KEYNOTE INTERVIEW

Fuelling the net-zero transition

Embracing a spectrum of low-carbon fuels could be key to achieving long-term decarbonisation goals, say Partners Group's Andre Burba and Matthew Lipton

Andre Burba is a managing director at Partners Group and leads investment activities in low-carbon fuels across the firm's global portfolio. Matthew Lipton is head of infrastructure investment research, honing the firm's thematic approach to sourcing opportunities.

Burba and Lipton say natural gas will continue to be an essential fuel, with demand for power increasing and the energy transition still in its early stages. As part of that gradual process, drop-in fuels, which are replacements for more carbon-intensive energy sources, represent a key opportunity as well. Biomethane, more commonly called renewable natural gas in North America, is projected to grow significantly.

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Burba and Lipton discuss these and other emerging areas of interest in the space, as well as how they determine which sectors are well-suited to investment, amid technological advances, regulatory shifts and market developments.

Q How do you define low-carbon fuels?

Matthew Lipton: We consider low-carbon fuels to be any fuels that can help reduce emissions – for example, moving from coal to natural gas, or jet fuel to sustainable aviation fuel. We think about this holistically, with a fairly broad definition to be able to incorporate what is emerging as well as traditional sources.

We include bioenergy, such as renewable natural gas and sustainable biomass, as well as emerging fuels, such as hydrogen, ammonia and methanol. But we also consider natural gas to be a low-carbon fuel. It's one of the few primary energy sources that we have for reliable, flexible baseload energy. Natural gas is currently around 23

Q How are different sectors looking to deploy low-carbon fuels?

ML: Integrating these fuels into the power market will allow electrification to proceed with lower-carbon energy, representing a greater share of the overall power mix. But we are also focused on those hard-to-abate emissions areas, which represent between 20 and 30 percent of all emissions, such as long-haul trucking, marine transport and aviation. These industries are very difficult to decarbonise. Currently, about 94 percent of all transportation fuels around the world are still oil-based.

percent of global energy demand, but in North America it's about 34 percent. A big part of the reason for this is that we have a very large, low-cost supply. We are focused on using that, but in a responsible way.

Few people realise that natural gas, on average, has about half the carbon intensity of coal. This has been a key driver of how the US decarbonised over the last decade-plus.

Q Which particular low-carbon fuels represent significant areas of opportunity?

Andre Burba: We believe in the continued expansion of natural gas as a baseload fuel that will power the global economy. Within that theme, we tend to focus on the LNG value chain or nexus, which is going to play a critical role in decarbonisation. Beyond that, we see drop-in fuels as the most actionable long-term opportunity. These are renewable natural gas, renewable diesel and sustainable aviation fuels – fuels that are chemically identical to the products that they are displacing, but which tend to be more expensive to produce.

One of our recent investments in Europe is a German biomethane platform. We also have exposure to the US biomethane sector through one of our portfolio companies and we are looking to build on this. In addition, we are evaluating ammonia and methanol, which we think represent interesting longer-term opportunities that are not quite ready for our capital, either because of scale and technological challenges or the lack of suitable commercial structures.

ML: These types of investments follow our thematic sourcing approach. We're looking for assets and sectors that are set to benefit from long-term, secular trends. Renewable natural gas (RNG) is a great example.

The International Energy Agency expects RNG to grow about six and a half times by the end of this decade, and about 14 and a half times by 2040. They expect liquid biofuel to double by 2030. The composition of that mix is going to change but that gives some sense of these long-term trends that are beginning to grow at reasonable rates. We think hydrogen-based fuels are going to have a lot of growth, but that is in the very nascent stages today, although it should accelerate into the next decade.

Q How are investors approaching low-carbon fuel opportunities across North America?

AB: For us, it starts with developing thematic convictions around specific subsets of the broader sector. We monitor the entire space, but we tend to zoom in on the most actionable opportunities. Once we build that conviction, we then systematically evaluate all available targets in that space. In the case of our European biomethane platform, for example, we looked at many different targets in the region before we finally arrived at the one that we found most attractive.

We're looking to replicate that success in North America and have been screening opportunities in biomethane. We're platform builders, so once we find an opportunity that we like, we look to commit capital and then work with the management team to grow that business over the investment period. In terms of developing the necessary conviction, there are a number of different criteria that we consider, such as offtake structures, tenor and availability of contracts, and what is the contracting regime around feedstock to create a particular commodity.

We look at the scale of the projects.

> *"For us, it starts with developing thematic convictions around specific subsets of the broader sector"*
>
> **ANDRE BURBA**

We look at the degree of construction risk and different ways to mitigate that. Finally, we look at the quality of available management. We need to find the right mix of all these criteria.

In some cases, the projects are too big, or the combination of offtake and feedstock commercial arrangements doesn't give us the margin protection that we're looking for. But there are other areas, such as RNG and parts of the LNG value chain, where we see these criteria coming together.

Q What role do low-carbon fuels have to play in the energy transition?

ML: The energy transition isn't going to happen tomorrow. It's going to happen over time, in incremental steps. These low-carbon fuels are going to be critical in power and transportation, but we have seen in recent years that you also need to have fuels that are reliable and flexible.

We are great believers in solar power, and we have investments around the world in that sector. But when the sun's not shining, solar isn't producing. Unless you have a battery on site – which we do at some of our investments, though even those batteries typically have a time limitation – you are going to need natural gas and drop-in fuels, until existing technologies become more reliable and economically viable.

A lot of these emerging fuels have potential, such as hydrogen, but the economics simply doesn't work today for most of them. Green hydrogen could cost 10 times as much as grey, which makes it difficult for many to use. There is a lot of infrastructure that needs to be built out for hydrogen, whereas drop-in fuels can easily be used now. Governments might have a role to play here, where they can pass along that social cost through regulatory requirements or tax incentives, to make it more practical to invest until costs come down over time.

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> **MATTHEW LIPTON**

AB: The most daunting aspect is the relative economics of production, and having to underwrite an expectation that those costs will gradually come down to either a point of customer indifference or even parity with the fuels that are being substituted. And in some cases, we just don't see that path.

Those tend to be the areas that we monitor but don't actively pursue. In other areas, we think that we have either reached the point of indifference, where the ultimate customer is willing to pay that premium, or that the glide path towards cost parity is within our investment horizon, and therefore it's an underwritable risk.

ML: To a certain extent, these outcomes depend on future government regulation, and the expectations of it. Customers looking to future-proof their assets or supply chain, or to reach corporate goals, might be more willing to shoulder those incremental costs.

Q What are the implications of current trends in energy consumption for low-carbon fuel demand?

AB: We believe that demand could increase significantly in the coming years. We seem to be finding more and more uses for natural gas and other low-carbon fuels. The proliferation of artificial intelligence and the associated energy consumption of data centres and the adoption of electric vehicles will be fuelling demand for baseload energy.

ML: We've had flat-to-down energy demand in this country for many years. That's changing. The US right now generates only a little more than 20 percent of its power from renewables. A substantial amount is still coming from fossil fuels, as well as nuclear.

One of the biggest issues that we're going to be dealing with going forward is that a lot of those new demand sources require reliable baseload power 24/7, something that renewables typically cannot provide. We need to have that all-hands approach to meet this growing demand and embracing a spectrum of low-carbon fuels could be the key to achieving long-term decarbonisation goals. ■