Quality Mid Cap Company: Air Products

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In today's complex industrial landscape, the ability to harness and distribute essential elements from our environment can be a powerful business model. **Air Products and Chemicals, Inc. (Air Products)**, a holding in the Jensen Quality Mid Cap Strategy, has transformed the production and distribution of gases and chemicals into a highly successful enterprise.

This American industrial demonstrates what we believe is consistent value creation for shareholders and also stands at the forefront of innovation in the industrial gas sector. From traditional applications in manufacturing to cutting-edge developments in renewable energy, Air Products showcases how a seemingly simple business can evolve into a cornerstone of modern industry. This analysis delves into the company's operations, competitive advantages and future prospects, illuminating why, in our view, Air Products stands out as a high-quality investment in an ever-changing market.

AIR PRODUCTS	Symbol: (APD)
Year Founded	1940
Headquarters	Allentown, Pennsylvania
Entered Strategy	Mid Cap: 2024

Know What You Own

Air Products supplies gases and chemicals to industrial end markets. This American company primarily focuses on harnessing simple gases like oxygen, nitrogen and hydrogen, transforming these elements into high-value products for industrial use.

These gases serve as critical inputs for manufacturing processes like steel and semiconductors as well as basic materials like gas and paper. Producing the gases requires large-scale industrial plants, with Air Products operating more than 750 such facilities. Most of APD's production sites fall into 2 categories: Air Separation Units (ASUs), which separate air into its component parts, and Steam Methane Reformers (SMRs), which use heat and pressure to isolate pure hydrogen from methane.

The company then brings its product to market via long-term contracts (typically 20-30 years) known as offtake agreements, which ensure that a production facility will generate a steady stream of revenue. With these contracts, Air Products gets paid even if the client doesn't use some or all of the gas. On top of this, excess gas can be sold in a merchant market with non-guaranteed agreements, maximizing the potential of facilities while meeting fluctuating short-term demand that can be cyclical.

These highly favorable contract terms result in an industry characterized by stability and a long-term focus rather than by constant change and disruption. But even stable industries can undergo structural changes. Today, Air Products finds itself amid an economy that is reinventing the way it is fueled.

Blue and Green Hydrogen and the Energy Transition

Global economies are currently in pursuit of a massive energy transition — one where traditional methods of "fueling" the economy are supplanted by technologies that reduce the impact of economic production on our environment, particularly by limiting greenhouse gases (GHG) released into the atmosphere. The movement has been led by developed countries that possess the resources and technology to drive the transition. While approaches vary by country, the typical framework is for governments to create incentives to steer the private sector towards investments in green energy and away from GHG production.

Hydrogen production via the aforementioned SMRs (commonly referred to as grey hydrogen) is a heavy emitter of greenhouse gases — after separating out hydrogen from methane, the leftover carbon atom combines with oxygen to form carbon dioxide. But through technological innovation, new ways to create hydrogen that limit pollution have emerged:

- **Blue hydrogen** is created via the familiar SMR process, but with the addition of carbon capture technology, which sequesters GHG emissions in the process, typically in massive underground caverns.

- **Green hydrogen** is created via a wholly different process called electrolysis. Rather than methane, water is the key input — the molecules are separated with the application of electricity, resulting in the desired hydrogen with oxygen as the only byproduct. Due to the energy intensity of electrolysis, Hydrogen is considered green only if the power used in the process is from a renewable source, like wind, solar or hydropower.

With hydrogen's widespread industrial applications in production of fertilizers and steel, it's easy to see why energy transition proponents have set their sights on cleaner forms of the gas. But perhaps even more exciting are the potential applications of hydrogen as an alternative fuel for planes, trains, ships and automobiles. Hydrogen fuel cell technology for transportation has existed for many years, but existing infrastructure designed around fossil fuels acts as a barrier for wider adoption. But the carrots and sticks in Europe, the U.S. and elsewhere are beginning to change that.

The European Union hydrogen strategy, adopted in 2020, promotes investment in the infrastructure required for hydrogen as a fuel. The strategy includes ambitious 2030 targets of producing 10 million tons of renewable hydrogen and importing an additional 10 million tons. And carbon taxes throughout Europe would penalize companies that continue to use grey and black hydrogen. The results are already taking shape: Germany, Austria, Portugal and the U.K. each have plans in action to replace diesel locomotives with hydrogen-powered trains, including several already on the tracks. Germany recently announced plans to expand its hydrogen fueling network targeted at decarbonizing heavy-duty trucking.

