Honours in Investment Management

# Shoals Technologies Group Fall 2023

# **Energy & Utilities**

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# Recommend a BUY – Building exposure to renewables through superior technology at the forefront of innovation

#### **Business Overview**

- Shoals is a leading provider of electrical balance of system (EBOS) "wiring" solutions for solar energy projects in the US including solar, storage, and EV charging systems
- After a successful IPO in Q1/21, the company has grown to 835 employees and issued 35+ patents
- Recently, stock price has suffered under general solar crash

E	<b>2.07</b>	<b>16.98x</b>	<b>15.5x</b>
	Beta (3y)	P/E	EV/EBITDA
Σ,	•	isk: Interest rate hike ns could slow down s	

# **Investment Theses**

#### **Market Valuation**

Values as of October 26, 2023	
Share Price	\$15.10
Shares Outstanding (M)	169.9
Market Capitalization	2,565.5
Add: Total Debt	210.6
Add: Minority Interest	-
Add: Preferred Stock	-
Less: Cash & Cash Equivalents	5.8
Enterprise Value	\$ 2770.3

# Market overestimates Chinese tariff risk and is missing the IRA tailwinds A profitable US manufacturer combining uncapped tax-breaks, Shoals is overly punished by market pessimism regarding Chinese Tariffs Market misprices growth potential from efficiency and simplicity gains from Shoals' patented technology Shoal's patented technologies reduces installation cost – a heightened competitive advantage in the context of electrician shortages Current Price: Price Target: \$15.10 Price Target: \$21.80 Implied Upside: \$24.4%





# Recommend a BUY – Building exposure to renewables through superior technology at the forefront of innovation

- I. Sector Overview
- II. Company Overview
- **III.** Investment Theses
  - A. Thesis 1: Macroeconomic Factors
    - i. Market Misprices Shoals' IRA Benefits
    - ii. Market Overestimates Tariffs' Impact on Shoals
  - B. Thesis 2: Product specific
    - i. Low Installation Cost
    - ii. New Ecosystem Offerings
- **IV. Valuation** 
  - A. Comparables Multiple Valuation
  - **B.** Discounted Cash Flow
- V. Risks & Catalysts

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**Industry Overview** 

Section II



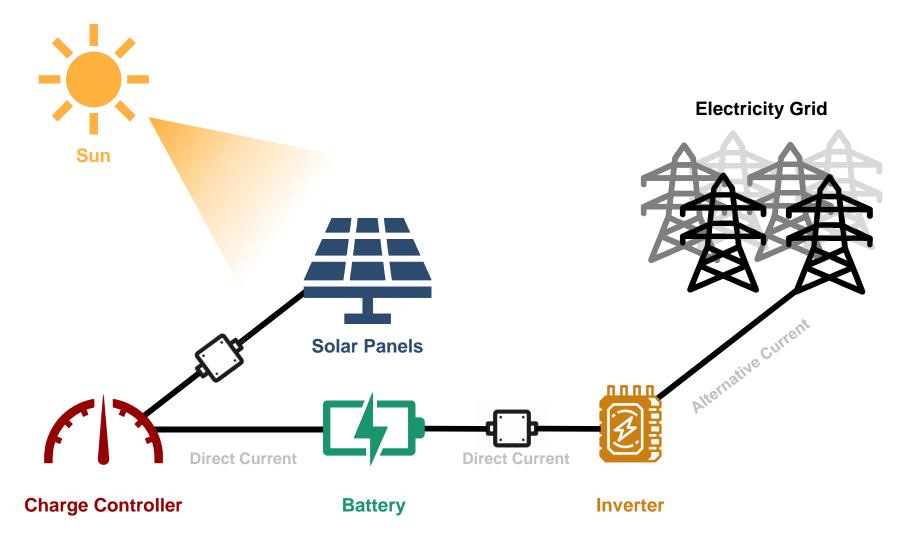




# Solar Deep Dive



# Where does SHLS operate within the solar space?

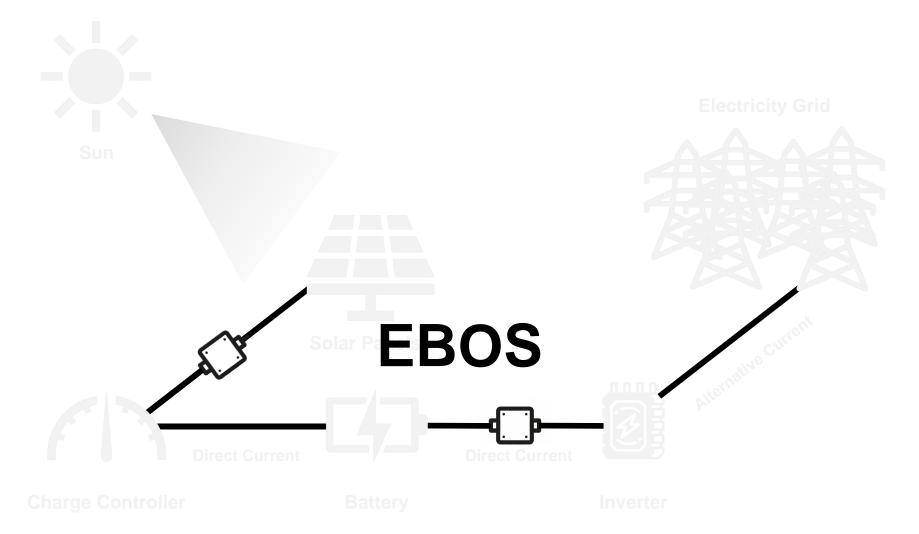


There is electricity loss throughout the grid due to inefficiencies, with the goal being to minimize those losses at low cost

Source: Deloitte



Where does SHLS operate within the solar space?



Shoals offers wiring solutions across the value chain

Source: Deloitte

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# **Company Overview**

Section III









System Solutions are broken down into two offerings:

Upgrades to "conventional

homerun architecture"

"Combine as you Go"

Virtually 100% of FY2022

sales are to **US customers** 

Shoal's proprietary

system design

# Recommend a BUY – Building Exposure to Solar Renewables

# **Shoals Technologies Group**

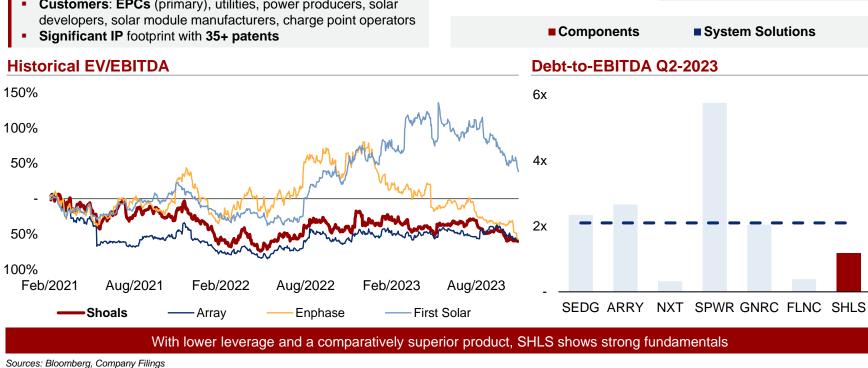
#### Shoals: Simplifying Solar Technology

- Leading U.S. manufacturer & provider of EBOS components and solutions for solar, battery storage, and EV charging Headquartered and conducts all manufacturing in the U.S.
- IPO in Q1/21, the company has grown to 835 employees

#### **Operations:**

- Two segments: individual components and system solutions
- **Customers: EPCs** (primary), utilities, power producers, solar

