



Case Study

Client

Lumber Company

Project Number

24028

Team Members

Pete Rocha

Tim Hoy

Bob Starkey

Economic Analysis of Green Hydrogen Production

Summary of Client and Challenge They Faced

A company in the lumber industry was exploring options for biomass power generated on-site. The client wanted to explore options for the low-carbon electricity produced from wood waste and understand if making low-carbon hydrogen was a viable option.

Our Approach to the Solution

LEC experts in biomass co-generation, regulatory analysis, and green hydrogen conducted a techno-economic analysis of various options for monetizing the low-carbon power. LEC produced pro forma economics for the purchase, installation, and operation of a 10MW Proton Exchange Membrane (PEM) electrolyzer. LEC also laid out the economics of hydrogen compression and transportation to major urban markets located in the region.



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LEC further provided analysis of the regional market for green hydrogen, and identified the most mature market applications. Finally, LEC provided an analysis of relevant regulatory incentives, including the Inflation Reduction Act (IRA) production credit and the Department of Energy Regional Hydrogen Hubs.

Client Results and Benefits

LEC's economic analysis demonstrated that the green hydrogen production case had a lower Return on Investment than other available options. Further, LEC identified several risks for the green hydrogen project, including regulatory uncertainty, immature regional markets, and an underdeveloped supply chain for hydrogen deliver to end customers.

LEC recommended a potentially more profitable option with a lower risk profile. This input allowed the client to narrow the focus of their possibilities and allocate resources to the best potential use case.