

## BUY: Lumileds catalyst towards year-end

BluGlass has experienced stock price weakness in recent weeks post a recent capital raise. BLG is a direct play on the fast-growing LED and micro-LED market. The investment case remains unchanged in our view. BLG is continuing to broaden industry collaborations with leading technology partners. We are attracted by the mid-term potential to commercialise their LED technology. Our forecasts have been adjusted for the recent capital raise (\$9.2m) and SPP (\$2.0m) leading to some EPS dilution. These funds will be used to expedite commercialisation which appears to be moving forward with increased data-exchange occurring between Lumileds and BLG. Our scenario analysis which is toggled on a royalty model at two key alliance partners implies a range between \$0.75 and \$0.84.

### Key points

**Forecasts updated for capital raise:** Our financial forecast assumptions have been updated for the recent capital raise – leading to some near-term EPS dilution. The raise will add \$11.2m firepower to the BS (\$7.2m pre-raise) to help speed-up commercialisation of BLG's LED technology. Use of funds will include an equipment upgrade, facilities expansion and investment into further protecting the BLG IP. Recent CEO and key Board members buying stock is comforting.

**Commercialisation remains the key catalyst:** All focus remains on the Lumileds collaboration and the potential for commercialisation. We understand that both parties have increased the speed of data exchange in this space. BLG appears to have augmented its team both operationally and within the Board with individuals adept at constructing commercial agreements. We remain hopeful of a commercial deal being cemented before year-end. The LED market is forecast to reach US\$63.2b by 2025 and with greater funds being deployed to forge a path to this market, we continue to ascribe value to BluGlass' opportunity.

**Micro-LED angle:** The group is also building collaborations within the micro-LED space. This is forecasted to be a US\$19.9b market by 2025.

**Valuation:** We continue to value BluGlass on a scenario basis which is toggled on a royalty model based on two key commercial partners. We understand that these royalty streams are likely to be driven by margin uplift. This analysis leads us to a TP of \$0.79.

### Risks and catalysts

**Risks:** Collaborations may not result in a viable commercialisation opportunity, and further delays in achieving milestones. **Catalysts:** Successful commercialisation of BluGlass' technology in calendar 2019E.

Recommendation	BUY
12-mth target price (AUD)	\$0.79
Share price @ 29-Jun-18 (AUD)	\$0.30
Forecast 12-mth capital return	164.6%
Forecast 12-mth dividend yield	0.0%
<b>12-mth total shareholder return</b>	<b>164.6%</b>

Market cap	\$125m
Enterprise value	\$117m
Shares on issue	418m
Sold short	
ASX 300 weight	n/a
Median turnover/day	\$0.1m

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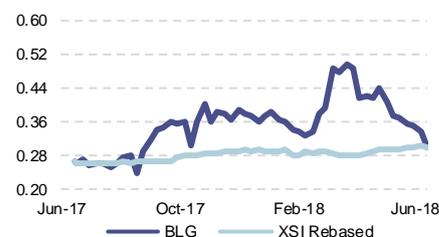
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FUNDAMENTAL  
INSIGHTS

#### 12-mth price performance (\$)



	1-mth	6-mth	12-mth
Abs return (%)	-20.0	-20.0	13.2
Rel return (%)	-21.8	-22.9	0.2

#### Key changes

		12-Apr	After	Var %	
<b>NPAT:</b>	<b>FY18F</b>	-3.0	-3.0	0.0%	
<b>norm</b>	<b>FY19F</b>	-1.6	-1.4	N/A	
	<b>(\$m)</b>	<b>FY20F</b>	6.2	6.3	1.9%
<b>EPS:</b>	<b>FY18F</b>	-0.8	-0.8	N/A	
<b>norm</b>	<b>FY19F</b>	-0.4	-0.3	N/A	
	<b>(cps)</b>	<b>FY20F</b>	1.6	1.5	-5.5%
<b>DPS:</b>	<b>FY18F</b>	0.0	0.0	0.0%	
	<b>(cps)</b>	<b>FY19F</b>	0.0	0.0	0.0%
	<b>FY20F</b>	0.0	0.0	0.0%	
<b>Price target:</b>		0.84	0.79	-5.3%	
<b>Rating:</b>		BUY	BUY		

