



Session B3: Turning The Tide  
on Climate Change



**MARINE**  
ENERGY WALES  
YNNI MOROL CYMRU



**Sue Barr**  
**Chair of the UK**  
**Marine Energy**  
**Council**



**John Jenkins**  
**Commercial**  
**Director at**  
**Mentor Mon**  
**Morlais**



**Kate Gilmartin**  
**CEO of British**  
**Hydropower**



**Sarah-Joy Lewis**  
**Director at**  
**Local**  
**Partnerships**

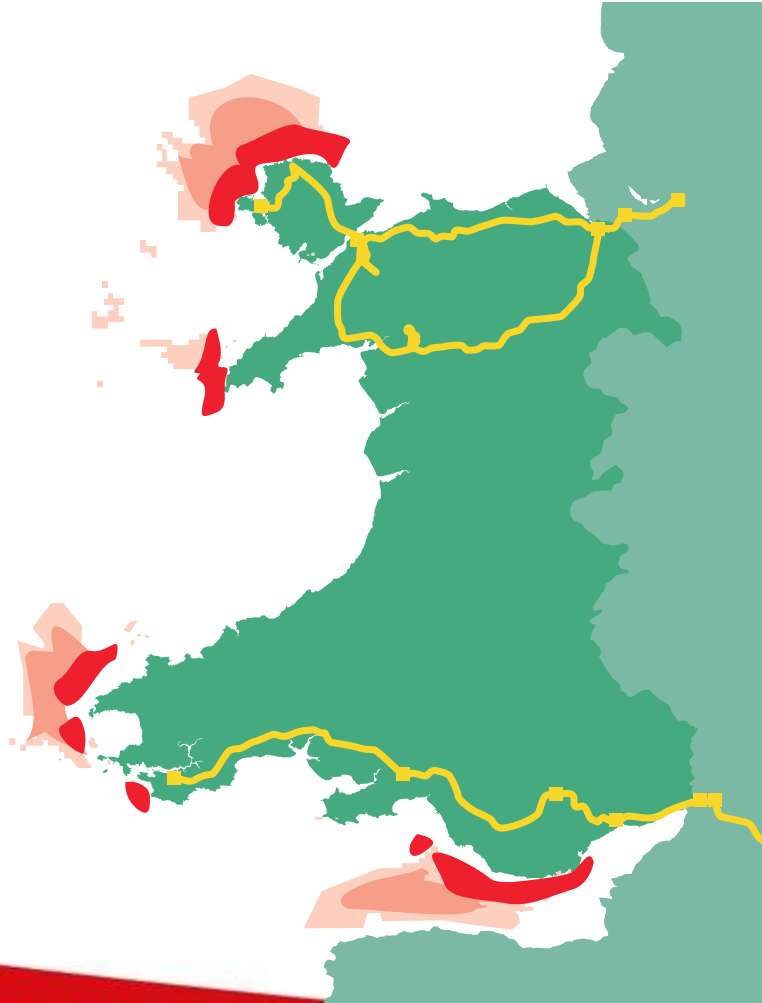


**Simon**  
**Cheeseman**  
**Sector Lead**  
**Wave & Tidal**  
**OREC**

# Stream Resource Potential



# Stream Resource Potential



Wales has tidal stream hot spots around its coast, particularly where the tide is pushed around islands and peninsulas.

322 MW of tidal stream sites are currently leased for development in Wales of which 320 MW are in Anglesey, 240 MW are the Morlais project.

While Anglesey is the area of largest focus, there is also significant potential in Pembrokeshire, Gwynedd's Llŷn Peninsula, and the Severn Estuary.

Several studies have looked to quantify tidal stream resource potential of the UK, returning results of between 10 and 12 GW.

While no studies have directly quantified Welsh potential, our own comparative analysis suggests Wales could feasibly contribute at least 1 GW.

# The Ebb and Flow of development



Consent and grid agreement achieved for a 10 MW Anglesey Skerries Array in 2014.

Project halted in 2015, focusing resources elsewhere.



