4	5	3	5	3.95
Cleaning Crews	4	2	2	4	5	3.7
Farm Machinery and Special Tools	2	2	3	3	5	3.35
Rain	5	5	1	5	1	3.2

Competitive Analysis



Partners

- Marketing and business partner: solar partner firms
- Tesla, Vivint, Sunrun...



Suppliers

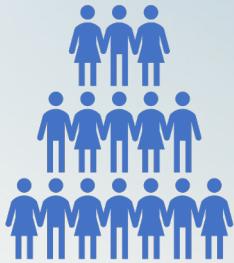
- Materials needed to make the finished SunClear product
 - Plastic frames, aluminium frames, spray systems, electric motor, rubber
 - Manufacturing in Turkey
 - raw materials, searching for investment, competitive wages



We will produce
500,000*
cleaning systems

Net Income will be
> \$50 Million*

*in the first year of sales



Recruiting and Enabling

- Solar Marketing Firms
- Solar Solutions Companies
- Solar Panel Selling Companies

Enablement & Coaching

- Training Workshops
- Information Forums
- Customer Hotline
- Weekly or Monthly Meetings

Performance Assessments

- Quota Attainment
- Time spent Actively selling
- Attach Rate

Incentives

- 6-15% commission based on assessments
- Discounts based on company's needs

Target

Individual Customer

Macro Channels

Direct Marketing

Digital Marketing

Magazine Advertising

Micro Channels

Email Marketing

Partnership and Joint Ventures

Public Relations

Stands in Fairs

Paid Online Advertising

Local Search

SEO

Social Media

Potential risks	Mitigation of risk
The system might not work properly, and many problems occurring after installation	Offer free repairs and free or discounted parts
Manufacturing might take longer than expected, resulting in customers having to wait for product	Low complexity of manufacturing process low risk of big delays
Weather affecting assembly teamwork and scheduling	Reschedule for safety reasons
Partnership disagreements occurring	Clear contracts and agreements on the matters. WIIFM





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Ludovica Scaranello



Juhi Shah

Kaan Korkmaz



Weixuan Zhang



Appendix

Financial Analysis

Material cost of the product: ~ \$5 - \$10

Control System Cost: \$10

Service Personal Cost: \$20 per hour

Turkey Factory Number of Personnel: 2000*

Turkey Average Wage for Personnel: \$600 per month

Turkey Production Cost in Wages: \$1,200,000 per month

Product Price: \$200 - \$350**

Service cost for each visit: \$50 paid by basic service customers

Replacement Parts: \$10 - \$300**

Sales People: 6 - 15% commission

Expected Penetration Rate in the First Year of Entering the Market: 0.5%

Household in California Using Solar Panels: 5,000,000

Expected Customers: $5,000,000 * 0.5\% = 25,000$

Average Solar Panel per Household: 17

Total Number of Product Needed: $25,000 * 17 = 425,000$

Defected Product Percentage: 10%***

Total Production Number: 470,000

*Estimated

**Depends on the product

***Defected Product Percentage expected to decrease over time

Appendix

References

Solar panels are getting cheaper

They are being used more

Our target market is growing rapidly

<https://www.seia.org/solar-industry-research-data>

Why are we starting in US, California Us is the second largest solar power user

<https://www.finder.com/uk/nation-most-solar-power>

California, west cost is more suitable for solar power

https://en.wikipedia.org/wiki/Solar_power_by_country

How much solar power does US generate?

https://www.earthlighttech.com/resources/solar-energy-facts/?matchtype=b&network=g&device=c&keyword=&campaign=2089278897&adgroup=74307018662&gclid=CjOKCQiAw4jvBRCJARisAHYewPO4hOXUuKt2CQm-KsxtqU8R0TX3N8sPnOBfYDedYvvOCaLtWyRGZj4aAvlhEALw_wcB

How does dirty solar panels affect energy production?

WHY is the product needed?

<https://energyinformative.org/solar-panel-cleaning/>

Neglection can affect panel warranty

Most panels getting cleaned annually depending on the environment

<http://solarfarmcleaning.co.uk/importance-of-clean-panels/>

Financial Analysis

<https://www.youtube.com/watch?v=icGPVH7sQcU&t=556s>

<https://www.youtube.com/watch?v=KTOLE0pAsGO>

<https://www.networx.com/article/how-many-solar-panels-does-it-take-to-po>

https://en.wikipedia.org/wiki/Solar_power_in_California

How competitors clean panels: they need equipment on site and scheduling beforehand, we don't

<http://www.solar-panel-cleaners.com/commercial-solar-panel-cleaning-the-benefits>

<http://www.solar-panel-cleaners.com/residential-solar-panel-cleaning-uk>

<http://www.solar-panel-cleaners.com/how-clean-solar-panels>

For people to clean panels themselves it can be dangerous to work with slippery cleaning materials on the roof

<https://energyinformative.org/solar-panel-cleaning/>