

Issue

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## A sustainable future for mining

An interview with Geoff Hobley,  
General Manager, Remote Energy,  
EDL



# A sustainable future for mining



*“Don’t try hybrids at home!”*

**GEOFF HOBLEY**  
GENERAL MANAGER  
REMOTE ENERGY  
EDL

**A**s mining companies pursue net zero carbon emissions, renewable and hybrid technology is central to achieving this goal. Geoff Hobley, General Manager Remote Energy at EDL, talks about the future of sustainable energy at mine sites.

**Energy and Mines: We’ve seen an increased uptake in renewables and storage for mines - what are the main trends driving project uptake?**

**Geoff Hobley:** There is global momentum to decarbonise all industries, including the mining sector. Generally, companies are experiencing pressure to reduce carbon emissions as quickly as possible. Many also want to distinguish themselves as decarbonisation leaders to gain a competitive advantage. The mining industry were pioneers in the decarbonisation space and moved early to reduce their carbon footprint. Many mining companies have committed to net zero carbon emissions by 2050 or earlier, with aggressive cuts by 2030. This landscape is driving them to find alternative and sustainable energy sources that meet their requirements now, and into the future.

**EandM: What lessons can be drawn from operational projects and hybrids under development?**

**GH:** The biggest lesson is that while hybrid power solutions may appear simple, our experience shows they are technically complex and challenging. For example, each renewable technology included in a hybrid solution requires careful interfacing with the existing or backup thermal power station to ensure







Agnew Hybrid Renewable Project



*“The long-term decrease in battery costs has facilitated a higher renewable energy penetration, reducing the need for fossil fuel—including diesel—as an energy source.”*

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optimal power performance is achieved. We have found that hybrids deliver outstanding performance—matching or often exceeding main grid reliability. For example, the Agnew Hybrid Renewable Microgrid provides the Gold Fields mine with more than 50% renewable energy without compromising power quality or reliability. The Agnew microgrid is the largest of its kind in Australia—and the first to utilise wind generation on a large scale at an Australian mine site. At Jabiru in the Northern Territory, the hybrid power station provides the township with at least 50% renewable energy—helping it transition from its mining legacy to a tourism and services hub. Such systems require the right expertise from partners with proven and reliable solutions. Don’t try hybrids at home!

**EandM: How are the economics of energy storage changing and increasing diesel displacement?**

**GH:** Energy storage with batteries is a major enabler for hybrid energy power stations and renewable energy production. Lower battery costs and increased availability have revolutionised multiple sectors, including the power generation industry. The long-term decrease in battery costs has facilitated a higher renewable energy penetration, reducing the need for fossil fuel—including diesel—as an energy source.

**EandM: How are miners navigating the challenge of financing higher penetration renewable energy for sites with shorter mine lives?**

**GH:** Hybrid energy systems involve a wide range of solutions. They can be a battery supporting thermal power station efficiency, or a system optimising solar and/or wind electricity generation. When we engage with clients, we can find a solution that provides value for any project, regardless of the mine size or life. Mining companies look beyond the initial mine life when



Geoff Hoble (left) with  
EDL CEO James Harman

considering hybrid solutions. Mine sites tend to expand due to new resource discoveries, so mine planners account for this scenario. A long-term approach can deliver improved economics and benefits for our customers.

### **EandM: Which other low-carbon solutions are mining companies implementing and planning for?**

**GH:** There is much discussion on electrification, especially for underground mining operations. Electrifying all systems reduces the need for diesel-based power sources and associated ventilation requirements. If energy for the entire mobile fleet is delivered from renewable sources, including battery-electric vehicles or overhead lines (like that used by trams or trolleybuses), carbon footprints will reduce significantly. Additionally, having electrified ancillary equipment such as mobile lighting will also help. Overall, making sure that all energy-consuming assets operate at maximum efficiency is an ongoing focus for mining companies.

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**EandM: Which disruptive technologies will be critical to the next phase of mine decarbonisation?**

**GH:** Once the main source of a mine's power is met by renewables and hybrids, the next decarbonisation phase is the electrification of the entire mobile fleet and all other equipment, as mentioned previously. Electrification is already happening for private vehicles and public transport, with uptake rapidly increasing around the world. This technology is available here and now. The challenge for miners is to source a range of reliable electric plant that can replace diesel-powered vehicles and equipment. This will occur in the not-too-distant future.



Drone shot of Agnew wind turbines





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