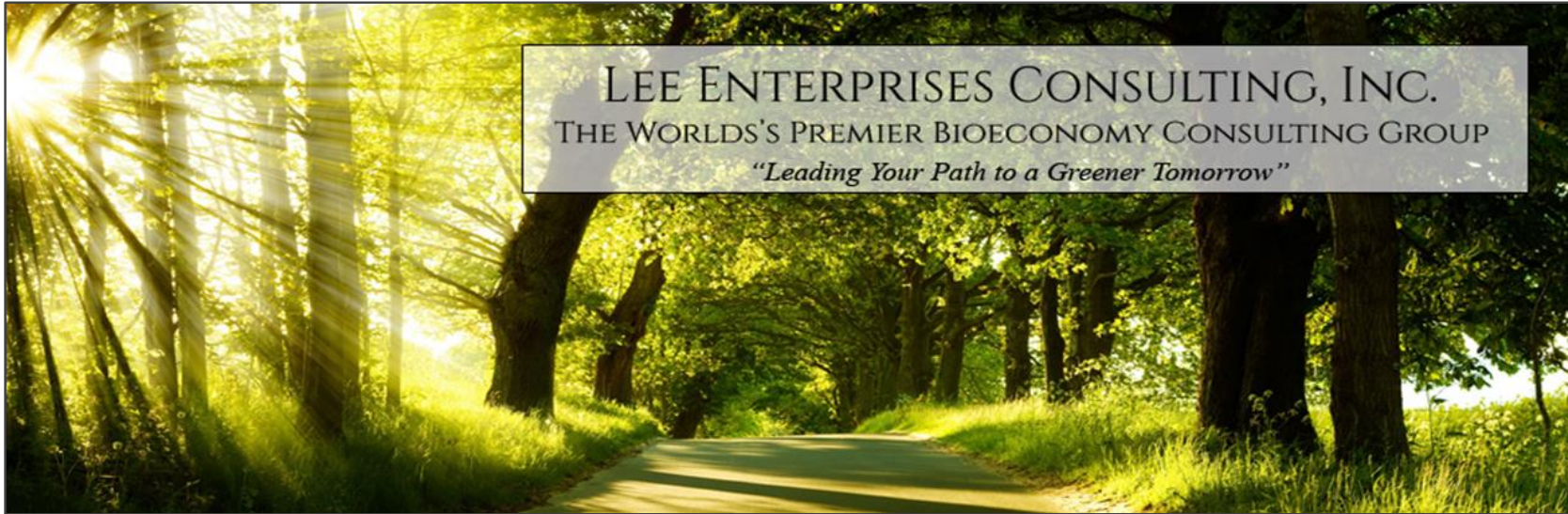


Techno-economic modeling & analysis in the bioeconomy



Advantages of using a third party.

[Part 4 of 4]

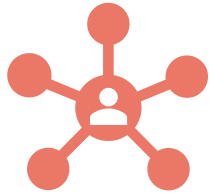


LEE ENTERPRISES CONSULTING, INC.
THE WORLD'S PREMIER BIOECONOMY CONSULTING GROUP
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- ▶ **Cost Advantage** Single POC = lower administrative costs = lower project cost.

Why it makes sense to use a third party.

What kind of projects are best suited for outsourcing? On one hand, you have projects that are non-routine or require specialized skills, like building a website. On another hand, there are projects whose results carry more weight when they come from a third party, like due diligence. Techno-economic analysis hits the bullseye in both these categories.



