

The Manager
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BLUGLASS MAKES SIGNIFICANT TECHNICAL PROGRESS –DEMONSTRATING BEST EVER RPCVD (p-GaN) LIGHT OUTPUT

Key points:

- Achieves best ever RPCVD light output to date
- BluGlass has succeeded in significantly improving the interface challenge (key technical hurdle) for the planned Brighter LEDs milestone demonstration
- The BLG-300 is scheduled to be growing GaN later this month

Australian Cleantech innovator, BluGlass Limited (ASX:BLG), has announced today that it has been successful in demonstrating the best ever p-GaN light output using its propriety technology, Remote Plasma Chemical Vapour Deposition (RPCVD) on an MOCVD partial LED structure. This result is greater than a 10 fold improvement in LED efficiency over the first p-GaN demonstration data published by the company in December 2012, when the same measuring methodology is applied.

This has been achieved by making significant improvements in addressing the ‘interface challenge’, a key technical hurdle that has been limiting the p-GaN performance demonstration in the past.



Current: 10mA at 4.4V.
Light Output: 1615uW @ 473nm.

Figure 1: Demonstration of light emission at 473nm, with full width half maximum of 22nm, from a RPCVD p-GaN layer grown on a MOCVD partial structure.

These recent breakthroughs are the result of the enhanced plasma system in combination with new process steps which are now yielding continuing performance improvements as the company furthers progress towards its *Brighter LEDs* milestone.

**BRIGHTER
FUTURE LOWER
TEMPERATURE**

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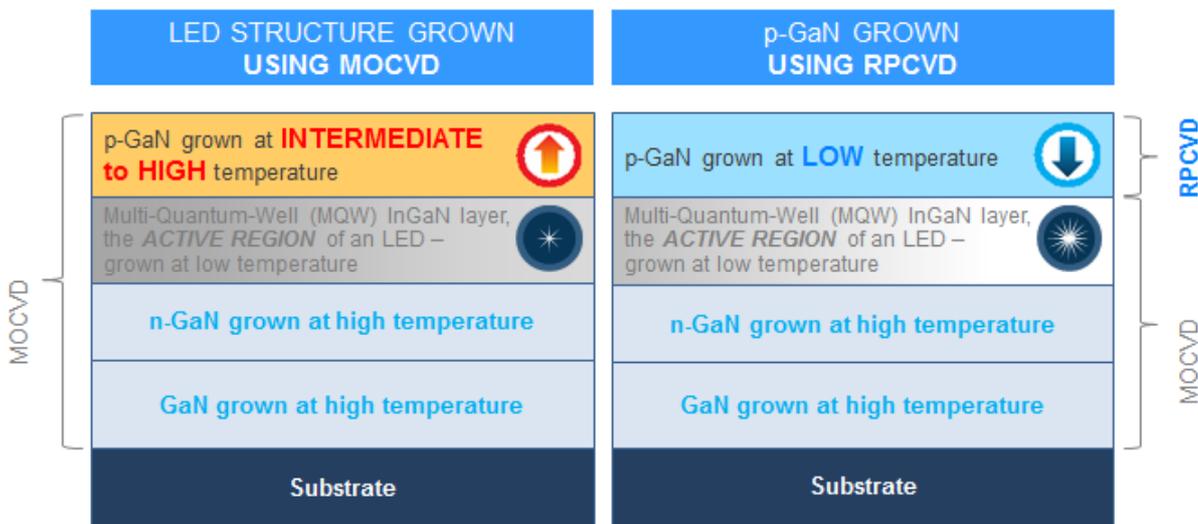
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BluGlass Chief Technology Officer, Dr. Ian Mann said “The RPCVD p-GaN based LED performance in the last month has undergone a step change improvement. This has been achieved by focusing on two key aspects – the process steps for initiating the RPCVD p-GaN growth; and in finalising the last layers grown by MOCVD – in effect, making sure the RPCVD and MOCVD steps are compatible. He added “Following these recent developments, we are confident that the team is on the right path to demonstrate that low temperature RPCVD can enhance the performance of LEDs fabricated solely by MOCVD today.”

BluGlass is aiming to demonstrate to the industry that an RPCVD top layer (the p-GaN layers) can improve the light output of an LED.

FIGURE TWO:

BluGlass is targeting low temperature p-GaN as the first commercial opportunity



Additionally, the next generation RPCVD System, the BLG-300, is nearing completion and is expected to be growing GaN later this month. This ex-production scale system is a significantly larger system than the current R&D workhorse and will effectively double BluGlass’ research and development capacity. Having multiple RPCVD systems will greatly enhance the team’s capability to address the LED milestones, the scaling of the technology towards 8” wafer deposition and the potential performance advantages of a low temperature CVD process for GaN on silicon.

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