# **Historical EV/EBITDA**



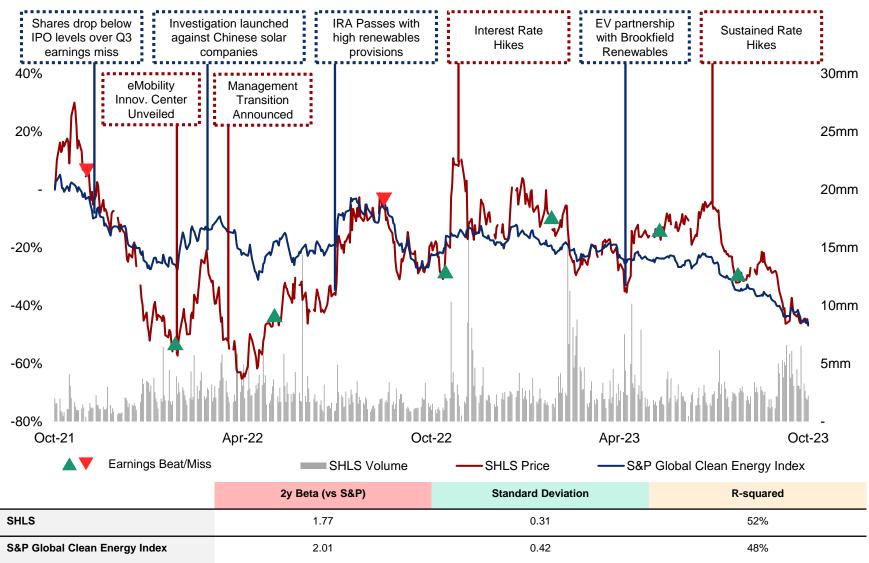
**Revenue mix** 

22%

78%

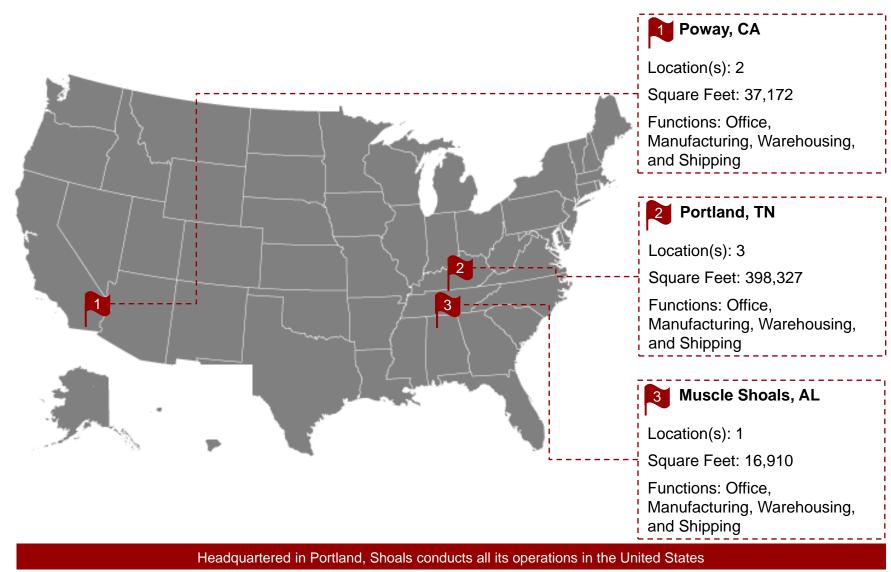


#### More volatile to commodity pricing than market information



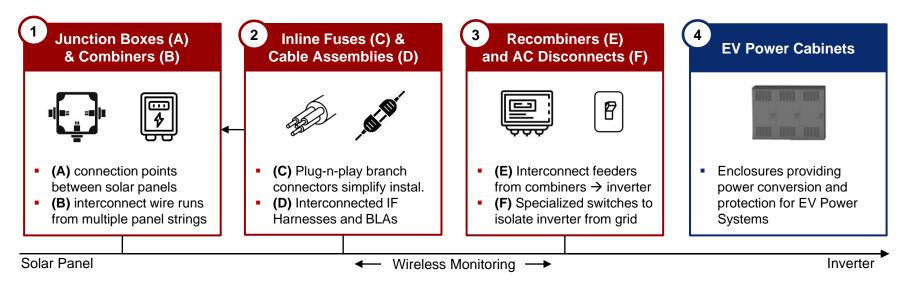


# Shoals us the map!



Sources: Bloomberg, Company Filings

# From the panels to the grid



# A U.S. based player with multiple segments...

#### **Component Manufacturing**



**◇**←0

- Mission-critical components required for <u>every</u> solar, EV Charging or Energy Storage project
- High consequence of failure (e.g., damage, injury) means reliability and safety prioritized over price

# **EBOS Systems Solutions**

- Proprietary "Combine-as-you-go" design cuts installation costs by 43% and material cost by 20%
- Improvements on standard "homerun" architecture

#### **eMobility Solutions**

• 4 new products introduced in Q4/21 compatible with all manufacturers, including quick-connect and power

# ...and competitive IP...

# Widespread (and growing) adoption

- Q2/22, 50% YoY increase in converted BLA customers (+14), including top solar EPCs
- ~35% YoY increase in prospects (92) and in transition, with \$546mm in backlog & awarded (Q2/23)

# High future visibility

Consultative sales process provides ~12 mo lead for growth adjustment with minimal inventory buildup

# A strong competitive MOAT

- 35+ Patents with another 85 issued and pending
- Start-to-finish service includes solution design & engineering support: systems are customized

Sources: Bloomberg, Company Filings, Wood Mackenzie



# Bolstering efficiency and reliability



# **Distinguishing Characteristics**

- Every string of solar panels is connected to combiners ٠ with **individual wire runs**, then fished through conduits
- Wires are individually laid, measured, stripped, crimped to complete the connection, inspected, and installed

# **Primary Inconveniences:**

#### Tedious, specialized installation process

6 technical steps requiring tools and electricians

#### Significant Fault Risk

- Onsite, manual assembly steps increase fault risk
- Shoals offers custom components and connectors to • upgrade conventional homerun systems

# Shoals' "Combine-as-you-Go" Big Lead Assembly ("BLA") reduce errors and m inline fuses eliminate measuring cutting and crimping in the field em installable by gene r rather than requiring installs using general labo ed electricians

# **6 Primary Advantages**



Installed above ground Eliminates trenching and wire fishing Streamlined wire runs 67% fewer string runs, 95% fewer inverter runs



Eliminate combiner boxes Inline fusing and direct connections simplify wiring

# Increased safety and reliability

Factory fabricated pre-terminated connectors

#### **Reduces maintenance requirements** 6.

83% fewer connection points, ran above ground

Source: Company Filings

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# **Investment Theses**

Section IV

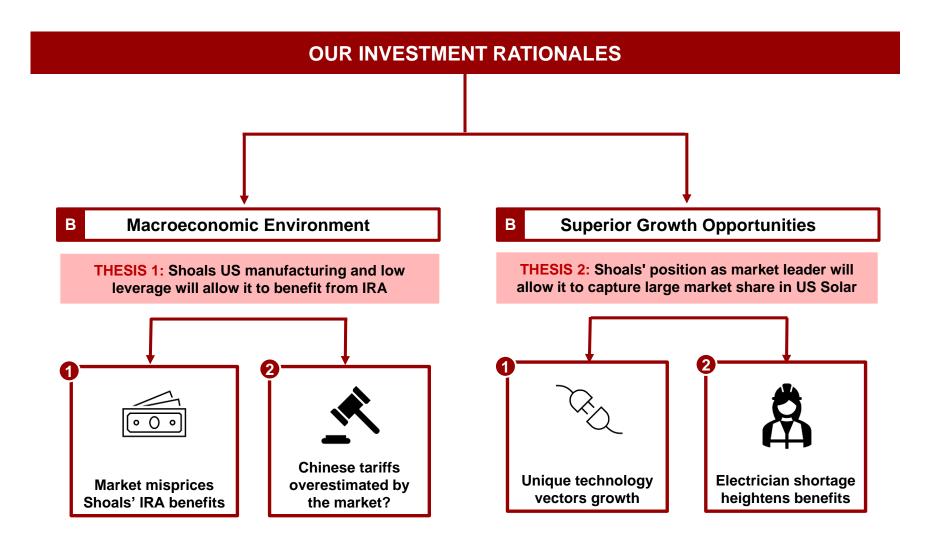






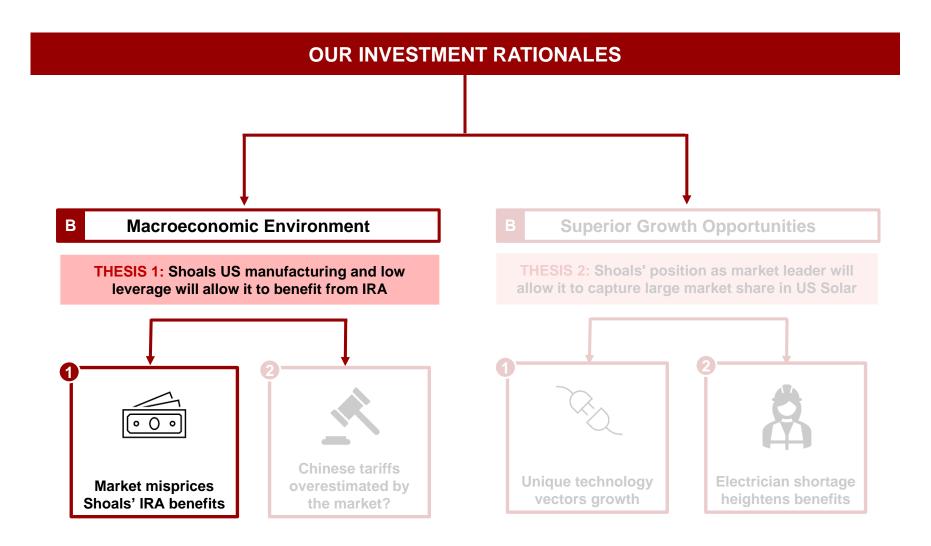


Resistance to recent negative macro, market-leading patent protected product, and EV/Storage optionality