Expertise



Efficiency

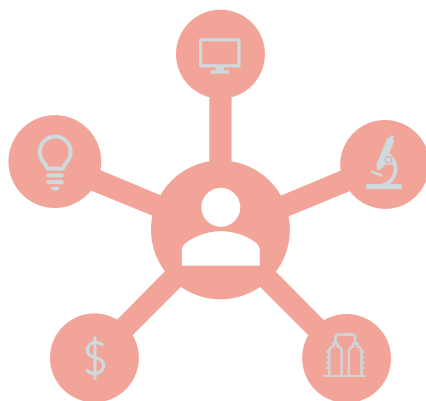


Objectivity



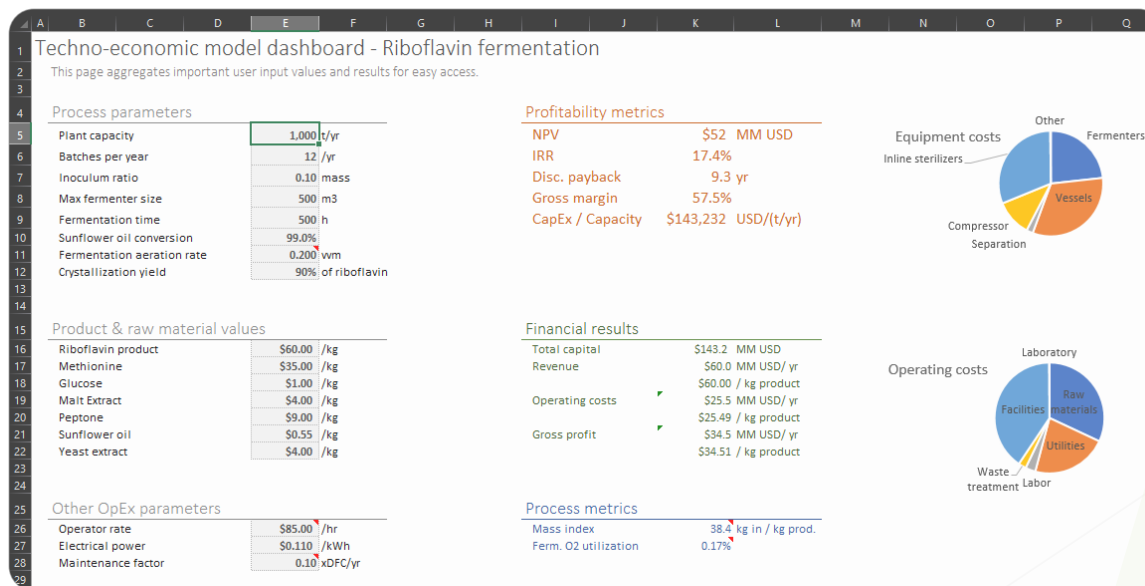
Credibility

Expertise.



Techno-economic modeling is a niche job. It requires a particular combination of skills - a strong command of engineering fundamentals, a practical understanding of process design and economics, and a familiarity with the cost estimation techniques and (especially) their limitations.

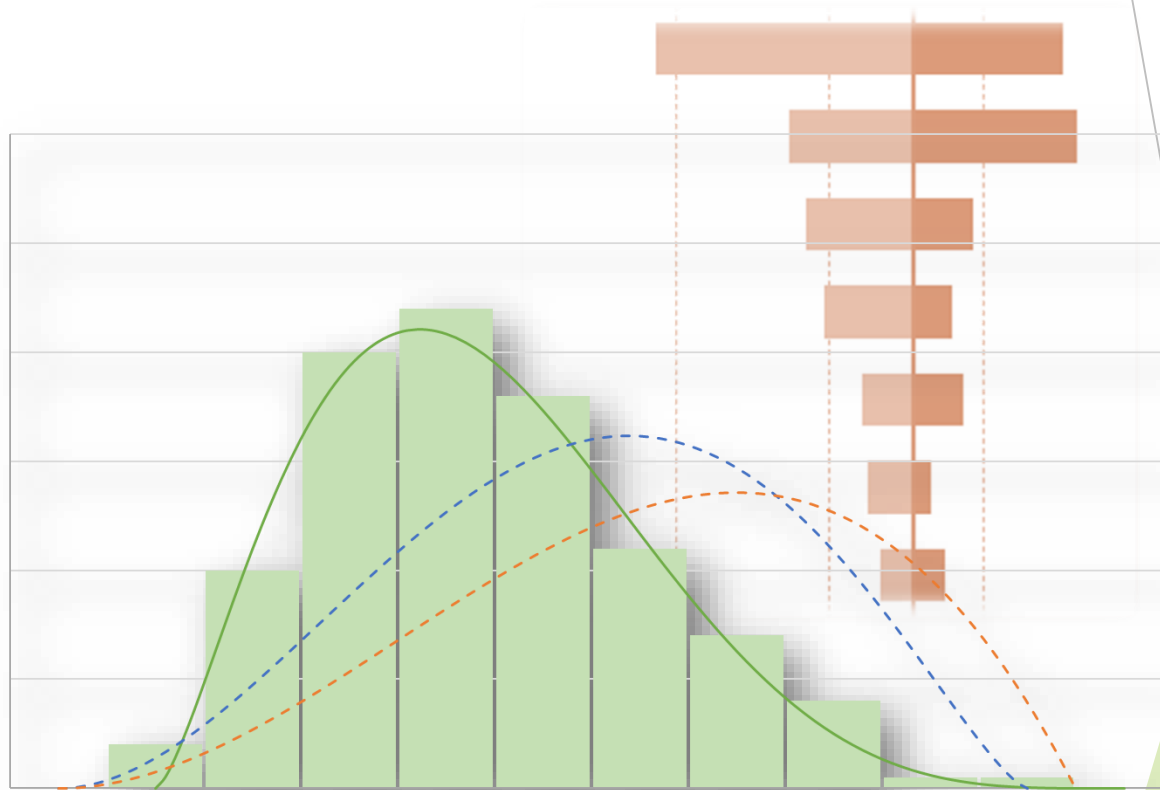
It also requires a software developer's mindset to bring it all together in a way that is useful, usable, and testable. Not many engineers have experience building techno-economic models, and even fewer have built more than one or two. By using an expert, you can be assured that your modeling is at the professional standard.



