



REC Silicon Investor Presentation

January 2021

RECSiLICON

Silane: Feedstock for the Energy Transition

SILANE

BATTERY VALUE CHAIN

Silicon Anodes to Drive Silane Market Expansion.

Moses Lake

- Sole major supplier of pure silane outside China
- Co-Location discussions with multiple potential partners
- ~\$1.0B gross silane plant capex

Growth Driver

SEMICONDUCTOR

Proven Global Leader.

Butte

- 3,200MT Si-gas
- Module loading

EBITDA
~\$30M

SOLAR VALUE CHAIN

Established Footprint to Capture Solar Market Upside.

Moses Lake

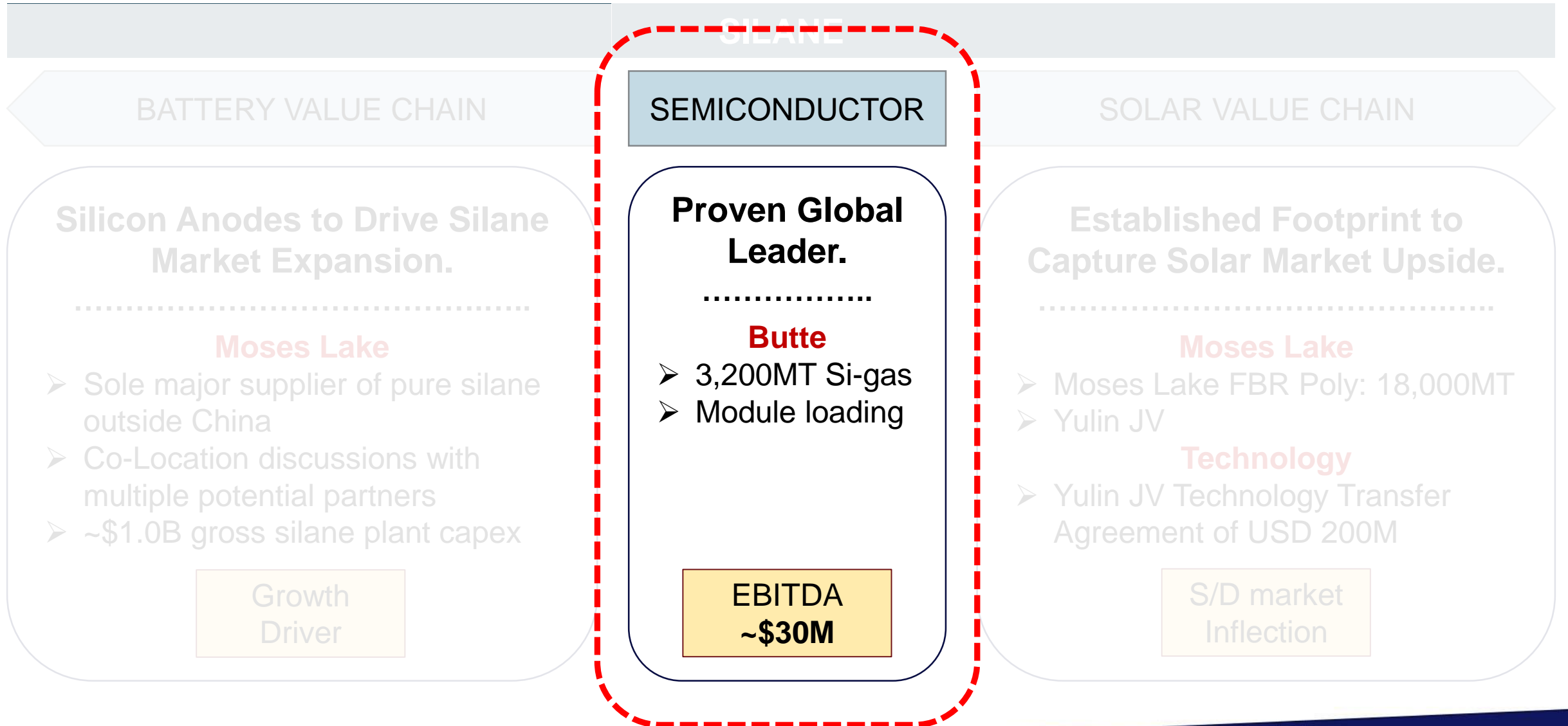
- Moses Lake FBR Poly: 18,000MT

Technology

- Yulin JV Technology Transfer Agreement of USD 200M

Market Inflection

Pareto Investor Conference | Semiconductor
Semiconductor Segment Provides Stable Cash Flows.



