

## **Revolutionizing Wafer Production**

NREL Industry Growth Forum / Emerging Markets Day May 8–10, 2019

### NexWafe – the most disruptive technology in photovoltaics

Background	<ul> <li>&gt; Spin-off from the Fraunhofer Institute for Solar Energy Systems</li> <li>&gt; Based on more than 15 years of R&amp;D, EUR 20M invested</li> <li>&gt; Backed by Saudi Aramco Energy Ventures and Green Growth Fund 2</li> </ul>	
Market	<ul> <li>Multi-billion dollar market for high-quality silicon wafers</li> <li>Monocrystalline wafer market growing over-proportionally</li> </ul>	
Business model	<ul> <li>Scalable and highly profitable business</li> <li>Produce and sell high-quality mono-crystalline silicon wafers</li> <li>Provide fully compatible "drop-in" wafers</li> </ul>	
Financials	<ul> <li>Revenues: EUR 32m in 2021 exceeding EUR 1bn in 2025</li> <li>Highly profitable from 2021 onwards</li> </ul>	
Team	<ul> <li>Highly experienced management team</li> <li>Track record in construction and operation of mass productions and commercialization of new products</li> </ul>	
Technology & Products	<ul> <li>Kerfless production of mono-crystalline silicon wafers at a fraction of the cost and superior quality compared to conventional wafers</li> <li>Pilot line in operation, on fast track to mass production</li> </ul>	
Intellectual Property	<ul> <li>&gt; 16 patent families built around the core technologies</li> <li>&gt; Substantial trade secrets</li> </ul>	N



#### **Revolutionary kerfless wafer technology**



Highest-quality silicon wafers for PV cell manufacturers as drop-in replacement for standard monocrystalline silicon wafers



## A rapidly growing multi-billion dollar target market



#### Mono wafer demand grows with 26% CAGR to USD 13bn in 2022

Source: Apricum PV market forecast (Q2/2018, center scenario), PV Tech, ITRPV



### NexWafe – new levers for growth of the PV industry

#### **PV learning curve**





## Conventional wafer production is responsible for 40% of PV module cost and has very limited cost reduction potential





# NexWafe's disruptive technology – improved wafer quality at drastically reduced COGS, CAPEX, energy and material losses







#### Kerfless wafer process for mass production



Unique patent protected technology to achieve low production cost:

- ✓ High-throughput in-line tools and processes
- Closed seed wafer loop an almost no kerf



### **Clear roadmap to exceed 30 GW production capacity**





# NexWafe's production processes and equipment – ready for large-scale EpiWafer production



Construction of 1<sup>st</sup> fab with 250 MW capacity followed by fast ramp to GW level starts mid 2019



### Attractive site for first GW-scale manufacturing secured





## Strong management team – proven track record in building products, companies, process equipment and production facilities

#### Dr. Stefan Reber (CEO, CTO)



20 years in silicon materials R&D

#### Dr. Frank Siebke (CFO)



20 years in leading operational roles and venture capital

#### Karl Friedrich Haarburger (COO)



Expert in industrialization & factory building

#### Roy Segev (CCO)



20 years experience in building companies



#### Peter Pauli (Chairman)

Recognized PV industry leader and ex-CEO of Meyer Burger



# Scalable, high-margin business – ideally positioned for a high-value exit

Projected revenue EUR million



- Scalable, capital efficient production
- High-margin business
- EBITDA-positive by 2021





### NexWafe – Innovation, growth and competitiveness

- NexWafe addresses a rapidly-growing multi-billiondollar solar photovoltaic business
- We own the most innovative disruptive PV technology fundamentally changing the process and the cost of wafer production
- Our product hits the sweet spot of customer demand: high efficiency at low cost
- We will raise equity in our Series B round to help finance our 250 MW production plant in Bitterfeld
- We create a highly profitable, rapidly-growing business

## Be part of it!