Full-scale prototype deployed in Ramsey Sound, Pembrokeshire in 2015.

Operated for 3 months



Plans to make Ynys Enlli Wales's first tidal powered island came to a halt in 2023, midway through EIA process, citing technical challenges making the project economically unfeasible.

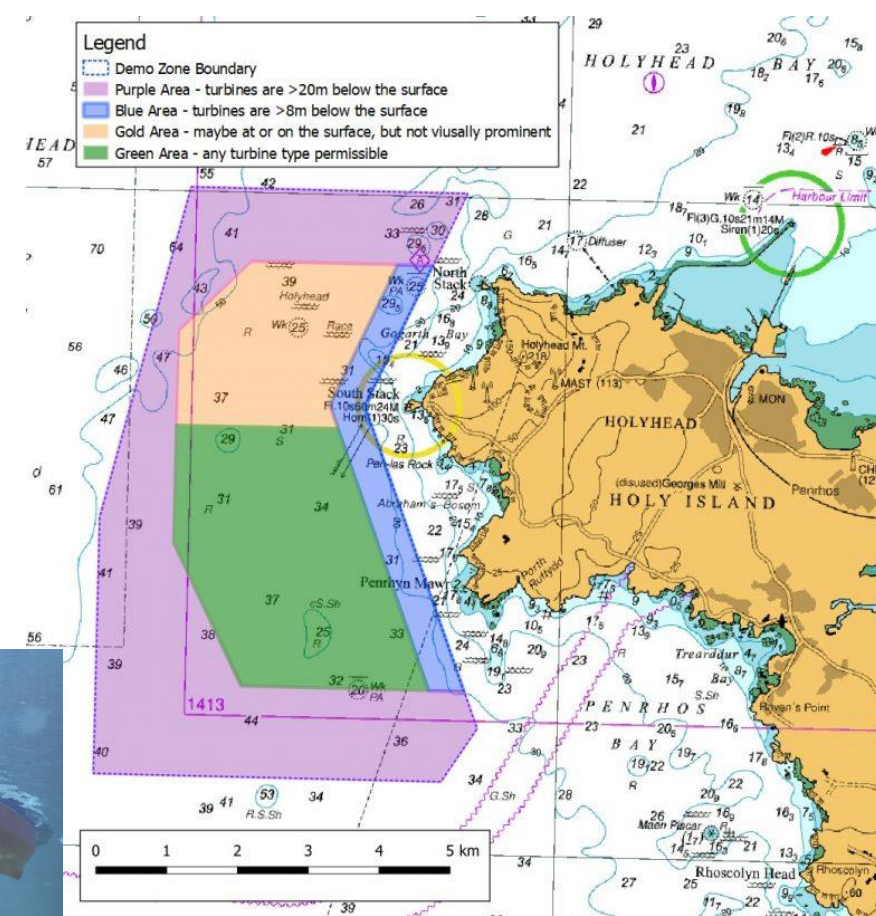
# Looking Forward...

Ringfenced CfD funds for tidal now instrumental in projects moving forward.

