CASE STUDY

Identifying Technologies to Convert CO2 into Liquid Fuels

The Client is a large energy company that develops, constructs, and operates renewable energy power plants and energy storage facilities globally.

The Challenge:

The Client was looking for technologies that convert captured CO_2 (together with H_2) into liquid fuels in order to meet their carbon neutral goal by 2025. The Client engaged PreScouter to help identify companies that would be able to build these plants for them. There were 3 major challenges in this project:

1. Exhaust the potential partners in the market
2. Obtain the maturity level and due diligence information that is not publicly available
3. Compare between the different technologies offered

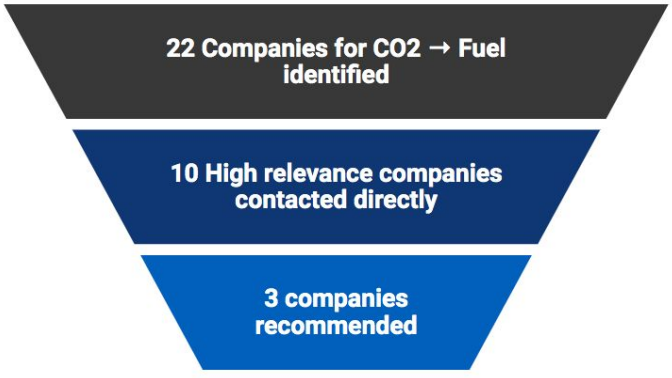
Methodology:

From its Network of 4000+ Advanced Degree Researchers, PreScouter staffed a multidisciplinary team of 5 researchers with different backgrounds and experience to look for the best suppliers and technologies fitting the Client's need. The PreScouter team tackled the Client's challenge by:

1. Gathering publicly available info from databases, search engines, research articles, etc.
2. Reaching out to the most promising targets to collect information not presented in the available sources.
3. Reaching out to a Subject Matter Expert (SME) with 25+ years of experience in the area of CO_2-to-liquid fuel conversion from PreScouter's talent pool. During the project, PreScouter interviewed this SME for a total of 4 hours, including 1 hour during the client meeting.

Results:

As a result of PreScouter's business partner search and study, **22 companies** (or joint ventures) were identified and profiled. They were narrowed down to 10 after conducting due diligence and then shortlisted to the **top 3 potential partners** after a thorough evaluation based on the Client's requirements, which included such factors as capacity, built year, location, and final product. The results are summarized in the schematic funnel below.



From analyzing technologies used by the 22 identified companies, PreScouter categorized the technologies according to the end products: methanol (via a catalytic process) and gasoline, diesel or jet fuel (Reverse Water-Gas Shift Reaction followed by Fischer-Tropsch Reaction). More importantly, PreScouter extracted and compared key metrics, including efficiency, H_2 consumption, waste heat recovery, intermittency of input, and cost for each technology in a table and easy-to-read graphs. This analysis enabled PreScouter to obtain insights that are not available in the market and recommend the optimal technologies to the Client.

Impact of PreScouter work:

As commented by the Client, PreScouter's project was an accelerator and helped the Client shortlist the top recommendations from an exhaustive research effort. Because of the high efficiency, PreScouter was immediately rehired on another project about alternative ways of capturing CO_2.

This information led our Client's decision to invest an estimated 500M Euros to construct a liquid fuel plant with a 250 ton per year capacity. A plant with this capacity is larger than all existing plants in this field.

Clients Rely On Prescouter For

- COMPETITIVE INTELLIGENCE
- TECHNOLOGY & PATENT LANDSCAPING
- TECHNOLOGY ROADMAPPING
- MARKET RESEARCH & ANALYSIS
- TRENDS MAPPING
- REVIEW BEST PRACTICES
- PATENT COMMERCIALIZATION STRATEGY
- DATA ANALYSIS & RECOMMENDATIONS
- ACQUIRE NON-PUBLIC INFORMATION
- SUPPLIER OUTREACH & ANALYSIS
- CONSULT WITH INDUSTRY SUBJECT MATTER EXPERTS
- INTERVIEWING COMPANIES & EXPERTS

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