

## Supplementary Material

**Table S1.** Fractions of the total equipment purchase cost assumed to determine the direct and indirect costs of the investment capital and values assumed for the determination of variable and fixed production costs

Item	Detail	Factor/Cost	Ref.
<b>Investment Capital</b>			
1	Major Equipment	0.85	-
<b>Direct Costs</b>			
2	Installation	0.20	[1]
3	Instrumentation and control	0.15	[1]
4	Piping	0.20	[1]
5	Electrical	0.10	[1]
6	Buildings	0.15	[1]
7	Yard improvements	0.05	[1]
8	Services facilities	0.20	[1]
<b>Indirect Costs</b>			
9	Engineering and supervision	0.30	[1]
10	Construction expenses	0.05	[1]
11	Contractor's fee	0.03	[1]
12	Contingency	0.08	[1]
<b>Production Costs</b>			
<b>Variable Costs</b>			
1	Raw materials	Negligible	-
2	Miscellaneous materials	0.10 of Maintenance	[2]
3	Utilities	Energy values from flowsheet	-
4	NaOH (flocculant)	0.33 € kg <sup>-1</sup>	[3]
5	NH <sub>4</sub> NO <sub>3</sub> (Nitrate source)	0.26 € kg <sup>-1</sup>	[4]
6	Shipping and packaging	Negligible	[2]
<b>Fixed costs</b>			
7	Maintenance	0.05 of Fixed capital	[2]
8	Operating Labour	<b>Nº Operators × Salary × social tax × Nº Months</b>	-
9	Laboratory costs	0.20 of Operating labour	[2]
10	Supervision	0.20 of Operating labour	[2]
11	Plant overheads	0.50 of Operating labour	[2]
12	Capital charges	Negligible	-
13	Insurance	0.01 of Fixed capital	[2]
14	Local taxes	0.02 of Fixed capital	[2]
15	Royalties	0.01 of Fixed capital	[2]
<b>Other Costs</b>			
16	Sales expenses	Negligible	-
17	General overheads	Negligible	-
18	Research and Development	Negligible	-

## References

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2. Sinnott, R.K.; Towler, G. *Chemical engineering design*, 4<sup>th</sup> ed.; Elsevier: Oxford, UK, 2009; Vol. 6.
3. Kang, S.; Heo, S.; Lee, J.H. Techno-economic analysis of microalgae-based lipid production: Considering influences of microalgal species. *Industrial & Engineering Chemistry Research* **2019**, *58*, 944–955, doi:<https://10.1021/acs.iecr.8b03999>.
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