

# N E X T



OFFSHORE  
WIND

**A GAME CHANGER  
FOR NET-ZERO?**



Tidal Marks 1 by Marilyn Wallace-Mitchell



OFFSHORE WIND-  
POWERED ELECTRICITY  
GENERATION  
OFFERS EFFICIENT  
AND UNOBTRUSIVE  
RENEWABLE  
ENERGY, CAPABLE  
OF DELIVERING  
SCALE WITHOUT THE  
LAND USE DEBATES  
CHARACTERISTIC  
OF THE ONSHORE  
INDUSTRY.

**The technology is already providing clean energy in Europe. With Australia's abundant coastline, it has the potential to be a major contributor to this country's energy transition as well.**

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Of course, there are challenges – technical, logistical, environmental, and social – that offshore wind projects must overcome. To discuss those, King & Wood Mallesons Energy and Infrastructure Partner Rod Smythe was joined by Katie Choi is Asia-Pacific head of legal at Corio generation and Marcus Dixon from renewable strategy and financing specialists Green Giraffe advisory.

Below is an edited transcript of that conversation, which you can listen to in full via KWM’s Apple and Spotify Podcast channels.

**Download the podcast here**

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### **Rod Smythe**

Hello, I’m Rod Smythe, a partner at King and Wood Mallesons and I’m passionate about the potential for offshore wind as a part of Australia’s energy transition.

Firstly, what are we talking about with offshore wind?

### **Katie Choi**

Thanks, Rod. Offshore wind is a game changer. By capturing wind energy at sea, we benefit from high wind speed and more consistent wind, leading to higher efficiency and value. Offshore wind is expected to increase exponentially as it meets decarbonization targets and is key to achieving net zero by 2050.

### **Marcus Dixon**

When we talk about fixed bottom offshore wind platforms, they are physically attached to the sea through a pile or jacket foundation. Floating platforms are anchored to the seabed through mooring lines or cables. Most global projects have been fixed bottom, but floating foundations are necessary for deeper waters, like those off New South Wales.

### **Rod Smythe**

If any of our listeners want to see how big an offshore wind turbine is, watch a YouTube video of a boat installing a fixed bottom turbine. It’s an amazing engineering exercise. Australia is just starting its offshore wind journey, while European and Asian markets are 10 years ahead. Marcus, why have state and federal governments in Australia decided to pursue offshore wind?

### **Marcus Dixon**

Australia is transitioning its energy outlook with significant coal retirement and the need for electrification. The 2024 ISP (integrated system plan) forecasts grid-scale renewables need to increase six times by 2050 to meet net zero targets. Australia has the fundamentals: wind speeds, suitable seabeds, and proximity to high energy users.

### **Katie Choi**

Globally, we have 75 gigawatts of offshore wind capacity installed, but we need 380 gigawatts by 2030 and 2000 gigawatts by 2050. We have a lot of catching up to do.

### **Rod Smythe**

The Australian government has granted feasibility licenses for zones in Gippsland and the Hunter. These projects will take years to go from conception to operation. Katie, can you unpack what’s involved in taking these projects from the starting line to reality?





## Katie Choi

Offshore wind development is complex, capital-intensive, and long-term. Using Corio's Great Eastern offshore wind project as an example, we are in year three of a seven-year development process. This includes site selection, project approval, engineering, stakeholder engagement, and procurement.

Even after development, construction takes another three to four years. Successful markets need to provide policy support across all areas, including approvals, market pathways, supply chain development, skills and training, and enabling infrastructure like grid connections.

You need to invest in skills and training to grow the workforce to support the offshore wind industry. And to add to that, I think very importantly, you need to develop the enabling infrastructure, such as important grid I cannot emphasize how important that is really, because when you look at the other offshore wind projects elsewhere, delays to grid infrastructure is one of the most common causes of delay to offshore wind projects and deployments globally.

## Rod Smythe

We're talking billions and billions of dollars here. Marcus what do proponents need to access the debt financing and equity investment to make these projects stack up?

## Marcus Dixon

Ballpark figures, two to 300 million to get through to your point of construction. And the capex spending could be anywhere between 10 and 12 billion if you're doing a one and a half to two gig watt project. So we're talking significant capital. The key aspects are procurement and offtake - turbine choice, is going to have a huge bearing both for debt and equity. For offtake, we need to have long term support to unlock long term capital. I think there's going to be significant education of the local market on how it's been done overseas - not trying to change things, but bringing in key lessons from international markets, around how you bring in longer-dated capital. So export credit agencies, in addition to attracting the E (CEFC) or (Clean Energy Finance Corporation) capital to provide longer dated debt and ultimately de-risking the projects.

The industry in Australia has come a long way in a short time. Investment in infrastructure supporting offshore wind, like ports and transmission, is critical. Political support and long-term targets are essential to attract investment and develop the supply chain.

## Rod Smythe

Social license considerations are key in any development. Marcus, how can social license be best addressed in Australia?

## Marcus Dixon

Social license is crucial. Offshore wind projects need political will to navigate challenges and ensure positive community engagement. The closest turbine off Gippsland is 12 to 15 kilometres offshore, and in New South Wales, it's 20 to 30 kilometres offshore. This distance helps mitigate visual impact.

## Katie Choi

Offshore wind projects undergo stringent approval processes, including assessments of marine environment impact, visual impact, underwater noise, and seabird collisions. Open and transparent engagement with the community is essential.

## Rod Smythe

What does the future look like for offshore wind in Australia?

## Katie Choi

Demand for offshore wind will increase dramatically. Asia-Pacific is likely to maintain its leading position in offshore wind installations for the next 10 years. The global offshore wind market will continue to grow, attracting long-term investors.

## Marcus Dixon

In five to seven years, we might see operational offshore wind projects in Australia. In 10 years, Australia could have projects that rival the largest global projects. There's a lot of work to be done, but the potential is huge.

## Rod Smythe

Thank you, Katie and Marcus, for a fascinating conversation.

For more energy transition insights, search 'KWM future energy' to check out the King and Wood Mallesons' future energy page and please reach out with thoughts or questions. We'd love to hear your views!



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