Butte is *the only* large capacity silicon gas provider

Silicon gas	Silicon gases	<ul style="list-style-type: none">• 7,200 MT silane capacity• 240 MT DCS capacity• 300 MT MCS capacity• 2.4 MT DiSilane capacity
	Silicon gas market share	<ul style="list-style-type: none">• 50% of Total Global Market• 70% of Semi Market
	Investment opportunities within silicon gas	<ul style="list-style-type: none">• DCS: \$5M for an additional 300MT• DiSilane: \$ 2.7M for an additional 2.1MT
Electronic polysilicon	Float Zone – Highest Purity	<ul style="list-style-type: none">• REC is one of only two companies manufacturing FZ• >30 years experience producing FZ product
	Float Zone sells at a significant premium over EG polysilicon	<ul style="list-style-type: none">• 800 MT• Possible Investment for Larger Rod Mass ~\$20M (not active)

Prior 12-month EBITDA contribution:

\$30M

Polysilicon Capacity & Technology gives Several Pathways to Profitability.

SILANE FEEDSTOCK

BATTERY VALUE CHAIN

Silicon Anodes to Drive Silane Market Expansion.

Moses Lake

- Sole major supplier of pure silane outside China
- Co-Location discussions with multiple potential partners
- ~\$1.0B gross silane plant capex

Growth Driver

SEMICONDUCTOR

Proven Global Leader.

Butte

- 3,200MT Si-gas
- Module loading

LTM EBITDA
~\$30M

SOLAR VALUE CHAIN

Established Footprint to Capture Solar Market Upside.