Resistance to recent negative macro, market-leading patent protected product, and EV/Storage optionality



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# Market Misprices Shoals' IRA Benefits

Section V



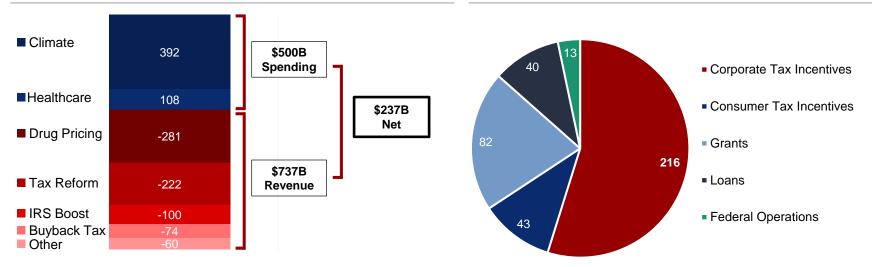






# Inflation Emissions Reduction Act

# Sources and uses



**Distribution of funds** 

# Federal tax credits for solar manufacturers

)	45x Adv. Manufacturing PTC	2	48c Adv. Energy Project ITC	3	Credit Adders
(	Tax credit for <b>domestic production</b> of eligible clean energy equipment and components (e.g., inverters, solar, and battery components)		Tax credit for <b>investment in</b> <b>manufacturing facilities</b> producing, re-equipping or recycling advanced energy components		<ul> <li>Treasury Labor Requirements: 10%<sup>B</sup> of 10 (5 ITC) year wages at local rates → +80% ("full") credit rate</li> </ul>
	Allocated on a <b>capacity basis</b> , with	-			<ul> <li>40%<sup>A</sup> Domestic Content Minimum +10% for ITC, or +10% PTC Value</li> </ul>
	rates defined per component type Phase out 25%/Y, starting Q1/30		placed in service during tax year Phase out 25%/Y, starting Q1/32		<ul> <li>Energy Community Bonus: +10% for ITC, or +10% PTC Value</li> </ul>

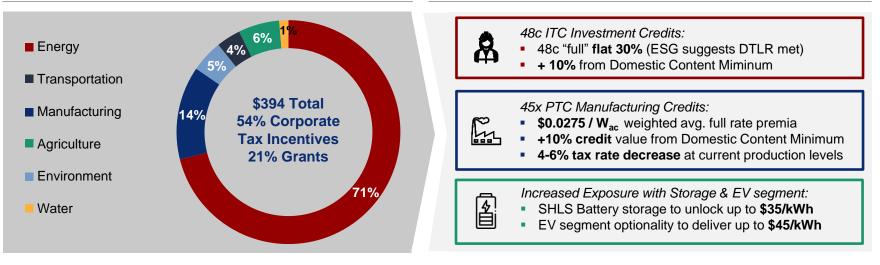
# **IRA Mispricing**



# How Shoals is setting up tax breaks in stealth mode

# **Substantial funding**





# A quiet buyback hints at upside...

#### **Discrete on Earnings**

- Minimal mention of direct IRA benefits in press, 10Qs and 10k
- IRA presented as external macro risk & catalyst:

#### Tax receivables buyback in Q2/23

- Q1/21, Shoals enters a Tax Receivables Agreement (TRA)
- Oaktree to receive 85% of realized tax benefits
- Q4/22, Shoals repurchases (terminates) the TRA for \$58mm signaling high benefit expectation
- Remeasured payable → gain on termination of \$110.9mm

# ...that may far exceed market expectation

#### What about \$394B?

- Original figure estimated at pre-IRA manufacturing rates
- Banks are revising the expected cost of the IRA to 1.2T

# THE WALL STREET JOURNAL.

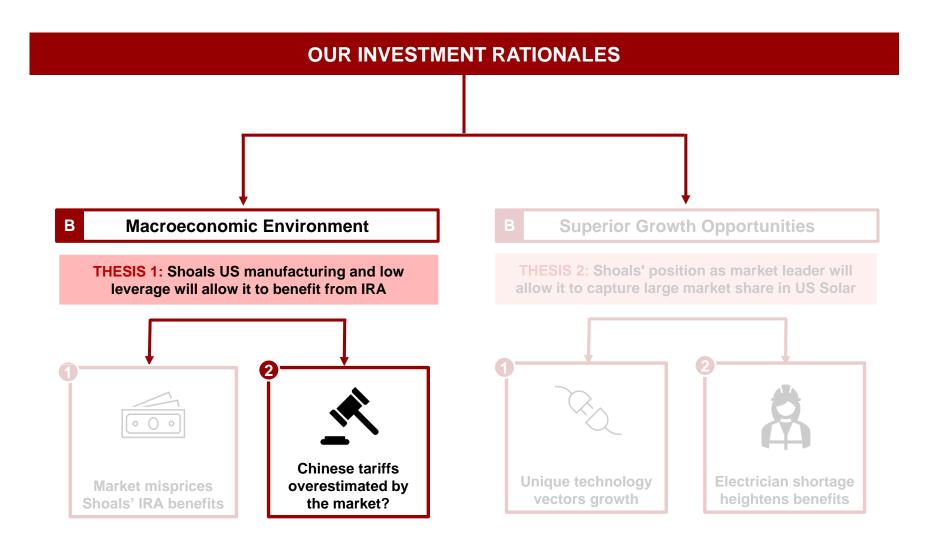
The Real Cost of the Inflation Reduction Act Subsidies: \$1.2 Trillion

Intricacies and synergies between the vast number of IRA clauses provides opportunity for market mispricing

Sources: EU Council, EIA, Reuters, Statista, WSJ



Resistance to recent negative macro, market-leading patent protected product, and EV/Storage optionality



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# Market Overestimates Tariffs' Impact on Shoals

Section VI



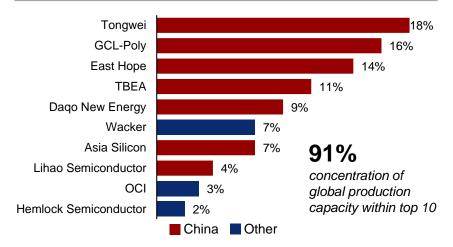






Important regulatory tensions influencing the solar market

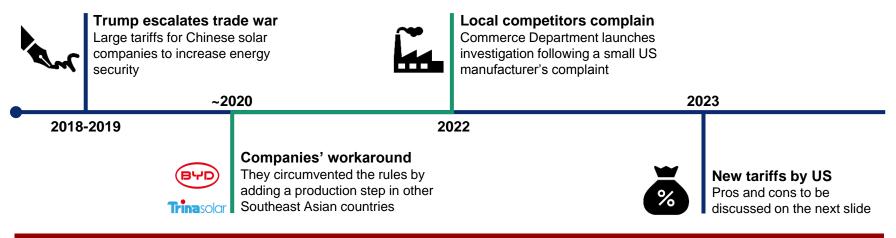
# Share of capacity of top 10 solar suppliers, 2022



# "Reshoring" renewable supply chains



# Chinese solar companies evading US trade rules



As US solar manufacturers fight to keep market share, the overall US solar industry's growth is hindered

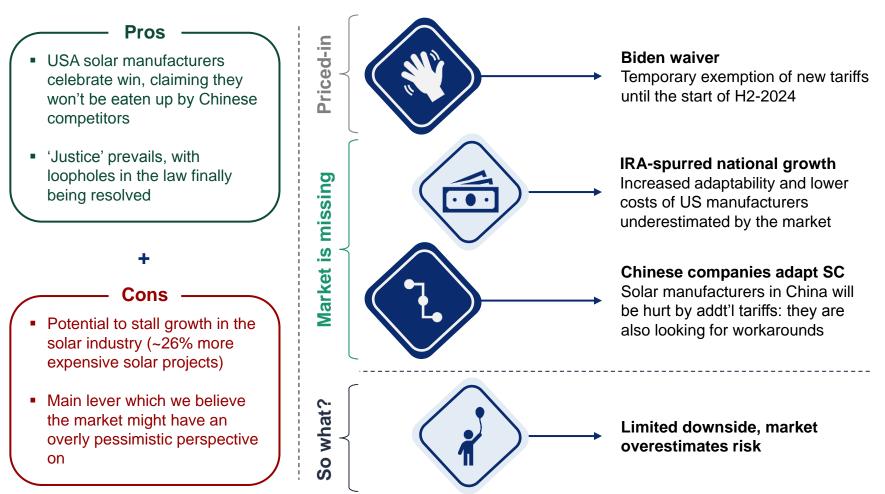
Sources: Bloomberg NEF, McKinsey, Reuters





