

# INTERVIEW

by Dan Hyland – Operations and Sales Director at OGV Energy

## CALLUM MAXWELL, BUSINESS DEVELOPMENT MANAGER, RENEWABLES, PROSERV



**Q. If you can give us a little bit of background on your own personal journey into offshore wind first, that would be great.**

I think even when I was in school, I was interested in geography and sustainable development and that took me on a little bit of a path initially through applied chemistry at Strathclyde University. But I think my goal, my ambition was always to move into the renewables industry as it was kind of slowly developing around that time. So, I completed a master's degree in sustainable energy at Glasgow University.

**Q. Time frame wise, Callum, when was that?**

So that was about ten years ago now, I can't actually believe how long ago that was! Then I was working for a while at Glasgow City Council as a business analyst there, and then moved into ship management and worked for a commercial ship company, VShips. But the goal was always quite clear in my head that I was just slowly plotting a path towards a technical or business development type role within the offshore renewable market or offshore wind.

And after spending a little bit of time in Australia, I had the opportunity to then join the UK's leading research and technology organisation, the Offshore Renewable Energy Catapult (OREC), initially as a funding proposal specialist. It gave me a lot of opportunity to work across the supply chain.

I would probably describe myself as a little bit of a geek as well, so I like digital innovations. So then the next step into Proserv came quite organically from a collaboration project between OREC, Proserv and Proserv's partners Synaptec and BPP Cable Solutions as they started down the development route for what has become the product and service into the market.

**Q. So you were actually helping organisations at OREC Catapult to develop technology effectively for the renewable sector?**

I would say I was the middleman with a really tremendous team of engineers working within the Offshore Renewable Energy Catapult. So, my role essentially at that time

was to identify funding opportunities, or collaboration opportunities, and try and link the right companies, as in, what technologies fit those briefs and where can we hope for the biggest growth with some of these organisations. So that was a tremendous time just to learn about all that kind of leading-edge development within the UK supply chain.

**Q. That was quite a challenging role, because presumably everybody was looking at this going "this is a fantastic opportunity for us to make money, we've got an idea". So you really had to separate the wheat from the chaff and decide what could be commercialised effectively?**

Yes, not quite so cut-throat perhaps as that! But no matter where an organisation is in that, let's say, technology readiness level, there is a route for them within OREC Catapult. So whether it just starts off as that conceptual great idea - how do I take it to the next level - or whether it's an organisation like Proserv, who have so much experience in the oil and gas industry and say "how can we take the skills and experience that we have, and the people that we have globally, to build and pivot into the renewables sector to enable that sustainable growth within the organisation itself?"

So, yeah, if there's a great idea out there and there's willingness from the company to move forward in the offshore wind sector, then the Offshore Renewable Energy Catapult is a great door to chap on.

**Q. So then obviously Proserv approached you presumably, to come in. So if you just talk through how you took that role with Proserv and how they sold it to you and did it work out?**

We'll start with the last question. Yeah, it's absolutely working out, I love working at Proserv and the opportunity that it's given us. But to take it back to the start, I suppose you could say a bit of luck and an opportunity in that Proserv had reached out to say "we have an idea" and had been engaging with Synaptec at that time.

I hosted a meeting in the Glasgow office for Offshore Renewable Energy Catapult to talk through what, at that stage, we were defining

as the smart cable project. So, we bid for an Innovate UK Smart Grant and fortunately we were eventually successful in achieving that. Then my role at that time was, once it's moved into an active project, I'm on to the next company to try and support through that process. So, the ECG™ development project was very much alive and kicking in the background, and as it came to the end of that, I got very kindly approached by Proserv as I understood the technology, understood what they were trying to do and believed in it, and it felt like the right move at the right time for me. So, I suppose in some ways Proserv sold it to me, but I think I'd probably already sold it to myself!

