



Good Point Recycling Solar Voltaic Panel Plan

Here is where our presentation begins

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Problem

There's no existing infrastructure or plan for the projected SVP upgrades.

02

Services

Recycling services for obsolete panels must piggy back on new SPV procurement and reuse.

03

Revenue

Most of the SPV panels to be replaced will have several years of useful life, resale offsets recycling cost.

04

Business Model

Like SVGA CRT monitors and flip phones, the resale value of SVP will fall in the OECD, but boom in Emerging Markets



Introduction



History

Since March 2001, the American Retroworks Inc. brand ‘Good Point Recycling’ has grown in stature. It is now one of the oldest and best regarded electronics recycling companies on the planet, the subject of books and articles and news reporting.

Founder Robin Ingenthron is a veteran of the Recycling Industry, and is looking for partners to grow with.

Our Company

A former regulator (Mass. DEP), Robin founded American Retroworks Inc. as a consultancy practice. In 2000 he decided to buy a truck and “do” the recycling he lectured about.

20 years, 30 employees, 2 facilities and 100 million recycled pounds later, the company is shifting to meet the growing demand for affordable Solar Voltaic Panels by “geeks of color” in Emerging Markets.



Our Team

Good Point Recycling has always been a diverse, hard working, talented, and integrated businesses in Vermont. Our expansion to Massachusetts promises faster growth and greater returns. Good Point is an important employer of blue collar workers, women truck drivers, and differentlyabled Americans.



Good Point Recycling

division of American Retroworks Inc.
Established Earth Week 2001
www.retroworks.com



Problem

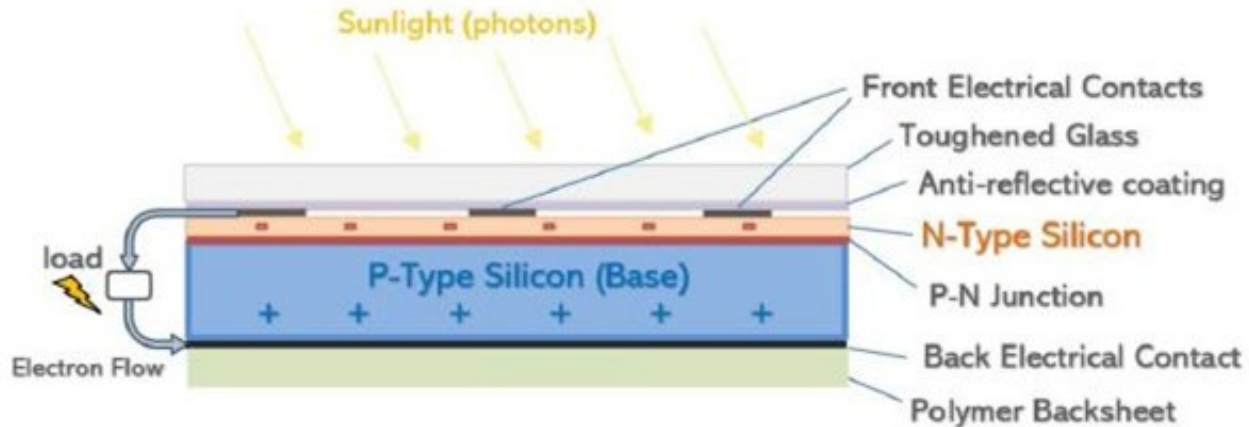


New solar panels are becoming cheaper and more efficient, while new “farms” and “fields” are harder to site (especially in the Northeast)

Like flat panel monitors, laser printers, LED bulbs, and smart phones, we expect an explosion in supply of “elective upgrades”. Used Solar Voltaic Panels prices in USA have fallen by $\frac{2}{3}$, and may overwhelm recyclers..

2021 University of Rhode Island Thesis - Lennart Banaszak

1. Useful life projections of legacy panels are under-estimated. 40 year old panels tested still work
2. Increased efficiency of more modern panels pays for elective upgrade in 7-8 Years
3. Price of used panels in OECD in free fall
4. Manual de-manufacturing trials proved cumbersome
5. Current shredding technology is environmentally worthless (new tech being developed in Germany)



2021 University of Rhode Island Thesis - Lennart Banaszak

Reasons for the Disposal of PV panels

➤ PV panels have a warranty of 25 to 30 years

What causes a replacement?

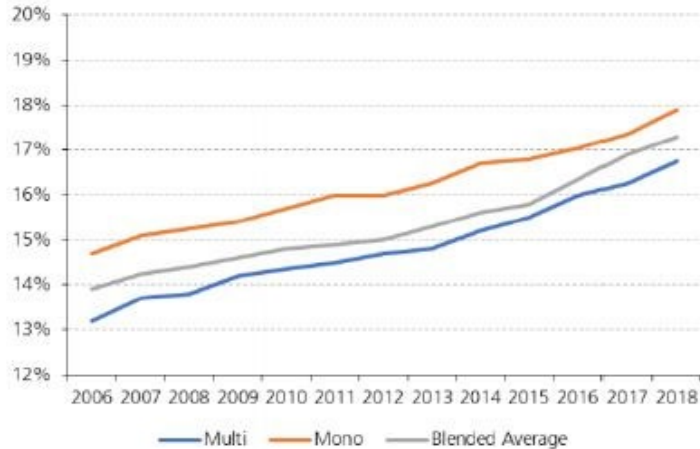
- Physical damage -> shattering
- Electric mal function within a solar cell
- Thermal cycling
- UV exposure
- Economic considerations ...