The new tariffs had significant impact on the solar industry's perceived growth in the USA

**New tariffs** 



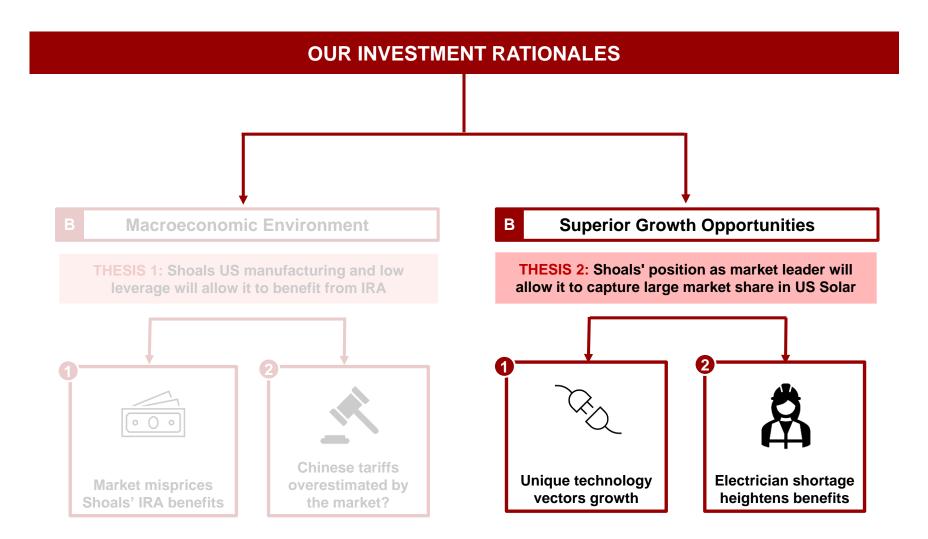
Potential outcomes

While slower solar growth is expected, the market's base case is overly pessimistic due to positive project NPV

Source: NPR, The White House, Bloomberg



Resistance to recent negative macro, market-leading patent protected product, and EV/Storage optionality



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Thesis 2: Shoals will remain market leader and maintain pricing power due to product differentiation

Section VII

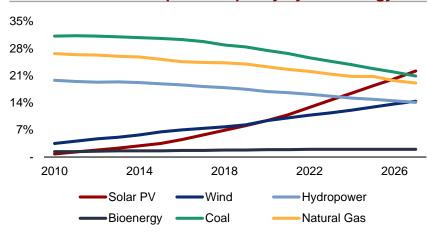






# The EBOS Market is poised to grow

# And Shoals is already well-positioned in the field



# Share of cumulative power capacity by technology

# A highly fragmented market, with SHLS on top



# SHLS is an established player

- SHLS products are now used in more than 50% of large-scale solar projects in the US
- 17 of 25 top EPCs are existing SHLS customers

# And still going strong 50% YoY increase in converted BLA customers

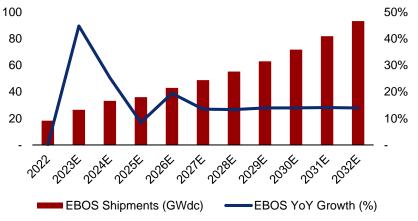
Patented and proprietary offering



# With new innovative products

- Conventional & combine-as-you-go EBOS
- Big Lead Assembly
- New rollout: Snapshot I-V

# The EBOS market, an attractive sector



# Shoals' competitors

Bentek



ARRAY TECHNOLOGIES VOLTAGE

The solar market, and in particular the EBOS field, is a growing sector, and SHLS is already a leader in the space

Sources: Company Filings, Bloomberg, SEIA



#### Above-ground makes solar projects are more efficient

# **Different offerings**



# **Underground installation**

# **Above-ground installation**





The reliability and durability of above-ground installation is still questionable

Source: Company Filings



Innovative details enhance reliability and safety



# **MULTI-LAYER INSULATION IP**

Limits competitors to designs that expose the system to potential catastrophic failure



strain relief

and environmental seal

# **Traditional Single** Layer Insulation

Typically optimized for UV protection but vulnerable for moisture ingress

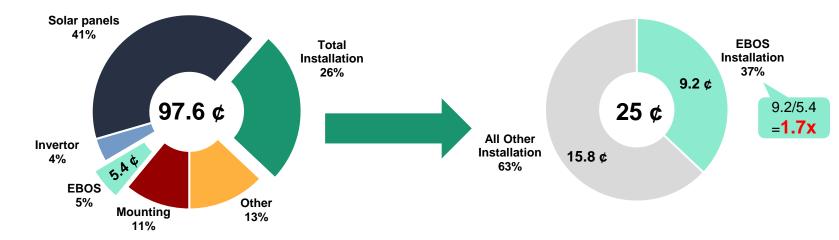
Sources: Wood Mackenzie, Company Filings, Bloomberg, IEA



# Installation is costly



EBOS contribution to installation costs (¢ per watt)



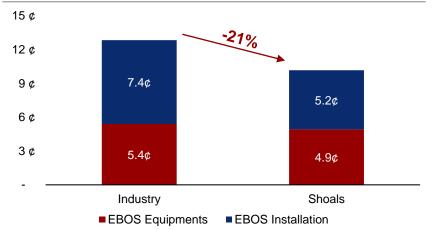
# Lower costs for Shoals' clients vs industry average

# **Big Lead Assembly**

- Aboveground aluminum trunk system
- Integration of cable, combiner and fuses
- Plug-n-play: snap on design



# Shoals saves 21% for clients on EBOS



Shoals will be able to increase its ASPs thanks to savings on installation costs as well as its monopolistic position in the market

Sources: Wood Mackenzie, Company Filings, Bloomberg, IEA

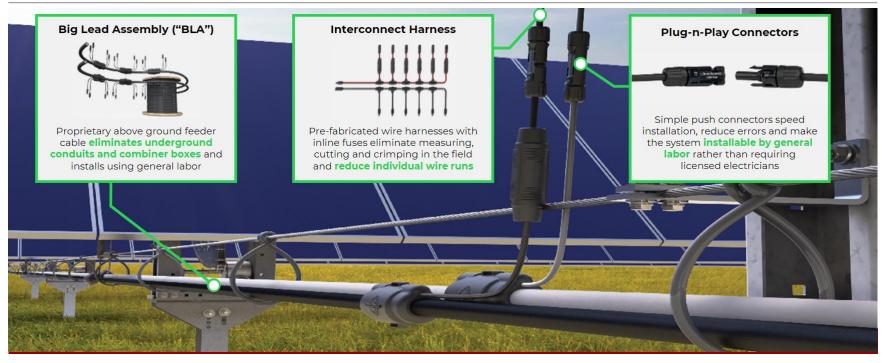


# BLA saves material costs and installation costs

# **Conventional EBOS installation**



# Shoals' solution



# A double-whammy

# Electrician shortage in U.S.



# Experienced electricians are retiring faster than ever

 Covid-19 accelerated retirement timelines for Baby Boomers across all industries



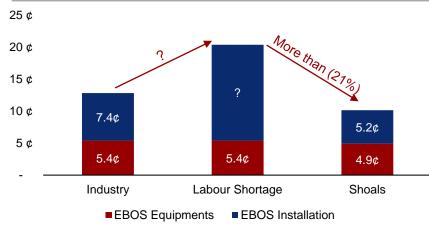
# Not enough new electricians are entering the industry

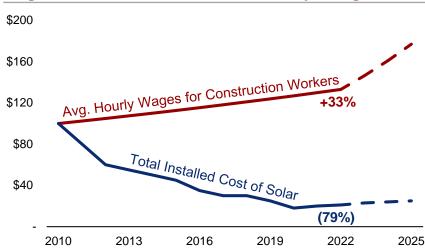
- Higher than ever higher-level education attendance
- Little interest in skilled labor from younger generations

