



RECSiLICON



## Investor presentation

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14 October 2020

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# Risk factors (1/3)

## Macroeconomic, geopolitical and industry risk

- Trade barriers, trade restrictions and unfair trade practices has had, and continue to have, a significant negative impact on the Group's ability to sell its products at attractive terms. In particular, the Group's access to polysilicon markets in China continues to be restricted by tariffs imposed by the Chinese government on United States polysilicon, and the ongoing trade war between China and the United States is having an adverse impact on markets served by the Group's semiconductor materials facility in Butte, Montana, United States. The aforementioned circumstances, or other trade restrictions, trade barriers or trade practices, may continue which would continue to adversely affect the Group's ability to freely serve all markets.
- The creation of a functional Solar PV supply chain outside China may depend i.a. on the creation establishment of international trade barriers and agreements, and potentially further sanctions, which would require governmental initiative and support. Further, such supply chains will likely be dependent on investments in manufacturing capacity which may utilize the Group's products. Should these condition fail to materialize, this may have severe adverse effects on the potential creation of a Solar PV supply chain outside China.
- The realization of demand for the Group's products in the lithium ion battery value chain is dependent on a number of factors, such as the commercialization of current silicone anode technology, the development of new technology, and the qualification and acceptance of said technology in consumer applications. There can be no assurance that such conditions will materialize, and if they do, the Group may be subject to competition, which in either case may have severe adverse effects on the value of the Group's offering of lithium ion battery products.
- The development of the global energy market prices are of key importance to the PV industry, and declining electricity prices could potentially reduce the PV industry's demand for the Group's products significantly.
- Changes in the legislation and regulatory framework in any of the jurisdictions in which the Group is active may have a significant negative impact on the Group.
- Limited capital availability for financing PV installations could have a significant negative impact on the demand for the Group's products.
- An increase in interest rates could significantly reduce the profitability of PV plants and reduce the demand for PV systems.
- The PV industry, including suppliers such as the Group, may not be able to be competitive against other sources of renewable or conventional energy, adversely affecting demand for the Group's products.
- Significant developments in technologies and changes in market structure supply and demand could significantly alter the Group's competitive situation.
- Overcapacity in parts or all of the markets in which the Group operates could lead to a reduction in average selling prices and difficulties in keeping high capacity utilization resulting in a significant deterioration of profitability.
- Significant changes in competitive dynamics, end user demand or technology could have a significant adverse effect on the Group business, prospects, financial results and results of operations.

## Risks relating to the Group and the Business

- The Company has an indemnification loan related to the bankruptcy of a former subsidiary in 2012. At December 31, 2019, the indemnification loan is NOK 200.0 million (USD 22.8 million). The Company received a claim dated December 16, 2019 under the indemnification loan. According to the letter, the claim is based on an assumption that the loss will exceed the declared amount when the bankruptcy estates are concluded. However, the relevant bankruptcy estates have not yet been concluded, and accordingly, the amount of loss suffered by the claimant as a result of the bankruptcy cannot be calculated at this time. On this basis, as well as on basis of other uncertainties concerning the basis for the claim, the Company has responded by denying the claim. The status and timing of the indemnification loan is subject to uncertainty. The matter is presented in note 17 to the Company's 2019 annual report.
- The Company has contested Grant County Washington's valuations of taxable property. On November 8, 2018 the Thurston County Superior Court issued a ruling affirming Board of Tax Appeals (BTA) revised valuation of the Company's property for assessment year 2012. On December 4, 2018 the Company appealed this ruling to the Washington Court of Appeals. The ruling does not affect amounts reflected in the Company's financial statements and the Company will not be required to pay the disputed tax amounts until all appeals are exhausted. Assessments for the years 2013 through 2015 have also been appealed. The timing and outcome of these appeals is subject to uncertainty. The matter is presented in note 31 to the Company's 2019 annual report.
- Key customers defaulting or entering into bankruptcy, or renegotiation of contracts with key customers could have a significant negative impact on the Group's operating results.
- The Group has limited long-term agreements with its customers and accordingly is subject to short term fluctuations in demand, which could have significant negative impacts on its operating results.
- There are significant risks associated with joint ventures.
- The reduction of headcount of the Group may adversely affect both the Group's ability to maintain the application of its technology, and its ability to make the technological advancements demanded by the supply chains in which the Group operates.
- There are significant risks associated with future growth of the Group. The Group may be unsuccessful in securing the necessary financing for future investments, and future expansion projects may be significantly affected by cost overruns, schedule delays, technology risks and defects.
- The Group currently takes advantage of tax agreements and preferential tax treaties in certain territories. Such agreements and treaties are liable to change and renegotiations, which typically are outside the Group's control, that may remove some or all of the benefits the Group currently enjoys.

# Risk factors (2/3)

## Risk relating to the Group and the Business cont...

- Global economic downturn and dislocation in the financial markets may expose the Group to liquidity risk.
- Impacts of the solar trade war between China and the United States, uncertain market conditions, and reduced demand for the Company's solar grade polysilicon have increased the Company's liquidity risk. Accordingly, the Company has placed the FBR plant in a long-term shutdown to reduce spending and to maintain the liquidity necessary to maintain the operation of the semiconductor materials segment.
- The Company's bond agreement contains liquidity covenants that the Company is required to meet. If any of the risk factors presented in this section materialize, including that conditions surrounding the call of the indemnity loan or the outcome of tax examinations are negative, the liquidity risk for the Company will increase.
- Changes in the interest rates affect cash flows and the estimated fair values of assets and liabilities.
- The Group is exposed to exchange rate risks, and exchange rate changes might significantly influence the relative cost position of the Group and the estimated fair values of assets and liabilities.
- The Group will from time to time be involved in disputes and legal or regulatory proceedings.
- The continued operation in and intended expansion of the activities of the Group into additional foreign markets involves significant risks.
- The Group is dependent on a limited number of third party suppliers for key production raw materials, supplies, components and services for its products and any disruption to supply could negatively impact its business significantly.
- The Group is relying on external subcontractors and suppliers of services and goods to meet agreed or generally accepted standards.
- The Group's results of operations may be significantly adversely affected by fluctuations in energy prices.
- If the Group does not achieve satisfactory yields or quality in manufacturing its products, the Group's sales could decrease significantly and its relationships with its customers and its reputation may be harmed significantly.
- The Group relies upon intellectual property and trade secret laws and contractual restrictions to protect important proprietary rights, and, if these rights are not sufficiently protected, its ability to compete and generate revenue could suffer significantly.
- The Group may not obtain sufficient patent protection on the technology embodied in its products and production processes, which could significantly harm its competitive position and increase its expenses significantly.
- The Group's intellectual property indemnification practices may adversely impact its business significantly.
- The Group may become involved in intellectual property disputes that could be time-consuming and costly and could result in loss of significant rights and/or penalties.
- The Group may incur significant costs to comply with, or as a result of, health, safety, environmental and other laws and regulations.
- Because the markets in which the Group is active are highly competitive and many potential competitors may have greater resources, the Group may not be able to compete successfully and may lose or be unable to gain market share.
- The Group depends on certain executive officers and other key employees and qualified personnel in key areas.
- The Group could be seriously harmed by catastrophes, natural disasters, consequences of climate change, operational disruptions or deliberate sabotage.
- The Group could be seriously harmed by incidents resulting in damages not covered by insurance.
- The Group's insurance policies need regular renewal and the Group cannot guarantee that these renewals can be made on the same terms as existing policies or that the Group will be able to obtain insurance on normal and acceptable terms.
- There are risks related to unanticipated technology problems and deliberate attacks to the Group's telecommunications and information technology systems.
- There are risks related to estimation uncertainty, as the assumptions used as basis for management's estimations are inherently uncertain and unpredictable and, as a result, future estimates and actual results may differ from the current estimates.
- The Group's assets may be subject to further impairment of asset values.
- The Company has debt commitments, and it may not be able to service such debt commitments in the future.

Each of the partnerships with Violet Power and Group14 is at this stage based on a Memorandum of Understanding and no final and binding agreements with respect to the partnerships contemplated thereunder have been entered into. There can be no assurances that such final and binding agreements will be entered into or on what terms such final and binding agreements will include."