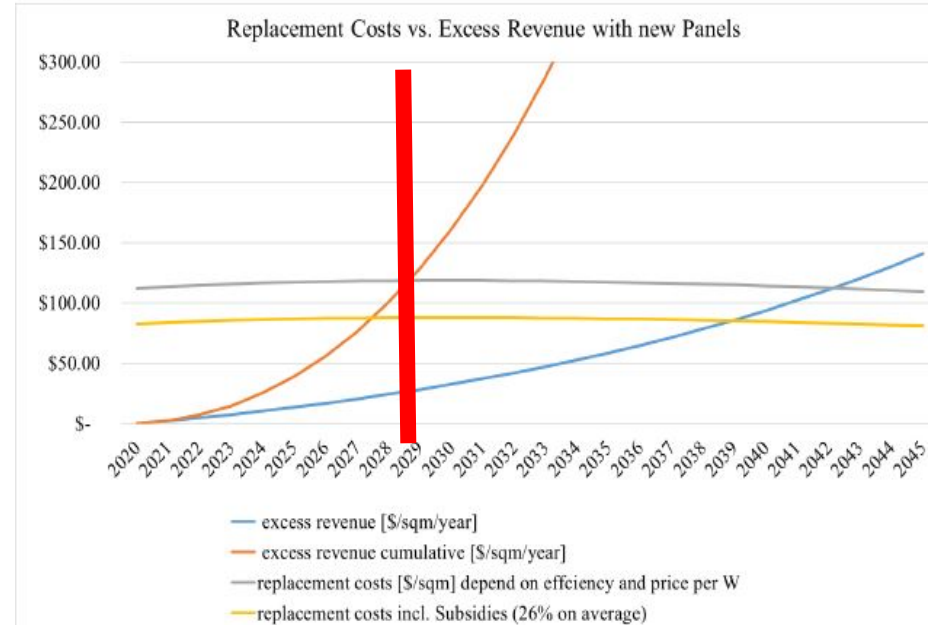
Lennart Banaszak forecasts elective upgrade.

Efficiency of Solar Panels

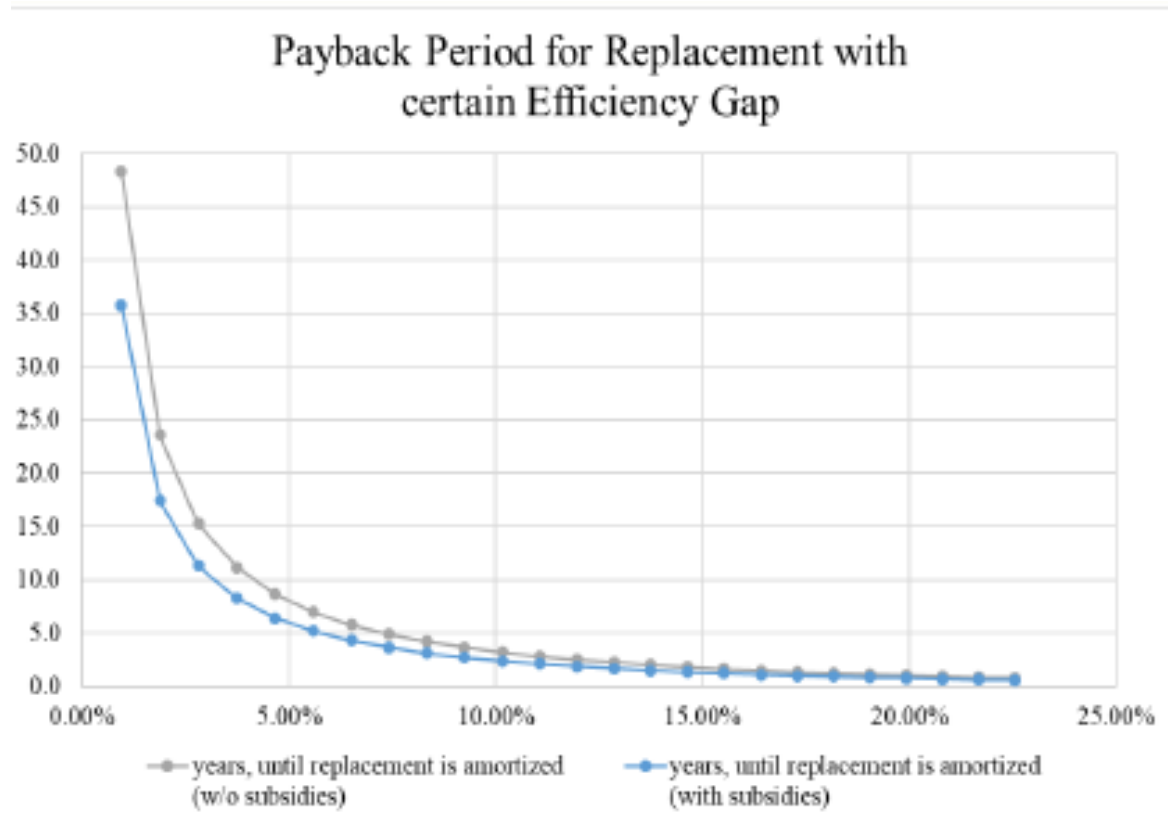
Development over time (average efficiency)