In the U.S., the Inflation Reduction Act (IRA) includes a key piece of climate legislation that would offer three tax credits relevant to renewable hydrogen. These large incentives should help goad private enterprises into taking the risks of capital investments while assisting with higher costs.

Enter Air Products, the world's largest supplier of hydrogen. The company has committed well over $10 billion in capital investments related to renewable hydrogen. In focus are two megaprojects — a blue hydrogen facility in Louisiana and a green hydrogen facility in Saudi Arabia. The market incentives developing in Europe and the U.S. should allow Air Products to command a steep premium for the offtake from these new facilities.

Like any investment, these projects come with their own set of risks. For one, no one knows for sure how the market for renewable hydrogen will materialize — what volumes will be demanded and at what price? The market is undergoing a phase of price discovery. This uncertainty has given some investors pause, questioning whether Air Products will be able to recoup its significant investments. But the company has at least one large, long-term contract for green hydrogen in hand, giving management an asymmetrical view of the market. And total production from APD's megaprojects is only a fraction of Europe's import target, alleviating concerns that the market will be flooded with excess supply.

Another risk is political. Some politicians have called for repeal of the IRA. And while APD's projects could theoretically achieve viable returns even without subsidies, the investments in renewables clearly come with large tax incentives in mind. The company maintains political buy-in on both sides of the aisle, citing creation of high-paying, blue-collar jobs in traditionally conservative states. A track record of navigating the regulatory environment and maintaining strong relationships with government entities help keep Air Products at the forefront of the industry. And even as political tides ebb and flow, Air Products believes that the energy transition has staying power. Individuals and businesses have made strong commitments to reducing fossil fuel use independent of government policy.

Why We Like Air Products

High Switching Costs

Once a capital-intensive onsite ASU is up and running, it would be extremely costly (and redundant) for a customer to hire the competition to build a replica next door. And many of APD's offtake agreements are locked in for long periods of time.

First-Mover Advantage

One of the reasons renewable megaprojects were committed without offtake was to ensure Air Products could be a first-mover to secure valuable resources. There are only so many places where these megaprojects could be located. Caverns for carbon sequestration in Louisiana are a limited resource that APD won by being first out of the gate. And the green project in NEOM, Saudi Arabia, sits on prime real estate for such a facility. Sitting just onshore of the Red Sea, NEOM is in one of the sunniest places on Earth and has an excellent wind profile — attractive qualities for the required green energy input. Conveniently located near a key trade route, offtake can be loaded onto ships heading to Europe where demand is expected to be high.

Securing these high-value, limited resources should allow Air Products' renewable hydrogen production to be cheaper and more efficient than second movers, helping the company drive margins in the long term. These highly complex projects can also be difficult to execute, and as markets materialize over time and consumers demand more renewable hydrogen, Air Products will be a step ahead of the competition when the time comes for the next set of projects. Additionally, the company has secured valuable patents for processes and equipment required in green and blue hydrogen production.

Fundamentals

Air Products' fundamentals underscore its competitive advantages. The company maintains industry leading margins and has grown its adjusted EPS at nearly 9% annually over the last five years (as of 9/30/24). The stability of the underlying business allows APD to maintain and consistently grow an appealing dividend. Yielding 2.3%, dividends per share have grown nearly 9% per year over the last 10 years (as of 9/30/24). The company's investments in megaprojects have led to higher capital expenditures than in the past, which can negatively impact free cash flow. But if these projects are rewarded as management expects, higher future cash flows can bolster ROIC.

Diversification

Air Products gives the Quality Mid Cap Strategy exposure to basic materials end-markets that isn't found in other portfolio holdings. Additionally, the nature of take-or-pay contracts should add a countercyclical element.

Outlook

Overall, while there are some risks to the business, we believe the potential rewards far outweigh those risks. Air Products' core business continues to generate strong, consistent revenues with robust margins. Coupled with the promising growth prospects of its renewable hydrogen ventures, this creates an attractive overall risk-reward profile.

We remain confident in Air Products' strategic positioning and its ability to create long-term value, which reinforce our decision to maintain its position in the Quality Mid Cap Strategy.

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