

## Renewables Sector News

As an interim manager, Andrew has undertaken assignments across a range of technical industries, about a third in the renewables sector - the first in 2002 when the industry was very different to today and the most recent is now completing. Quite a range: running a **medium sized wind turbine company** (in Germany), running a near start up **tidal turbine**




**business, wind farm recovery** (in Austria), **assembly start up** in China and more.

Andrew is currently completing an assignment as interim program manager for **offshore technology** development. If you have a situation (business, function, project) requiring absolute focus, multidisciplinary input, a mix of "been there before" and original thinking, then we should be talking!



**Andrew has undertaken assignments for various subsidiaries of European groups including: Catum/Lazhou Electric, Compact Power, DeWind, EU Energy, Mitsubishi, NEG Micon (now Vestas), Tidal Generation (major shareholder Rolls Royce). Here's an insight into some of the work Andrew has been involved in:**

### GETTING AVAILABILITY


 Near Bratislava, 3 wind farms, 30 turbines, the contract required 95% availability, with maybe only 15 turbines turning. Andrew has an assignment to sort it out. He opens the entry door to the tower of one turbine, and inside it was raining hydraulic oil. Something had gone seriously wrong. The assignment was to recover the wind farms - quickly.

The problem was that the wind farm support contract provider had defaulted. The first step was to specify, instigate and manage a recovery programme; quickly. There had to be a single programme, but to be done in phases to make it manageable. Parts, logistics, tooling and skilled people were all required and put into place. Once the turbines were running the deeper problems began to emerge, such as with gearboxes, convertors, large bearings, etc. All were addressed with the one initial aim to get the availability up over 90% and keep it there. Commercial issues began to emerge with the technical support company and it became clear that the work scope would have to be retendered. A new technical service company was appointed. The hand over was complicated - technically and commercially. But it was done.

As a professional interim managing the situation, the buck stopped with Andrew every time. There was nobody else to manage technical, commercial and operational issues. That's interim project management. That's what Andrew's client bought.




## A VERY INDUSTRIAL BUSINESS

 A new wind turbine design (German synchronous technology) in a China factory was always going to be challenging. The more so with a brown field development in a former China state company. The assignment was to get an assembly facility up and running. The quick fix was to put processes in place to meet the immediate need, but the correct thing to do was to put processes in place for future requirements.

Andrew's client agreed that whatever was put in place becomes the norm. The Chinese client had to be persuaded that a sub-assembly concept was the right way to go; they had only seen a single station build. And then there was the supply chain – quality (of the domestic supply) and time reliability (for international supply), training the work force, designing the tooling, sorting the work flow, ensuring the build standard and managing a Chinese work force. The first type was definitely challenging, but the investment in thinking and preparation paid off, the machine came together quickly and correctly. Factory commissioning tests were passed within days. The German technology providers (CATUM who were the design authority and main contractor) were very supportive but 7 hours behind. A lot can happen in 7 hours, and the production side was always Andrew's responsibility.

The interim assignment demanded absolute focus, knocking the problems over one by one, never relenting, and never letting the standard slip. About 6 months later back in China, Andrew was busy refining the assembly processes now in place and proven.

## MANAGING A MATURING TECHNOLOGY

 Tidal turbines are a maturing technology. The sector faces all the issues of offshore wind turbines with the added complexity of being 40m below the surf. By definition they operate in particularly inhospitable conditions. Andrew's assignment was challenging, the company founders (a group of passionate individuals) had very different views to the main share holder (a blue chip engineering plc), and as interim managing director, Andrew's task was to take the company to the next stage against this organisational back-drop. On some days this made the technology challenges alone seem easy!

The 500KW tidal turbine was completing the design phase, assembly was on-going, and preparations were being made for offshore installation. There was huge pressure to complete the foundation and deploy. A managing director in a small company must do many things - lead, support, pick up whatever is not covered by others, and in this case manage the major shareholder expectation. Going offshore meant everybody went on the crane barge. This included Andrew, to look at the bits of engineering, process and operations that might get missed by others, negotiate with the key contractors for continued marine services (cash was an ever present problem) and look a little further ahead than the team who were, understandably, all eyes down.

This was a tough assignment, but the business was moved forward in terms of the technology and deployment, despite major legacy technical challenges (above and below the water line), insurance problems, re-negotiation of commercial contracts and a company refinancing.

Andrew has also undertaken interim assignments:

- Running a medium sized wind turbine producer in Germany as interim managing director.
- Leading early stage process transfer for wind turbine blades from UK to Australia.
- Undertaking early stage wind turbine production development in India.
- Managing an energy trading software business during and through an internal merger.
- Providing technical and operational consultancy to a pyrolysis business.

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