

Terraform Industries, Inc.

Ammonia Reactor Chemical Engineer

terraformindustries.com

Los Angeles, California

If SpaceX can start a 300 bar Raptor rocket engine in 600 ms, why does it take a day to bring the Haber Bosch process online?

At Terraform Industries, we've made cheap synthetic natural gas from sunlight and air. Now it is time to conquer the chemical industry. Our unique low cost, solar friendly chemical synthesis system is going to have a sibling that produces ammonia, the basis of chemical fertilizers, explosives, and various medicines.

More generally, we are determined to conquer the primary energy consumption layer of our entire civilization. We've developed the tech needed to pipe pure solar photovoltaic direct current electricity into intermittent primary materials production at the lowest possible cost, limited only by the laws of physics. Our total addressable market is about 500 TW, and we think you will enjoy helping us complete our mission.

Mission

Your mission is to own all chemical aspects of the development of the Terraform ammonia reactor, leveraging our existing tech stack in a new direction. We already have the lowest cost green hydrogen in the industry. We already have an adaptable reactor injection system. Your job is to help mature the design of the ammonia reactor that will perform the last step from precursors to cheap, valuable, storable ammonia.

The Ammonia Reactor Chemical Engineer reports directly to the Ammonia Production Lead Engineer.

Responsibilities

- Design, development, and deployment of a low cost and scalable ammonia reactor
- Perform chemical process simulations and modeling for the ammonia reactor.
- Analyze reaction kinetics and optimize process parameters.
- Develop process flow diagrams (PFDs) and piping and instrumentation diagrams (P&IDs).
- Ensure compliance with relevant chemical safety standards and regulations.
- Design mechanical, fluid, and thermal systems associated with the reactor
- Mechanical design with a bias for manufacturability and scalability

- Participate in internal technical design reviews and push for rapid iteration
- Source, evaluate, and integrate key components for rapid prototyping and production
- Participate in recruitment efforts for your team, and actively contribute to team career development

Qualifications

- Bachelor's degree in chemical engineering or equivalent
- 5+ years of professional experience in mechanical design and analysis
- Demonstrated history of building design projects from conception to implementation, including working with cross-functional teams and managing vendor relationships
- Demonstrated ability to intuitively or analytically arrive at self-evidently correct designs

Preferred Qualifications

- Experience sizing balance of plant components such heat exchangers, condensers, dryers, compressors, piping, and valves for low and high pressure/temperature applications
- Knowledge of chemical reaction engineering principles and catalysis
- Experience with process control systems and instrumentation relevant to chemical reactors
- Knowledge of standard installation and fabrication methods of fluid systems (tube stock, fittings, connections, fasteners, welding, etc.)
- Familiar with high-volume manufacturing processes and experienced in sourcing and procuring parts on a large scale, ideally on more than one class of factory
- Knowledge of international engineering standards and experience in validating and qualifying designs for demanding outdoor environments
- Ability to work in fast-paced, demanding iterative design and manufacturing environments

Logistics

Location - Terraform Industries is based in the castle building in Burbank, near Los Angeles, California. Work is 100% on site.

Remuneration/benefits - Terraform Industries is proud to offer a competitive benefits package including: equity, performance bonuses, 401k, health, dental, and vision insurance, and a flexible leave policy.

Pay range: \$120,000.00 - \$180,000.00 per year, to be determined on a case-by-case basis based on job-related knowledge and skills, education, and experience.

Travel - Some travel (5-10%) may be required to oversee installation off-site.

Terraform Industries is an Equal Opportunity Employer; employment with Terraform Industries is governed on the basis of merit, competence and qualifications and will not be influenced in any manner by race, color, religion, gender, national origin/ethnicity, veteran status, disability status, age, sexual orientation, gender identity, marital status, mental or physical disability or any other legally protected status.

Apply

Email recruiting@terraformindustries.com with a compelling one pager with your best evidence of execution ability. We are fans of your work, so include YouTube links, photos of hardware, etc. In addition to your one pager, you should include a one page [resume](#) of no more than 300 words.