# Risk factors (3/3)

## Risks relating to the Shares

- The Shares may not be a suitable investment for all investors. An investment in the Company's shares involves risk of loss of capital. The market value of the shares may fluctuate significantly in response to a number of factors beyond the Company's control.
- The Company may in the future decide to offer additional Shares or other securities in order to finance its operation or service its debt, in connection with unanticipated liabilities or expenses, or for any other purposes. Depending on the structure of any future offering, certain existing shareholders may not have the ability to subscribe for or purchase additional equity securities. If the Company raises additional funds by issuing additional equity securities, holdings and voting interests of existing shareholders could be diluted, which may adversely affect return on investment on the Company's shares. This risk would be increased in the event that the development of a supply chain outside China or the realization of a demand for the Group's lithium ion battery products fails to materialize, or are delayed vs projections.
- Beneficial owners of the Shares registered in a nominee account (through brokers, dealers or other third parties) could be unable to exercise their voting rights for such Shares, unless their ownership is re-registered in their names with the VPS prior to any general meeting of shareholders. There is no assurance that beneficial owners of the Shares will receive the notice of any such general meeting in time to instruct their nominees to either effect a re-registration of their Shares or otherwise vote their Shares in the manner desired by such beneficial owners.
- The Company is a public limited liability company organised under the laws of Norway. The members of the Company's Board of Directors reside in Norway. As a result, it may not be possible for investors to effect service of process in other jurisdictions upon such persons or the Company, to enforce against such persons or the Company judgments obtained in non-Norwegian courts, or to enforce judgments on such persons or the Company in other jurisdictions.
- U.S. holders of the Shares may not be able to trade or exercise pre-emptive rights for new Shares unless a registration statement under the U.S. Securities Act is effective with respect to such rights or an exemption from the registration requirements of the U.S. Securities Act is available. The Company is not a registrant under the U.S. securities laws. If U.S. holders of the Shares are not able to trade or exercise pre-emptive rights granted in respect of their Shares in any rights offering by the Company, then they may not receive the economic benefit of such rights. In addition, their proportional ownership interests in the Company will be diluted. Similar restrictions may apply to other foreign holders of Shares, including, but not limited to shareholders in Australia, Canada, Hong Kong, Japan and Switzerland.
- Norwegian law provides that any declaration of dividends must be adopted by the shareholders at the Company's general meeting of shareholders. Dividends may only be declared to the extent that the Company has distributable funds and the Company's Board of Directors finds such a declaration to be prudent in consideration of the size, nature, scope and risks associated with the Company's operations and the need to strengthen its liquidity and financial position.
- The Shares may be subject to purchase and transfer restrictions.
- Shareholders may face currency exchange risks or adverse tax consequences by investing in the Shares denominated in currencies other than their reference currency.
- The Company's bond agreement contains restrictions in the Company's ability to declare dividends.
- The insolvency laws of Norway may not be as favorable to Shareholders as insolvency laws of other jurisdictions and may preclude the holders of the Shareholders from recovering payments due on the Shares

## Agenda

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1. Introduction and Summary
2. Q3 2020 Preliminary Financials
3. Semiconductor Update
4. PV Market Update
5. Battery Opportunities
6. Yulin JV Update
7. Financials
8. The Road Ahead

# REC Silicon - proven leader in silane/polysilicon technology

Lowest cost and carbon footprint manufacturer

## Global leader in the silicon industry

- › Moses Lake Washington
  - State-of-the-art FBR technology
  - Hydroelectric power
- › Butte, Montana
  - State-of-the-art silicon gas technology
  - Largest silicon gas distribution infrastructure
  - Highest purity float zone polysilicon
- › Present in China through a JV with Chinese partner since 2014
- › Listed on the Oslo Stock Exchange under the ticker REC

- ◆ Moses Lake, WA, USA
- ◆ Butte, MT, USA
- ◆ HQ: Oslo, Norway
- Yulin JV, Shaanxi, PRC
- Sales offices; Seoul, South Korea
- Shanghai, PRC
- Taipei, Taiwan
- Tokyo, Japan



## Two modern manufacturing plants and one JV



### Moses Lake, Washington (USA)

- › Silane capacity 25,000 MT
- › FBR capacity 18,000 MT
- › The largest granular polysilicon production plant outside China

### Products

- ✓ Polysilicon Fluidized Bed Reactor ("FBR")
- ✓ Silane gas



### Butte, Montana (USA)

- › World's largest supplier of silicon gas – 3,500 MT
- › Highest quality semiconductor polysilicon

- ✓ Polysilicon (Siemens)
- ✓ Silane gas



### Joint Venture, Yulin (China)

- › Started up in December 2017
- › 15% ownership
- › REC only international player with presence in China

- ✓ Polysilicon (FBR)
- ✓ Polysilicon (Siemens)
- ✓ Silane gas



# REC Silicon positioned to take advantage of the electrification decade

NOK 1bn private placement establishes financial flexibility for potential Moses Lake restart - decision targeted within next 12 months





The logo for RECSiLICON is displayed in a bold, blue, sans-serif font. The 'i' in 'SiLICON' is lowercase and italicized. The background of the slide features a low-angle shot of a modern building's golden metal framework against a clear blue sky with a bright sun flare in the upper left corner.

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## Q3 2020 Preliminary Financials

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# Preliminary Q3 2020 highlights

**Revenues:               \$30.3M**  
**EBITDA:                 ~\$ 1.0M**

## **September 30, 2020 cash balance of \$35.9M**

- Cash increase of \$4.3M

## **Silicon gas sales**

- Sales volume of 746MT (vs. 831MT in Q2'20)
- 3.4% Silane gas price increase vs. Q2'20

## **Semiconductor segment polysilicon sales**

- Semiconductor grade polysilicon sales volume of 174MT
- 9.0% Semiconductor grade polysilicon price increase vs. Q2 '20

## **Tax examination by Norwegian Central Tax Office dropped**

- Results in reversal of \$21.9M Tax Liability and \$4.6M Accrued Interest Expense
- Increase of \$26.5M in Shareholders' Equity

