



Opportunities for Dyesol in Low Carbon Society

KEY POINTS

- ***Dyesol Limited was invited as a delegate to the recent G8 Environment Ministers meetings in Italy***
 - ***International Energy Agency (IEA) identified that the built environment utilises over 40% of all global energy***
 - ***World Bank stated that an Energy Revolution is needed to arrest climate change***
 - ***IEA stated that the two preferred technical approaches to arresting growth of carbon intensity are energy efficiency and renewable energy***
 - ***Dyesol DSC technology was presented as the opportunity to combine energy efficiency and renewable energy in building products***
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During April the G8 Environment Ministers have met in Siracusa in Italy to consider initiatives for protecting the environment including moves to create a low carbon society through reducing growth of carbon dioxide concentration in the atmosphere. Dyesol was invited to represent Australian industry and 3rd generation solar at the High Level Forum in Trieste from 2-4 April and at the industry session in Siracusa on 22 April. Dyesol was represented by Dr Gavin Tulloch, Managing Director Global.

As a panellist in Trieste and a delegate in Siracusa, Dr Tulloch had the opportunity to present the advantages of DSC technology in ameliorating global climate change as well as presenting Dyesol to the world forum. Other companies invited to Siracusa included GE, Westinghouse, Mitsubishi, ENEL, Areva, ERG, Shell, Edison, BMW, Tata, while leading first generation solar company, Sharp, and second generation solar leader, First Solar, were panellists with Dyesol in Trieste.

The meetings considered and commented on two key papers by IEA ('Ensuring Green Growth in a Time of Economic Crisis: The Role of Energy Technology') and World Bank ('Financing Technology to support low-carbon and climate resilient growth').

The emphasis of the claims and recommendations of these authoritative papers are:

- Well over \$200B must be invested per annum to ensure that atmospheric carbon concentration does not rise significantly above 550ppm by 2020.
- The effects of climate change would be far more serious to the world economy than the current global financial crisis if unaddressed.
- Current energy solutions are inadequate to the task and an 'Energy Revolution' is essential.
- Major energy users include the built environment (>40% of global energy use) and transport (~16%).
- In the next ten years the preferred methods for reducing carbon intensity are energy efficiency and renewable energy.
- Developing nations will have to play an increasing role in technology led reduction of carbon intensity.

- Governments must increase investment in R&D, Demonstration and Deployment to seed the introduction of new low carbon technologies at the pre-commercial stage.
- Public/Private partnerships are a preferred means for government investment both in developed and developing countries.

During presentations and discussions, Dr Tulloch provided the following information about Dyesol's DSC technology and products:

- The credible means to address energy intensity in the built environment are energy efficiency and solar power.
- DSC steel-based panels and glass façade panels incorporate energy efficiency as an inherent feature of the product design.
- DSC building products not only produce energy at the point of use but also save substantial energy and additional capital cost through avoiding distribution.
- Regulation, using a model similar to that enforced for cigarette smoking, can create a common approach by different jurisdictions to energy management in the built environment.
- Dyesol's model of public/private partnerships, as evidenced, for example, by the partnership with Corus (Tata) and the Welsh Assembly Government is a very good model that assures access to technology and markets.
- DSC technology has very low embodied energy compared to other sources of renewable energy, so implementation of DSC is a low carbon intensity commercially viable activity.
- DSC technology has a low cost of implementation and can be modular so is affordable for developing countries as well as developed countries in which Dyesol operates.
- Dyesol's model for licensing/partnerships can provide manufacturing technology and hence economic growth to developing countries while maintaining materials technology under Dyesol's control.
- Dyesol's DSC technology is directed to achieving grid parity for built environment products through combining energy efficiency with point of use renewable energy.

For further information contact Gavin Tulloch on +61 (0) 2 6299 1592.

In Europe contact Eva Reuter, Investor Relations, Dyesol Europe on +49 177 6058804

Note to editors

The Technology – DYE SOLAR CELLS

DSC technology can best be described as 'artificial photosynthesis' using an electrolyte, a layer of titania (a pigment used in white paints and tooth paste) and ruthenium dye deposited on glass, metal or polymer substrates. Light striking the dye excites electrons which are absorbed by the titania to become an electric current many times stronger than that found in natural photosynthesis in plants. Compared to conventional silicon based photovoltaic technology, Dyesol's technology has lower cost and embodied energy in manufacture, it produces electricity more efficiently even in low light conditions and can be directly incorporated into buildings by replacing conventional glass panels or metal sheets rather than taking up roof or extra land area.

The Company – DYESOL Limited

Dyesol is located in Queanbeyan NSW (near Canberra) and in August 2005 was listed on the Australian Stock Exchange (ASX Code 'DYE'). Dyesol manufactures and supplies a range of Dye Solar Cell products comprising equipment, chemicals, materials, components and related services to researchers and manufacturers of DSC. The Company is playing a key role in taking this third generation solar technology out of the laboratory and into the community.

More detail about the company and the technology can be found at: <http://www.dyesol.com>