

## Polysilicon Solutions

- › New polysilicon plants and equipment packages
- › Revamp of existing polysilicon plants

# IDEAS INSIDE



### CONTACT

EPC Engineering Consulting GmbH

Breitscheidstrasse 152

07407 Rudolstadt

Germany

Phone: +49 3672 302300

Fax: +49 3672 302377

E-mail: [mail@epc.com](mailto:mail@epc.com)

Website: [www.epc.com](http://www.epc.com)

GEC Graeber Engineering Consultants GmbH

Bajuwarenring 12 a

82041 Oberhaching

Germany

Phone: + 49 89 45036920

Fax: + 49 89 450369229

E-mail: [info@graeberconsult.de](mailto:info@graeberconsult.de)

Website: [www.graeberconsult.de](http://www.graeberconsult.de)



The EPC Group is certified according to DIN EN ISO 9001:2008

### Sun moves us - PolySi solutions

EPC and GEC start where it all begins – with the element silicon, as a natural resource of our planet earth. By an elaborate process, polycrystalline silicon (polysilicon) is generated, which is suitable for solar panel manufacturing with a purity of more than 99.9999 %. EPC and GEC are your unique partner for turnkey and functional package projects.



## German Engineering, Technology and Equipment Deliveries The unique approach for high quality and early start - up for complete PolySi-projects

EPC with its 160 engineers worldwide and more than 120 years of engineering tradition is well-known for high-quality processes and plants. EPC's scope of engineering and delivery is TCS synthesis, vent-gas recovery systems, rectification units with its experts know-how as well as utility systems and infrastructure together with civil engineering of complete plants. Furthermore, EPC is a reliable, strong customer-oriented partner with clients in the solar industry from all over the world.

GEC as a consulting-/ engineering and vendor firm is a partner of EPC with the scope of CVD reactors and peripherals, hydrochlorination & hydrogenating conversion with experts know-how, analytics, filaments and polysilicon treatment. Established in 2001, GEC has already more than 160 reactors ordered by clients, more than 135 reactors are delivered and in operation. With the supplying equipment, they already produced several thousands of MT PolySi for clients in Germany, USA, Japan, China and India.

## EPC AND GEC OFFER THE COMPLETE RANGE OF SERVICES

### Functional turnkey

- Pre-Basic Design
- Basic & Detail Engineering
- Civil Engineering
- Procurement
- Construction Management
- Commissioning
- Start-up



### The targets of our clients

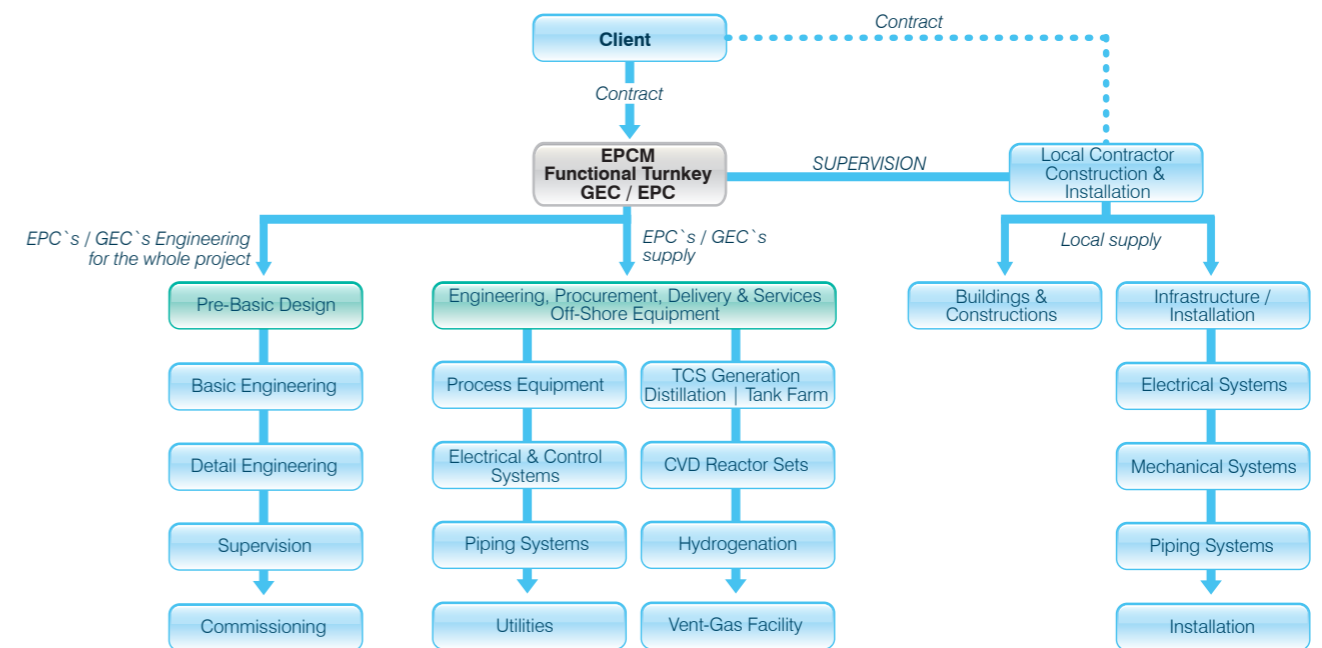
- Reduction of total costs per produced kg Si by increasing manufacturing capacity with each phase
- Lower total energy consumption, e.g. by recuperation
- Own TCS-Production, main supply by implementing hydrogenating conversion, including separation and rectification steps
- Integration in existing production site and infrastructure
- Extension of existing value chain (ingots, wafers, cells)
- Enhanced global competitiveness

## COMPETITIVE ADVANTAGES

- German provider of functional turnkey projects
- German quality for engineering services & equipment supply
- German reliability for short project realization time & start-up
- Worldwide experience
- Plug & play equipment and systems designed for solar grade and electronic grade poly-silicon
- Low investment & operating costs - optimized CAPEX and OPEX values
- Energy-saving systems design
- Integration of existing infrastructure

## UNIQUE ADVANTAGES

Integration of local supply in combination with engineering and supervision by EPC / GEC



## CONTACT PERSON

For general questions around PolySi, please contact:

**Dr. Manfred Richter**  
manfred.richter@epc.com