Moses Lake

- Moses Lake FBR Poly: 18,000MT

Technology

- Yulin JV Technology Transfer Agreement of USD 200M

Market Inflection

Global Supply/Demand

- Demand growth exceeding capacity additions
- Poly-price rising

US-China Trade War

- New US administration
- Announced new clean energy agenda

Non-Chinese Value Chain

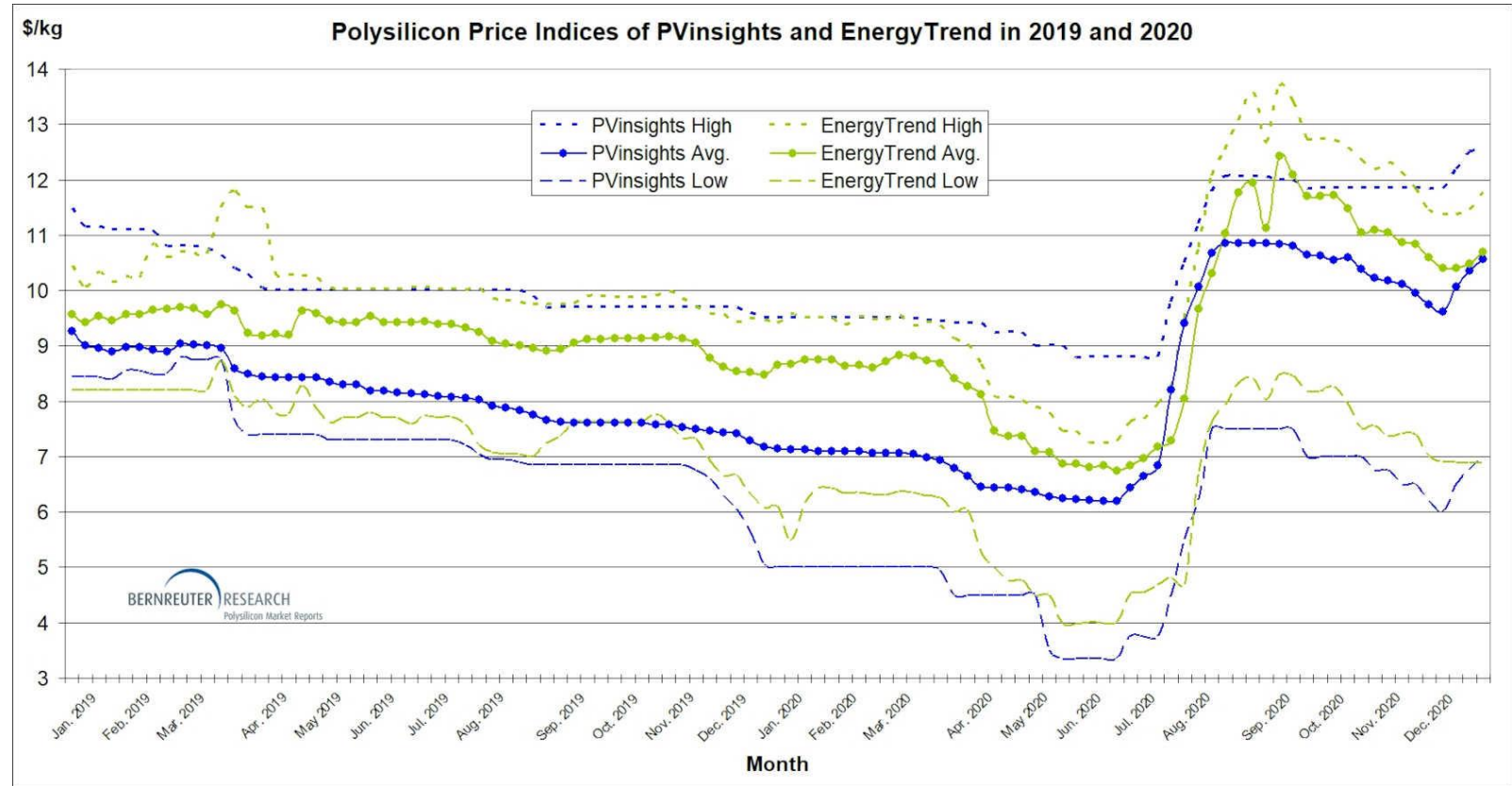
Drivers:

- China Dependence
- Low-Carbon
- Forced Labor Issues

Provided a normalization of the polysilicon market, REC Silicon has a Proven Profitable Platform.

Global Supply/Demand

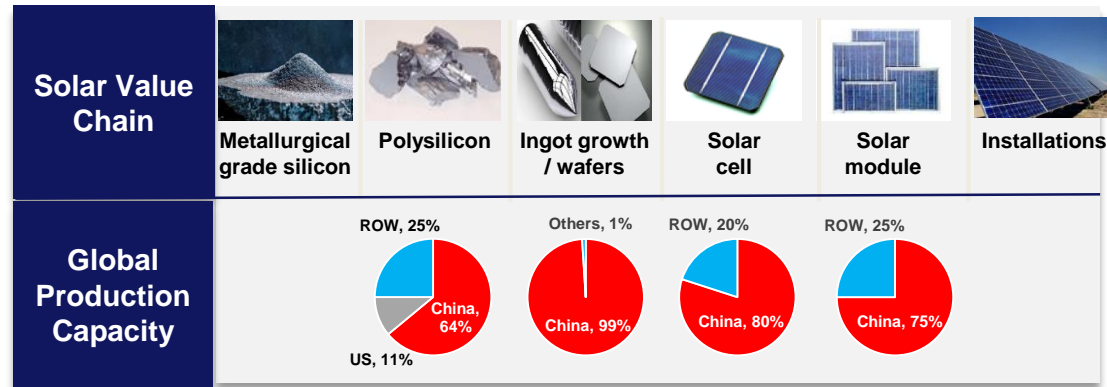
- Demand growth exceeding capacity additions
- Poly-price rising



Non-Chinese Value Chain

Drivers:

- **China Dependence**
- **Low-Carbon**
- **Forced Labor Issues**



China dominates the global PV value chain...