# Preliminary Q3 2020 key metrics

## Polysilicon Sales Volume \*\*

Total	401MT
Inventory Decrease	163MT

## Total Polysilicon Production

Actual	237MT
Prior Quarter*	234MT
Increase	1.5%

## Semiconductor Production


Actual	167MT
Prior Quarter*	136MT
Increase	23.4%

## Silicon Gases Sales Vol.

Actual	746MT
Prior Quarter*	831MT
Decrease	-10.2%

\* Second Quarter Results Released July 23, 2020

\*\* Excludes Fines and Powders



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## Semiconductor Update

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Butte, MT

# Butte has a unique position, positive outlook and high barriers

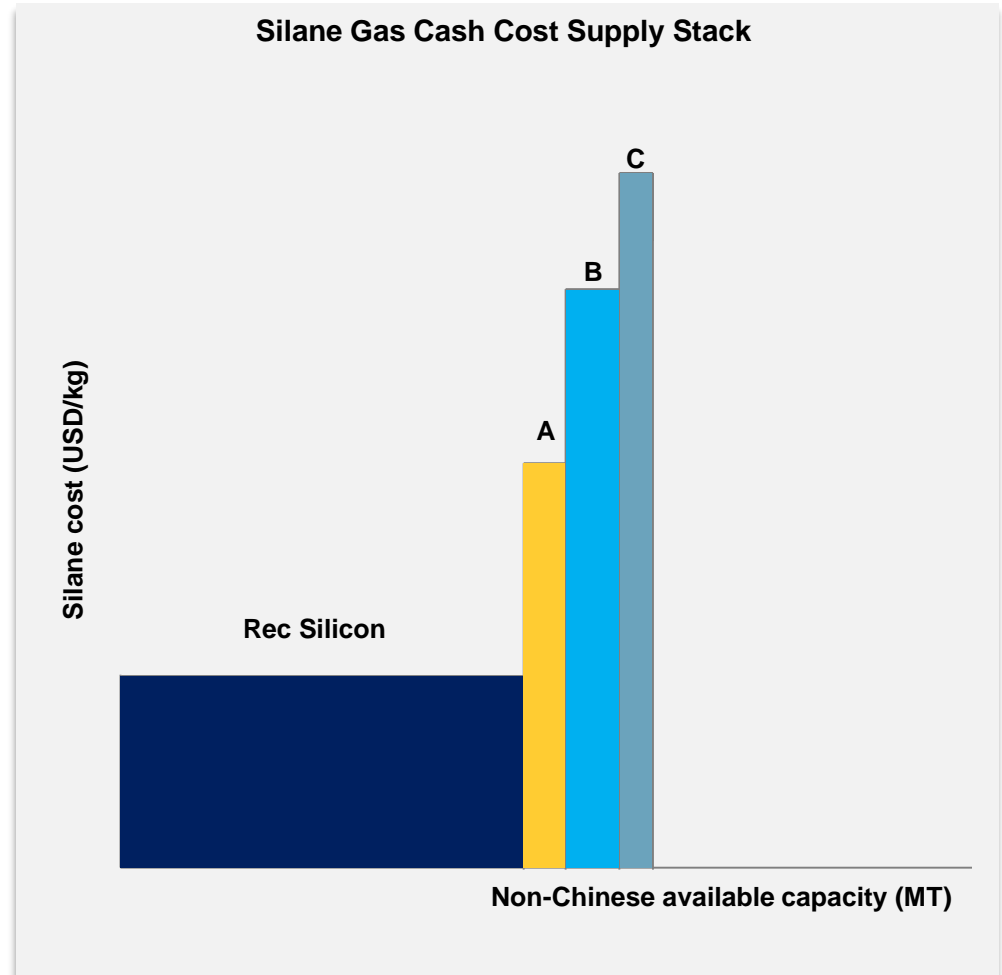
**REC Silicon is the clear market leader with lowest cost**

## Silicon Gas advantages

- > Largest producer and distributor of Silane Gas
  - Unmatched experience and safety record
  - Recognized product quality and reliability
  - ~70% semiconductor market share
  - Cash cost lower than closest competitor
  - Available capacity to support market growth
  
- > DCS
  - Recognized as highest purity material available
  - Aligned with top three consumers globally
  - Need additional capacity to meet customer growth
  
- > DiSilane
  - Current capacity constrained capability
  - Lowest cost
  - Need additional capacity to meet customer growth

## Infrastructure to protect market share

- Largest module fleet globally (30x closest competitor)
- Secure distribution channels



# Butte is *the only* large capacity silicon gas provider

Largest module fleet globally, established distribution infrastructure & proven safety record

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

**Prior 12-month EBITDA contribution:**

**\$30M**



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## PV Market Outlook

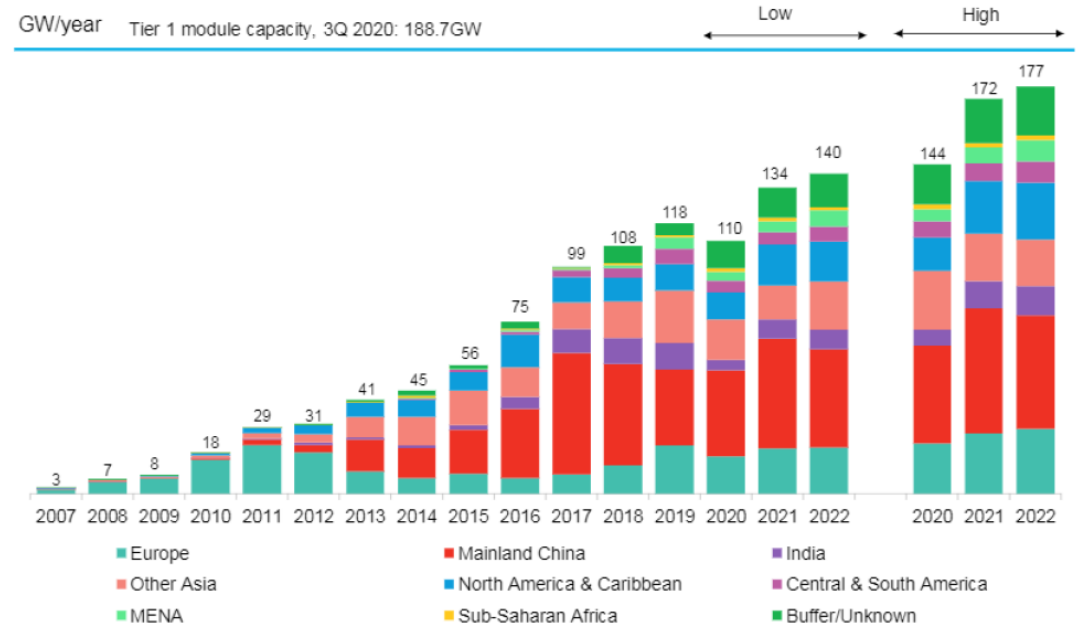
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Moses Lake, WA

# Strong PV demand expected in the next years

- › Global demand expected to rebound with solid growth
  - EU Green Deal
  - Annual US installation ~18 GW
  - China installations remain steady ~40 GW per year
  - APAC and MEA increased PV installation
  
- › Levelized Cost of Electricity (LCOE) dropping faster than forecasted improves competitiveness
  
- › Focus on reducing CO<sub>2</sub> leads to demand growth
  
- › 2022 Installation forecasted to be 140-177 GW

**Figure 1: PV new build, historical and forecast**



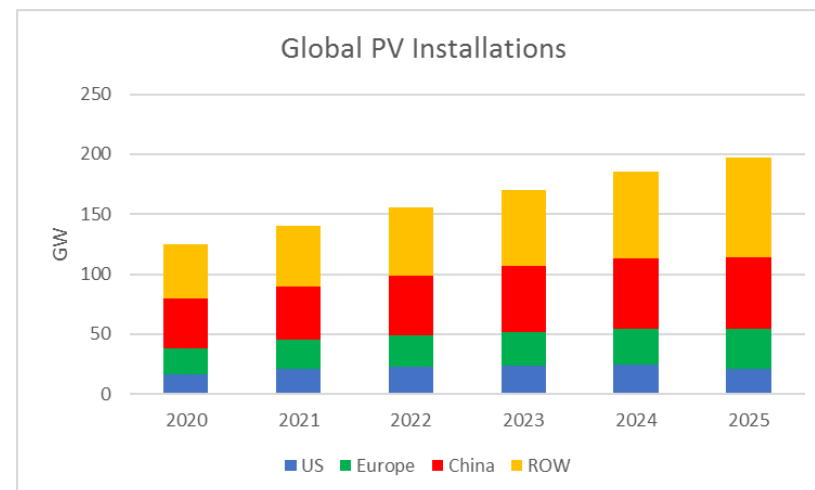
Source: BloombergNEF. Note: Full, updated data [here](#).



