

# KEYNOTE INTERVIEW

## Back to the future with the energy transition



*Morgan Stanley Infrastructure Partners' **Chris Ortega** highlights the value to be found in repurposing legacy assets to support new energy technologies*

The outlook for renewable energy infrastructure in the US has never looked more promising, especially now that President Joe Biden's administration has re-joined the Paris agreement and made green energy a top priority. Chris Ortega, managing director and head of Americas at Morgan Stanley Infrastructure Partners, emphasises the importance of investing to support the whole value chain of technologies that will facilitate the transition away from carbon-intensive energy systems – and the infrastructure already in place should be one of the first places to look.

**Q** With so many investors putting money into the

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**energy transition, is it possible to take a differentiated approach?**

There is clearly a lot of money moving into the space, so we have to think carefully about where the best investment opportunity is. Certainly, with the easiest places to invest – operating windfarms, operating solar parks – returns have been bid down to what I would generally call uninteresting levels for non-core investors, especially in developed markets.

We try to be really deeply thematic in our focus areas. That means we try to understand some of the trends around the energy transition and look for the secondary or tertiary derivatives from those broader trends. In our experience, that is where you start to find a more interesting risk/reward balance.

That means we are looking at where the bottlenecks are with renewables and how we can de-bottleneck. We are looking at situations where there may be some existing legacy assets and asking “how could that be repurposed to support the energy transition?” It also means that we are looking at new forms of energy development and figuring out how we can be an accelerant of growth.

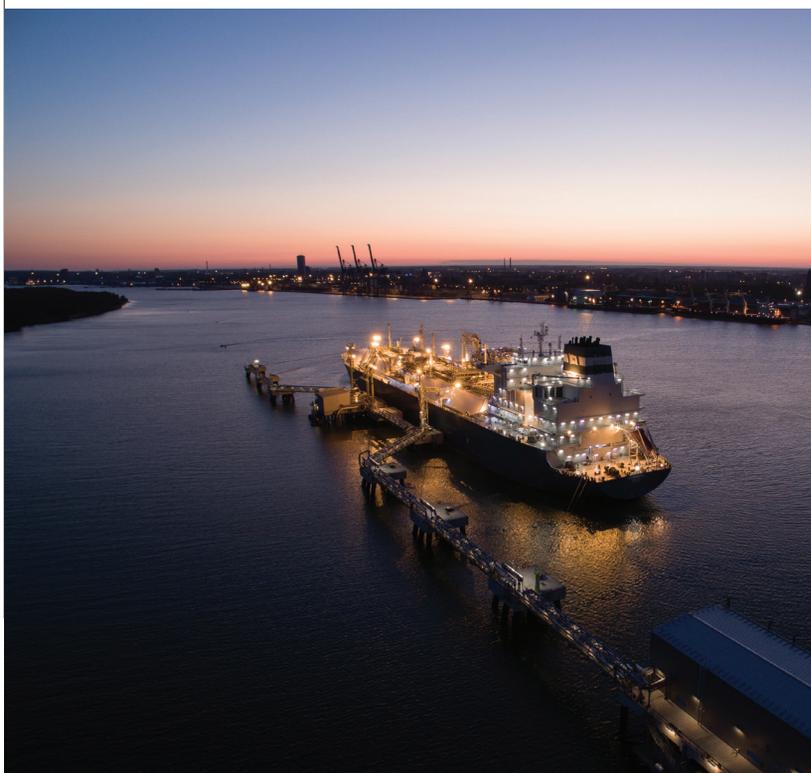
**Q Liquefied natural gas is sometimes seen as a ‘bridging fuel’ that will meet demand while greener systems are developed. Does LNG have a place in a strategy to support the energy transition?**

Yes. When we think of how to accelerate the energy transition, reducing coal usage remains a very significant step in that process, especially in Asia-Pacific. And LNG plays a very big role in bringing down coal consumption.

Historically, we have seen LNG re-gasified in large, multibillion-dollar, landed facilities that replace base load power demand. That is impactful and important and it certainly accelerates decarbonisation, but we are also starting to see more creative uses around LNG, partly driven through technology.

Floating storage regasification units, for example, are much smaller in scale, have a much lower total capex cost than a landed LNG facility and, over time, are potentially mobile. So, sometimes it is more cost-effective for countries with more modest energy requirements to install an FSRU.

These units could also be used not just for base load capacity, but potentially to supply peaking capacity in some countries. In some emerging markets, such as in parts of Asia-Pacific and India, coal continues to be the fuel source when demand ramps up, so making that transition from coal to gas is a material step in the decarbonisation evolution. And FSRUs provide a much faster solution in transitioning from coal to gas.



FSRU Independence, operated by Höegh LNG. Photo credit: Höegh LNG.

That doesn't necessarily mean investing in just one project. It could be that we act as a facilitator from a logistical infrastructure perspective to help the full value chain.