Non-Chinese initiatives



1 GW today in Norway, evaluating to add 3-4 GW of wafer production capacity



Vertically integrated solar manufacturer to be co-located with REC Silicon



5 GW of cell and module capacity in Germany



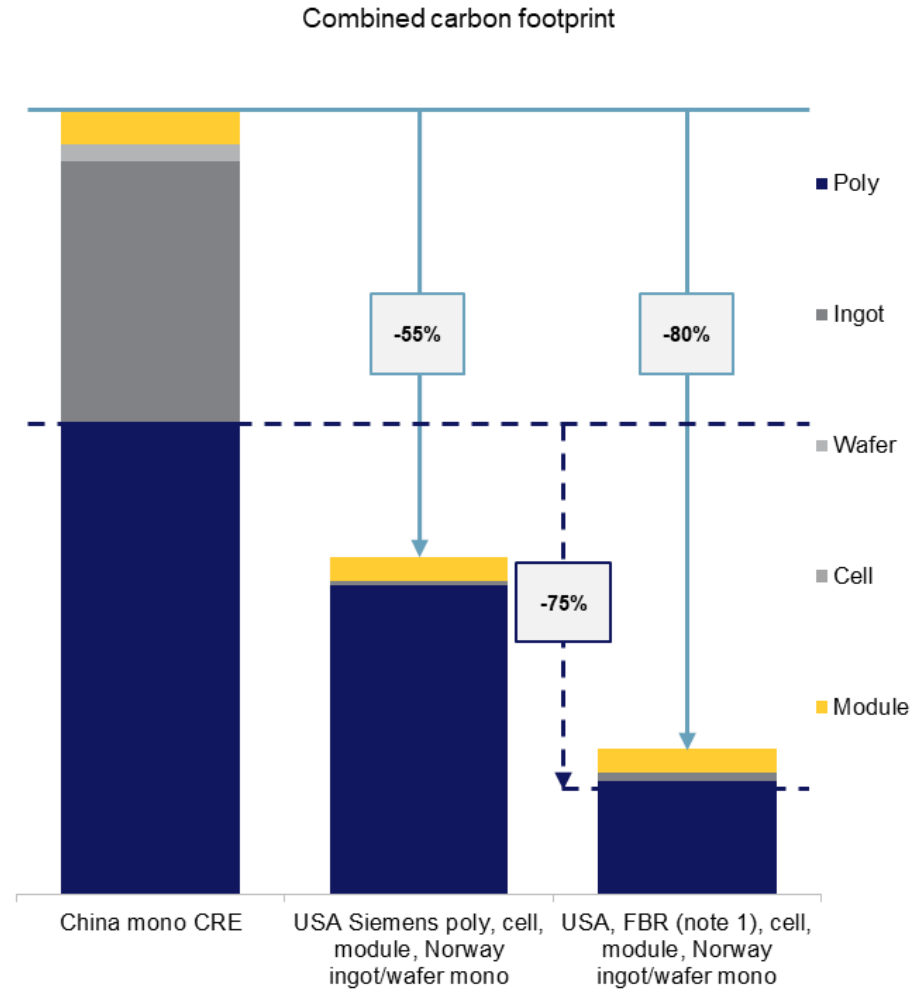
REC Silicon, Hemlock, Wacker, NorSun, QCells, First Solar

...but several players intend to challenge the Chinese dominance.

Non-Chinese Value Chain

Drivers:

- China Dependence
- **Low-Carbon**
- Forced Labor Issues



CO2 footprint for PV production favors non-Chinese players, and this measure will be rewarded in future EU renewable infrastructure auctions.

Non-Chinese Value Chain

Drivers:

- China Dependence
- Low-Carbon
- **Forced Labor Issues**

The New York Times

Chinese Solar Companies Tied to Use of Forced Labor

A new report shows some of the world's biggest solar companies work with the Chinese government to absorb workers from Xinjiang, programs that are often seen as a red flag for forced labor.



*Polysilicon
producers are
concentrated in
Xinjiang*

Silicon-anode technologies give exciting market expansion for silane gas.

SILANE FEEDSTOCK

BATTERY VALUE CHAIN

Silicon Anodes to Drive Silane Market Expansion.

Moses Lake

- Sole major supplier of pure silane outside China
- Co-Location discussions with multiple potential partners
- ~\$1.0B gross silane plant capex

Growth Driver

SEMICONDUCTOR

Proven Global Leader.