# Solar market divided into four major markets

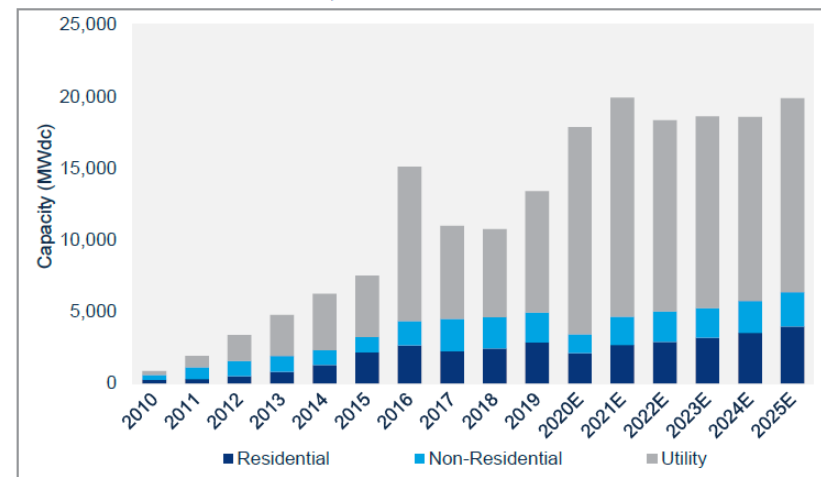
US, Europe & China + Rest of the World

- › China 2020 ~40 GW
  - 2060 Carbon Neutral pledge
  
- › US 2020 ~18 GW
  - Federal and State support
  - Corporate carbon targets
  - Residential market strength
  - ESG preferences
  
- › Europe 2020 ~20 GW
  - Low Carbon focus
  - Green Hydrogen support
  - Covid-19 stimulus investments
  
- › ROW 2020 ~ 40 GW
  - Lowest cost alternative
  - Power infrastructure not available
  - Renewable targets



Source: PV InfoLink, REC Silicon Market Research

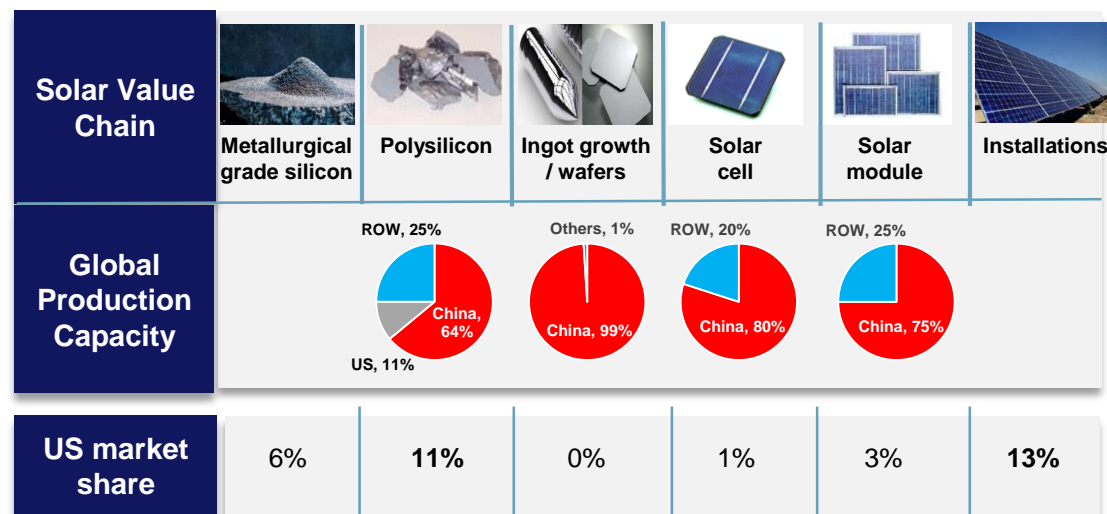
## U.S. PV installation forecast, 2010-2025E



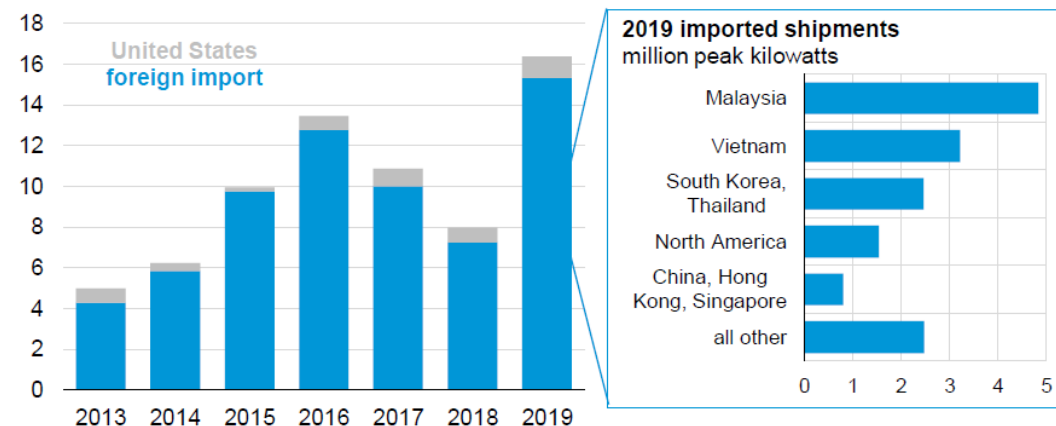
Source: Wood Mackenzie

# US currently dependent on China for imported solar panels

- › US polysilicon production can currently support 18 – 20 GW of installations
  - REC Silicon: 5 GW
  - Hemlock 7-8 GW
  - Wacker: 6-7 GW
- › Despite adequate polysilicon production, US remains dependent on China for wafers, cells and modules
- › In 2019, >90% of solar panels installed in the US were imported from mostly Chinese-owned companies located outside China to avoid US tariffs



Annual U.S. solar photovoltaic shipments, by country of origin (2013–2019)  
million peak kilowatts



Source: U.S. Energy Information Administration, *Annual Solar Photovoltaic Module Shipments Report*

# Momentum building to re-establish non-Chinese supply chain

- › Covid-19 has increased political awareness of China reliance and created calls for more manufacturing re-shoring or on-shoring
- › The European Commission Green Hydrogen Agenda over the next decade calls for:
  - 340 Billion Euro in solar and wind investment
  - 120 GW of renewable capacity
  - Re-shore manufacturing to Europe
- › US Support for “Made in USA” & re-shoring supply chains from China
  - Push to re-shore semiconductor
  - Clean energy dependence on China is not acceptable
  - Solar energy manufacturing provides high tech manufacturing jobs
  - Environmental Social Governance (ESG) focus
- › Section 201 bifacial exemption closed
  - Tariff rate raised in fourth year and authority granted to extend
- › China’s Phase 1 commitments intact
  - US Government recognition of strategic importance of US polysilicon
  - US has enforcement options
  - COVID-19 causing delay and complication



# Several initiatives to build a Non-Chinese PV value chain

- › NorSun is the major non-Chinese ingot and wafer producer
  - <1% of total capacity
- › Several non-Chinese solar initiatives have emerged recently
- › New capacity is coming online enabling US and Europe to be self-reliant
- › Ultra Low-Carbon Solar Alliance to promote ultra-low carbon PV in the US

## 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**



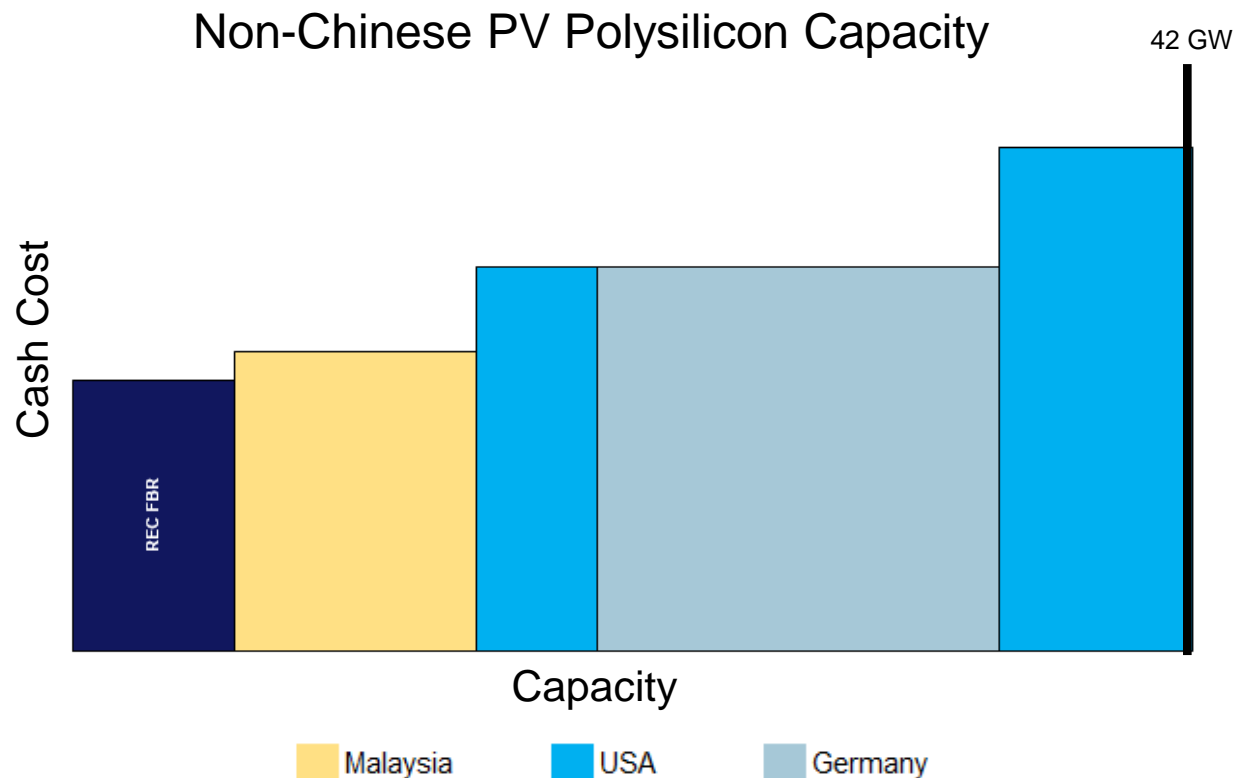
**5 GW of cell and module capacity in Germany**