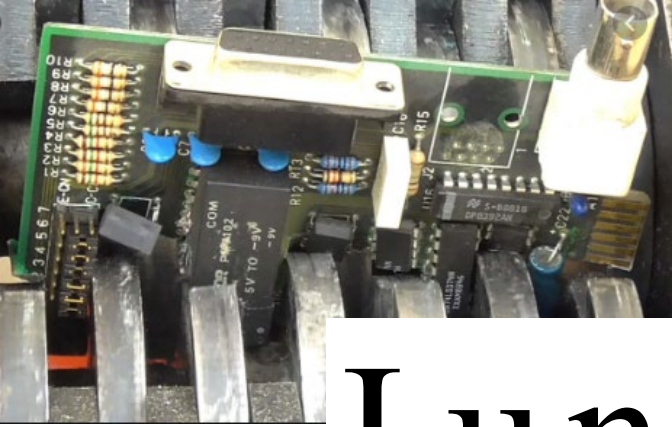


Replacement Costs vs. Excess Revenue



SVP Life is 40 Years - But Upgrade is Optimal in as few as 7-8 Years!





Junk?

Most e-waste recyclers we interviewed practice “the solution is dilution”-- as long as steel scrap demand is high, mixing a few SVP’s into the shredder keeps the scrap from building up.

Large glass and industrial mineral processors like Dlubak are expanding into the field with acquisitions like Cascade Eco Minerals.

THE BADNEWS: Recycling trials, so far, waste more resources than they preserve!



Fortunately, like flip phones and CRT monitors before, Solar Panels aren’t being replaced because they are unrepairable or even non-functional. Falling prices of more efficient panels is driving “elective upgrades”.

This points to a viable Secondhand Reuse Market

We need to keep reuse and recycling integrated!

