

## First Quarter FY 2015 – Quarterly Report & Appendix 4C

### First Quarter Highlights

- **3<sup>rd</sup> Major Technology Development Plan Milestone Achieved**
- **Estimates of Active Material Costs Provide (Sub) Grid Parity Economics**
- **Dyesol Signs Letter of Intent detailing Proposed Distribution Agreement with Tata Steel UK**
- **Dyesol Confirms Collaboration Arrangements with Cristal UK**

### Corporate and Operational Progress

The Save Solar Campaign gained enormous momentum during 1QFY2015 with the Managing Director of Dyesol being invited as the keynote speaker at a rally in Queanbeyan on September 3. This was also attended by senior politicians from the ACT and the Federal Opposition. For the vast majority of the Australian electorate the proposed abolition of the 2020 Renewable Energy Target is inexplicable and a mismanagement of the Australian Government's responsibility to assist in the transition from a carbon to non-carbon based economy. The speech gained considerable attention, including positive engagement with the Coalition Government. It is now becoming more likely that the Government will amend the target rather than abolish it entirely.

During the quarter, Dyesol also restructured, scaling back its US operations and promoting Sung Lee from Dyesol-Timo in Korea to head its global glass activities. This role will require Sung Lee to relocate to Australia. Prior to working with Dyesol, Sung Lee worked at LG Corp. and has a bachelor qualification in Electrical Engineering and a Master of Business Administration from Washington State University in U.S.A. His newly expanded responsibilities will include developing both glass prototypes and pilot lines, where Dyesol is investigating potential collaborations in Australia, Korea and Turkey. The restructuring is also consistent with the Company's desire to centralise its existing multinational relationships in the United Kingdom. Sung Lee will continue to oversee the execution of our contract for glass prototype supply with Nesli DSC in Turkey.

The corporate horizon for commercialisation of solid-state DSC is becoming clearer each day. Many of the multinational building materials companies that retreated from the solar market during its period of crisis of 2011 and 2012 are now seeking re-entry, especially with such a strong upturn in solar as the renewable energy source of choice. In a Bloomberg article this month it was forecast that solar would exceed fossil fuels as the principal source of electricity by 2050.

So, Dyesol was delighted to re-engage with Tata Steel UK (TSUK) in the completion of a Letter of Intent focussing on the proposed distribution of a Dyesol developed steel substrate based roofing product. Dyesol and Tata Steel UK have been collaborating since 2007 and it is gratifying to have its long-term support. This is a key part of Dyesol's market entry strategy. The UK and European solar roofing markets are at an early stage and have had only minor penetration from 1<sup>st</sup> and 2<sup>nd</sup> generation based products because of their relative poor performance in low light conditions.

### Research and Development

The Dyesol Technology Advisory Board, chaired by Professor Michael Graetzel, met in Lausanne on October 14 to review the 3<sup>rd</sup> Technical Development Plan Milestone (the CTO attended by teleconference). The milestone required 500 hours of both thermal and light soaking stability at 75 °C and was achieved

using a revised cell design. This design has been investigated in parallel with the standard EPFL design (using an organic Hole-Transport-Material) and is proving very stable and durable at an industrial scale. Subsequent to the meeting, 1000 hours of light and thermal stability have now been achieved with little or no material degradation in performance. Dyesol will continue to upscale both designs in parallel in its quest for the most suitable architecture for mass commercialisation of different product forms. The laboratories at the EPFL are achieving similar results as the academic focus changes from conversion efficiency to long-term stability. Importantly, Dyesol's licensor, the EPFL holds intellectual property priority in relation to both designs providing Dyesol with unfettered access to commercialisation rights.

In response to Dyesol's encouraging stability results, we are now collaborating more closely with Cristal in the further development of mesoporous zirconia. As an inorganic compound, mesoporous zirconia is not only stable, but is cheap and abundant. Our internal bill of materials estimates are forecasting long-term pricing for active materials of as little as US\$2/M<sup>2</sup>. This translates into a Levelised Cost of Electricity (LCOE) which is below grid parity. Dyesol is currently considering external validation options of these estimates in order to assist in the benchmarking of comparable technologies. To fully appreciate the improvement in costs of the solid-state material set, the equivalent in DSC liquids were at least an order of magnitude higher i.e. US\$25 – US\$35/M<sup>2</sup>. It is these economics we believe that make this 3<sup>rd</sup> Generation technology the most likely to displace silicon as the lead solar technology.

Recently, we were also awarded a grant for £220,000 for a Knowledge Transfer Partnership with Sheffield University in support of our UK based steel scale-up activities. Dyesol will have ownership of any resulting intellectual property.

### **Manufacturing Collaborations**

Dyesol is currently planning its prototype and pilot line phases. These are expected to be concluded by 2016 and 2017, respectively. A number of potential engineering solutions have been identified, including partnership with external experts in Europe and the UK, where we are seeing the greatest interest in this technology.

Locally, our relationship with a major Australian building materials company continues to develop and will lead to a more robust framework for commercialisation being established.