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

# Polysilicon capacity sufficient to support demand in US/EU

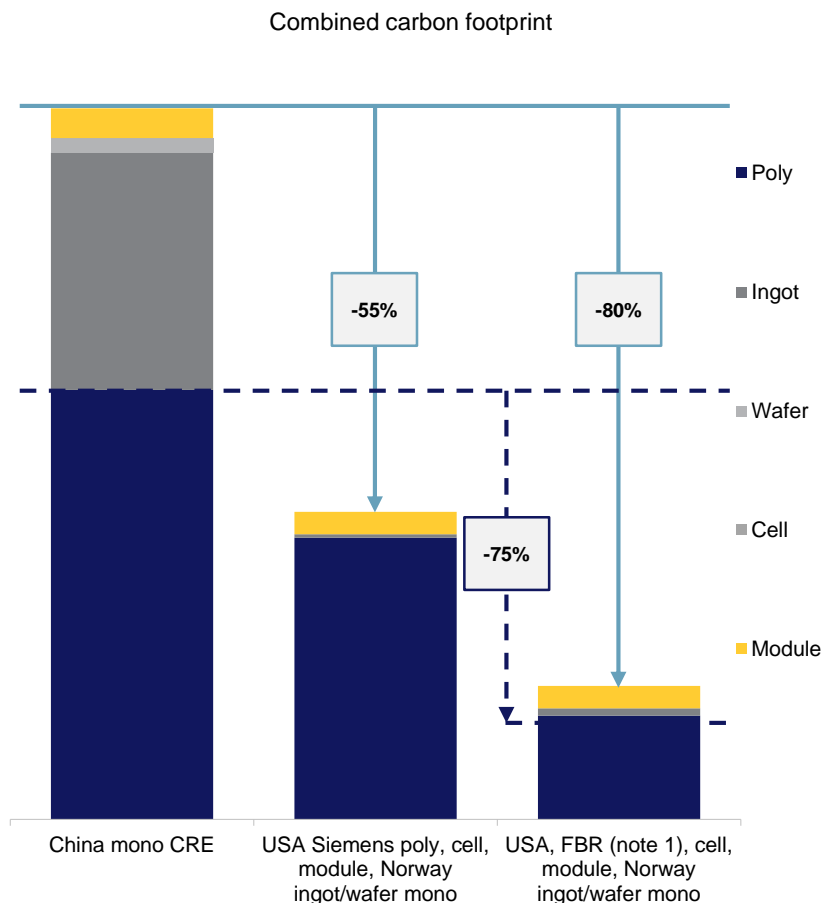
- › Prices in the long-run must exceed cash cost
- › Marginal cash cost estimated at USD 15/kg
- › REC produced polysilicon has low cash cost and CO<sub>2</sub> footprint
  - FBR technology
  - Hydroelectric power supply



Source: CSIA and REC market research June 2020. \*Assuming 100% utilization. Based on 2018 numbers (~60% utilization), REC had a variable cost including SG&A of USD ~10/kg

# Corporate and regulator push for low carbon footprint

## Module carbon footprint using French CRE standard



Note: FBR = Fluidized Bed Reactor

## Moses Lake FBR has substantially less carbon emissions

- › France & South Korea have established programs to incentivize solar.
  - Significant advantages non-Chinese collaboration
- › Similar programs expected to become widespread in mature markets
  - EU talking carbon border tax
  - Japan, Australia consider similar measures
  - Large Company focus on ESG and carbon reduction (Microsoft, Facebook, Amazon, Google)
- › Siemens polysilicon combined with coal-fired power is the primary contributor to carbon emissions for panels
  - Limited opportunities to change carbon footprint overall in downstream processes
- › Solar ingots made in Norway provide a significant carbon footprint reduction due to hydroelectric power and cooling water

## An ESG story in the making?

	FBR	Germany	China
CO <sub>2</sub> (kg) per Polysilicon (kg)	30	87	141
Spread versus China (kg)	111	54	0
CO <sub>2</sub> price (USD/kg)	0.03	0.03	0.03
<b>CO<sub>2</sub> cost savings per kg poly</b>	<b>3.3</b>	1.6	0.0

Source: Kepler Cheuvreux



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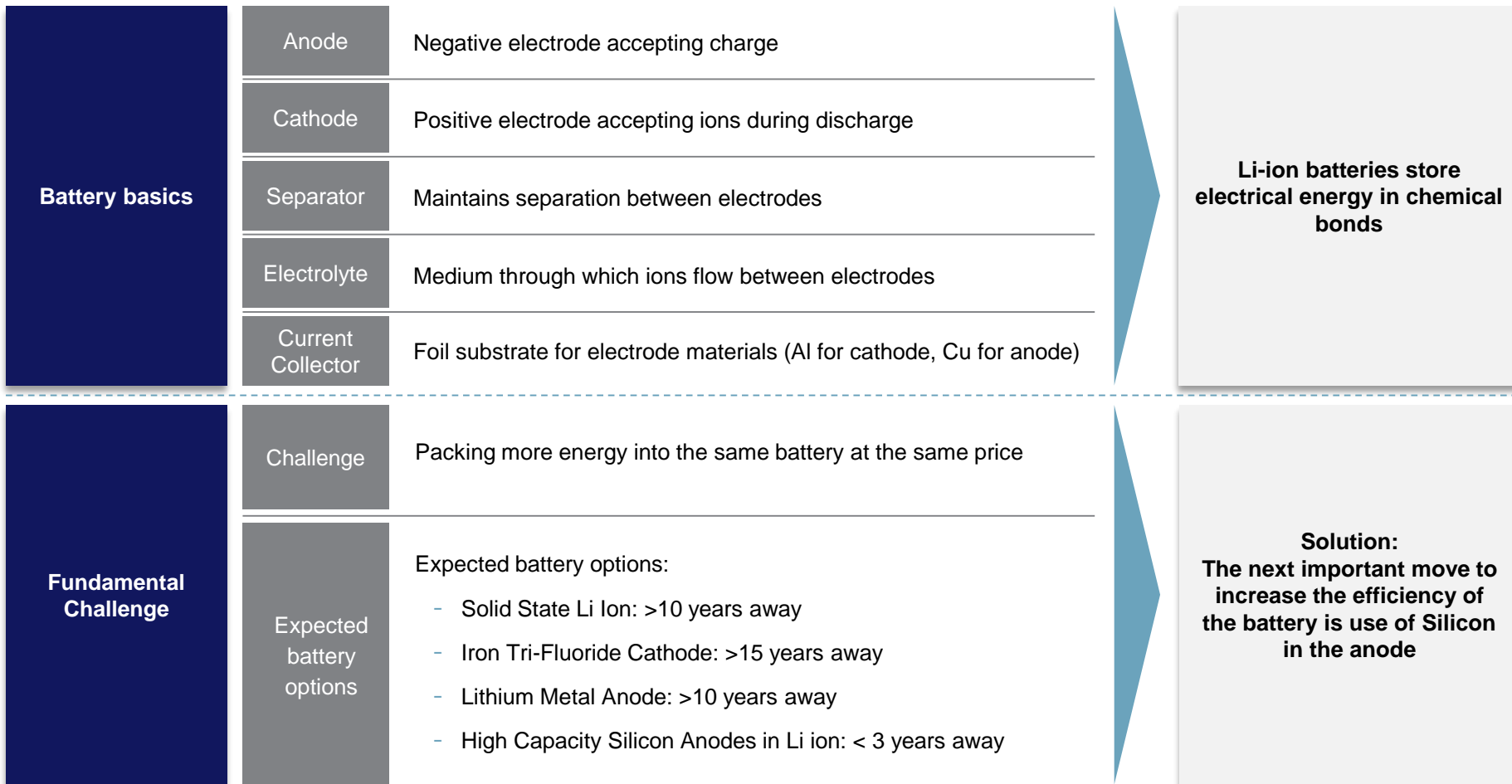