Efficiency.



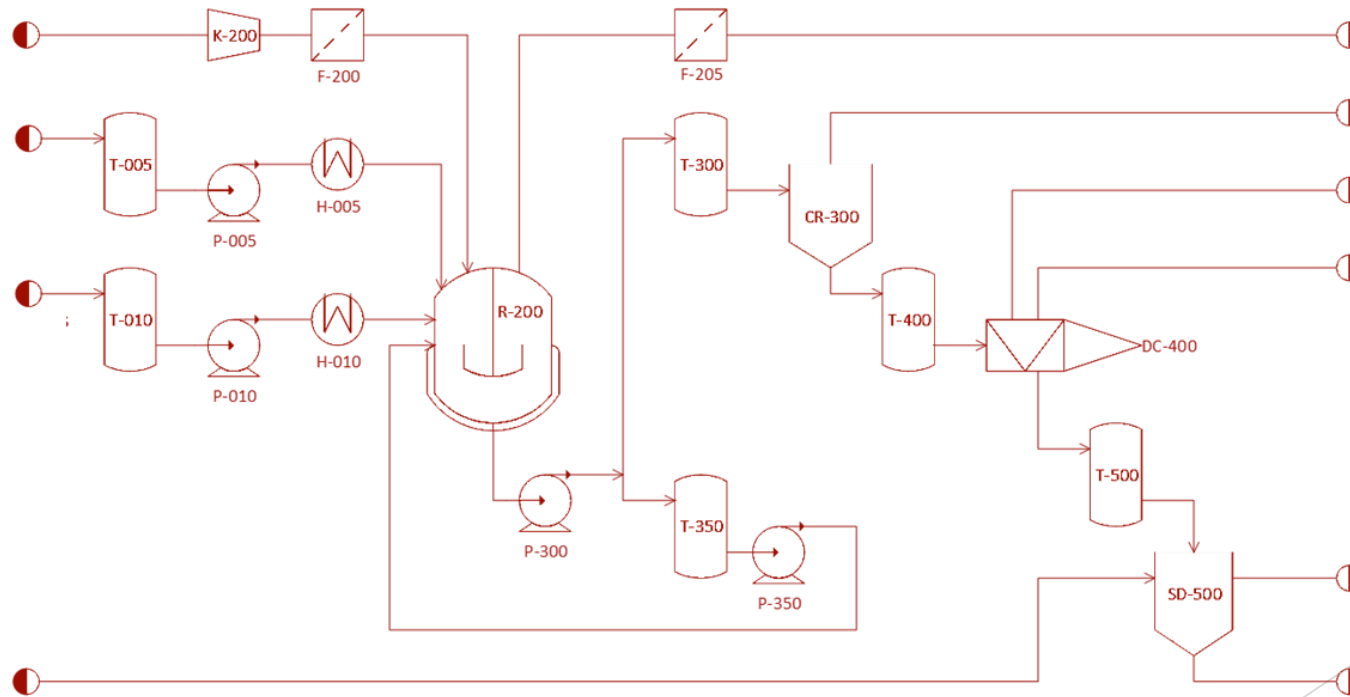
With expertise also comes efficiency. LEC experts have developed templates, built software tools, and curated resources over years of practice. Outsourcing is often the fastest and most reliable way to get the answers you need, and at the same time it keeps your team focused on what they do best.