#### Earnings forecasts

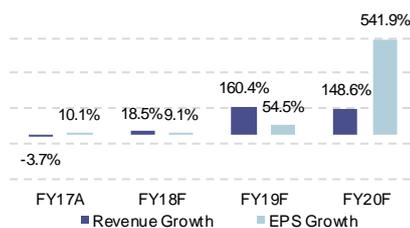
Year-end June (AUD)	FY16A	FY17A	FY18F	FY19F	FY20F
NPAT rep (\$m)	-3.4	-3.7	-3.5	-2.6	3.5
NPAT norm (\$m)	-3.0	-3.1	-3.0	-1.4	6.3
Consensus NPAT (\$m)			5.5	23.3	5.9
EPS norm (cps)	-0.9	-0.8	-0.8	-0.3	1.5
EPS growth (%)	1.1	10.1	9.1	54.5	541.9
P/E norm (x)	-32.6	-36.3	-39.9	-87.7	19.9
EV/EBITDA (x)	-47.8	-45.0	-41.9	-75.4	12.7
FCF yield (%)	-2.0	-2.1	-1.5	-1.5	2.6
DPS (cps)	0.0	0.0	0.0	0.0	0.0
Dividend yield (%)	0.0	0.0	0.0	0.0	0.0
Franking (%)	0	0	0	0	0

Source: Company data, Wilsons estimates, S&P Capital IQ

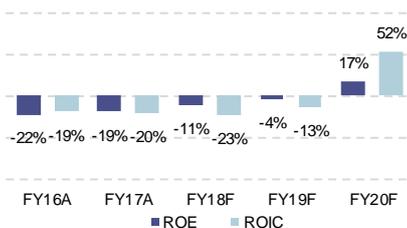
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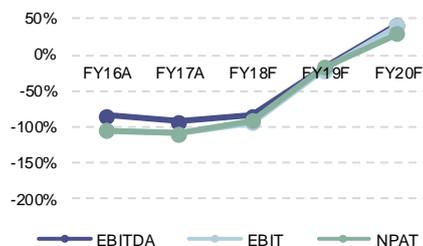
## Growth rates



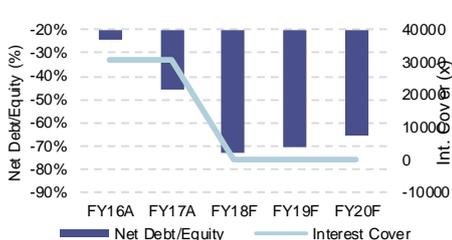
## Returns



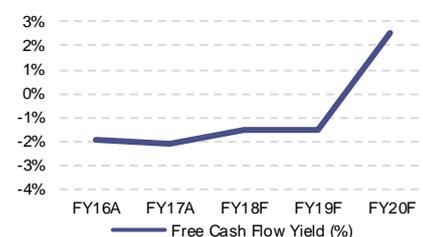
## Margin trends



## Solvency



## Free cash flow yield



## Interims (\$m)

	1H17A	2H17A	1H18A	2H18E
Sales revenue	1.3	1.5	1.4	2.0
EBITDA	-1.5	-1.1	-1.7	-1.1
EBIT	-1.8	-1.3	-1.8	-1.3
<b>Net profit</b>	<b>-1.8</b>	<b>-1.3</b>	<b>-1.7</b>	<b>-1.3</b>
<b>Norm EPS</b>	<b>-0.5</b>	<b>-0.3</b>	<b>-0.4</b>	<b>-0.3</b>
EBIT/sales (%)	-142.7	-82.9	-129.9	-67.7
Dividend (c)	0.0	0.0	0.0	0.0
Franking (%)	0.0	0.0	0.0	0.0
Payout ratio (%)	0.0	0.0	0.0	0.0
Adj payout (%)	0.0	0.0	0.0	0.0

## Key assumptions

	FY15A	FY16A	FY17A	FY18F	FY19F	FY20F	FY21F
Revenue growth (%)	-14.1	-17.6	-3.7	18.5	160.4	148.6	52.8
EBITDA growth (%)	7.0	27.8	6.4	7.2	-44.4	-691.8	107.0
NPAT growth (%)	15.7	13.3	0.9	-2.2	-52.4	-541.9	106.3
EPS growth (%)	14.5	-1.1	-10.1	-9.1	-54.5	-541.9	106.3
EBITDA/sales (%)	-54.2	-84.1	-92.9	-84.0	-17.9	42.7	57.8
ROA (%)	-21.5	-22.6	-18.4	-9.8	-8.5	14.3	24.5
ROE (%)	-22.8	-24.1	-19.6	-9.9	-7.7	9.0	15.4

