



Krupp coal stacker at Kestrel mine. Wikipedia

Why Wouldn't You? Inside Kestrel Coal's Methane Bet

Inside a coal miner's very rational case for not yet installing the technology that could cut its methane emissions — and what it reveals about why grant-funded finance isn't yet pulling mines away from the forest credit market.

BY JUNEIA MALLAS • THE METHANE BRIEF • ISSUE NO. 15 • AUGUST 13, 2026

At the UNECE Group of Experts on Coal Mine Methane and Just Transition meeting in Geneva in April 2026, Jodi Lee from [Kestrel](#) Coal discussed the company's cautious approach to Regenerative Thermal Oxidation (RTO) technology. Lee characterised himself as “your typical introvert, engineer, technical person” and noted that the mining industry is “very safety-driven.”

RTO technology isn't new or unproven — it has been abating coal mine ventilation air since 2007. The central tension is economic: “Why would you go through all that effort for something that's not economic?” Lee said Kestrel's decision hinges on whether the company's own financial analysis supports installation.

Methane accounts for roughly 30 percent of warming since pre-industrial times. The UN Environment Programme's 2021 Global Methane Assessment identified methane cutting as “the strongest lever we have to slow climate change over the next 25 years.”

Rich Grzanka from [Anguil](#), an RTO equipment supplier, explained that the word “demonstration” carries political weight beyond technical meaning. He indicated that Australian miners want to see functional equipment operating locally before committing, with a milestone expected by end of 2026 or early 2027.

A 2025 NSW parliamentary inquiry submission highlighted uncertainty about RTO stability with ventilation air methane (VAM) in the 0.2–0.4% range. CSIRO's VAMMIT unit achieves around 0.3% methane concentration, which is why the agency developed separate catalytic technology (CataVAM) for lower concentrations. Peak Carbon's submission notes mature commercial RTO equipment has a floor of approximately 0.2% methane, though roughly a quarter of Australian mines fall below this threshold. International suppliers, including [Biothermica](#), [Dürr CTS](#) and [Eisenmann Environment](#), claim performance down to 0.1%.

A Feasibility Study, Not a Refusal

Kestrel entered its “500 series” underground mining district in 2024, characterised by significantly higher methane than previously worked areas, with expected operations spanning ten years. The company’s decarbonisation strategy addresses resulting emissions through two projects: a Coal Mine Waste Gas Power Station and the VAM abatement plant under feasibility study.

Helen McCarthy, Kestrel’s carbon principal, helped secure AUD 37.2 million from the Powering the Regions Fund, delivered in partnership with [Peak Carbon](#). As of April 2026, Kestrel conducted a Front-End Engineering and Design (FEED) study targeting 2028 operations.

Lee disclosed the critical unknown, in a [Methane Brief interview](#): “We are still going through an exercise of understanding what the capital cost of establishing a full-scale plant at an Australian coal mine is. We don’t have the answer to that yet.” Public estimates suggest RTO capital costs around AUD 9 to 15 per tonne of CO₂e over a decade. Australia’s carbon price currently hovers between AUD 36 to 39 per tonne. For VAM abatement to justify investment, it must prove more economical than purchasing credits under business-as-usual scenarios.

The Baseline Mechanic Almost No One Explains

Under Australia’s Safeguard Mechanism, facilities receive an emissions baseline. Exceeding this baseline requires credit purchases; falling below generates Safeguard Mechanism Credits (SMCs) for sale. VAM abatement becomes profitable primarily for mines already operating near or below baseline.

Kestrel operates well above its baseline. Lee explained the arithmetic: “You’re up high, you generate less,” meaning that abatement generates minimal credit-revenue upside compared to better-positioned competitors. The company would avoid credit-purchase costs but wouldn’t access the substantial credit-selling revenue that lower-baseline mines enjoy — an echo of additionality logic governing forest carbon projects.

Why the Third-Party Model Doesn't Reach Every Mine

Emerging financing structures involve third parties designing, installing, and operating RTO plants while charging fixed annual fees structured as annuities: no upfront capital, no engineering burden, simply predictable annual costs for 98 percent methane reduction and assumed carbon liability.