# Demand for electricians is rising

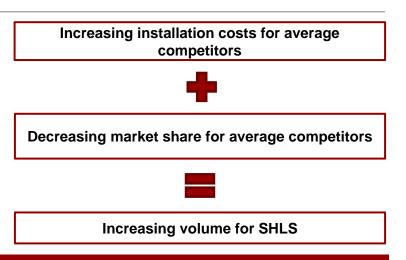
- 6% growth projected for electrician jobs
- 27% increase projected in electricity growth from 2022-2050

# Headwinds for competitors and tailwinds for Shoals





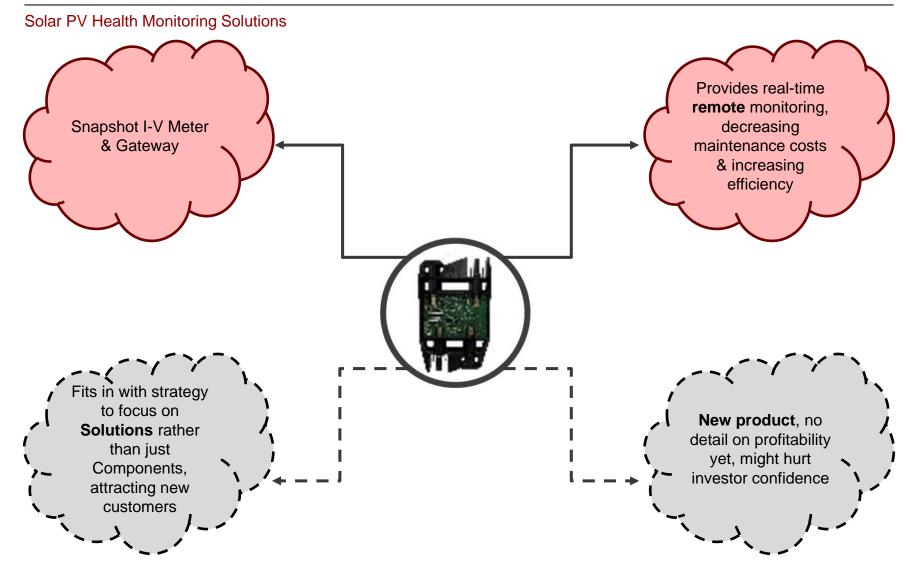
# Wages for construction workers are only rising



#### Shortage in electricians are expected to boost up average installation costs

Sources: Company Fllings, Bloomberg, IEA



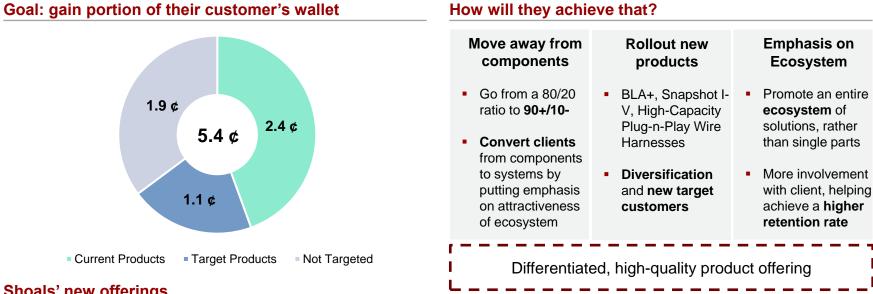


Shoals' new product is a sign of diversification and shift towards Ecosystem Solutions rather than pure components, justifying higher ASPs

Sources: Company Filings, Yahoo Finance



# A complete approach



# Shoals' new offerings

<ul> <li>"BLA+"</li> <li>Incorporates EBOS content not currently offered by Shoals</li> <li>Comprehensive solution that takes more labor out of the field</li> <li>Increases customer wallet share</li> </ul>	• Launched	• Quoting globally • First revenue generated in 2Q23 – an international installation	• 2Q 2023
<ul> <li>Snapshot I-V (formerly IV Curve Benchmarking)</li> <li>Plug-n-play string-level monitoring (current, temp, IV curve trace, incline)</li> <li>Real-time data at thousands of points across the system</li> <li>Cuts truck rolls and facilitates targeted maintenance</li> </ul>	• Launched	<ul> <li>Target base customers and new accounts</li> <li>First revenues expected 2H 2023</li> </ul>	• 2H 2023
<ul> <li>High Capacity Plug-n-play Wire Harnesses</li> <li>Extends plug-n-play to high capacity feeder cable category</li> <li>Creates additional labor savings versus current products and methods</li> <li>Enables greater site design flexibility</li> </ul>	• UL certification of connectors in progress	Launch concurrent with UL certification     ID of alpha customers underway	• 4Q 2023

#### Shoals' strategy to focus on Systems Solutions with allow the company to benefit from higher volume attraction

Sources: Company Filings, Bloomberg, IEA

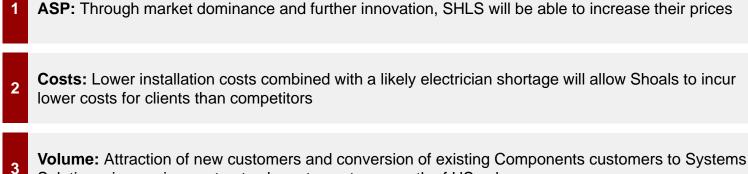
# Thesis Wrap-up



# What is the takeaway?

# **Key points**





Solutions, increasing contract volume to capture growth of US solar

Market is pricing in solar growth, but is missing ASP pricing increases and SHLS's potential to capture market share

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Valuation

Section VIII









# **Criteria for Selection Process**

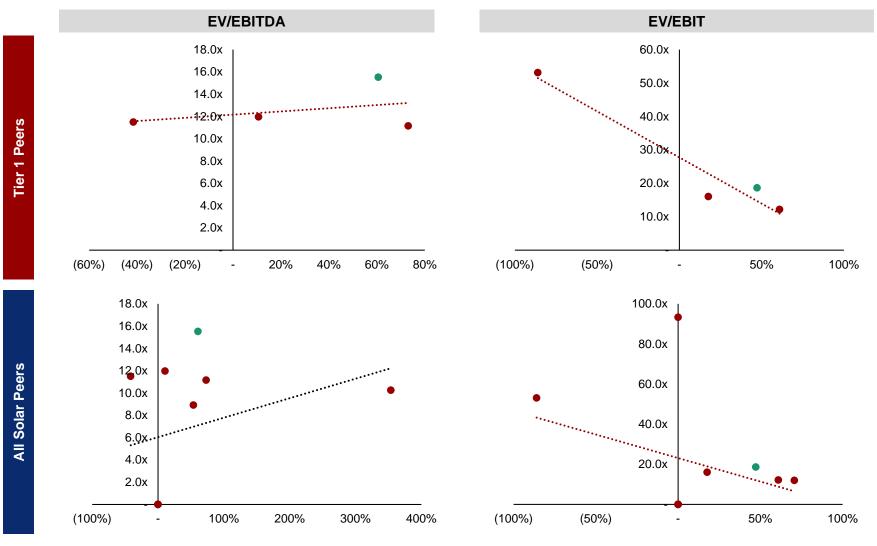
	Criteria 1: Segment	Criteria 2: Customer	Criteria 3: Product
Solar Peers	Utility	EPCs	EBOS
solar <mark>edge</mark>	$\checkmark$	$\checkmark$	×
ARRAY TECHNOLOGIES	$\checkmark$	$\checkmark$	×
孩 nextracker.	$\checkmark$	$\checkmark$	×
<b>FTC</b> SOLAR	$\checkmark$	×	×

Peer Group								LTM				тм		EV / E	BITDA	EV/R	evenue	P	/E	EBITDA Margin	Debt / EBITDA
(in US\$ M, except ratios)	Ticker	Price	52-Week High	Market Cap	Debt	EV	Revenue	EBTIDA	EPS	EPS	EBITDA Growth	EBITDA	Revenue	LTM	NTM	LTM	NTM	LTM	NTM		
Tier 1																					
SolarEdge	SEDG	76.99	345.80	4354.4	735.5	3602.7	3662.6	536.4	5.18	4.10	-41.6%	313.5	2999.3	6.7x	11.5x	1.0x	1.2x	14.9x	18.8x	10.5%	2.3x
Array	ARRY	17.07	26.64	2578.8	779.4	3503.7	1801.6	264.7	0.51	1.00	10.7%	292.9	1876.2	13.2x	12.0x	1.9x	1.9x	33.5x	17.1x	15.6%	2.7x
NextTracker	NXT	34.63	46.55	2146.6	150.5	5235.3	2084.7	271.2	0.99	2.24	73.1%	469.4	2592.7	19.3x	11.2x	2.5x	2.0x	35.0x	15.5x	18.1%	0.3x
Median				2,579	736	3,603	2,085	271	0.99	2.24	10.7%	313	2,593	13.2x	11.5x	1.9x	1.9x	33.5x	17.1x	15.6%	2.3x
Mean				3,027	555	4,114	2,516	357	2.23	2.45	14.1%	359	2,489	13.1x	11.5x	1.8x	1.7x	27.8x	17.1x	14.7%	1.8x
Shoals Technologies	SHLS	15.10	32.43	2,566	210	2,775	410	111	0.89	1.12	60.6%	178.7	571.4	24.9x	15.5x	6.8x	4.9x	17.0x	15.4x	31.3%	1.4x
Median				2,096	647	3,471	1,932	-23	0.42	-0.01	0.0%	52	2,064	13.7x	11.3x	1.8x	1.5x	27.5x	17.1x	3.0%	0.4x
Mean				2,302	1,408	3,931	1,927	31	0.63	1.17	4.1%	154	2,054	19.9x	10.8x	2.1x	1.8x	24.8x	28.8x	4.1%	· · ·

