ROLE STATEMENT

Energy Systems Analyst

Key Relationships

- Technology Manager
- Chief Executive Officer
- Chief Operating Officer and Engineering Team
- 1414 Degrees Stakeholders

Position Summary

The primary objective of the Energy Systems Analyst is to develop in-house models for assessing high temperature thermal systems. The role will be responsible for producing accurate technoeconomic models and feasibility studies that will assist 1414 Degrees to integrate its breakthrough technology and high temperature industries. This includes developing dynamic system models and analysing process flow in OpenModelica/Matlab/Python, whilst utilising the company's existing thermodynamic and cost models. Specifically, the models will assess the use of SiBox in large scale applications such as hybrid power generation and high temperature process heat above 800°C. The role will complement the SiBox module demonstration and support the Technology Manager in assessing the SiBox commercialisation with the aim of successful pilot demonstration at one or more client sites.

Role reports directly to the Technology Manager

Position Responsibilities – not limited to.

Technical	• Performing detailed analysis on the optimisation of the SiBox configuration which is best suited for brownfield and greenfield integration into prospective Client's processes
	  ○ Performing day-to-day modelling activities including system integration design, grid integration and revenue modelling
	  ○ Development of process flow diagrams
	  ○ Dynamic modelling based on weather data and spot market prices for system sizing and revenue maximisation
	• Building on the company's existing revenue modelling tools and integrate more detailed operations and maintenance cost as part of the dynamic system optimisation
	• With a primary focus on the SiBox Commercialisation Pathway, assess the technical and economic feasibility of 14D's various proposed projects, leading to a pre-commercial SiBox pilot system
	• Inform and support the development of new SiBox design concepts, primarily by assessing the system-level cost and revenue impacts of new designs
	• Effectively communicating the modelling outcomes and recommendations to internal and external stakeholders
	• As delegated by the Technology Manager, support grid modelling and business case development for the Si-Aurora project

Health, Safety and Environment	• Comply with the 1414 Degrees Environmental Health and Safety Policy and actively assist in the continuous improvement of policy development • Actively promote safety awareness and participate in safety and environmental initiatives
Essential Performance Skills	• Creativity and cognitive flexibility • Problem solving, ability to analyse and logically solve complex problems • The ability to manage unpredictable change in a resilient manner • Multiskilling, undertake multiple tasks simultaneously and efficiently manage competing priorities • Self-awareness, the ability to reflect on self-performance and improve • Pragmatic, practical thinker to adapt to changing circumstances