## Battery Opportunities

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Moses Lake, WA

# Silane gas enables more effective battery technology





# Silane gas unlocks fast charge & increased range

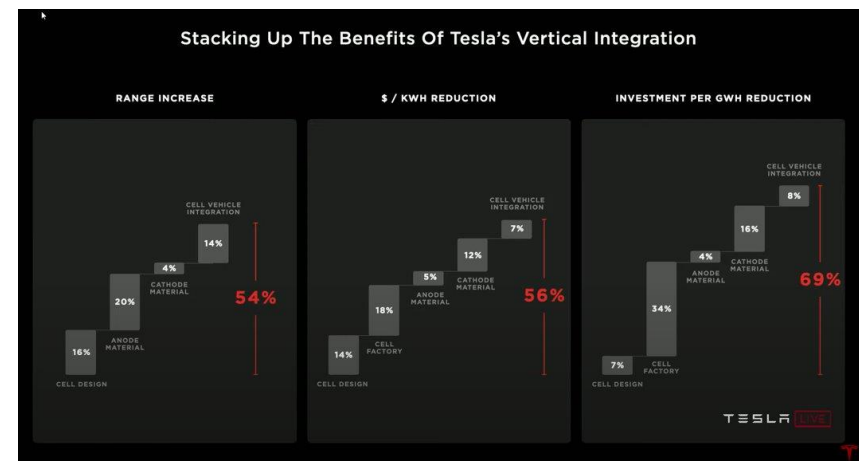
## Silane SiH<sub>4</sub> in Next Generation Advanced Anode Material

- › Next Generation silicon anode materials using silane achieving 20%-30% increased performance
  - › ~50% performance increase within time
  - › Will provide better value than graphite
- › Next generation silicon anode technologies require high purity silicon from silane
- › Advantages: Improves energy density, reduces battery weight and costs, unlocks cathode capacity, increases the power acceptance allowing **faster charging and longer range**

Advanced silicon anode material utilizing silane is “drop in” solution to replace graphite = 20% - 50% performance improvement and commensurate cost reduction levels

## Tesla Battery Day September 2020

- › Tesla is currently using silicon in its batteries
  - › In the form of silicon oxide
- › Tesla’s next-generation battery will use powdered silicon
  - › Expected in 2-3 years
  - › Appears to be lower performance than silane-based silicon anode materials and incremental improvement to current technology



# Major European car companies prioritize advanced Si anodes


Mercedes-Benz has extensive in-house battery R&D, and also works closely with key strategic development partners

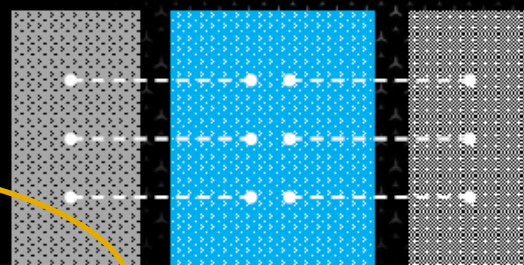
## Next-gen battery development

### Cell format and production

- Continuous assessment of different cell architectures
- Internal design of new manufacturing techniques and joint development of processes with strategic partners

### Anode - increase energy density

- Silicon based anodes: strategic partnership with  (specific anode material, capacity, and energy density)
- Lithium metal anodes (specific energy density on cell level)



### Simulation - speed up battery development

- Improvement of simulation methods by digital twin simulation (physic based models, matching model vs. reality, multilevel simulations)

### Cathode - sustainability and cost reduction

- Reduction of cobalt as our contribution to sustainability by increase of nickel-rich cathodes
- LFP cathodes as cost optimized entry type option

### Electrolyte - increase safety

- Optimized electrolytes to significantly improve overall cell performance (lifetime, power) and solid-state electrolyte for high energy density chemistries and intrinsic stability

Source: Daimler Strategy Presentation, on October 6, 2020

# Cooperation with leading silicon anode companies

## Drives battery development and growth of EVs

# GROUP14

### Group14 Partnership

- › Group14 Technologies (Group14) pilot plant for advanced silicon anode material on-going at REC in Moses Lake
- › REC and Group14 partnership to build 12,000MT nameplate capacity advanced silicon anode manufacturing plant co-located at REC's facility in Moses Lake
  - › Expected to break ground in 2021
  - › REC to supply silane via pipeline
  - › REC & Group14 to develop pipeline infrastructure
- › First commercial scale silicon anode manufacturing plant globally
- › Industry-leading investors include BASF, ATL, Showa Denko, Cabot, & OVP Venture Partners



### Market Leading Si Anode Makers

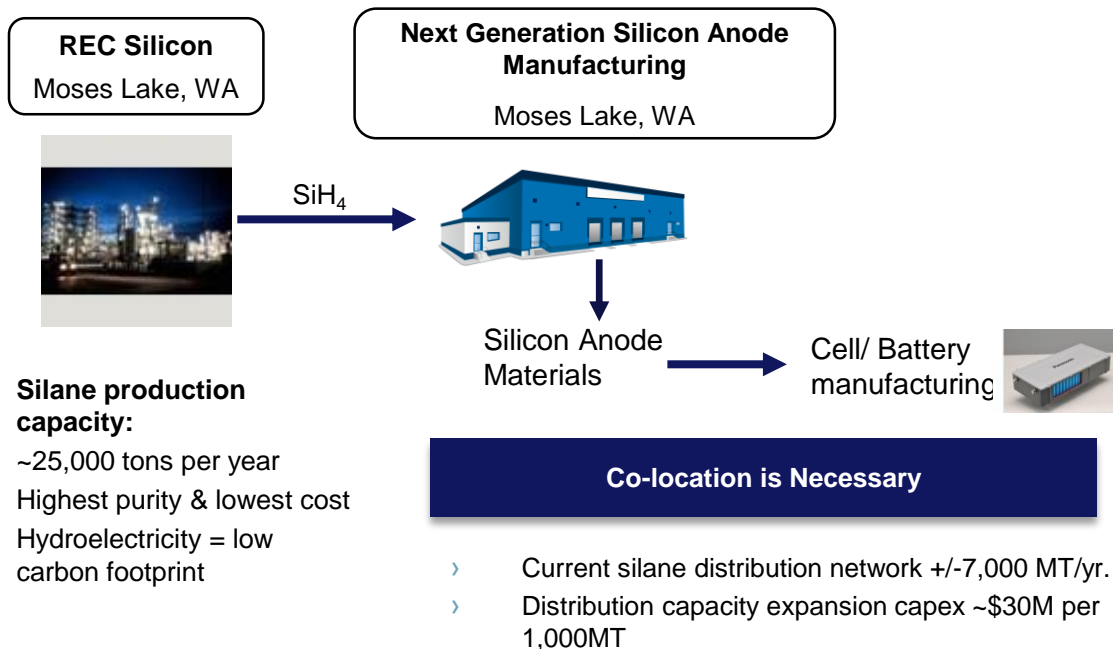
- › REC supplying silane to several silane anode industry leaders, including those partnering with leading car companies
- › Large quantities of silane forecasted for battery & EV demands

Group14 anticipate entry to the EV market in 2023, overtaking less advanced silicon anodes by 2024  
 High performance silicon anode batteries facilitate cost competitiveness of EVs with ICEs

# REC well positioned to supply global market with silicon gases

## REC Silicon Moses Lake

## REC Silicon Butte



- > Largest producer and distributor of Silane Gas
- > Unmatched experience and safety record
- > Recognized product quality and reliability
- > ~70% Semiconductor market share
- > Infrastructure to protect market share
- > Large module fleet
- > Secure distribution channels
- > Available capacity to support market growth

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.

