Methane Emissions Intelligence at Scale: Bridger's LiDAR Breakthrough for Australia's Pipelines

Over the past few years, Bridger Photonics (Bridger) has delivered extensive methane detection projects across Australia's pipeline and gas industry, including for global energy leaders like Chevron. Using Gas Mapping LiDAR® technology (GML) and advanced analytics, Bridger's emissions intelligence is helping production and pipeline operators across Australia accurately pinpoint and reduce emissions, optimize system and personnel efficiency, and advance ambitious methane reduction and net zero goals.

Originality

Bridger's aircraft-mounted GML laser sensors represent a step-change in methane detection, delivering high-resolution, empirical data with accuracy and efficiency never before possible. Leaks are pinpointed within ~2 meters, quantified, and visualized with clear plume imagery, without ground crews or on-site equipment.

Breakthrough advantages:

- **Unmatched sensitivity:** Multiple detection sensitivities are available, as low as 1 kg/hr for production, midstream, and transmission, and 0.5 kg/hr for distribution utilities (all with a 90% probability of detection).
- **Operational impact:** Accelerates repairs by sending crews straight to the source, improves safety by reducing windshield time and improved insight into site-level conditions, and delivers auditable emissions reductions at scale.
- **Built for Australia's unique challenges:** Scans hundreds of sites or kilometers of pipeline per day, even across vast, rugged, or inaccessible terrain.

Impact on the Industry

Methane emissions remain one of the most pressing global challenges, and historically, each sector of the oil and natural gas industry depended on separate, and often inaccurate, detection methods. Bridger's aerial methane detection technology unifies the process into a single, scalable platform, accelerating leak detection and repair across all sectors. Beyond detection, Bridger's high-fidelity data analytics empower operators to predict, prevent, and strategically reduce future emissions.

Transformational industry impact:

- **Actionable data insights:** Supports emissions inventories, methane intensity tracking, regulatory reporting, and predictive planning to mitigate future events.
- **Comprehensive sector coverage:** One solution for production (onshore & offshore), midstream, transmission, distribution, and LNG—eliminating siloed programs.
- **Industry trust & adoption:** Trusted by nine of the top ten U.S. natural gas producers, over 50% of the top 10 U.S. midstream operators, and deployed by leading Australian energy companies including APA and Chevron.

Scalability and Implementation

Bridger's methane detection and analytics platform is designed for flexibility and scale, enabling operators to start small and expand seamlessly to thousands of kilometers of pipeline or production sites, without capital investment. Operating reliably in nearly any weather or lighting condition, Bridger ensures consistent, high-coverage monitoring that delivers better data, faster, and keeps more gas in the pipes.

Scalable & adaptable impact:

- **Seamless growth:** Expands easily from small pilots to system-wide coverage across thousands of kilometers or sites.
- **Operational flexibility:** Functions effectively in diverse weather and lighting conditions, ensuring minimal downtime.
- **Tailored deployment:** Flexible pricing, detection sensitivity, and deployment frequency, supporting operators at every stage of their methane reduction journey.
- **Maximizing impact & ROI:** Increasing scan frequency and sensitivity drives measurable emissions reductions, enabling targeted repairs or system-wide upgrades.

Alignment with APGA's Strategic Goals

- **Create opportunities for members:** Bridger's technology and data products were developed with operator collaboration and feedback to understand their real world needs and priorities, enabling a finely tuned data product.
- **Increase appreciation for gas infrastructure:** Bridger produces auditable, defensible, high-accuracy results that demonstrate the industry's ability to operate responsibly, strengthening industry reputation. Bridger's technology is backed by extensive third-party research supporting stated capabilities.

- **Best prepare industry for the future:** Bridger accelerates industry readiness by uniting collaborative research, stakeholder engagement, and high-accuracy emissions data to deliver insights that elevate methane management and set a new benchmark for auditable ESG performance.

Summary

Bridger has set a new standard in methane detection with its aerial LiDAR technology and analytics, delivering unmatched accuracy, scalability, flexibility, and auditability. Trusted by leading operators worldwide, Bridger helps Australia's gas industry cut emissions faster, safer, and more cost-effectively, directly supporting APGA's goals.