Butte

- 3,200MT Si-gas
- Module loading

LTM EBITDA
~\$30M

SOLAR VALUE CHAIN

Established Footprint to Capture Solar Market Upside.

Moses Lake

- Moses Lake FBR Poly: 18,000MT
- Yulin JV

Technology

- Yulin JV Technology Transfer Agreement of USD 200M

S/D market Inflection

Continued Battery Cost Improvement dependent on New Cell Chemistry

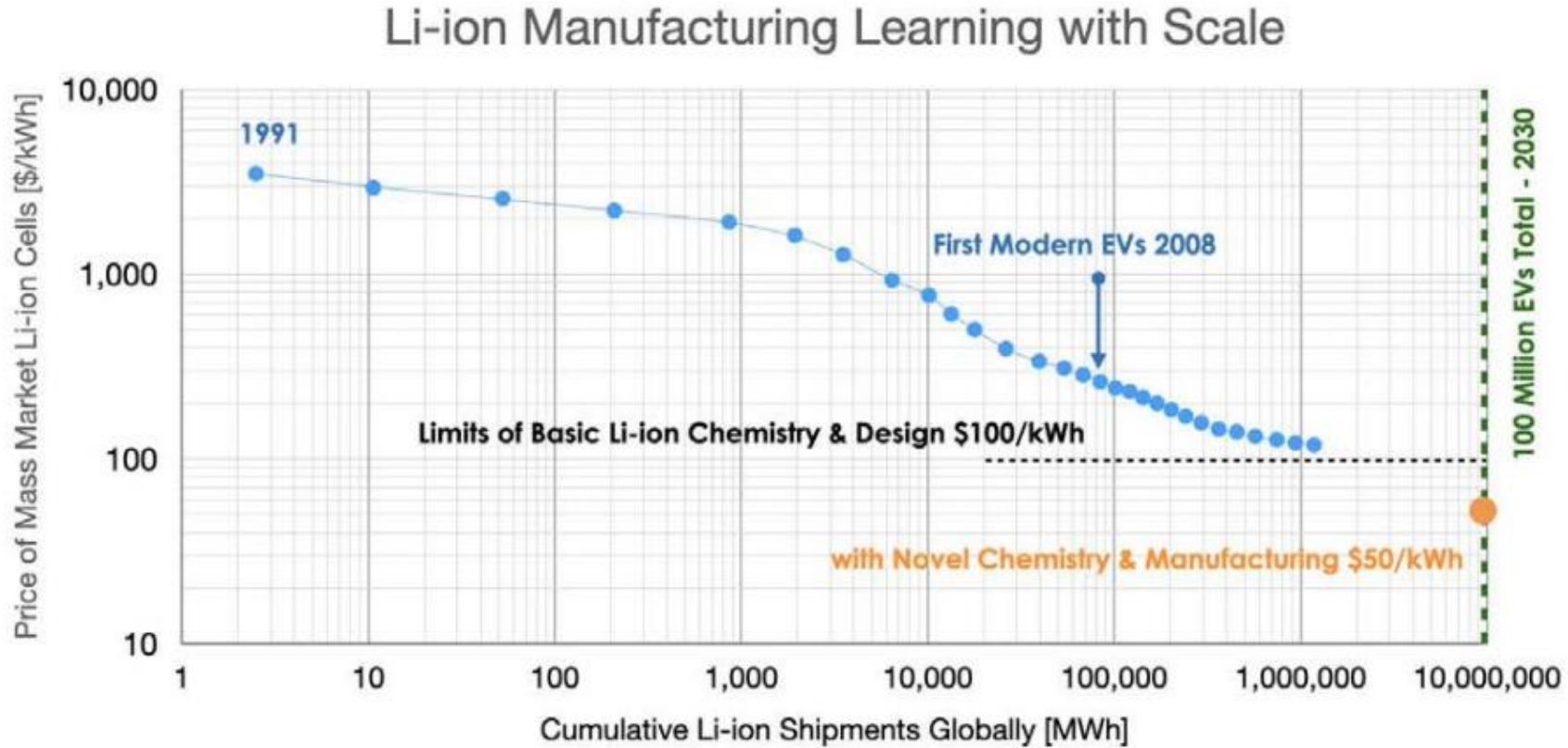


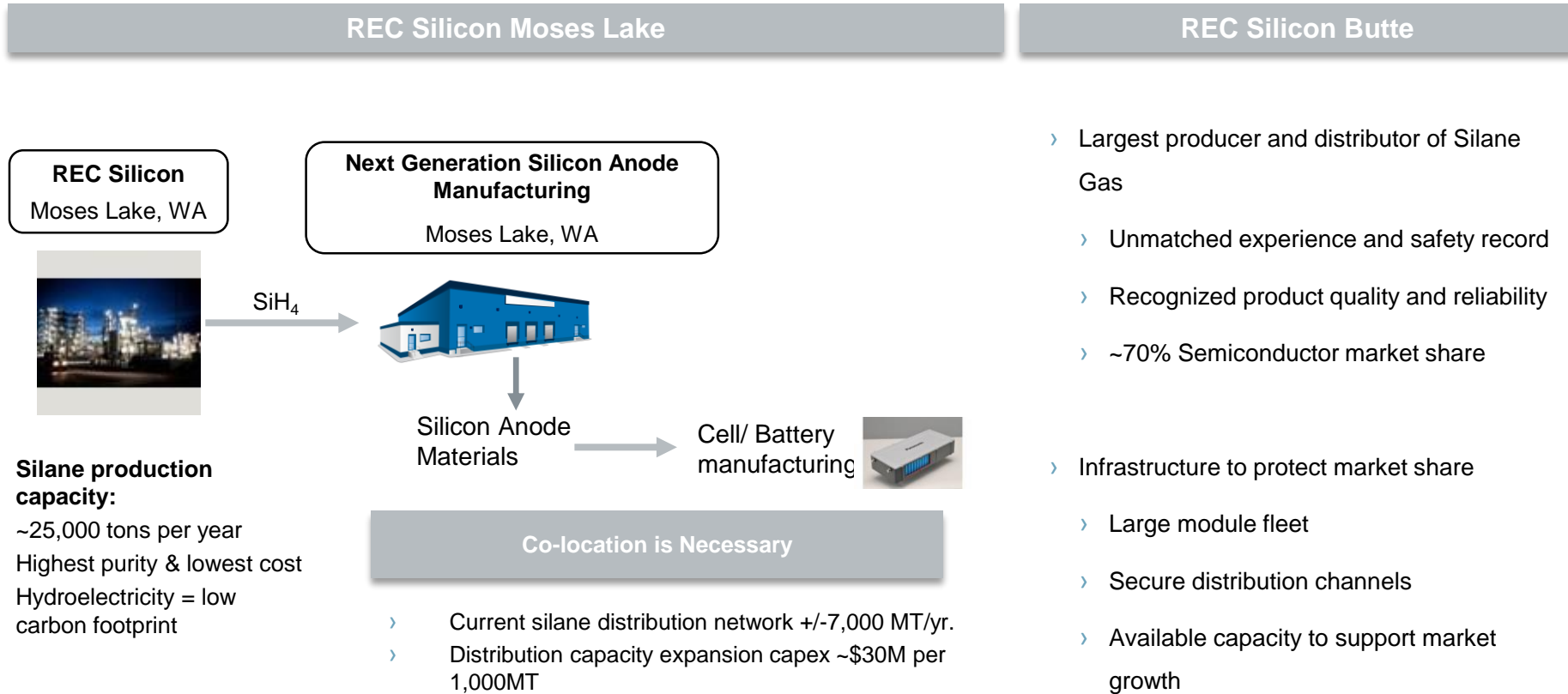
Figure 3. The manufacturing learning curve for conventional Li-ion is flattening out even as scale is reaching previously unfathomable quantities.