Not

Solar Recycling Solutions

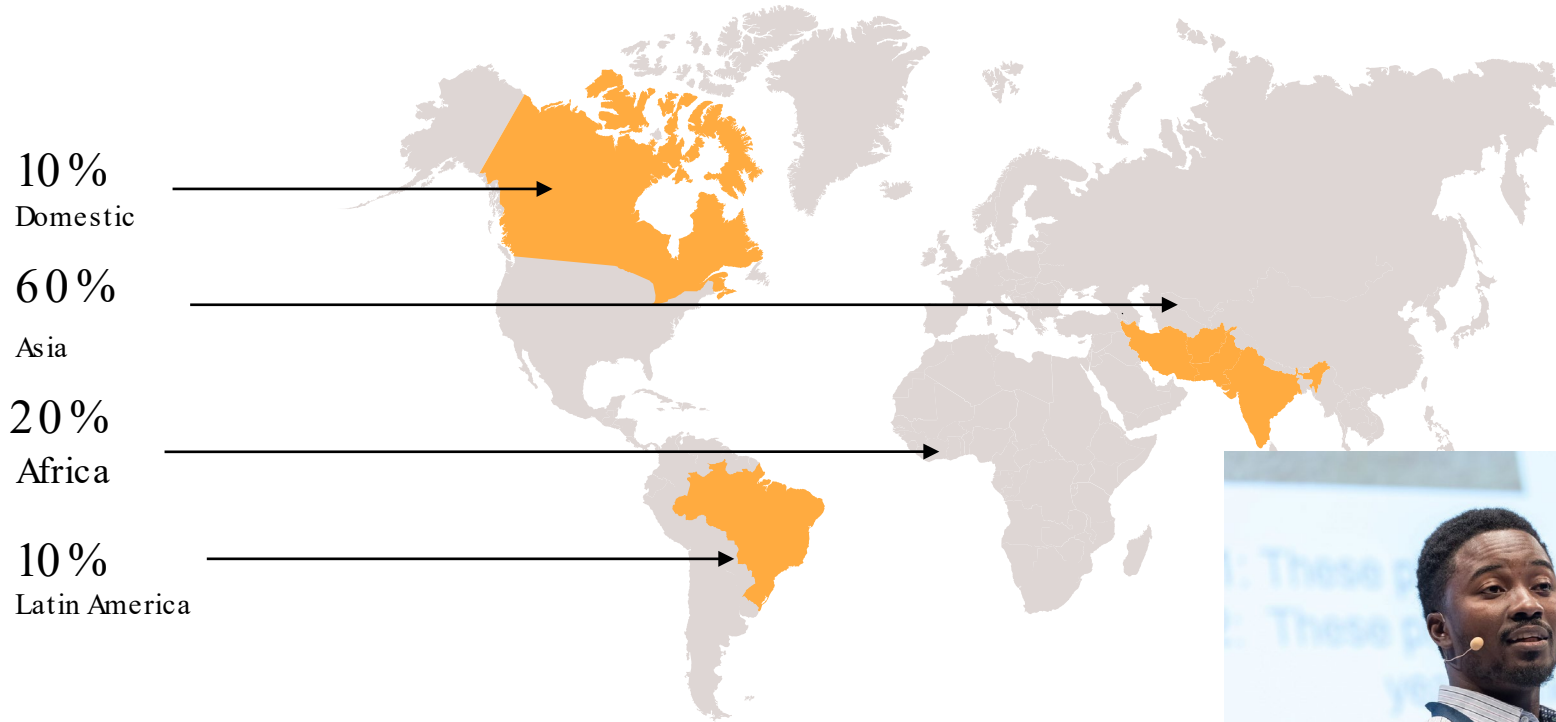


Recyclers like Good Point Recycling have pioneered a “cost offset” model, which charges a base fee (\$0.15-\$0.50) that is share-refunded when any solar panels do sell for reuse.

Japanese recycler Marubeni has announced a blockchain tracking program to ensure reuse income is tracked and shared. In the USA, OBADA.io (Open Blockchain Asset Disposition Architecture) is developing a similar asset tracking program.



Good Point's Experience with International Tech Sector Markets will Open Huge New Opportunities



Don't waste this Solar Reuse Opportunity

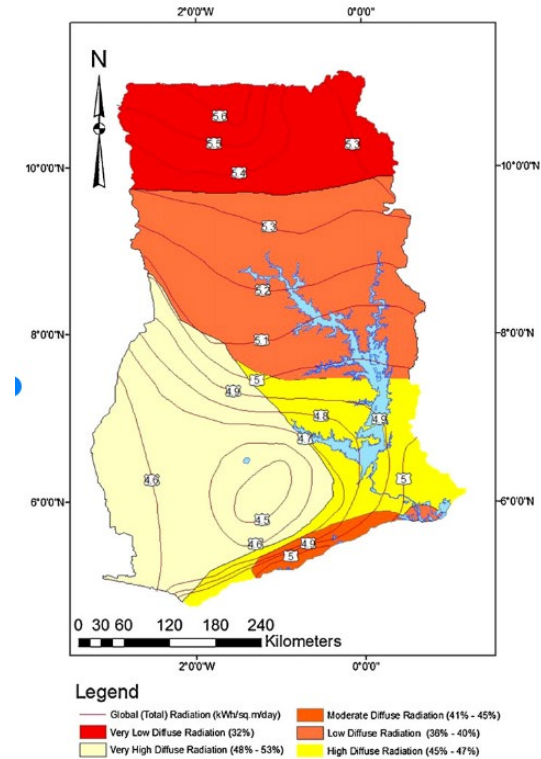
1) Africans were perfectly capable of setting up TV stations with a critical mass of users supplied by used TVs in the 1970s.

2) Africans were perfectly capable of setting up internet switches in the 1990s, with a critical mass of users supplied by used computers.

3) Africans were perfectly capable of setting up tens of thousands of cellphone towers in the 2000s, with a critical mass of users supplied by used computers.

Today, there's no reason to think Africans are not perfectly capable of harvesting millions of megawatts of solar electricity using secondhand solar voltaic panels.

The future of reuse is sunny...



Solar Hierarchy

1. Replacing existing panels with more efficient panels contradicts REDUCE
2. Expanding demand for electricity in Emerging Markets will increase REUSE
3. Cost to Recycle is very high, so we need #2 to offset costs

End markets:

- Industrial mineral (silica blends, e.g. for reflective paint, rock drill lubricant)
- Aluminum and ferrous metals
- Some German and Japanese investments in chemical recovery, currently too costly
- Subpanel recovery (for smaller solar powered devices)

Learn from 1999 Cathode Ray Tube Laws

1. Don't misapply TCLP test, not intended for outdoor safe solids
2. Don't racially profile the export for reuse economy
3. Do review solar panel procurement RFPs for "reuse safe" language

Post User Neutral Territory (PUNT)

Like flip phone and CRT exports, the opportunity won't last forever, and eventually these panels must be dealt with. But MOST of the environmental harm occurs at mining and manufacture, not disposal, and extending product life to make tech affordable in emerging markets is a very good thing.

Electronics Re-Use and Recycling Infrastructure Development in Massachusetts (1999)

<https://tinyurl.com/EPACRT1999>


Good Point Recycling

goodpointrecycling.net



END


SWOT Analysis



Strengths

We're diverse. We're experienced. We're respected. We got contracts. Momentum. Credit history. We are in the best position to advance.

Weaknesses



We're undercapitalized. We are forced to choose between good options. We have missed big opportunities. We rely on labor to produce inventory - cash flow in future months, not this payroll.