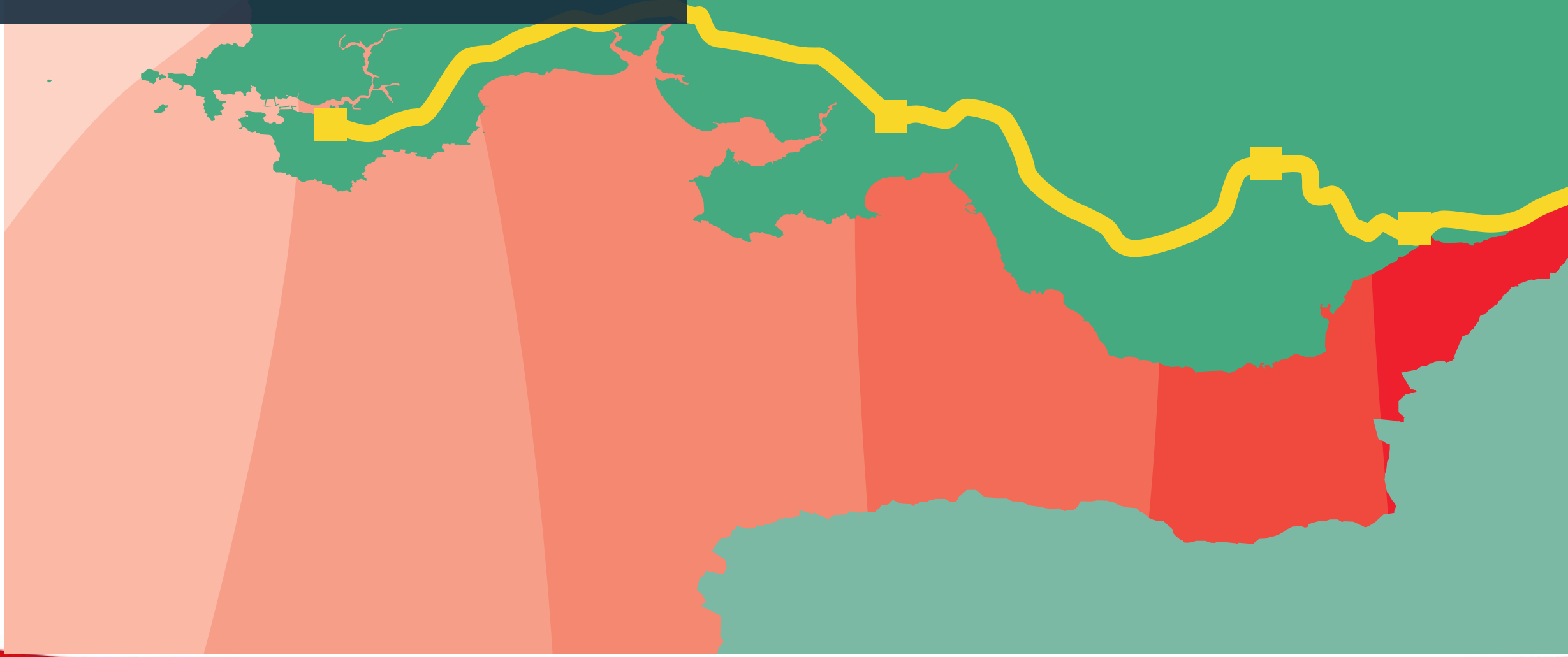
Between AR4 and AR5, 28 MW of CfD awarded to Morlais projects.

First projects expected to deliver power to the grid in 2026.

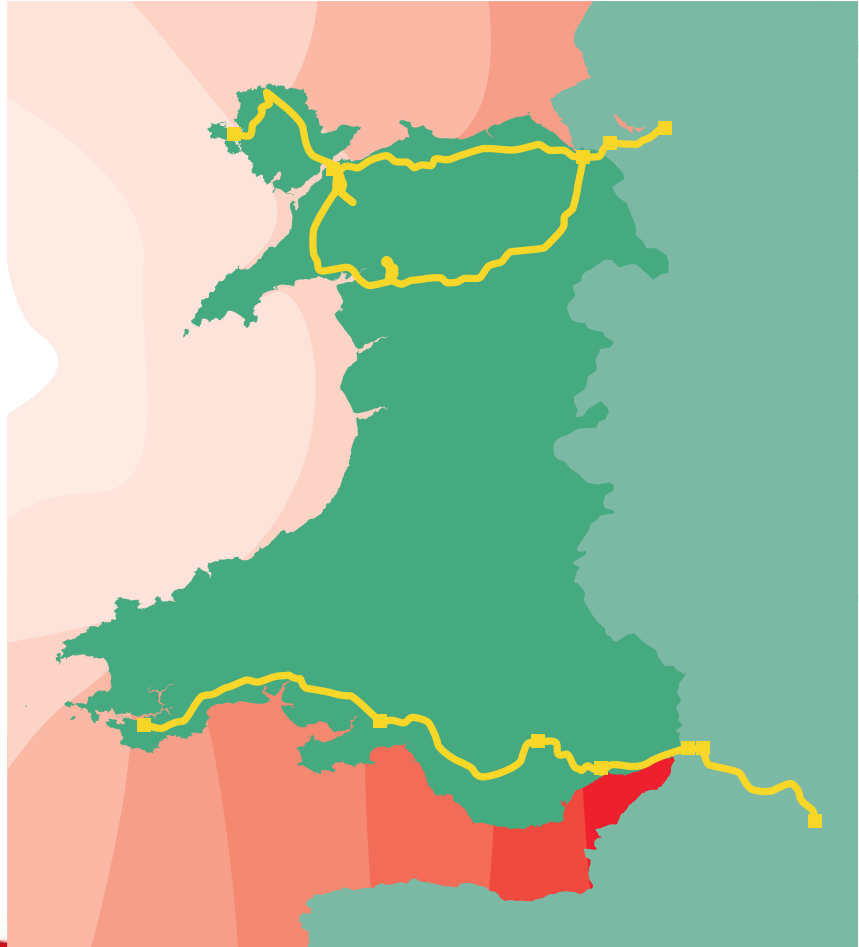
Primed for further expansion.