### **Financials**

The net operating monthly cash burn rate (Sec 1.8) for the first quarter averaged \$877k, excluding the receipt for the FY2014 R&D Tax Incentive Rebate of \$2.5m.

Capital (fixed assets) items funded by leasing contracts totalled \$239k for the quarter. 500,000 Dyesol shares were issued in consideration for the acquisition of the 49.9% minority interest in Dyesol Timo Co. Ltd. held by Neoarena (formerly Timo Technology).

At the end of the quarter cash balances totalled \$5.1m, with an additional \$2.2m in term deposit investments, making cash or cash equivalents of \$7.3m.

#### **About DYESOL LIMITED**

Dyesol is a renewable energy supplier and leader in Solid State Dye Solar Cell (ssDSC) technology – 3<sup>rd</sup> Generation photovoltaic technology that can be applied to glass, metal, polymers or cement. Dyesol manufactures and supplies high performance materials and is focussed on the successful commercialisation of ssDSC photovoltaics. It is a publicly listed company: Australian Securities Exchange ASX ([DYE](#)), German Open Market ([D5I](#)), and the USA's OTCQX market ([DYSOY](#)). Learn more at [www.dyesol.com](http://www.dyesol.com) and subscribe to our mailing list in English and German.

#### **About DYE SOLAR CELL TECHNOLOGY**

Solid State Dye Solar Cell (ssDSC) technology is a photovoltaic technology based on applying low cost materials in a series of ultrathin layers encapsulated by protective sealants. Dyesol's technology has lower embodied energy in manufacture, produces stable electrical current, and has a strong competitive advantage in low light conditions relative to 1<sup>st</sup> and 2<sup>nd</sup> Generation PV technologies. This technology can be directly integrated into the building envelope to achieve highly competitive building integrated photovoltaics.

The key material layers include a hybrid organic-inorganic halide-based perovskite light absorber, a nano-porous metal oxide of titanium oxide, and an organic semiconductor. Light striking the absorber promotes an electron into the excited state, followed by a rapid electron transfer and collection by the titania layer. Meanwhile the remaining positive charge is transferred to the organic semiconductor, thereby generating an electrical current.

**- Ends -**

**Media & Investor Relations Contacts:**

|                     |  |
|---------------------|--|
| Dyesol Headquarters | Kathryn Denby, Investor Relations Tel: +61 (0)2 6299 1592, <a href="mailto:kdenby@dyesol.com">kdenby@dyesol.com</a>              |
| Australia           | Viv Hardy, Callidus PR Tel: +61(0)2 9283 4113 or +61 (0)411 208 951, <a href="mailto:viv@calliduspr.com">viv@calliduspr.com</a>  |
| Germany & Europe    | Eva Reuter, DR Reuter Investor Relations Tel: +49 177 605 8804, <a href="mailto:e.reuter@dr-reuter.eu">e.reuter@dr-reuter.eu</a> |

Rule 4.7B

# Appendix 4C

## Quarterly report for entities admitted on the basis of commitments

Name of entity

**DYESOL LIMITED**

ABN

**92 111 723 883**

Quarter ended ("current quarter")

**30 SEPTEMBER 2014**

### Consolidated statement of cash flows

| Cash flows related to operating activities |   | Current quarter<br>\$A'000 | Year to date<br>(3 months)<br>\$A'000 |
|--|---|----------------------------|---------------------------------------|
| 1.1  | Receipts from customers                               | 202                        | 202                                   |
| 1.2  | Payments for  |                            |                                       |
|  | (a) staff costs                                       | (1,218)                    | (1,218)                               |
|  | (b) advertising and marketing                         | (80)                       | (80)                                  |
|  | (c) research & development                            | (452)                      | (452)                                 |
|  | (d) leased assets                                     | (241)                      | (241)                                 |
|  | (e) other working capital                             | (918)                      | (918)                                 |
| 1.3  | Dividends received                                    | -                          | -                                     |
| 1.4  | Interest and other items of a similar nature received | 34                         | 34                                    |
| 1.5  | Interest and other costs of finance paid              | -                          | -                                     |
| 1.6  | Income taxes received/(paid) (R&D Tax rebate)         | 2,476                      | 2,476                                 |
| 1.7  | Other (R&D grant)                                     | 41                         | 41                                    |
| <b>Net operating cash flows</b>            |   | <b>(156)</b>               | <b>(156)</b>                          |