SWOT Analysis



Threats

Big Shred, Planned
Obsolescence, and a Charitable
Industrial Complex continue to
generate false, bigoted, and
biased news against reuse.
Competitors propose rules to
limit our innovations.

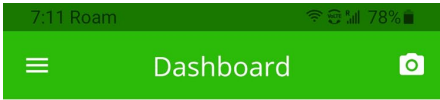
Opportunities

New 5-year state contract in
Massachusetts (7/1/20) has already
netted Boston, Brockton, Brookline,
Cambridge,... and more. Our innovative
parts program is growing exponentially.
Our Vermont contract is a cash cow.
Federal REMADE grant potentially
offers \$3M in matching funds in 2022.





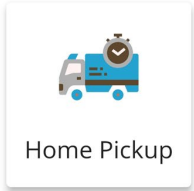
Product Overview



Upcoming Events



Drop Off Sites



Home Pickup



My Bookings

Collection Program

Cities can control the volume of residents with our app, or allow us to collect from homes.

Parts Sales App

US and International tech repair shops can order directly or in bulk, and actually build our parts ID database (gamification)



Computervision

As our staff work to list parts, an intelligent database of part numbers grows. This may be licensed to other recyclers who do not have our advantageous 5 year, \$18M parts inventory.

Photo	Title	Custom label	Form	Current price	quantity	Availabl	Views
	3485180 UN46H5500AF POWER BOARD E844 40752A	206011-02L_POV		\$29.99	Buy It Now	1	14
	TOSHIBA 43L11U18 POWER BOARD P76161926H	206117-01L_POV		\$29.99	Buy It Now	1	11
	HIS506A-HS-505K20A18 POWER BOARD READCT 820 7230RKH	206021-04L_POV		\$29.99	Buy It Now	1	10
	LG 42LV5500 MAM BOARD EA83333404S	206021-042_MB		\$54.99	Buy It Now	1	10
	TOSHIBA 43L51U18 MAIN BOARD 384597 V7H L5962	206117-01L_MB		\$44.99	Buy It Now	1	9
	VDD E420-89 MAM BOARD 9111-221-5303	206117-02L_MB		\$29.99	Buy It Now	1	7
	LG 42LV5500 MAM BOARD EA83148341E	206024-04L_MB		\$34.99	Buy It Now	1	7
	HIS506A-HS-505K20A18 MAIN BOARD READCT 820 7019RKH	206021-04L_MB		\$34.99	Buy It Now	1	5
	POLAROID 3217U POWER BOARD P7H 18632Z 82Z	206125-007_POV		\$29.99	Buy It Now	1	3
	LG 42LV5500 POWER BOARD EA76204091E	206024-04L_POV		\$29.99	Buy It Now	1	10





Our Evolving Revenue



Service fees to double with
Massachusetts contracts



Online sales growing
exponentially



Mining disasters raise the
value of our scrap

Big Opportunities

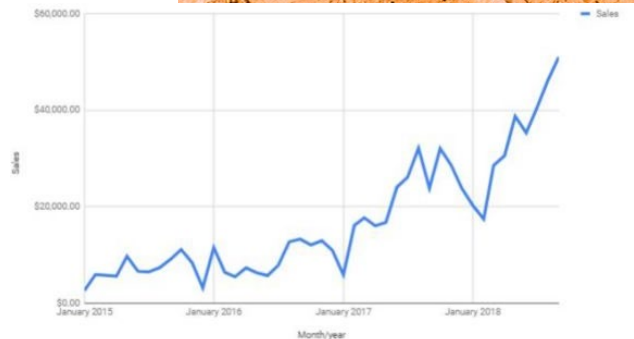
Expanded Volume

On top of our client growth in MA, other recyclers are shipping their own FLAT TVs to Good Point.



Smarter Faster Sales

Large new companies such as BackMarket (raised \$120M last quarter) and Tradeloop are watching our growth in parts sales.