Lithium silicon emerging as the new battery technology node for the mid-2020s

Expect three broad battery material technology waves in passenger auto EVs in 2020s

	Wave 0 <i>Since 2015</i>	Wave 1 <i>Early-2020s</i>	Wave 2 <i>Mid-2020s</i>	Wave 3 <i>Late-2020s</i>
Anode	Graphite-based	Silicon-based		Li-metal
Electrolyte	Liquid (e.g. LiPF ₄)		Solid (e.g. Polymer- or Ceramic-based)	
Cathode		Nickel- & cobalt-based		Sulfur-based
Energy Density (est.)	1x	1.2x	1.5x	Over 2x

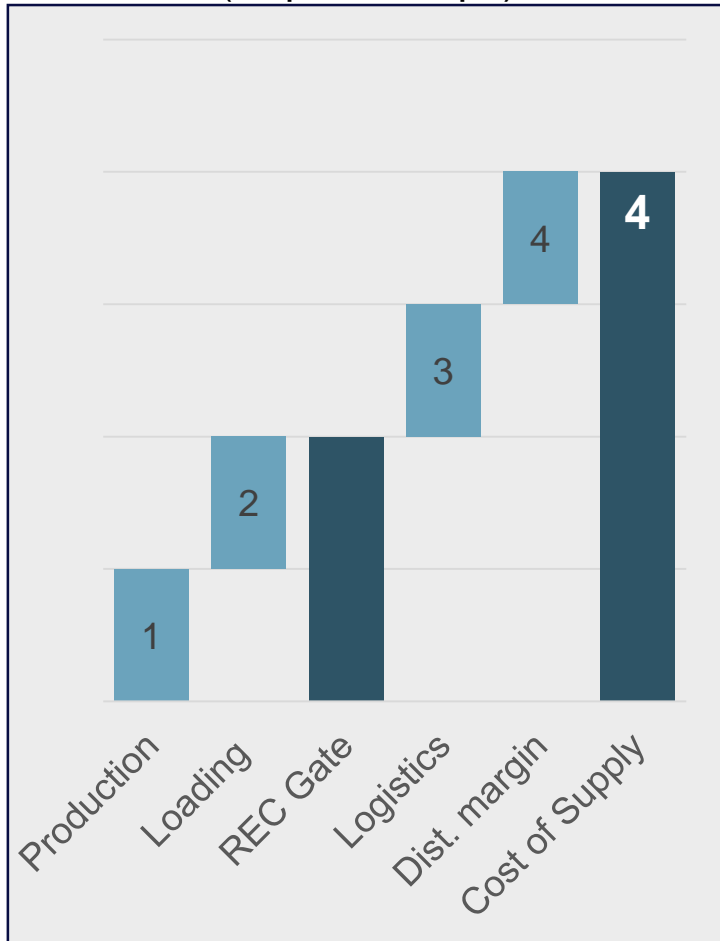
REC well positioned to supply global market with silicon gases



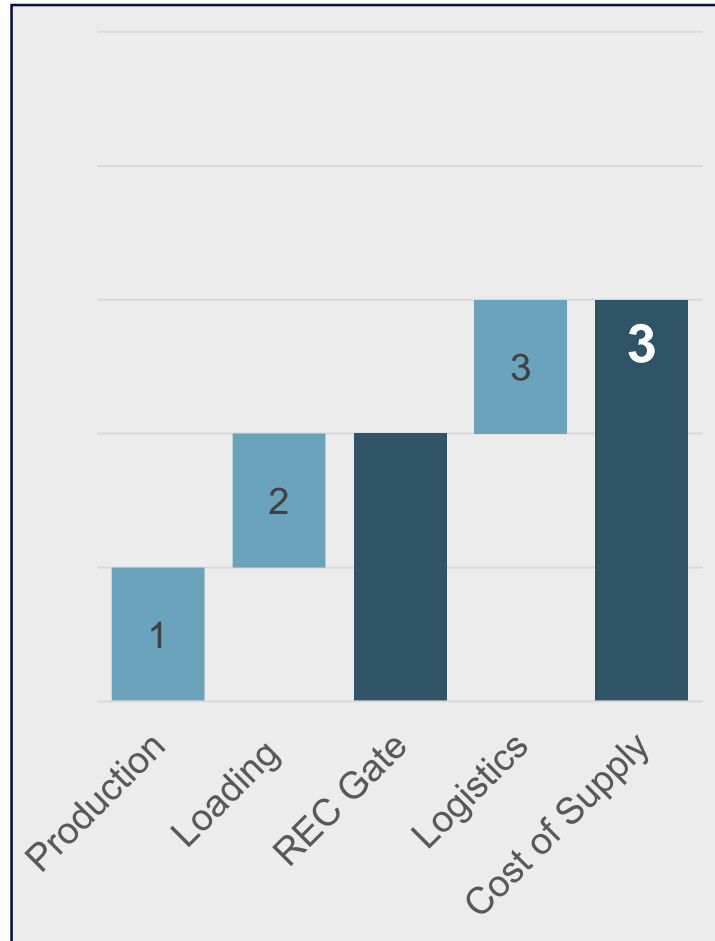
Moses Lake and Butte are the only existing silane plants in the US and Europe. Total capacity of 32,000 MT silane which is enough silicon for batteries for 2.5M EVs at current silane-based silicon anode performance. Reduces to ~1M EVs as silicon content increases in the battery.

