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**World Gas Young Professionals Program**  
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Title: Global Perspectives of the Future of Natural Gas

I want to start today by telling you about a Woodside technician, nicknamed “Pickles”, who is about to go on a space mission.

He will be travelling soon from our flagship operations in Australia’s north to the NASA Johnson Space Centre in Houston.

Along with a Woodside engineer, Pickles will be assisting NASA in Houston as they repair, upgrade and test the International Space Station Robonaut before it is sent back into space.

The Woodside team is involved because we are working with NASA on the Robonaut program and are hosting a Robonaut in our Perth headquarters, where we are looking into how such technology may be used in remote locations where we operate.

I’m telling you this story because it illustrates how much our industry has changed, how we have embraced cutting edge innovation that extends beyond hard pipe technologies as we strive to improve the way we do things.

We are creating the jobs of the future, harnessing the skills of our current workforce. We are an industry of the future - and we need to think that way.

There was a time, not so very long ago, when some were latching onto the notion of gas as a transition fuel.

Those times have passed. It is clear now that the resource we produce is not merely a bridge to a cleaner future. It's an essential part of that cleaner future, both as a power source in its own right and in partnership with renewables.

Governments are increasingly showing they understand the value in switching from legacy fuels to gas as they strive to reduce emissions – and not just carbon emissions, but also emissions of NO<sub>x</sub>, SO<sub>x</sub> and particulates.

Yes, it's about combating climate change – but it's also about delivering cleaner air and reliable energy for communities today.

The world is going to need gas. And the best way to deliver it is as LNG.

Such is Woodside's confidence in the future of LNG that we have recently outlined growth plans to continue developing gas fields in Australia for decades to come.

When you are progressing new projects, it challenges you to think about what the future will look like through the lifecycle of those projects.

We see new markets for LNG – and new uses.

Obviously, gas has a growing role to play in power generation, displacing coal-fired power and extending the provision of power to disconnected communities.

But the uses of LNG go beyond that.

Woodside is working closely with miners, shipping companies and equipment manufacturers on developing LNG as a transport fuel, to power global shipping and long-haul trucks and trains.

Together, we are building a “Green Corridor”, developing LNG- fueled bulk carriers to operate on the busy marine trade routes from Australia to north Asia.

This is part of a switch to LNG marine fueling that is gaining momentum globally ahead of the introduction from 2020 of the International Maritime Organisation’s tighter restrictions on Sulphur emissions.

We are actively chasing these new markets – but we are not forgetting our old customers.

For Woodside, our foundation customers are Japanese.

We are watching closely the developments ahead of the Tokyo Olympics, where Japan wants to showcase hydrogen power.

We think the interest in hydrogen power - and its potential for export and use in large-scale industrial applications - presents an opportunity for us.

It's worth remembering that LNG is methane, which contains four hydrogen atoms. It carries more hydrogen by weight than any other carrier, excluding liquid hydrogen.

So, we are looking into providing energy to old customers in new ways.

We are also looking at our own power needs. Our flagship facilities are in a sun-drenched region, where it may make sense to integrate solar energy into our own power supply, reducing the gas we use to power our plants and leaving more LNG that we can sell.

We are pioneering the use of a 1MWh battery for spinning reserve on an offshore oil and gas platform and think there may be other bespoke applications for batteries in our operations.

Batteries pose no threat to gas – they don't generate energy, they just store it. In some instances, they can support our operations.

During our panel discussion, I'm sure we'll discuss the policy, pricing and other trends shaping global gas markets, but in this forum for young professionals, I wanted to emphasise that it's a great time to be carving out a career in this industry.

It's clear now that the resource we produce will play a big role in the future energy mix.

The challenge to us is to be smart about how we deliver it.

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