



**Ariel Green**

**TECHNOLOGY  
PERFORMANCE INSURANCE**

# Bioconversion Plant Performance

**SUPPORTING THE DEPLOYMENT OF  
ADVANCED BIOFUELS**

Bioconversion plants offer a sustainable solution for transforming renewable feedstocks - including woody biomass, energy crops, and municipal waste - into electricity, liquid fuels, and other valuable commodities. With growing awareness and action on climate change, the market is becoming increasingly interested in deploying these technologies. However, the high costs of facilities and inherent risks associated with commercializing new processes pose challenges. Technology Performance Insurance can overcome these by providing assurances that measures have been taken to minimize the risk of financial loss.

**ARIEL GREEN IS UNIQUELY POSITIONED TO HELP**

With over 150 years of combined experience, Ariel Green supports the development and distribution of technology performance insurance solutions that deliver value to clean energy markets, including solar, bioconversion (waste-to-energy) and energy storage.



“Technology Performance Insurance plays a critical role in the development of ground-breaking new technologies, without which, many clean energy innovations might remain unrealized.”

**Frank Petrocelli**  
Senior Risk Analyst,  
Ariel Green

**ARIELGREEN.COM**

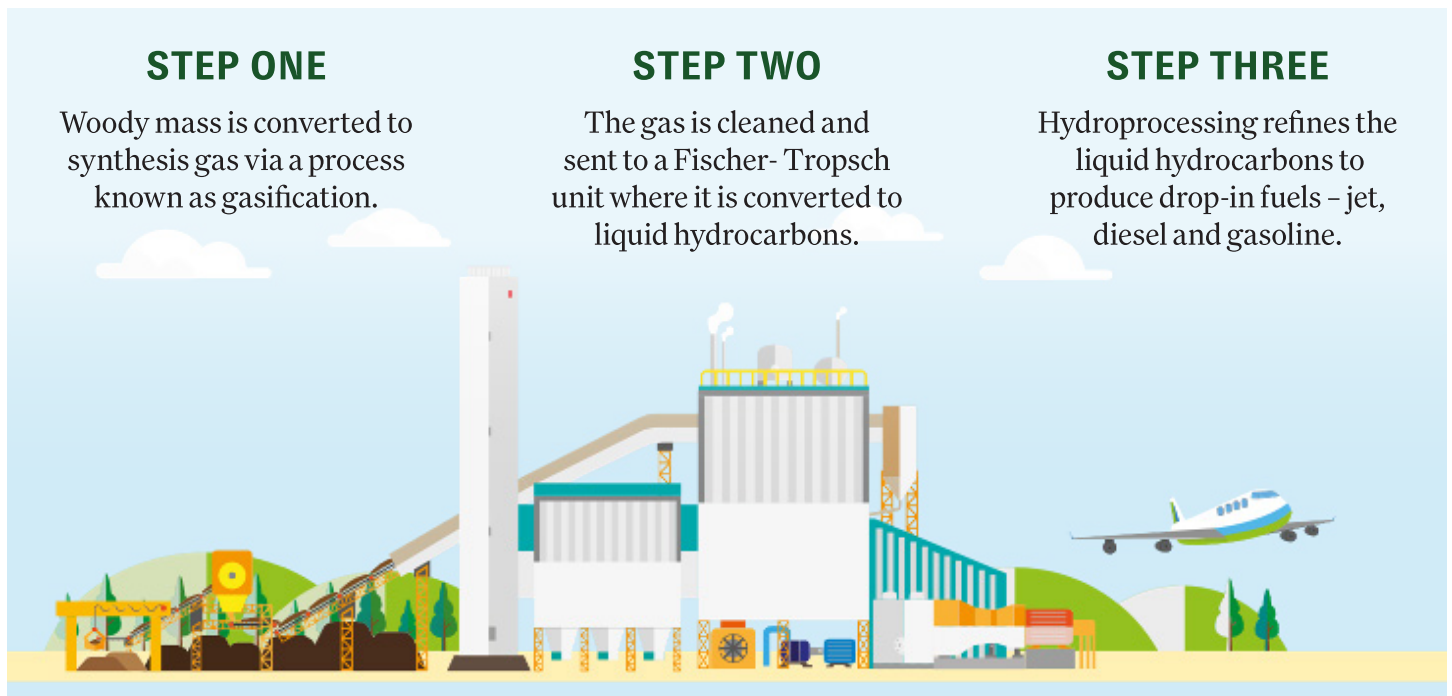
## TECHNOLOGY PERFORMANCE INSURANCE

# Case Review

The case review below concerns a biofuel developer facing a common challenge for companies building first-of-a-kind facilities. To scale, develop, and commercialize their operations, these companies must secure investment. However, investors often exercise caution in new markets where supporting data can be sparse.

## THE CLIENT

The client is a U.S.-based developer of a facility designed to convert woody biomass into drop-in transportation fuels, including jet, diesel and gasoline. The production process uses a combination of new and existing technologies to convert biomass into liquid fuels, as shown in the figure below.



## THE CHALLENGE

Previous commercial demonstrations of gasification technology were limited; they were only accomplished with a single feedstock, markedly different from woody biomass. This introduced substantial technical risk concerning the design and scaling-up of the client's plant, bringing into question the plant's ability to produce commercially viable quantities of on-specification fuels. This risk jeopardized the developer's prospects of securing financing, a critical factor without which the project would inevitably fail.

## THE SOLUTION

Leveraging the team's deep technological and risk management expertise, Ariel Green was able to develop an insurance solution that enabled the developer to secure the financing that allowed the project to advance. The key was developing policies collaboratively with the client, technology suppliers and financiers. By working together, we forged a customized risk management solution that protected against cost overruns during startup and commissioning, and against underperformance over the term of senior debt obligations. As a result, the client was able to reach a final investment decision with a financial package that met all stakeholder requirements.