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Yulin JV Update

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# Yulin, China – REC Silicon presence in Chinese market

## Plant characteristics

- › Construction completed in 2018
- › Large scale silicon manufacturing facility with
  - 19,000 MT FBR-B granular Polysilicon
  - 300 MT Siemens semiconductor grade Polysilicon
  - 500 MT Silane Gas loading

## Positioned to capitalize on growing PV industry

- › FBR-B is semiconductor grade capable which is optimal for monocrystalline PV applications
  - Tested and approved by the largest mono wafer company
- › Current REC ownership of 15%, option to increase exposure to 49% from January 2021
- › Continued support from REC Silicon to Yulin JV agreed



## Near Term Outlook

- › Q3 Production
  - 49.6 MT of Loaded Silane
  - 1,300 MT of FBR Granular
  - 19 MT of Siemens
- › Q2 FBR production reduced from plan due to Covid-19 impacts including insufficient FBR liner supply

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## Financials

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## Key assumptions – Moses Lake

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### Moses Lake ambitions (per annum)

FBR Production	6,900 MT
Silane Gas Sales Volume	7,700 MT
Annual Revenues	USD 225m
Silane Capacity Utilization	75%
Moses Lake EBITDA Contribution	>USD 100m

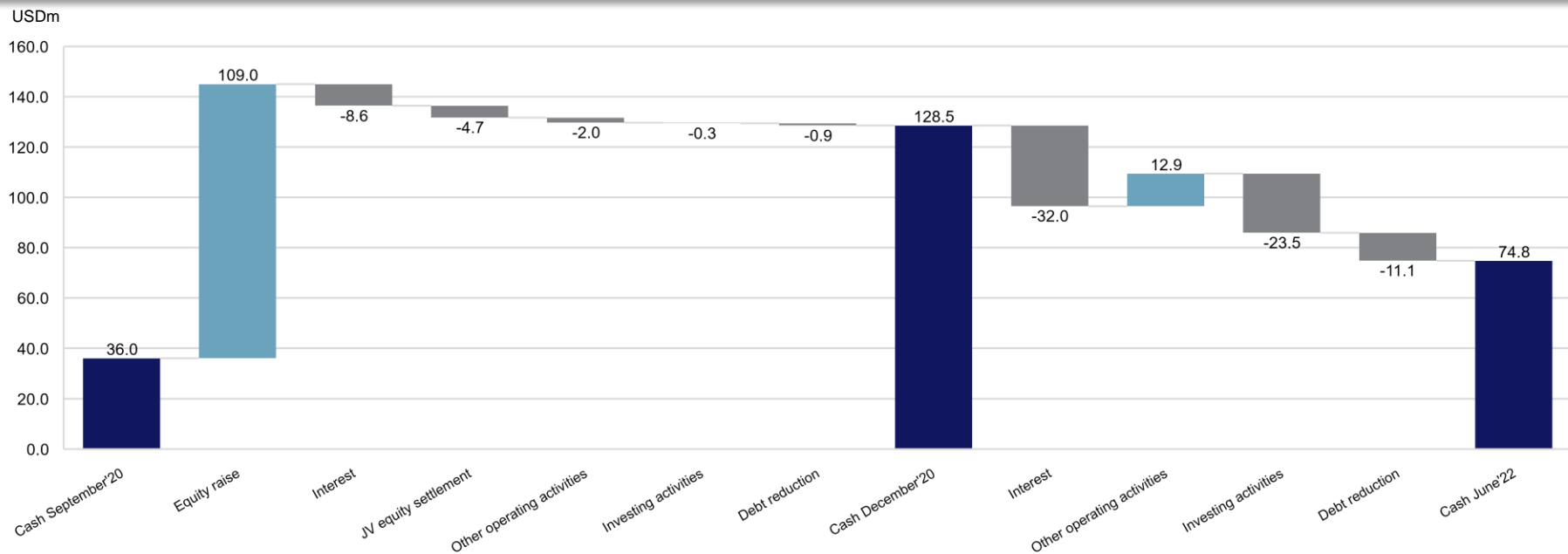
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- › Estimated polysilicon production cash cost < \$10/kg at 75% utilization
  - Lowest production cost outside China
  - Higher volumes will leverage per unit production costs lower
- › Moses Lake expected to contribute >\$100M of EBITDA per year at 75% utilization



# Contemplated equity raise provides liquidity and financial flexibility

## Estimated liquidity development through June 2022 (USDm)



### > NOK ~1bn equity raise provides financial flexibility

- **~\$13.3M for business development**
  - \$5.0M DCS expansion
  - \$2.7M DiSilane expansion
  - \$4.6M to prepare for Moses Lake Restart
- **Estimated investment of ~\$60M needed to restart Moses Lake**
- CAPEX: ~\$25M      - Incremental Expense ~\$10M      - Working capital: ~\$25M
- **~\$95.7M general use**
  - Meet operating cash flow requirements
  - Maintain facilities and capabilities
  - Meet debt service obligations (inter alia)

# Preliminary debt at September 30, 2020

## Nominal debt - \$211.7M

- › Increase of \$1.3M in Q3'20
  - \$0.7M Increase in lease liabilities (IFRS 16)
    - \$0.8M Increase due to deferral of payments
    - (\$1.5M) Repayment of lease liabilities
  - \$0.6M Increase due to a weaker USD relative to the NOK

## Nominal net debt - \$175.9M

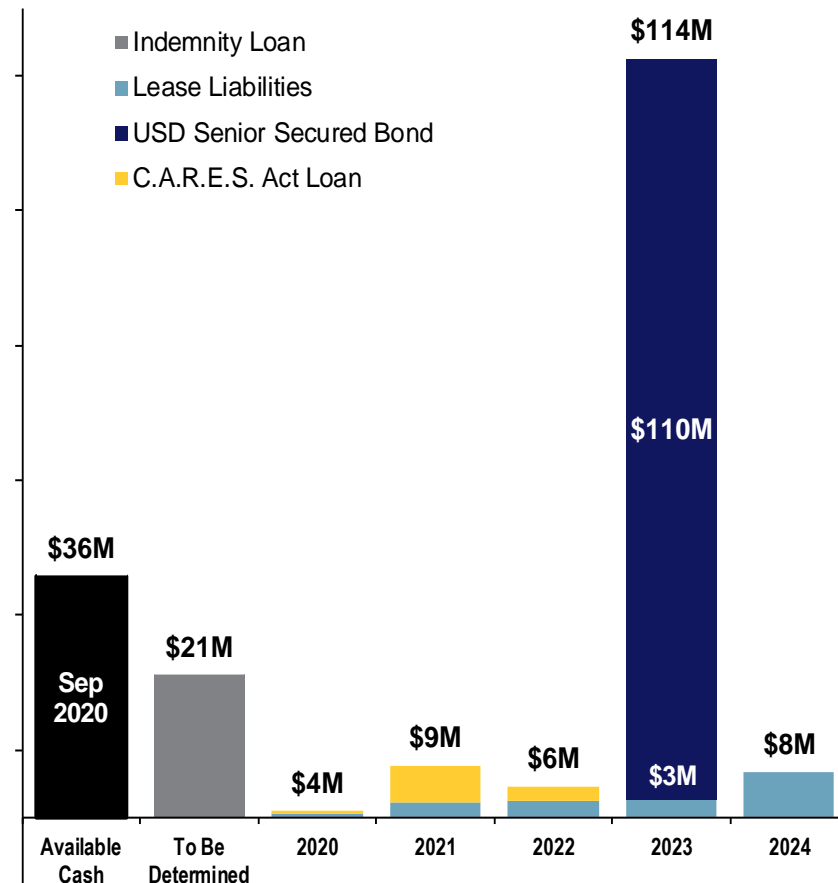
- › Decrease of \$2.9M in Q3'20
  - Increase in cash of (\$4.2M)
  - Increase in nominal debt of \$1.3M