Middlebury Vermont electronics reuse sales 2015-18



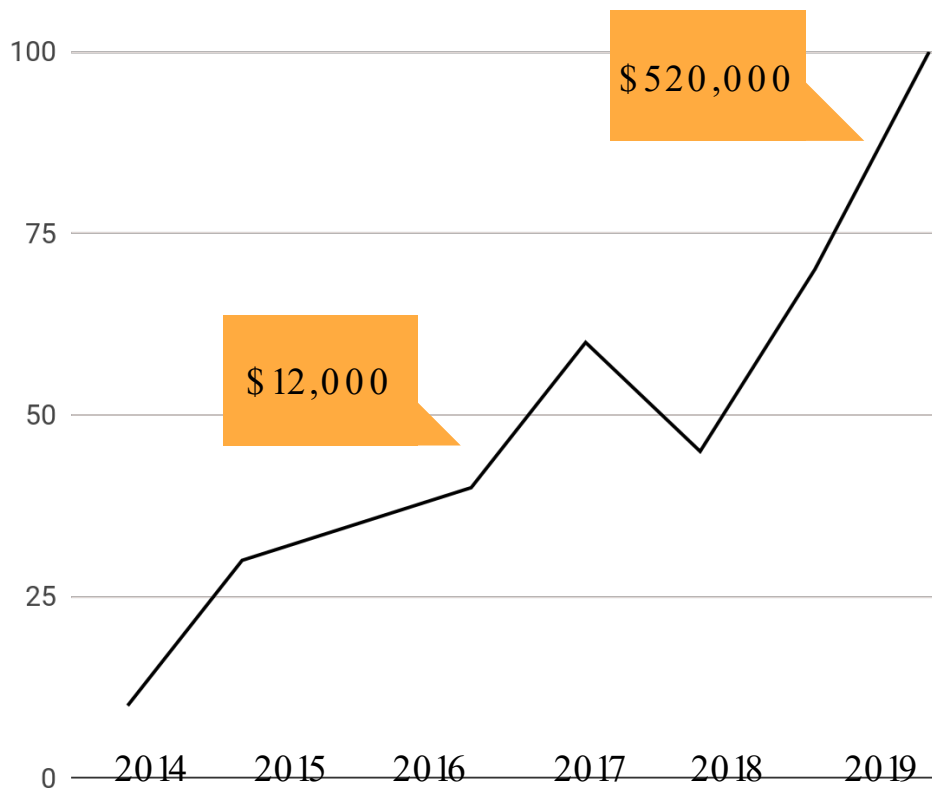
Traction in Parts Reuse

500%

Growth in Online Sales in 5 Years

30%

Growth in past 3 months 2020
vs 2019



If you want to modify this graph, click on it, follow the link, change the data and replace it



90 Day Record - 2020

Report for May 13, 2020 - Aug 12, 2020

Compared to May 13, 2019 - Aug 12, 2019 (92 days)

[Download listings sales report](#)

Total sales (Includes taxes) ⓘ

\$192,899.63

▲ 41.6% vs. prior time period

Taxes and government fees ⓘ

\$8,970.56

Collected by seller or eBay

Selling costs ⓘ

\$76,293.79

39.6% of your total sales

Net sales (Net of taxes and selling costs) ⓘ

\$107,635.28

▲ 32.1% vs. prior time period

All sales Promoted listings sales

Total sales

\$192,899.63

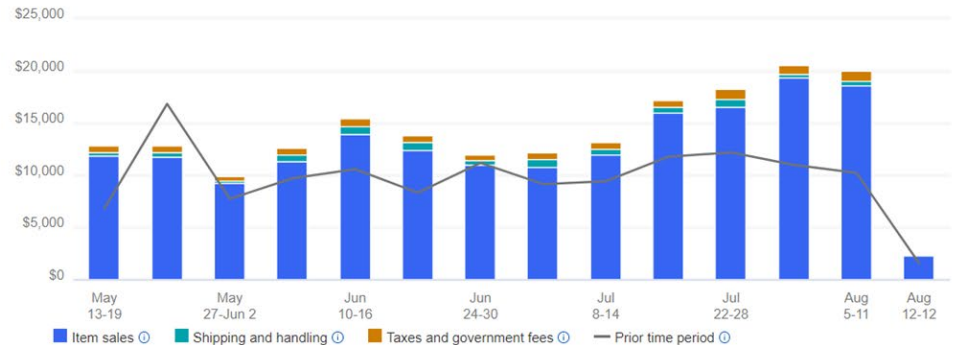
▲ 41.6% vs. prior time period

Item sales: **\$176,755.26** ▲ 37.2%

Shipping and handling: **\$7,173.81** ▲ 23.0%

Taxes and government fees: **\$8,970.56**

▲ 472.0%





A Journey Case Study

Challenge

Good Point is growing too fast, in two separate directions. If we don't seek financial partners, we cannot succeed.

Research

Cutting edge development of computer vision and machine learning is something we are only learning about.


Solutions On Horizon

Applying for REMADE grants, SBA Funding, and seeking Angel Capital partners

Results



Reputation of Good Point's Fair Trade Recycling Motto



Robin has opened the world's eyes to bigotry, profiling and waste colonialism vs emerging markets.

—**Adam Minter**
Author, *Secondhand*

Robin has inspired researchers from a half dozen universities to investigate what turned out to be ridiculous claims

—**Dr Josh Lepawsky**
Author, *Reassembling Rubbish*

Robin has exposed what I deem Criminal Negligence by major press and research groups, who ignored their own data.

—**Dr Josh Goldstein**
co-Author, *Criminal Negligence?*

- + Dozens of references from EPA, Basel Convention, Manufacturers, Universities, United Nations, State Offices
- + Featured in PBS, NPR, USA Today, Recycling Today, Recycling International, EScrap News, and many more.

Awards & Certification

Winner of several industry Lifetime Achievement, Recycler of the Year, Americans With Disabilities Act awards and other professional organization recognitions.



ISO, R2,
FAC110

Good Point Recycling is fully insured and vetted by ISO and R2 and OEM and State Contract authorities



NRRA, NERC, ADA...

