

# **ANNUAL GENERAL MEETING**

### DYESOL BOARD AND MANAGING DIRECTOR

24 NOVEMBER 2016



### Disclaimer

This presentation includes forward-looking statements that are subject to many risks and uncertainties. These forward-looking statements, such as statements about Dyesol's short-term and long-term growth strategies, can sometimes be identified by use of terms such as "intend," "expect," "plan," "estimate," "future," "strive," and similar words. These statements involve many risks and uncertainties that may cause actual results to differ significantly from what may be expressed or implied in these statements. Dyesol has taken care in the preparation of this presentation and believes that all statements are made in good faith and based on reasonable grounds. However, readers are cautioned not to put undue reliance on forward-looking statements. Dyesol disclaims any obligation to update information contained in these forward-looking statements whether as a result of new information, future events, or otherwise.

### AGENDA





### **DYESOL BOARD**





Ian Neal, BCom, Dip Sec Non-Executive Chairman



Gordon Thompson, BE(Hons), M.EngSc, FIE (Aust) Non-Executive Director



Richard Caldwell, BEc LLB SFin Managing Director



Rob McIntyre, Ph.D Fundamental Surface Electrochemistry Non-Executive Director

### **CHAIRMAN'S ADDRESS**





Ian Neal, BCom, Non-Executive Chairman

#### **CHAIRMAN'S ADDRESS**

- Solar companies continuing to face headwinds, despite strong market growth;
- Solar business models are failing;
- Dyesol is careful in choosing where and how "to play";
- PSC is emerging as a truly disruptive technology
   LCOE projected to as low as US3.5 4.9 cents;
- Dyesol is focused on the execution of a very disciplined scale up its PSC technology and is on schedule;
- Dyesol is creating wealth for shareholders by continuing to develop key IP, registered and unregistered;
- We have good visibility of the global market place and we are confident of our first mover advantage and leading the world in the industrialisation of PSC.

### **MANAGING DIRECTOR'S REPORT**



Managing Director, Richard Caldwell

### **LEADERSHIP TEAM**



Richard Caldwell, BEc LLB SFin **Managing Director** 



Dr Hans Desilvestro, BSc, PhD Chief Scientist



BSc, MA, PhD

Sales &

Marketing

Manager

Chris Moore, Dr Luca Sorbello, BSc **Steel Group** Leader



Kian Niu, MBA Dr Andrew King, PhD (UK), CA, ACIS, President Dyesol B Com **Finance Director** Europe



Dr Damion Milliken, BEng (Matls), PhD Chief Technology Officer



Sung II Lee, BEng (Electrical), MBA **Glass Group** Leader





Dr Yanek Hebting, PhD Materials R&D and Production Manager

Judith Pritchard Global HR and Work Health and Safety Manager



### **MANAGING DIRECTOR PRIORITIES**





### **BUSINESS MODEL AND CAPITAL STRUCTURE**



#### **Dyesol Business Model:**

- Dyesol is a manufacturer of key PSC materials, next-gen  $\checkmark$ technology and PV panels - there are additional avenues for commercial exploitation including finance and installation.
- $\checkmark$ Dyesol partners with leading multinational manufacturers that possess strong brands and established routes to market that are seeking to embed PSC technology into their products to diversify their product offering.

#### **Dyesol Partnership Experience:**



Equity Snapshot	
Ticker ASX/Germany	DYE / D5I
12 Month Range	A\$0.18 – A\$0.375
Shares Outstanding (fully diluted)	377.5 million
Market Capitalisation @A\$0.245/share	A\$92.5 million
As at 22 November 2016	





>7000 Shareholders

Profile

#### DEUTSCHE BÖRSE XETR GROUP

D5I

### **BUSINESS STRATEGY**



Dyesol's Business Strategy has three components. Combined, they direct the effort of global resources towards the successful commercialisation of PSC technology:

BUSINESS PLAN	TECHNOLOGY PLAN	INTELLECTUAL PROPERTY
<ul> <li>Business Model <ul> <li>Glass Business</li> <li>Metal Business</li> <li>Materials R&amp;D</li> </ul> </li> <li>Rigorous Budgeting &amp; Capital Management</li> <li>Development of Commercial Exploitation Model</li> <li>Production Partnerships</li> <li>Marketing/Distribution/ Branding/Warranty/Installation</li> <li>Development of a Winning Corporate Culture</li> </ul>	<ul> <li>Milestones <ol> <li>Efficiency</li> <li>Stability/durability</li> <li>Materials Supply</li> <li>Manufacturing tolerance/active area</li> <li>Production speed</li> <li>Module size</li> </ol> </li> <li>Material set and substrate</li> <li>System integration <ol> <li>Architecture</li> <li>Scale-up and manufacturing</li> </ol></li></ul>	<ul> <li>EPFL licensee</li> <li>Joint IP with NTU with option for exclusive rights</li> <li>Third party IP licensee</li> <li>Key IP Blocks</li> <li>Management and exploitation of existing IP Portfolio</li> <li>Maintaining freedom to operate/sanctioning breaches</li> <li>New patents in the pipeline</li> </ul>

### FY 2016 HIGHLIGHTS



#### **QUARTER 1**

- Quarterly Technical Advisory Board milestone achieved – 1,000 hours Light Soaking Stability (IEC 61646);
- Dyesol UK awarded €650,000 in European Horizon 2020 grant for development of laserassisted, glass-frit sealing on metal substrates;
- Dyesol awarded A\$450,000 ARENA Measure for LCOE study;
- A\$3.3M ATO R&D Rebate for FY2014.

#### QUARTER 2

- Quarterly Technical Advisory Board milestone achieved – 1,000 hours 85°C Thermal Stability (IEC 61646);
- ARENA Measure successfully completed demonstrating LCOE 10 – 13 Australian cents in 3 separate locations;
- Dyesol partner EPFL achieves accredited 21.02% world record for Perovskite Solar Cells;
- A\$8 million raised from institutional placement and retail Share Purchase Plan.

#### QUARTER 3

- Quarterly Technical Advisory Board milestone achieved – 7% conversion efficiency strip cells on metal substrates;
- VDL Enabling Technology Group of The Netherlands appointed as Major Area Demonstration prototype development partner;
- Turkey Update immediately following failed military coup;
- Dyesol enters All Ordinaries Index.

#### **QUARTER 4**

- Quarterly Technical Advisory Board milestone achieved – 13% conversion efficiency for Porous Carbon strip cells under IV testing;
- Turkey Update communications restored with Turkish ministry, TKB and NESLI DSC;
- Provisional patent filed for efficiency enhancing halide ion doped TiO2;
- VDL ETG Phase 1 (Feasibility and Functional Specification) completed.

#### RESULTS

### **COMMERCIALISATION PATHWAY**





### FY2017 Sources & Uses of Funds



- Mix of **non-dilutionary** (grants and rebates) and **strategic investment expected**;
- Dyesol to maintain reasonably constant "burn" or opex rate of approximately \$6 million \$7 million per year after significant ATO R&D Rebate claim;
- Additional funds expected to come from emerging Australian, European and Turkish grant programs;
- **Extra funds may be judiciously applied** to (1) Major Area Demonstration Prototype Project, and (2) Consolidation of Australian R&D facilities.

### FY 2017 OUTLOOK



#### THE YEAR AHEAD



#### **BUSINESS PLAN**

BUSINESS PLAN Establish diverse range of commercialisation projects in Australia, Europe and China

#### INVESTMENT

Maximising non-dilutionary government funding in global commercialisation projects

FINANCIAL MANAGEMENT Implementation of rigorous development budgets

#### TECHNOLOGY

**R&D** Optimisation of processes and materials for prototype and pilot line

MATERIALS Focus on industrial conversion efficiency and stability in carbon-based PSC architecture, especially

INNOVATION Leveraging a global network of academic partnerships e.g. CSIRO, NTU, EPFL etc.

#### PARTNERSHIPS

PROTOTYPE & PILOT LINE Completion of VDL ETG Phase II (Engineering and Design) & Phase III (Realisation and Testing). First prototype for metal substrate PSC PV

#### MANUFACTURE AND DISTRIBUTION

Full business plans for commercialisation of glass PSC PV for UK/Europe, Turkey, Australia and possibly China

#### TEAM

PRODUCTIVITY Driving a highly skilled team of scientists and engineers to maintain their position as world leaders in the industrialisation of PSC PV

Further rationalisation of facilities, particularly in Australia

#### **GLOBAL REACH**

Subsidiaries strategically placed in key markets - UK, Italy, South Korea & Switzerland

## Dyesol versus National & International Renewables - 12 & 24 Month Comparison USA LEADERS IN DIVESSION





# THANK YOU



Commercial In Confidence