# Range Resource Potential



# Range Resource Potential



Wales's South and North coasts home to the world's 2<sup>nd</sup> and 5<sup>th</sup> largest tides respectively.

Up to a 14m difference between high and low on a spring tide in the Severn Estuary.

Severn Estuary resource conveniently located close to major population centres and heavy industry.

Estimated that with the roll out of multiple large scale projects in the North and South, tidal range could supply up to 9 GW of electricity.

Also the potential for phase shifting energy generation and short duration pumped storage to better match supply and demand.

# Working Towards a Pathfinder Lagoon

Many projects have been proposed to date, the most advanced being the Swansea Bay Tidal Lagoon, a 320 MW scalable pathfinder project.

Achieved development consent to begin onshore works in 2016. Marine licence never granted.

Despite being backed by the Hendry review, citing tidal range to have "a cost effective role in UK's energy mix", in 2018 BEIS rejected a plan to financially support the project, indicating the project was too expensive.

Development consent expired in 2020, halting the project before it was able to secure adequate finance.



Welsh Government are now funding research projects through Tidal Lagoon Challenge, with the aim of reducing barriers to deployment for future projects.

# MEW's role in supporting tidal



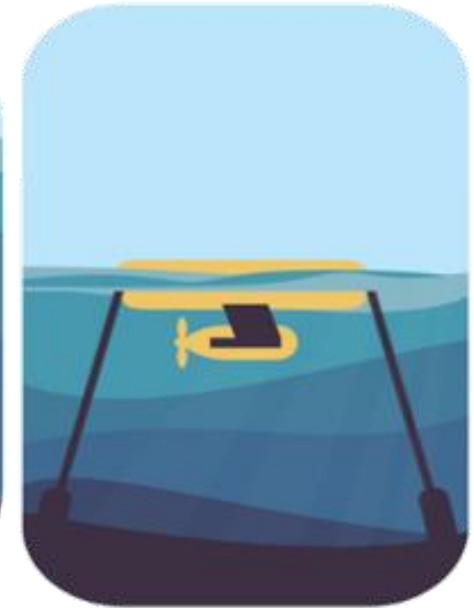
# MEW's role in supporting tidal

Continual efforts to advocate at both the UK and Welsh Government levels in support of the industry's requirements.

Supporting the Morlais project in their efforts to make Anglesey the home of Welsh tidal stream energy.

Supporting the delivery of Welsh Government's Tidal Lagoon Challenge.

Working with recent tidal stream CfD winners to facilitate cost saving through collaborative working and maximise benefits to Wales



# What Does Wales Need To Do?

Introduce finance mechanisms to help generate revenue and cover capital costs

Reduce risk in the consenting process to enable new projects

Support demonstration of reliability and performance

Work with UK Government to develop a longer term pipeline

Maximise local economic benefits from tidal energy

Enhance public understanding of wider system-benefits of tidal



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Thank you