**Q. Your CEO, Davis Larssen kind of captained that pivot and diversification into the renewables space. So, prior to that, Proserv was largely oil and gas based, one of the leaders in subsea control systems. I presume you were probably one of the first people to come on board and help pioneer that diversification.**

Yeah that makes me sound very special but I will happily take it! So I think organisationally, Paul Cook, who is my direct manager, the VP of Renewables, he'd been essentially tasked with a blank sheet of paper. We understood the skills and capability that we had within the organisation. So, it was how can we bring that subsea controls experience and that technical skill that we have, in developing control systems, and general systems, that will operate in hostile environments, and take that blank sheet of paper and say, "what is the problem that we can use these skills to try and solve in offshore wind?"

And then from that, a couple of other members of the team: Laura Carrigan, who at that stage was a graduate engineer, and Lee Davison who had been with Proserv for a long time and is now the Product Manager for the renewables as well. We are a relatively tight core team, but we can dip into that great resource and experience that we have from the oil and gas side of the business.

So perhaps I was the first what we call a purist that was in-house. But in general, there's a great core of capability that we have to enable our transition into offshore wind.

**Q. On the purist side of things, it certainly was a thing once upon a time, because the renewable crowd were a little bit reticent to let the oil and gas guys come in with a lot of that technology. I think that that's kind of changed now in terms of everybody working towards the same goal, would you say that was fair?**

I think that's absolutely a fair comment. I think there's kind of two elements, there's the supply chain part, which obviously Proserv is very much involved with. And then there's the development side as well. So the developers, where we've seen a lot of movement from, what we would have previously classed as kind of the oil majors, again, trying to transition and carry out that sustainable growth. And I think, initially there was a little bit of pushback, but ultimately everyone, or the goal in general, is sustainable growth, not just for the organisations but longer term for the country that we live in, for the world that we live in. So, I think that movement and that technical expertise can only be a good thing. And in the long term, I guess, time will tell if that's the case.

**Q. So if we look at the technology itself, ECG™, which sounds like a heart monitoring technology - you're clearly keeping your finger on the pulse of your clients to make sure that their equipment is safe. Can you elaborate a little bit on that or how it works and the benefits to your clients?**

Absolutely. We are a data focused organisation. And the challenge that I think offshore wind has a lot of the time is, "are we collecting the right data from the right places?" So when we look at some of the statistics, cable failures are very expensive when they take place, and insurance companies tend to take the brunt of that. I think the latest figures that I've seen are still up around 80% of the total value of claims within the offshore wind industry come from cable failures themselves.

So it becomes a really interesting element of why is that happening? Is it something that we're not seeing? And ECG™ very simply is trying to give insight, totally passively, using infrastructure that's already within the cables, i.e. the fibre optics within them, to try and understand within the cable section mechanically, thermally, how is it performing? How do we expect it to perform? How is it changing over 25 years of operational life?

Where Proserv is trying to push it is with our relationship with Synaptec who've developed a great technology, distributed electrical sensing (DES), which, to put it very, very simply, allows us to take a multimeter to some of the key connections within the cable infrastructure, which are the terminations themselves. We could also do it in the joints as well.

But what makes it interesting is once we've got the system installed and connected to the fibre optic network, then those sensors

will sit and they will monitor the current, the temperature, the voltage. We can also look at some of the mechanical properties in that offshore environment, as there's going to be a lot of fluctuations. Where the market has been for the last few years is, not a huge amount of monitoring being carried out at all on inter-array cables where there can be a lot of failures. On the export cables, the insurance company require simply a DTS system, which is purely focused on distributed temperature sensing, as the name implies, on what is the temperature and how can we infer what the conductor temperature is within that, which is a start.

However, that's only one thermal bottleneck you're going to be looking at. The other, which potentially has more risk of failure and statistically certainly is more likely to fail, are the terminations themselves, because ultimately these have to be jointed manually. And if there's any imperfection within that, over time electricity, like water, will find another path. And when that happens, it can be pretty explosive. ▶

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