#### Sources: Capital IQ, CME Group, Yahoo Finance



# Positioning relative to competitors



With so few profitable peers, the comparison isn't fair

Source: Bloomberg

# **Comparables Analysis**



#### Relatively expensive, but multiples are missing some growth

Peer Group (in US\$ M, except ratios)	Ticker		52-Week High		Debt	EV	EV/E	BITDA	EV/Re	EV/Revenue		P/E		Debt /
		Price		Market Cap			LTM	NTM	LTM	NTM	LTM	NTM	EBITDA Margin	EBITDA
Fier 1														
SolarEdge	SEDG	76.99	345.80	4354.4	735.5	3602.7	6.7x	11.5x	1.0x	1.2x	14.9x	18.8x	10.5%	2.3x
Array	ARRY	17.07	26.64	2578.8	779.4	3503.7	13.2x	12.0x	1.9x	1.9x	33.5x	17.1x	15.6%	2.7x
NextTracker	NXT	34.63	46.55	2146.6	150.5	5235.3	19.3x	11.2x	2.5x	2.0x	35.0x	15.5x	18.1%	0.3x
Median				2,579	736	3,603	13.2x	11.5x	1.9x	1.9x	33.5x	17.1x	15.6%	2.3x
Mean				3,027	555	4,114	13.1x	11.5x	1.8x	1.7x	27.8x	17.1x	14.7%	1.8x
				ř.		í								
Shoals Technologies	SHLS	15.10	32.43	2,566	210	2,775	24.9x	15.5x	6.8x	4.9x	17.0x	15.4x	31.3%	1.4x
Solar Industry														
Stem Inc.	STEM	3.04	14.83	473.6	542.6	947.4	NM	NM	2.3x	1.4x	NM	NM	(0.7%)	(108.5x
Array Technologies	ARRY	17.07	26.64	2578.8	779.4	3503.7	13.2x	12.0x	1.9x	1.9x	33.5x	17.1x	15.6%	2.7x
Sunpower Corporation	SPWR	4.02	24.97	704.3	559.2	994.5	46.5x	10.2x	0.5x	0.6x	9.6x	80.4x	5.6%	5.8x
Sunrun Inc.	RUN	8.84	33.33	1919.9	8873.8	12864.6	NM	NM	5.3x	5.4x	21.6x	NM	(4.7%)	(79.2x)
PlugPower Inc.	PLUG	5.90	18.88	3551.6	898.7	3437.3	NM	NM	3.9x	2.3x	NM	NM	(17.6%)	(3.4x)
NextTracker Inc.	NXT	34.63	46.55	2146.6	150.5	5235.3	19.3x	11.2x	2.5x	2.0x	35.0x	15.5x	18.1%	0.3x
FTC Solar Inc.	FTCI	1.12	3.87	132.3	1.2	100.8	NM	NM	0.9x	0.4x	NM	NM	(3.2%)	(0.1x)
Generac Holdings Inc.	GNRC	82.20	156.95	5116.3	1534.7	6671.5	13.7x	8.9x	1.7x	1.6x	34.3x	12.3x	17.6%	2.0x
Fluence Energy Inc.	FLNC	17.26	31.32	2045.4	2.7	1953.6	NM	277.9x	1.0x	0.9x	NM	NM	0.3%	0.4x
SolarEdge Technologies Inc.	SEDG	76.99	345.80	4354.4	735.5	3602.7	6.7x	11.5x	1.0x	1.2x	14.9x	18.8x	10.5%	2.3x
Median				2,096	647	3,471	13.7x	11.3x	1.8x	1.5x	27.5x	17.1x	3.0%	0.4x
Mean				2,302	1,408	3,931	19.9x	10.8x	2.1x	1.8x	24.8x	28.8x	4.1%	-17.8x
Shoals Technologies	SHLS	15.10	32	2,566	210	2.775	24.9x	15.5x	6.8x	4.9x	17.0x	15 4 x	31.3%	1.2x

Industry leader deserves to trade at a premium. Shoals trades around 4x EBITDA higher than larger peers

Source: Capital IQ



#### Operating model assumptions for each case

(	Bear Case	Base Case	Bull Case					
Market Share	<b>53%</b> in 2023A to <b>44.8%</b> by 2033E	Constant Market Share	<b>53%</b> in 2023A to <b>55.7%</b> by 2033E					
Sys/Component Split	<b>78/22</b> in 2023A to <b>90/10</b> by 2033E	<b>78/22</b> in 2023A to <b>94/6</b> by 2033E	<b>78/22</b> in 2023A to <b>98/2</b> by 2033E					
Gross Margin	<b>44%</b> in 2023A to <b>41.5%</b> by 2033E	Constant Gross Margin	<b>44%</b> in 2023A to <b>46.5%</b> by 2033E					
ẩ⊍ẩ ໍໍ∰ໍ ASP	2% Annual Growth	4% Annual Growth	10% Growth over next 2 years, 5% after					
Solar Industry 2024-2033 Exit Multiple 14% CAGR 11.5x EV/EBITDA								

## Revenue Build and Output

#### 61% Upside

Revenue Forecast	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
(In USD thousands, except per share data)														
Solar EBOS Market - US														
Solar Installations (GWdc)	14.2	17.9	16.0	19.0	28.0	33.0	37.0	45.0	50.0	57.0	65.0	74.1	84.4	96.3
YoY Growth (%)		26.1%	-10.6%	18.8%	47.4%	17.9%	12.1%	21.6%	11.1%	14.0%	14.0%	14.0%	14.0%	14.0%
EBOS Shipments (GWdc)	17.0	16.5	18.3	26.5	33.2	36.0	43.0	48.8	55.3	63.0	71.8	81.9	93.3	102.6
Shoals Market Share (%)	45.0%	49.0%	52.0%	53.0%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%
US EBOS shipped by Shoals	7.6	8.1	9.5	14.0	17.7	19.2	22.9	26.0	29.4	33.5	38.2	43.6	49.7	54.7
YoY Growth (%)		5.68%	17.56%	47.79%	25.86%	8.60%	19.44%	13.37%	13.33%	14.00%	14.00%	14.00%	14.00%	10.00%
Revenue from EBOS														
US EBOS shipped by Shoals	7.6	8.1	9.5	14.0	17.7	19.2	22.9	26.0	29.4	33.5	38.2	43.6	49.7	54.7
Components mix (%)	45.0%	37.0%	35.0%	22.0%	20.0%	18.0%	16.0%	14.0%	12.0%	10.0%	8.0%	6.0%	6.0%	6.0%
ASP of Components (\$/W)	0.017	0.019	0.025	0.024	0.025	0.025	0.026	0.027	0.028	0.028	0.029	0.030	0.031	0.032
Revenue from components	59,386	57,249	82,323	73,433	86,543	87,123	95,276	97,350	97,405	95,311	89,531	78,846	92,581	104,894
Systems mix (%)	55.0%	63.0%	65.0%	78.0%	80.0%	82.0%	84.0%	86.0%	88.0%	90.0%	92.0%	94.0%	94.0%	94.0%
ASP of Systems (\$/W)	0.028	0.031	0.040	0.038	0.042	0.046	0.049	0.052	0.055	0.057	0.059	0.062	0.064	0.067
Revenue from systems	116,132	155,963	244,617	416,567	591,520	724,277	939,381	1,155,774	1,420,760	1,722,736	2,087,865	2,529,185	2,998,601	3,430,400
Blended ASP (\$/W)	0.023	0.026	0.034	0.035	0.038	0.042	0.045	0.048	0.052	0.054	0.057	0.060	0.062	0.065
EBOS Revenue	175,518.0	213,212.0	326,940.0	490,000.0	678,062.9	811,399.8	1,034,657.1	1,253,124.0	1,518,165.5	1,818,047.5	2,177,396.0	2,608,030.6	3,091,182.23	3,535,294.1
YoY Growth (%)		21.48%	53.34%	49.87%	38.38%	19.66%	27.52%	21.11%	21.15%	19.75%	19.77%	19.78%	18.53%	14.37%
Total Reported Revenue	175,518.0	213,212.0	326,940.0	490,000.0	678,062.9	811,399.8	1,034,657.1	1,253,124.0	1,518,165.5	1,818,047.5	2,177,396.0	2,608,030.6	3,091,182.23	3,535,294.1

