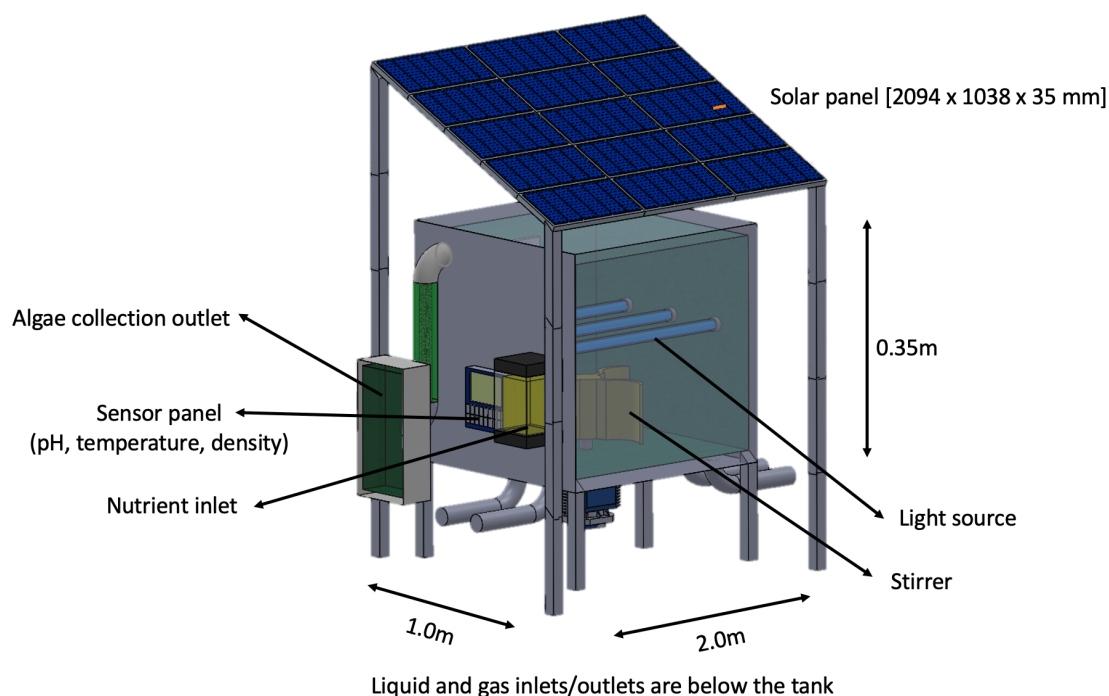


Algae-Voltaics



Dimensions:

2 x 1 x 0.35m (700Litre)

Input:

3 - 4kW of electricity

Output:

1.4 kg/day of microalgae [1]

Strain of Microalgae selected: *Chaeroceros muelleri*: [2]

- An appropriate strain for production of biofuel
- High lipid content with C14-C18 Fatty acids (FAs)(81%)
- High oleic acid proportion (28%)
- Ideal composition of Monounsaturated FAs/Polyunsaturated FAs

Optimized Culturing Conditions for *C. muelleri*: [3]

Nitrate: 180mg

Phosphate: 7.5mg

Silicate: 30mg

Temperature: 31°C

pH: 6.46

1. Industrial Plankton. (2020, May 26). *Algae photobioreactors for sale: Industrial Plankton Bioeactors*. Our Photobioreactor Products. Retrieved February 28, 2023, from <https://industrialplankton.com/algae-photobioreactors-for-sale/>
2. Andrew, A. R., Yong, W. T., Misson, M., Anton, A., & Chin, G. J. (2022). Selection of tropical microalgae species for mass production based on lipid and fatty acid profiles. *Frontiers in Energy Research*, 10. <https://doi.org/10.3389/fenrg.2022.912904>
3. Kumaran, J., Jose, B., Joseph, V., & Bright Singh, I. S. (2016). Optimization of growth requirements of marine diatom *chaetoceros muelleri* using response surface methodology. *Aquaculture Research*, 48(4), 1513-1524. <https://doi.org/10.1111/are.12987>