## Financial ratios

	FY15A	FY16A	FY17A	FY18F	FY19F	FY20F	FY21F
PE (x)	-32.3	-32.6	-36.3	-39.9	-87.7	19.9	9.6
EV/EBITDA (x)	-61.1	-47.8	-45.0	-41.9	-75.4	12.7	6.2
Dividend yield (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FCF yield (%)	-1.4	-2.0	-2.1	-1.5	-1.5	2.6	8.4
Payout ratio (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adj payout (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## Profit and loss (\$m)

	FY15A	FY16A	FY17A	FY18F	FY19F	FY20F	FY21F
Sales revenue	3.5	2.9	2.8	3.3	8.6	21.5	32.9
EBITDA	-1.9	-2.4	-2.6	-2.8	-1.6	9.2	19.0
Depn & amort	0.8	0.6	0.5	0.3	0.3	0.5	0.8
<b>EBIT</b>	<b>-2.7</b>	<b>-3.0</b>	<b>-3.1</b>	<b>-3.1</b>	<b>-1.8</b>	<b>8.7</b>	<b>18.2</b>
Net interest expense	0.0	0.0	0.0	-0.1	-0.4	-0.3	-0.4
Tax	0.0	0.0	0.0	0.0	0.0	2.7	5.6
Minorities/pref divs	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equity accounted NPAT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net profit (pre-sig items)</b>	<b>-2.7</b>	<b>-3.0</b>	<b>-3.1</b>	<b>-3.0</b>	<b>-1.4</b>	<b>6.3</b>	<b>13.0</b>
Abns/exts/signif	-0.5	-0.4	-0.6	-0.4	-1.1	-2.8	-4.9
<b>Reported net profit</b>	<b>-3.2</b>	<b>-3.4</b>	<b>-3.7</b>	<b>-3.5</b>	<b>-2.6</b>	<b>3.5</b>	<b>8.1</b>

## Cash flow (\$m)

	FY15A	FY16A	FY17A	FY18F	FY19F	FY20F	FY21F
EBITDA	-1.9	-2.4	-2.6	-2.8	-1.6	9.2	19.0
Interest & tax	0.0	0.0	0.0	0.1	0.4	-2.4	-5.2
Working cap/other	0.2	0.0	0.0	0.9	-0.7	-3.5	-3.1
<b>Operating cash flow</b>	<b>-1.7</b>	<b>-2.5</b>	<b>-2.6</b>	<b>-1.8</b>	<b>-1.8</b>	<b>3.3</b>	<b>10.7</b>
Maintenance capex	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2
<b>Free cash flow</b>	<b>-1.7</b>	<b>-2.5</b>	<b>-2.6</b>	<b>-1.9</b>	<b>-1.9</b>	<b>3.2</b>	<b>10.5</b>
Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Growth capex	0.0	0.0	0.0	-0.1	-0.2	-0.5	-0.8
Invest/disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oth investing/finance flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Cash flow pre-financing</b>	<b>-1.8</b>	<b>-2.5</b>	<b>-2.6</b>	<b>-2.0</b>	<b>-2.1</b>	<b>2.7</b>	<b>9.7</b>
Funded by equity	1.8	3.3	7.7	18.9	0.0	0.0	0.0
Funded by debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Funded by cash	-0.1	-0.9	-5.1	-16.9	2.1	-2.7	-9.7

## Balance sheet summary (\$m)

	FY15A	FY16A	FY17A	FY18F	FY19F	FY20F	FY21F
Cash	2.5	3.4	8.5	25.5	23.4	26.0	35.8
Current receivables	2.1	2.1	2.2	1.3	2.1	5.3	8.1
Current inventories	0.1	0.1	0.1	0.1	0.3	0.8	1.2
Net PPE	1.4	0.8	0.3	0.2	0.2	0.3	0.5
Intangibles/capitalised	8.7	8.7	8.7	8.7	8.7	8.7	8.7
<b>Total assets</b>	<b>14.8</b>	<b>15.1</b>	<b>19.9</b>	<b>35.8</b>	<b>34.7</b>	<b>41.2</b>	<b>54.3</b>
Current payables	0.2	0.2	0.4	0.4	0.8	0.9	1.0
Total debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total liabilities</b>	<b>0.8</b>	<b>0.9</b>	<b>1.2</b>	<b>1.2</b>	<b>1.5</b>	<b>1.7</b>	<b>1.8</b>
<b>Shareholder equity</b>	<b>14.0</b>	<b>14.2</b>	<b>18.7</b>	<b>34.6</b>	<b>33.2</b>	<b>39.5</b>	<b>52.5</b>
<b>Total funds employed</b>	<b>14.0</b>	<b>14.2</b>	<b>18.7</b>	<b>34.6</b>	<b>33.2</b>	<b>39.5</b>	<b>52.5</b>