Good Point and its founder Robin Ingenthron have received numerous nominations and awards, including 2 lifetime achievement recognitions and several recycler of the year nominations



Featured Cover Story, Recycling Today, September 2020
Named #36 Expert worldwide by Recycling International in 2021

Driver Ibrahim Moro Earns USA citizenship, July 2020



Awesome Future





Our Numbers 2001-Present

\$15,317,000
Recycling Service Fees

\$5,935,000
Scrap Metal and Plastic Revenue

American Retroworks

Member of WR3A and
Fair Trade Recycling.



Visit fairtraderecycling.org to learn about our
export standards.



100,000,000+ lbs of used
electronics diverted from
disposal to reuse and
recycling markets

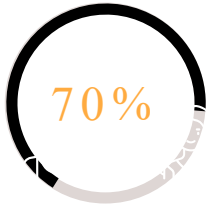
\$4,380,000
Wholesale and Online Reuse Sales

\$25,717,000
Gross Income



Target 2025

- ▶ Continuously Diversify Income
- ▶ Project Growth



Reuse Sales & Licencing



Recycling Fees



Scrap Revenue



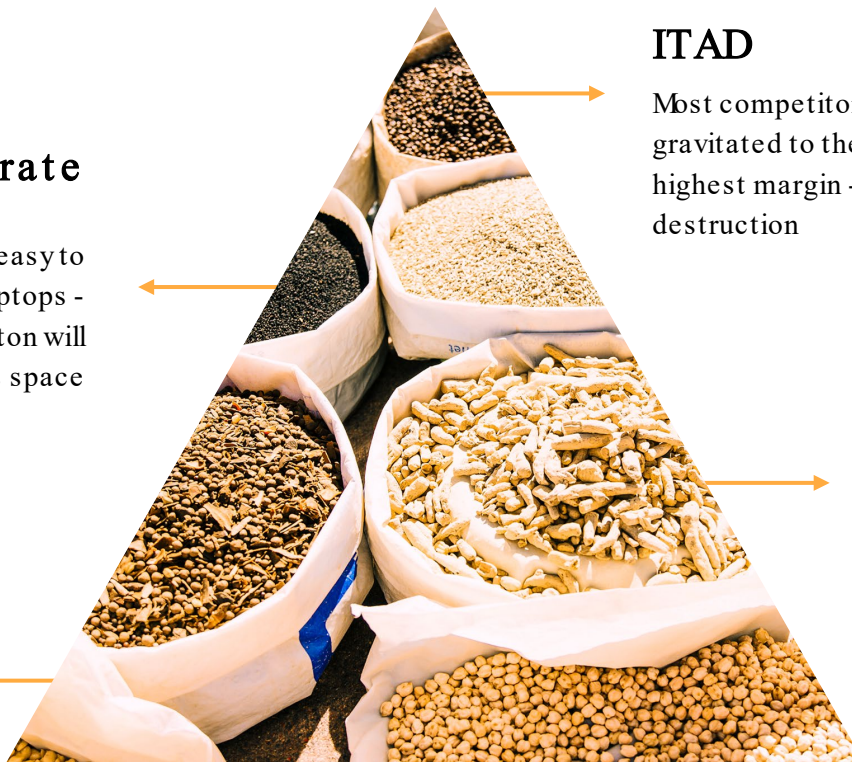
Competition

Corporate

Smaller volumes of easy to resell servers and laptops - our move to metro Boston will help us grow in this space

Residential

High volumes, regulation, and tepid OEM support leaves this space open for consolidation



ITAD

Most competitors have gravitated to the smallest, highest margin - hard drive destruction

Institutional

Universities and hospitals appreciate our Fair Trade and Environmental Certifications

Business Model



Fair Trade

We partner with and learn from the best and brightest in emerging markets



Environmental Sustainability

Our work is important to the sustainable life on our planet.



Diverse Workforce

We cultivate and retain a dynamic and diverse team, doing varieties of tasks



Adaptive Tech

Our cutting edge systems and software and AI development are unique in the space



Strategic Plan

We constantly research the changes in markets, devices, and systems



Safe Process

Our EPA, ISO, and R2 Certifications demonstrate our care for our processes

Timing

Prioritizing investments

Online Sales

AI, Computervision,
Machine Learning Tools
needed NOW to maintain
advantage

Day 1

Day 2

Rental Savings

Opportunity to build / land-lease,
restoring equity gains (sale of
warehouse by LLC \$650+)

Day 3

Day 4

Mergers and Acquisitions

Have already absorbed 2 failed
MA companies, can triple size
with 2 more in play

Day 5

Massachusetts

Working capital to seize
new opportunities in
State Contract, needed
in weeks

International

Fast growing Fair Trade
Recycling Opportunities
in "Offset" Market



Predicted Growth



	2005	2010	2015	2020	2025
▶ Fees	249k	649k	1,523k	2,000k	\$4000k
▶ Scrap	12k	332k	336k	350k	\$1000k
▶ ReUse	30k	258K	191K	650k	\$4000k

Investment

\$316,000 interest paid to date on \$300k F&F investment.