**Q In terms of de-bottlenecking, where are the greatest opportunities to make an impact?**

On the encouraging side, we have seen a nice ramp-up of wind and solar development. But with renewable power, there is the issue of transitioning from what historically has been a hub-and-spoke power generation system and repurposing that for what could be a much more intermodal system.

Renewable development may occur at a utility scale, but it has the potential to be executed at a smaller scale as well. For us, that means looking at solutions that support the transition from a traditional hub-and-spoke system. That could be batteries, that could be microgrids, or that could be improved smart metering.

Where we immediately see an opportunity is around load balancing on a localised basis, especially as more potential supply centres are developed. We may see industrial companies, college campuses, or other facilities having their own microgrids. However, there may be a third party that develops and owns these microgrids as well that assists with storage and load balancing.

Finally, we might start to think of a business model where energy is a service offering rather than a metered consumable. That transformation is something that gets me excited.

**Q What is your approach to emerging areas such as energy storage?**

Storage is something we are all trying to figure out. The evolution of batteries is on a really encouraging trajectory. The analogy I would give is the evolution of solar PV panels: they started at a really high cost, but over time, through technology, we were able to drive down

costs to help facilitate the much wider proliferation of solar. We are on that sort of curve on the battery side.

What we are trying to do is think through the situation in terms of where cost will end up on a levelised basis and work through some scenarios around the technology, which is still nascent. Our approach is to look for opportunities where there are legacy assets. We try to find opportunities where the battery is a facilitator to help transition power generation from, say, a gas-fired facility to something that has more of a renewable component to it.

### **Q What are the priority areas for investment to repurpose existing infrastructure assets?**

As we think about how we rebase our energy supply, a good place to start is to look at the infrastructure that is in the ground already. We believe there is potential in carbon sequestration and hydrogen, for example, but there is still a lot of work to do in terms of validating technology and bringing down costs. We think part of the solution is figuring out how we repurpose existing infrastructure – specifically pipelines – to serve both of those needs.

Historically, one of the impediments on the carbon sequestration side has been the lack of CO<sub>2</sub> logistics. There isn't really a hub-and-spoke network to connect carbon projects to where the sequestration sites will ultimately be located. At the same time, some of the pipelines around our historical natural gas supply centres in the US, like the Barnett Shale in Texas, are now under-utilised.

Existing pipeline operators have been through the work already in terms of securing the right of way, figuring out where these lines should sit, digging the ditch and putting them in place. I think there is a really interesting opportunity in looking at how we could repurpose some of the pipelines, especially in areas where those pipelines are under-utilised.

There would need to be some

incremental pipe laid in order to meet the power plant or the refiner where we are trying to capture carbon, but by some studies that would only be 20 percent of the cost of having to build a completely new network to capture and move the carbon. So, if there is an opportunity to reduce the project spend by 70 or 80 percent, to us that seems like a compelling place to spend time hunting for investment opportunities.

### **Q Do you see opportunities for investing in infrastructure to facilitate the use of hydrogen as an energy source?**

Hydrogen has gone from something that was really not front and centre to a very topical conversation over the last year. I think that the potential is very vast on the hydrogen side, but there are still material hurdles. We have made progress regarding the technical feasibility in terms of where hydrogen sits today, though it is still just very expensive.

The work over the next leg of this journey will be figuring out how hydrogen is commercialised in a more cost-effective way. The reason I am encouraged by this is that 15 years ago we were having the same conversation

*“We might start to think of a business model where energy is a service offering rather than a metered consumable”*

around solar and wind. It will continue to take some time to move to where we are really commercialising hydrogen, but even today, most of our existing natural gas pipelines can blend in 20 percent hydrogen.

So, we want to begin by making thoughtful investments that have exposure to potential hydrogen development and that over time help facilitate the hydrogen industry. But, for us, we want to get that exposure in a diversified way, as opposed to saying, “we know that this one particular hydrogen project is the one that is going to move forward”.

### **Q With the offshore wind sector in North America gaining momentum, where do you see possibilities for investing in the value chain?**

Among other issues, there has been a strong NIMBYism in the US – the phenomenon of local residents not wanting this infrastructure built near them, but in someone else's ‘backyard’.

People have been against having offshore wind in places where it would change the views from their homes. But the technology has been evolving and improving, so windfarms can be further out in the ocean.

That is partly why we are starting to see momentum across the Eastern Seaboard and particularly in the Pacific Northwest. Plus, the Biden administration has certainly made it clear that it views the energy transition as an important priority. Again, where possible, we want to help accelerate the development of offshore wind on a regional basis.

So, we are thinking about the broader infrastructure that is needed to develop these windfarms. That could mean strengthening the port infrastructure. It could mean investing in storage facilities for turbines or other equipment.

Another place to look is the vessels that are needed for offshore wind and which might need to be repurposed. Those are the pieces that get us excited because we can be a facilitator for a broader trend. ■

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