#### Bridge to Equity & Sensitivity

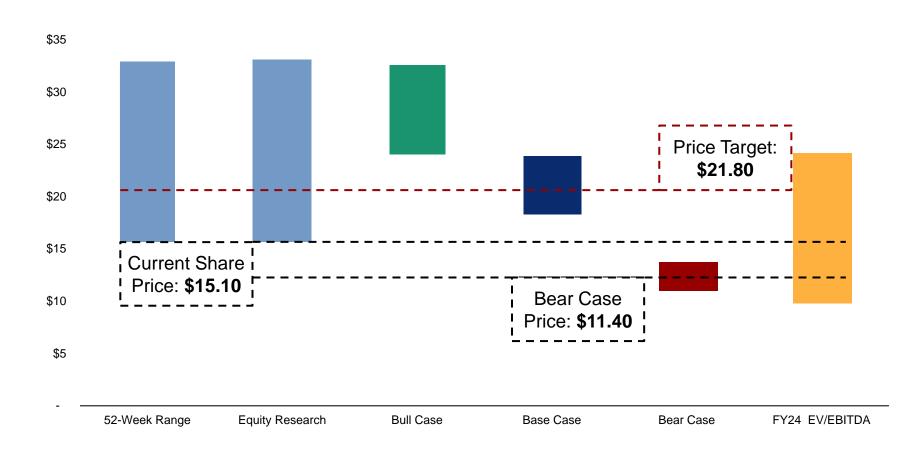
Bridge to Equity Exit Multiple Method Discount Rate	13.85%								
Sum of PV of Cash Flow Terminal Multiple	1,266,645.6 11.5x			10 5	44.0	Exit Multiple	10.0	10 5	
Terminal Value (2023E)	10,993,639.1		14.2%	10.5x 25.9%	<u>11.0x</u> 30.2%	<u>11.5x</u> 34.6%	<u>12.0x</u> 38.9%	<u>12.5x</u> 43.2%	0.5x
PV of Terminal Value:	2,638,905.5		13.9%	14.2%	14.2%	14.2%	14.2%	14.2%	
Implied Terminal Enterprise Value	3,905,551.1	WACC	13.7%	14.2%	14.2%	14.2%	14.2%	14.2%	
+ Cash	5,860.0		13.4% 13.2%	14.2% 14.2%	<u>14.2%</u> 14.2%	<u>14.2%</u> 14.2%	<u>14.2%</u> 14.2%	14.2%   14.2%	
- Debt & minority Interest	210,609.0		0.3%	14.2%	14.270	14.2%	14.270	14.270	
Implied Equity Value	4,122,020.1								
Shares Outstanding	169.9								
Implied Share Price	\$24.3								
Current Share Price	\$15.1								
Implied Upside/Downside	61%								



## Football Field



Valuation output – 61% upside in a conservative base case



# **Desautels Capital Management**

Honours in Investment Management

**Risks and Catalysts** 

Section IX



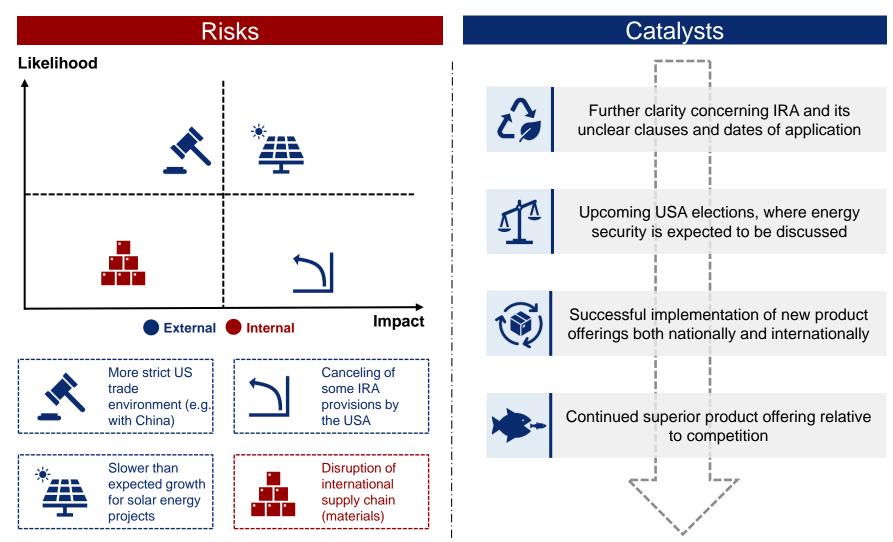




# **Risks & Catalysts**

#### Navigating uncertainties





While the upside potential is quite high, some key risks need to be considered

Source: Company Filings

# **Desautels Capital Management**

Honours in Investment Management

Appendix

Section X







# Appendix

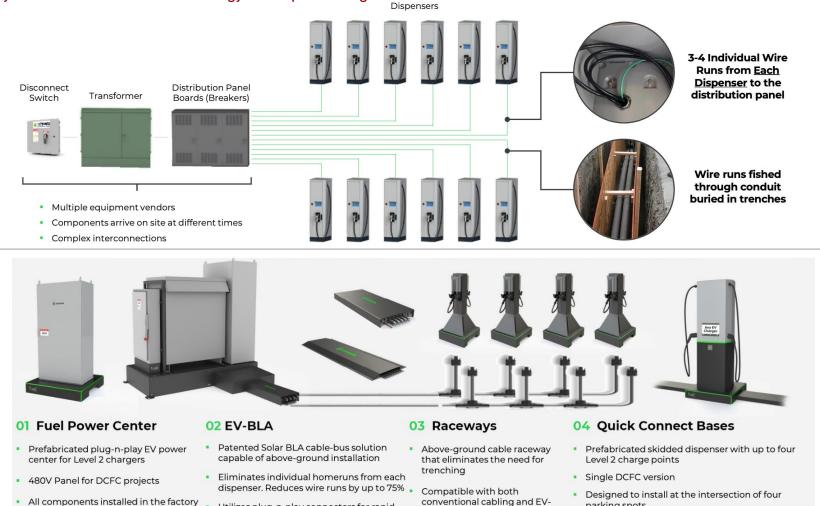


#### **Company Overview**





#### Why we are confident this technology will capture the growth



Reduce site disruption and overall time on site

DESAUTELS Capital Management Gestion de capitaux

44

BLA

Utilizes plug-n-play connectors for rapid

deployment

parking spots

interconnection costs

Reduces placement (fewer pads), cabling and



Conventional EBOS Installation requires time-consuming and complicated operations

# LICENSED ELECTRICIANS



LAY Lay the wire out to cut the wire to length MEASURE Measure out the appropriate length to expose the copper wire STRIP Strip the cable jacket **CRIMP** Crimp on the appropriate end (either positive or negative)