Grzanka noted: “There are people out there that are beginning to perceive that. And we could expand that quite a bit.” However, Lee emphasised this model cannot solve Kestrel’s specific position. “Because we’re so high, there’s no revenue or income stream for the third party,” he explained. Mines closer to baseline “could be a revenue source for a build-own-operate or a leased arrangement,” but this structure “doesn’t work in our case.” Abatement still removes ongoing credit-purchase costs but cannot clear financial hurdles independently.

So the Forest Credit Market Stays Hot

Forest credits represent the cheaper, better-understood option with minimal execution risk. This explains market dynamics that appear externally as reluctance but internally as incomplete financial justification. Capital rationally flows toward proven, low-friction alternatives until competing technologies demonstrate superior economics.

There is no villain in it, no denial, no indifference. There is a spreadsheet, and it hasn't yet said yes.

The Other Side of “Safer”

Forest credit markets have experienced substantial integrity failures recently. Verra's review of Zimbabwe's Kariba REDD+ project — once Africa's largest forest-protection scheme — found approximately 15.2 million of 26.8 million issued credits (roughly 57 percent) generated against deforestation baselines unrepresentative of actual forest risk.

U.S. prosecutors indicted C-Quest Capital's founder for falsifying data across African and Asian cookstove projects to secure carbon credits and over USD 100 million in investment. In February 2026, Koko Networks — Kenya's largest clean-cooking credit generator — collapsed into administration after the government withheld required export authorization, cutting off more than one million households from clean cooking fuel.

Verra posted a USD 19.4 million loss in 2024 while rebuilding confidence in its standard.

Australian Carbon Credit Units (ACCUs) operate within a compliance scheme, not the unregulated voluntary market where Kariba and C-Quest scandals occurred. Each ACCU project receives registered audit schedules: minimum three audits across 7–25 year crediting periods, with forestry methods subject to five-yearly regeneration checks. The Clean Energy Regulator publishes annual ACCU surrenders by facility and creation method.

Unlike some voluntary standards, Australia's scheme applies no vintage-matching requirement allowing credit arbitrage. BIP's sustainability disclosures confirm “no vintage restriction” on ACCU purchases “because the additionality of projects is rigorously assessed.” A 2022 government-commissioned review, the Climate Change Authority's 2023 assessment, and a 2023–24 Australian National Audit Office performance audit each found the scheme's administration sound.

However, integrity represents only one dimension. A perfectly audited forest credit answers a different physical question than source-methane destruction. An RTO-processed tonne of methane is destroyed permanently with no reversal risk. Forest-sequestered carbon — however well verified — remains reversible throughout project life through fire, drought, disease, or land-use changes. Large Amazon regions now approach thresholds where they could flip from absorbing to emitting carbon.

Methane's real near-term warming impact runs approximately 82 times CO₂ over 20 years, not the 30 times its GWP100 pricing reflects. Mines can satisfy already-undercounted methane liabilities using slow-accumulating, reversible credits from different economic sectors — not because they're equivalent, but because both convert to identical ledger units.

Asked about methane reduction's potential benefits for steel customers seeking lower-carbon supply chains, Lee avoided overclaiming. He wasn't certain what qualifies as “green steel,” but noted decarbonisation's increasing importance to Kestrel's owners and customers asking about full carbon footprints.

Directly questioned whether forest credits constitute real decarbonisation, Lee responded plainly: “it satisfies a legislative requirement.”

The Gap Australian Policy Hasn't Closed

The distinction between meeting legislative requirements and genuinely cutting emissions directly parallels questions [Australia's Climate Change Authority](https://climatechangeauthority.gov.au) now poses to the sector. RTO technology has functioned in Australia since 2007. The unresolved challenge involves constructing financing architecture making technological abatement the obvious choice rather than the difficult one.

The Authority's advice reaches the Minister in November. Kestrel's ongoing FEED study — with its candid, unfinished financial calculus — represents an instructive case study for observing how this policy gap might narrow.

The Methane Brief • Issue No. 15 • August 2026

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