**Figure 1: Forecast changes**

<b>Forecast</b> Y/E: 30 Jun (A\$m)	<b>FY18E</b>			<b>FY19E</b>			<b>FY20E</b>		
	<b>New</b>	<b>Old</b>	<b>Var</b>	<b>New</b>	<b>Old</b>	<b>Var</b>	<b>New</b>	<b>Old</b>	<b>Var</b>
Revenue	3.3	3.3	0.0%	8.6	8.6	0.0%	21.5	21.5	0.0%
EBITDA (norm.)	-2.8	-2.8	0.0%	-1.6	-1.6	0.0%	9.2	9.2	0.0%
EBIT	-3.1	-3.1	0.0%	-1.8	-1.8	0.0%	8.7	8.7	0.0%
NPAT (norm.)	-3.0	-3.0	0.0%	-1.4	-1.6	11.2%	6.3	6.2	1.9%
Diluted EPS (norm.)	-0.8	-0.8	-0.5%	-0.3	-0.4	-17.5%	1.5	1.6	-5.3%

Source: Wilsons' estimates

**Figure 2: Valuation**

<b>BLG Target Price</b>		
<b>Methodology</b>	<b>Value per share</b>	
	<b>% weight</b>	
DCF - Scenario 1 (royalty - 15% gross margin uplift)	\$0.75	33.3%
DCF - Scenario 2 (royalty - 20% gross margin uplift)	\$0.79	33.3%
DCF - Scenario 3 (royalty - 25% gross margin uplift)	\$0.84	33.3%
<b>Target price</b>	<b>\$0.79</b>	

Source: Wilsons' estimates

## BluGlass (BLG)

### Business description

BluGlass Limited (BLG) is an Australian company specialising in LED manufacturing technology. Previously a research division of Macquarie University, the company was formed in 2005 with an aim to commercialise its proprietary technology. BluGlass has developed a method of growing semiconductor layers using Remote Plasma Chemical Vapour Deposition or RPCVD. The benefits of using RPCVD are that the process costs less, is environmentally friendly and is a more efficient method compared with today's technology. Importantly, the main benefit of RPCVD is the low heat formation of the semiconductor layer, which avoids degradation of the light producing layer of the LEDs. This leads to brighter and more efficient light production compared with the currently used MOCVD method. BluGlass is in the pre-commercialisation stage.

### Investment thesis

BluGlass is a direct play on the rapidly growing LED and micro-LED market. BLG is continuously broadening its industry collaborations with leading technologies. Partners such as Lumileds and IQE re-enforce the Buy thesis as they represent large and scalable revenue opportunities through royalty streams. BLG is a very different investment proposition relative to our coverage universe – the risk/reward curve is acutely steep. BluGlass' recent addition of a micro-LED alliance is reassuring as it increases BLG's potential sources of revenue and expands their addressable market.

### Revenue drivers

- Adoption of RPCVD technology by MOCVD machine and LED manufacturers
- Establishing licensing and retro-fitting agreements with LED and LED machine manufacturing companies (i.e. Lumileds, Veeco)
- Potential to apply BluGlass' technology to the solar and power electronics (IQE) industries

### Margin drivers

- Successful commercialisation of RPCVD
- Profitable licensing and retro-fitting agreements
- Low capex required for retro-fitting operations

### Key issues/catalysts

- Transition from R&D to achieving commercial and market goals
- Developing commercial interest in RPCVD technology
- Industry acceptance
- Rapid growth in the LED lighting market
- Growth in GaN and SiC power electronics market
- BLG-300 platform upgrade

### Risk to view

- Slow take-up of RPCVD technology
- Delays in reaching commercial agreements with collaborators
- Advances in competing/substitute technologies
- Technological hurdles
- Delays in reaching technological milestones

### Balance sheet

- Cash balance of \$7.8m (H1'18)
- Intangibles of \$8.7m (H1'18)
- Total assets of \$17.9m (H1'18)
- Total liabilities of \$1m (H1'18)
- Total equity of \$17m (H1'18)

### Board

- Giles Bourne (Managing Director)
- William Johnson (Non-Executive Chairman)
- Chandra Kantamneri (Non-Executive Director)
- Vivek Rao (Non-Executive Director)
- James Walker (Non-Executive Director)

### Management

- Giles Bourne (Chief Executive Director)
- William Johnson (Chairman)
- Ian Mann (Chief Technology Officer)
- Stuart Uhlhorn (Chief Financial Officer)
- Marie Wintrebert-Fouquet (Chief Scientist)

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