INSPECT Inspect work for any defects INSTALL

Install the finished product down the row and into the combiner box

High labor costs, low quality assurance

# 3 Revenue Cases

Revenue Forecast (In USD thousands, except per share data)	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Solar EBOS Market - US								49.5						
Solar Installations (GWdc)	14.2	17.9	16.0	19.0 18.8%	28.0 47.4%	36.3 29.6%	40.7	49.5 21.6%	55.0	63.8	74.0 16.0%	85.8	99.6 16.0%	115. 16.09
Yo Y Growth (%)	17.0	26.1%	-10.6%				12.1%		11.1%	16.0%		16.0% 96.2	10.0%	
EBOS Shipments (GWdc)	45.0%	16.5	18.3	26.5	35.6	39.6	47.3	53.6	61.6	71.5	82.9			122.
Shoals Market Share (%)		49.0%	52.0%	53.0%	53.3%	53.5%	53.8%	54.0%	54.3%	54.5%	54.8%	55.0%	55.3%	55.5%
US EBOS shipped by Shoals Yo Y Growth (%)	7.6	8.1 5.68%	9.5 17.56%	14.0 47.79%	19.0 35.26%	21.2 11.68%	25.4 20.00%	29.0 13.90%	33.4 15.40%	38.9 16.53%	45.4 16.53%	52.9 16.53%	61.6 16.53%	68. 10.509
Revenue from EBOS														
US EBOS shipped by Shoals	7.6	8.1	9.5	14.0	19.0	21.2	25.4	29.0	33.4	38.9	45.4	52.9	61.6	68.
Components mix (%)	45.0%	37.0%	35.0%	22.0%	20.0%	17.0%	14.0%	11.0%	8.0%	5.0%	2.0%	2.0%	2.0%	2.09
ASP of Components (\$/W)	0.017	0.019	0.025	0.024	0.025	0.026	0.028	0.029	0.031	0.033	0.035	0.037	0.039	0.04
Revenue from components	59,386	57,249	82,323	73,433	93,005	93,585	98,035	92,998	82,736	63,876	31,561	38,984	48,153	56,40
Systems mix (%)	55.0%	63.0%	65.0%	78.0%	80.0%	83.0%	86.0%	89.0%	92.0%	95.0%	98.0%	98.0%	98.0%	98.09
ASP of Systems (\$/W)	0.028	0.031	0.040	0.038	0.042	0.046	0.051	0.054	0.058	0.062	0.065	0.067	0.070	0.07
Revenue from systems	116,132	155,963	244,617	416,567	635,683	810,206	1,108,152	1,397,643	1,784,009	2,297,055	2,871,791	3,480,349	4,217,778	4,846,97
Blended ASP (\$/W)	0.023	0.026	0.034	0.035	0.038	0.043	0.047	0.051	0.056	0.061	0.064	0.067	0.069	0.073
EBOS Revenue YoY Growth (%)	175,518.0	213,212.0 21.48%	326,940.0 53.34%	490,000.0 49.87%	728,687.5 48.71%	903,791.0 24.03%	1,206,186.8 33.46%	1,490,640.4 23.58%	1,866,745.5 25.23%	2,360,931.0 26.47%	2,903,352.0 22.97%	3,519,333.1 21.22%	4,265,930.7 21.21%	4,903,371.4 14.94%
Total Reported Revenue	175,518.0	213,212.0	326,940.0	490,000.0	728,687.5	903,791.0	1,206,186.8	1,490,640.4	1,866,745.5	2,360,931.0	2,903,352.0	3,519,333.1	4.265.930.7	4,903,371.4
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Solar EBOS Market - US					_									
Solar Installations (GWdc)	14.2	17.9	16.0	19.0	28.0	33.0	37.0	45.0	50.0	57.0	65.0	74.1	84.4	96.3
YoY Growth (%)		26.1%	-10.6%	18.8%	47.4%	17.9%	12.1%	21.6%	11.1%	14.0%	14.0%	14.0%	14.0%	14.09
EBOS Shipments (GWdc)	17.0	16.5	18.3	26.5	33.2	36.0	43.0	48.8	55.3	63.0	71.8	81.9	93.3	102.
Shoals Market Share (%)	45.0%	49.0%	52.0%	53.0%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.39
US EBOS shipped by Shoals	7.6	8.1	9.5	14.0	17.7	19.2	22.9	26.0	29.4	33.5	38.2	43.6	49.7	54.3
YoY Growth (%)		5.68%	17.56%	47.79%	25.86%	8.60%	19.44%	13.37%	13.33%	14.00%	14.00%	14.00%	14.00%	10.00%
Revenue from EBOS														
US EBOS shipped by Shoals	7.6	8.1	9.5	14.0	17.7	19.2	22.9	26.0	29.4	33.5	38.2	43.6	49.7	54.7
Components mix (%)	45.0%	37.0%	35.0%	22.0%	20.0%	18.0%	16.0%	14.0%	12.0%	10.0%	8.0%	6.0%	6.0%	6.0%
ASP of Components (\$/W)	0.017	0.019	0.025	0.024	0.025	0.025	0.026	0.027	0.028	0.028	0.029	0.030	0.031	0.03
Revenue from components	59,386	57,249	82,323	73,433	86,543	87,123	95,276	97,350	97,405	95,311	89,531	78,846	92,581	104,89
Systems mix (%)	55.0%	63.0%	65.0%	78.0%	80.0%	82.0%	84.0%	86.0%	88.0%	90.0%	92.0%	94.0%	94.0%	94.09
ASP of Systems (\$/W)	0.028	0.031	0.040	0.038	0.042	0.046	0.049	0.052	0.055	0.057	0.059	0.062	0.064	0.06
Revenue from systems	116,132	155,963	244,617	416,567	591,520	724,277	939,381	1,155,774	1,420,760	1,722,736	2,087,865	2,529,185	2,998,601	3,430,400
Blended ASP (\$/W)	0.023	0.026	0.034	0.035	0.038	0.042	0.045	0.048	0.052	0.054	0.057	0.060	0.062	0.065
EBOS Revenue	175,518.0	213,212.0	326,940.0	490,000.0	678,062.9	811,399.8	1,034,657.1	1,253,124.0	1,518,165.5	1,818,047.5	2,177,396.0	2,608,030.6	3,091,182.2	3,535,294.1
Yo Y Growth (%)	175,510.0	21.48%	53.34%	49.87%	38.38%	19.66%	27.52%	21.11%	21.15%	19.75%	19.77%	19.78%	18.53%	14.37%
Total Reported Revenue	175,518.0	213,212.0	326,940.0	490,000.0	678,062.9	811,399.8	1,034,657.1	1,253,124.0	1,518,165.5	1,818,047.5	2,177,396.0	2,608,030.6	3,091,182.2	3,535,294.1
Solar EBOS Market - US Solar Installations (GWdc)	14.2	17.9	16.0	19.0	28.0	31.4	35.2	42.8	47.5	51.3	55.4	59.8	64.6	69.
YoY Growth (%)	14.2	26.1%	-10.6%	19.0	47.4%	31.4 12.0%	35.2 12.1%	42.8	47.5	51.3 8.0%	8.0%	59.8 8.0%	8.0%	8.0%
	17.0						12.1% 40.9	21.6%	11.1% 50.4	8.0% 54.4			8.0% 68.5	
EBOS Shipments (GWdc)	17.0 45.0%	16.5	18.3	26.5	31.9	34.2				•	58.7	63.4		75.
Shoals Market Share (%)		49.0%	52.0%	53.0%	53.3%	52.8%	52.3%	51.8%	50.8%	49.8%	48.8%	47.8%	46.8%	45.89
US EBOS shipped by Shoals YoY Growth (%)	7.6	8.1 5.68%	9.5 17.56%	14.0 47.79%	17.0 21.16%	18.0 6.16%	21.3 18.31%	24.0 12.29%	25.6 6.62%	27.1 5.87%	28.6 5.83%	30.3 5.78%	32.0 5.74%	34. 7.659
Revenue from EBOS														
US EBOS shipped by Shoals	7.6	8.1	9.5	14.0	17.0	18.0	21.3	24.0	25.6	27.1	28.6	30.3	32.0	34.
Components mix (%)	45.0%	37.0%	35.0%	22.0%	20.0%	19.0%	18.0%	17.0%	16.0%	15.0%	14.0%	13.0%	12.0%	11.09
ASP of Components (\$/W)	0.017	0.019	0.025	0.024	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.02
Revenue from components	59,386	57,249	82,323	73,433	83,313	84,024	94,178	99,875	100,220	99,474	98,254	96,513	94,202	92,95
Systems mix (%)	55.0%	63.0%	65.0%	78.0%	80.0%	81.0%	82.0%	83.0%	84.0%	85.0%	86.0%	87.0%	88.0%	89.0
ASP of Systems (\$/W)	0.028	0.031	0.040	0.038	0.040	0.041	0.043	0.045	0.046	0.048	0.050	0.052	0.054	0.05
Revenue from systems	116,132	155,963	244,617	416,567	538,378	601,843	749,679	886,142	994,408	1,107,946	1,233,777	1,373,135	1,527,362	1,729,35
Blended ASP (\$/W)	0.023	0.026	0.034	0.035	0.037	0.038	0.040	0.041	0.043	0.045	0.047	0.049	0.051	0.05
EBOS Revenue	175,518.0	213,212.0	326,940.0	490,000.0	621,690.3	685,867.3	843,857.7	986,017.2	1,094,628.7	1,207,419.5	1,332,031.1	1,469,648.8	1,621,563.9	1,822,312.
YoY Growth (%)		21.48%	53.34%	49.87%	26.88%	10.32%	23.04%	16.85%	11.02%	10.30%	10.32%	10.33%	10.34%	12.389
Total Reported Revenue	175,518.0	213,212.0	326,940.0	490,000.0									1,621,563.9	1,822,312.9

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