|   |  | Current quarter<br>\$A'000 | Year to date<br>(3 months)<br>\$A'000 |
|---|--|----------------------------|---------------------------------------|
| 1.8   | Net operating cash flows (carried forward)         | (156)                      | (156)                                 |
| <b>Cash flows related to investing activities</b> |  |                            |                                       |
| 1.9   | Payment for acquisition of:                        |                            |                                       |
|   | (a) businesses (item 5)                            | -                          | -                                     |
|   | (b) equity investments                             | -                          | -                                     |
|   | (c) intellectual property                          | -                          | -                                     |
|   | (d) physical non-current assets                    | (129)                      | (129)                                 |
|   | (e) other non-current assets                       | -                          | -                                     |
| 1.10  | Proceeds from disposal of:                         |                            |                                       |
|   | (a) businesses (item 5)                            | -                          | -                                     |
|   | (b) equity investments                             | -                          | -                                     |
|   | (c) intellectual property                          | -                          | -                                     |
|   | (d) physical non-current assets                    | 5                          | 5                                     |
|   | (e) other non-current assets                       | -                          | -                                     |
| 1.11  | Loans to other entities                            | -                          | -                                     |
| 1.12  | Loans repaid by other entities                     | -                          | -                                     |
| 1.13  | Other  | -                          | -                                     |
|   | <b>Net investing cash flows</b>                    | <b>(124)</b>               | <b>(124)</b>                          |
| 1.14  | <b>Total operating and investing cash flows</b>    | <b>(280)</b>               | <b>(280)</b>                          |
| <b>Cash flows related to financing activities</b> |  |                            |                                       |
| 1.15  | Proceeds from issues of shares, options, etc (net) | -                          | -                                     |
| 1.16  | Proceeds from sale of forfeited shares             | -                          | -                                     |
| 1.17  | Proceeds from borrowings                           | 245                        | 245                                   |
| 1.18  | Repayment of borrowings                            | -                          | -                                     |
| 1.19  | Dividends paid                                     | -                          | -                                     |
| 1.20  | Other  | -                          | -                                     |
|   | <b>Net financing cash flows</b>                    | <b>245</b>                 | <b>245</b>                            |
|   | <b>Net increase/ (decrease) in cash held</b>       | <b>(35)</b>                | <b>(35)</b>                           |
| 1.21  | Cash at beginning of quarter/year to date          | 5,179                      | 5,179                                 |
| 1.22  | Exchange rate adjustments to item 1.21             | (34)                       | (34)                                  |
| 1.23  | <b>Cash at end of quarter</b>                      | <b>5,110</b>               | <b>5,110</b>                          |

## Payments to directors of the entity and associates of the directors

### Payments to related entities of the entity and associates of the related entities

|      |  | Current quarter<br>\$A'000 |
|------|--|----------------------------|
| 1.24 | Aggregate amount of payments to the parties included in item 1.2 | 186                        |
| 1.25 | Aggregate amount of loans to the parties included in item 1.11   | -                          |
| 1.26 | Explanation necessary for an understanding of the transactions   |                            |
|      | <u>1.24</u><br>Directors and associates remuneration             | 186                        |

## Non-cash financing and investing activities

|     |   |
|-----|---|
| 2.1 | Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows  |
|     | <p>On 10 September 2014, 500,000 Dyesol shares were issued in consideration for the acquisition of the 49.9% minority interest in Dyesol Timo Co. Ltd. held by Neoarena (formerly Timo Technology). The shares are subject to voluntary escrow as follows:</p> <ul style="list-style-type: none"> <li>• 250,000 shares – 6 months and</li> <li>• 250,000 shares – 12 months.</li> </ul> |
| 2.2 | Details of outlays made by other entities to establish or increase their share in businesses in which the reporting entity has an interest  |
|     |   |

## Financing facilities available

Add notes as necessary for an understanding of the position.

|     |                             | Amount available<br>\$A'000 | Amount used<br>\$A'000 |
|-----|-----------------------------|-----------------------------|------------------------|
| 3.1 | Loan facilities             | NIL                         | NIL                    |
| 3.2 | Credit standby arrangements | NIL                         | NIL                    |

## Reconciliation of cash

| Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows. |                          | Current quarter<br>\$A'000 | Previous quarter<br>\$A'000 |
|---|--------------------------|----------------------------|-----------------------------|
| 4.1   | Cash on hand and at bank | 4,110                      | 1,479                       |
| 4.2   | Deposits at call         | 1,000                      | 3,700                       |
| 4.3   | Bank overdraft           | -                          | -                           |
| 4.4   | Other (provide details)  | -                          | -                           |
| <b>Total: cash at end of quarter</b> (item 1.23)  |                          | <b>5,110</b>               | <b>5,179</b>                |

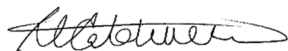
## Acquisitions and disposals of business entities

|     |   | Acquisitions<br>(Item 1.9(a)) | Disposals<br>(Item 1.10(a)) |
|-----|---|-------------------------------|-----------------------------|
| 5.1 | Name of entity                            |                               |                             |
| 5.2 | Place of incorporation or registration    |                               |                             |
| 5.3 | Consideration for acquisition or disposal |                               |                             |
| 5.4 | Total net assets                          |                               |                             |
| 5.5 | Nature of business                        |                               |                             |

## Compliance statement

1. This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act (except to the extent that information is not required because of note 2) or other standards acceptable to ASX.
2. This statement does give a true and fair view of the matters disclosed.

Sign here:



Date: 31 October 2014

Print name:

Richard Caldwell, *Managing Director*

## Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
2. The definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report except for any additional disclosure requirements requested by AASB 107 that are not already itemised in this report.
3. **Accounting Standards.** ASX will accept, for example, the use of International Financial Reporting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.