## Contingent Liabilities

- › Reassessment of tax - resolved
- › Indemnity loan - \$21.1M
- › 2012 Property tax appeal - \$8.1M

## Maturity profile

USD Million



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The Road Ahead

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# Fundamentals improving

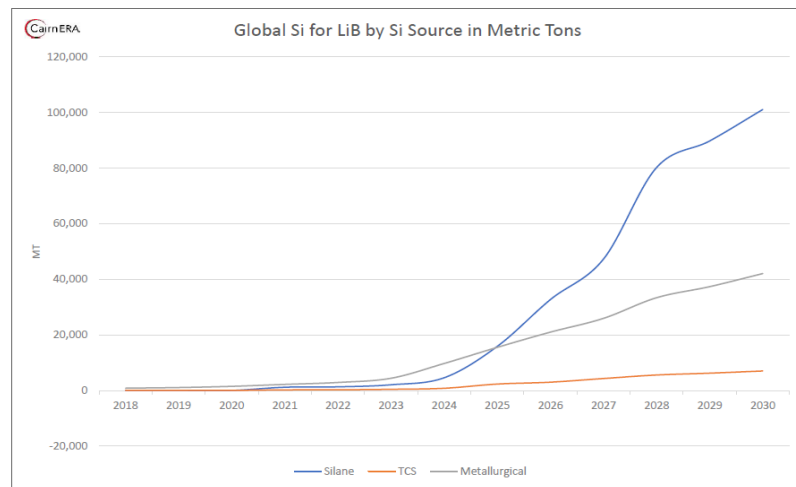
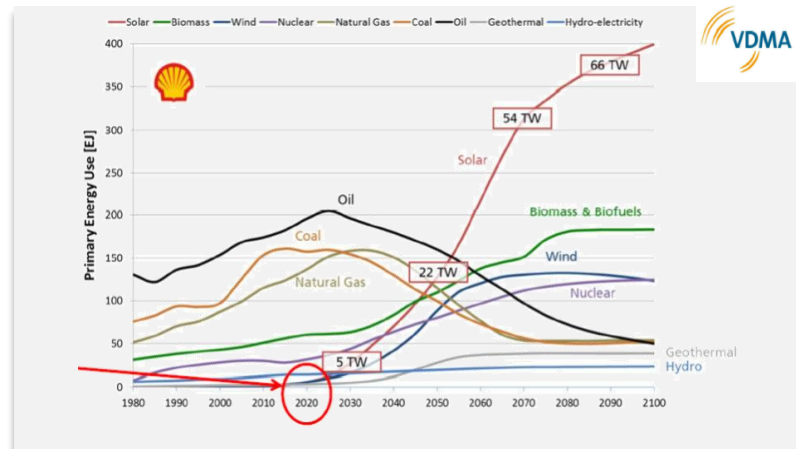
## Targeting Moses Lake restart decision in 2021

### Summary of equity story elements

- Positive PV market development, and robust rationale for establishment of non-Chinese value chain
  - Planned investments of up to USD 4.5m in long-lead activities during next 12 months to restart Moses Lake
  - Moses Lake expected to yield USD >100m of EBITDA p.a. vs Improvement & restart cost of USD \$45M capex & \$16M restart costs
- Battery market opportunities emerging, partnerships with multiple companies with attractive economics for REC
  - Limited capex by REC coupled with substantial upside - Moses Lake silane capacity supporting battery anodes for 1-2 million EVs
- Clarification of REC's legacy issues, reducing risk and enabling full focus on business development

**Establishing extended runway for REC towards final decision on Moses Lake restart targeted by year-end 2021, securing attractive upside potential based on developments in both PV and battery markets**

### EU primary energy use and global batteries capacity



# Positive developments in contingent liabilities

## CTO Claim

- › REC received information from the Norwegian Tax Administration (CTO) through counsel on September 30, 2020 that the issues raised to deny deductions during tax years 2009 through 2011 have been dropped.
- › Given the elapsed time and after examination, the CTO also did not find a reason to move forward on the other issues raised in the draft decision including the classification of capital inflows as equity deposits.
- › The resulting decrease in short-term liabilities of approximately USD 26.5 million, income tax benefit of approximately USD 21.9 million, and the reversal of interest expense of approximately USD 4.6 million will be reflected in REC's third quarter 2020 financial results.

## Grant County property tax

- › The Company has appealed property taxes in Grant County, Washington. The Company has received rulings which affirmed the Board of Tax Appeal's revised valuation of REC property for assessment year 2012. Appeals may still be made to the Washington Supreme Court, but the Court must exercise discretion to hear the case.
- › REC has also appealed the assessments for years 2013 through 2015. These appeals are stayed by the Washington State Board of Tax appeals until year 2012 is finally resolved.
- › REC will not be required to pay the approximate liability of USD 8 million for tax year 2012 until all appeals are exhausted. The timing and outcome of these appeals are subject to uncertainty.
- › There have been active, constructive and positive dialogue with commissioners of Grant County of late, increasing the likelihood of an amicable settlement of the case in the near future which would reduce RECs maximum exposure. However, until agreements are entered into and final, there can be no assurance that any such settlement will in fact be concluded.

## Indemnity loan

- › The indemnification loan is related to the bankruptcy of a former subsidiary in 2012 and at March 31, 2020, the loan is NOK 200 million (USD 19M).
- › REC received a claim at the end of 2019 for NOK 150 million from Nordea. REC responded by denying the claim. The status and timing of the indemnification loan continues to be subject to uncertainty.

# Near term market opportunities

## Group 14 Partnership

- › Group14 pilot plant testing on-going at REC Moses Lake
- › REC & Group14 partnership collaboration regarding Group14's planned 12,000MT nameplate capacity silicon carbon anode production facility co-located with REC in Moses Lake
- › REC to supply silane via pipeline
- › REC & Group14 to develop pipeline infrastructure
- › First commercial scale advanced anode material production facility globally



## Violet Power Partnership

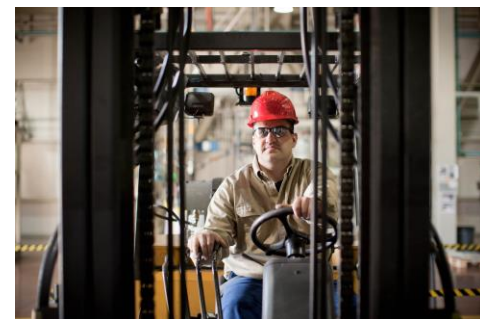
- › Violet Power solar cell & module production co-located with REC in Moses Lake
- › Violet Power 500 MW in 2021, scaling to 5 GW, leading IBC technology
- › REC & Violet Power partnership collaboration regarding ingot/wafer supply
- › REC to supply low carbon high quality FBR polysilicon to meet Violet's high efficiency wafer specification
- › REC & Violet to collaborate on non-China ingot & wafer solution
- › REC & Violet to build out US solar supply chain, including ingot/wafer located in the United States



**REC to become leading provider US produced silane and polysilicon to US solar supply chain & battery supply chain**

# 2021 business plan for REC Silicon

- › Continue to operate stable and profitable Butte facility
  
- › Restart of the Moses Lake FBR polysilicon plant dependent upon some combination of:
  - Compliance by China with Phase 1 Trade Agreement commitments
  - Development of a non-Chinese PV value chain
  - Agreement with silicon anode battery companies for pilot testing and industrial scale production of silicon anode materials
  
- › Continued support from REC Silicon to Yulin JV



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Q3 2020 Reporting  
October 29, 2020

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