Objectivity.



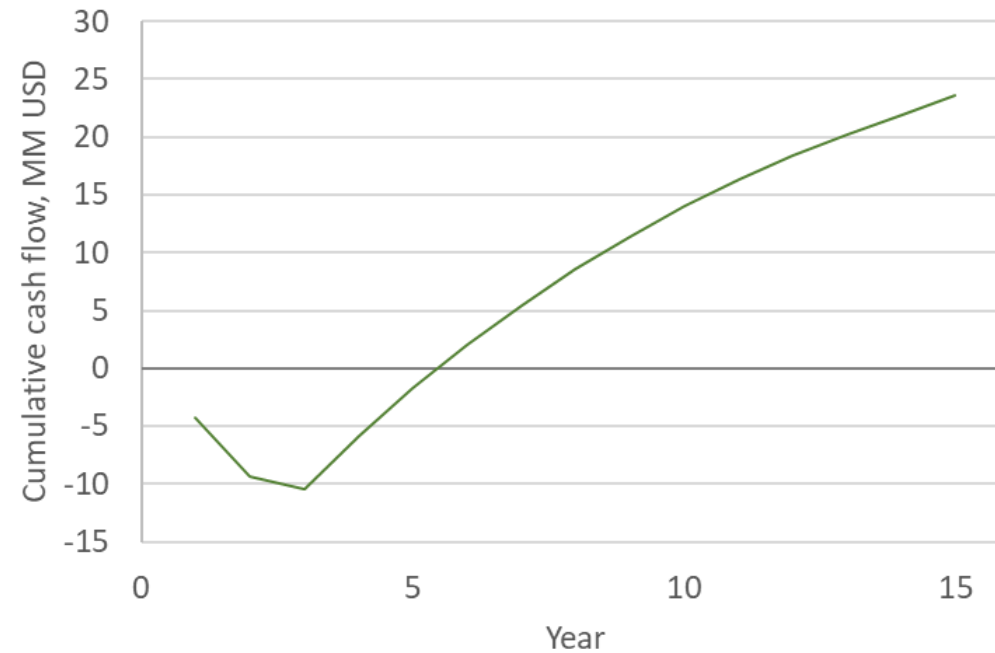
Omissions are the number one source of error in process cost estimates. This is partly a result of incomplete information, but it is also partly because we are naturally biased to assign greater value to parts of a project that we are most familiar with and to neglect others. It is often easier for an impartial third party to see the big picture, which can help bring these 'unknown unknowns' to light so that they won't surprise you later.



Credibility.



Obtaining promising results from a credible third party can considerably strengthen your business case, but there is more to it than that. By willingly exposing your ideas to the critique outside experts, by stress-testing them, you demonstrate to your investors and employees that you are serious about building a technology that can succeed in the real world.



Coming up next in
the series.



This is the fourth in a four-part series on techno-economic analysis for new technologies in the bioeconomy. We at LEC hope that you have found these presentations useful, and look forward to helping you get your technologies out of the lab and into the market.

Techno-economic modeling & analysis in the bioeconomy

1. What is techno-economic modeling and analysis?
2. Techno-economics for technology investors.
3. Techno-economics for technology developers.
4. Advantages of using a third party.

Chris Burk, PE Professional bio



Accredited Member



Chris specializes in techno-economic analysis. He works with companies that are developing or investing in new chemical and bioprocess technologies, helping them use techno-economic modeling to better understand their economics at a commercial scale. His clients include venture capital firms, universities, national labs, independent startups, and startup incubators.

Prior to consulting, Chris spent twelve years in industry working in R&D, scale-up, and pilot plant EPC. He speaks and writes regularly on the importance and best practices of early-stage cost modeling.

He is a licensed Professional Engineer and he holds BS and MEng degrees in Chemical Engineering from Cornell University.



Lee Enterprises Consulting

www.lee-enterprises.com

1+ 501 833-8511

Contact Chris at

experts@lee-enterprises.com