Over \$8Min Wages and Payroll to date

No defaults, good credit score, reputation solid

Eligible for \$3M in federal matching funds
2022

Prospects

Future Investment for
Future Rewards



Recycling Collections

Massachusetts new 5 year contract promises soaring growth.



Scrap Value

Scrap electronics, rich in gold, copper, aluminum and other rare metals, will grow in value in the decade.



Parts Resale

Innovative AI technology lowers cost of goods sold as volumes double in 2 years.

Contact:

Robin Ingenthron

robin@retroworks.com

robin@goodpointrecycling.net







Thanks

Does anyone have any questions?
addyouremail@freepik.com
+91 620 421838
yourcompany.com

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- ◄ Desert landscape in morocco
- ◄ Camel in desert landscape in morocco
- ◄ Young woman looking at a camel in the desert
- ◄ Woman in nature with clothesline
- ◄ Spices on market in marrakech
- ◄ Plates on market in morocco
- ◄ Oriental door
- ◄ Two people sitting on top of dune taking photos
- ◄ Tourist in desert landscape

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- ◀ Gradient logo template with abstract shape

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- ◀ Camel in desert
- ◀ Desert landscape in morocco
- ◀ Beautiful woman on roadside playing with hula hoop
- ◀ Man sitting on top of dune in desert
- ◀ Man walking on top of dune in desert
- ◀ Sideview of two people sitting on dune
- ◀ Circular forms on beach sand

- ◀ Circular shaped lines from yellow sand
- ◀ Dried aloe vera sunny day
- ◀ Desert landscape in morocco
- ◀ Desert landscape
- ◀ Desert landscape in morocco
- ◀ Rocky relief with clear sky
- ◀ Group of people sitting on top of dune
- ◀ Back view woman posing next to a pond
- ◀ Desert landscape II
- ◀ Spices on market in morocco
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(<https://fonts.google.com/specimen/Work+Sans>)

Barlow

(<https://fonts.google.com/specimen/Barlow>)

A black rounded square with a thin white border, containing the hex code #000000.

#000000

A light gray rounded square with a thin white border, containing the hex code #ded6d4.

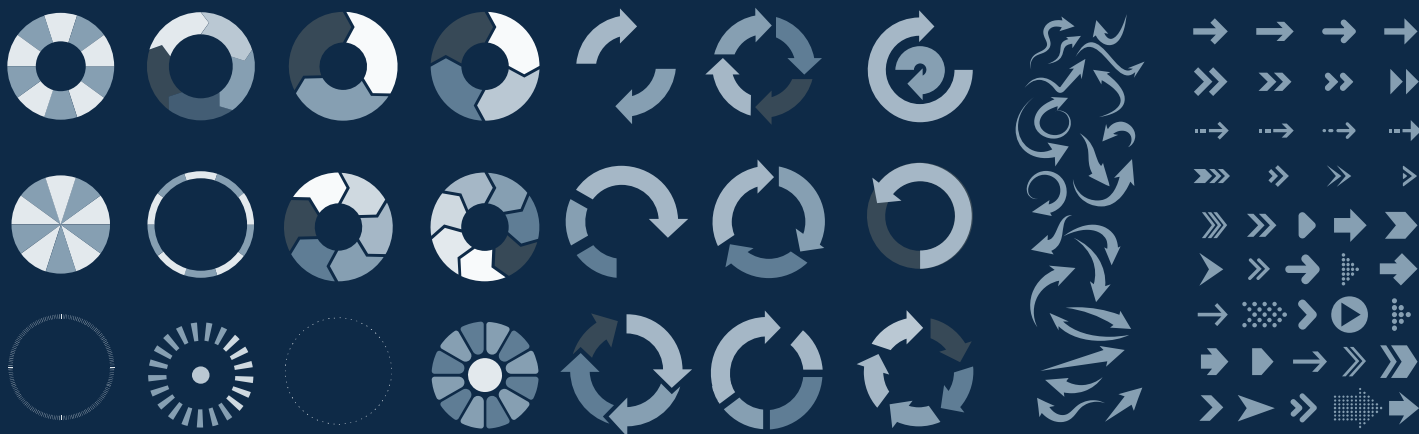
#ded6d4

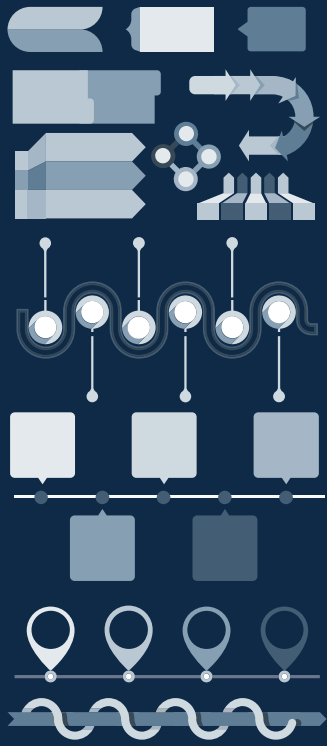
An orange rounded square with a thin white border, containing the hex code #ffab40.

#ffab40

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