REC Silicon is sole western silane producer; co-location critical due to silane logistics.

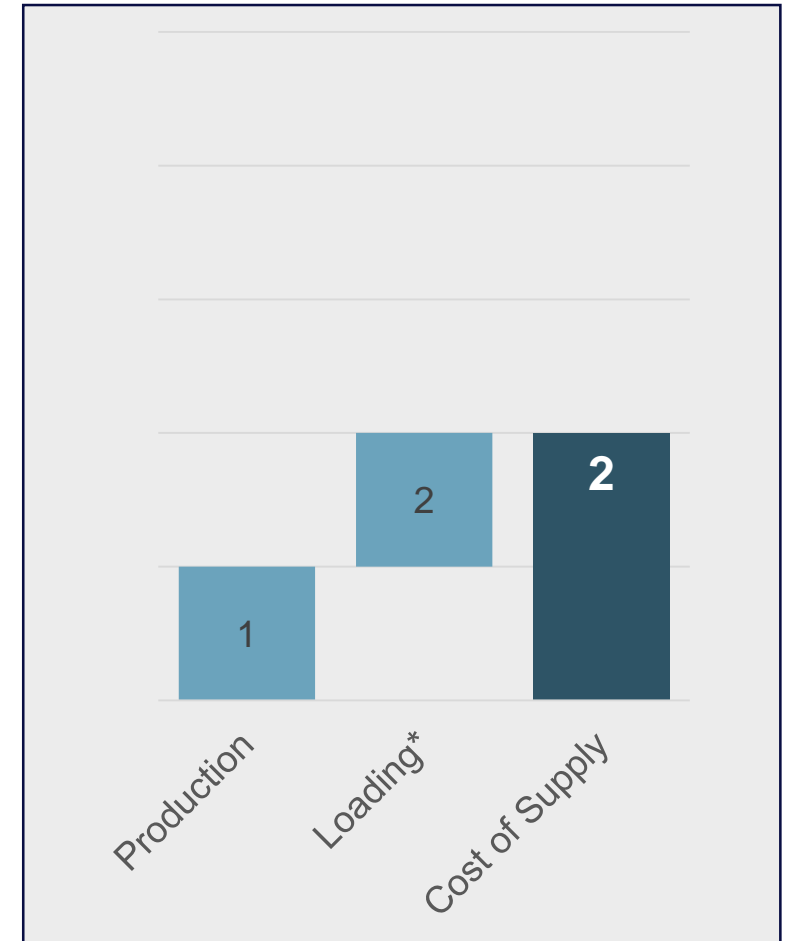
Distribution
(required steps)



Direct Procurement
(required steps)



Co-Location
(required steps)



* Lower loading cost with pipeline investment

REC Silicon has multiple avenues to fuel the energy transition.

SILANE

BATTERY VALUE CHAIN

Silicon Anodes to Drive Silane Market Expansion.

Moses Lake

- Sole major supplier of pure silane outside China
- Co-Location discussions with multiple potential partners
- ~\$1.0B gross silane plant capex

Growth Driver

SEMICONDUCTOR

Proven Global Leader.

Butte

- 3,200MT Si-gas
- Module loading

EBITDA
~\$30M

SOLAR VALUE CHAIN

Established Footprint to Capture Solar Market Upside.

Moses Lake

- Moses Lake FBR Poly: 18,000MT

Technology

- Yulin JV Technology Transfer Agreement of USD 200M

Market Inflection