



## General Shareholder Update

**Friday 19 February, 2016:** Environmental Clean Technologies Limited (**ASX:ESI** and **ECT** or **Company**) provides the following general update on recent company achievements, current activities and planned activities.

The Company has delivered several significant outcomes in recent weeks:

- 1) Tripartite Agreement Signing
- 2) Enhanced capital management capability
- 3) Convened the Indian project working group & commenced activities
- 4) Presented at the India-Australia dialogue on energy security

The tripartite agreement announced on (27 Jan 2016) is a first for an Australian company in the Indian market. It paves the way for the integrated, joint development of the Company's innovative resource upgrading technologies, Coldry and Matmor, in the worlds fastest growing large economy.

The capital management transaction, announced on 27 January 2016 saw the orderly conclusion of the Fast Finance facility and subsequently introduced New York based Brevet Capital to our financing mix (announced 2 Feb 2016). These activities, along with the receipt of the 2015 R&D Tax Incentive rebate, have delivered short term funding stability and flexibility and established significant capability around project financing as we step forward in India.

The Company kicked-off the India project activities in Hyderabad on the 4 February (<http://www.ectltd.com.au/shareholder-update-key-activites/>), setting in motion the work plan to deliver the Techno-Economic Feasibility (TEF) study for the integrated Coldry-Matmor R&D project in India between now and June.

ECT Chairman, Glenn Fozard was invited to participate in the India-Australia Dialogue on Energy Security in Brisbane on 8 February 2016. Mr Fozard presented the Company's Coldry and Matmor resource upgrading solutions and delivered an overview of the project being pursued with India's largest lignite miner, Neyveli Lignite Corporation and largest iron ore miner, NMDC. He also outlined highlights of the Company's engagement methodology to the Australian companies present.

Managing Director, Ashley Moore commented "In contrast to these recent achievements and the valuation by ABID, the share price movement since 27 January has disappointed most shareholders."

"The company has received much correspondence from shareholders expressing alarm as to pace and volatility of the share price movement since January 27 with most providing views as to the possible reasons for this movement."

Chairman, Glenn Fozard added, "Whilst it is the responsibility of the Company to ensure that the market and its shareholders receive clear communication from the Company, and in some instances, even correct misinformation in the market, shareholder interests are best served by

focusing our efforts on meeting stated milestones and deliverables rather than speculating on share price movement.

“The Board is confident in the future of the business and we believe that expectations for the delivery of milestones are reasonable and on track. We’ve said it before and we’ll say it again, the Company has never been in better shape to develop, commercialise and monetise its technology suite. But there is always room for improvement and with our shareholder’s contribution, we aim to better communicate these goals and milestones”

Ashley Moore continued, “As such, we’re stepping up the communications and invite shareholders to direct any questions via email.

“In this update we cover off several frequently asked questions, lay out the key messages since our AGM last November, and generally restate our pathway and objectives for our shareholders.

“In coming weeks and months we’ll also provide further updates as we get on with the job in India. Shareholders can expect regular web articles and other communications. As always, the Company will continue to remain compliant with its continuous disclosure obligations, so any material announcements will also be made via the ASX platform.”

### **Current Activities**

At the Company’s AGM last November, the three priorities for the year ahead were outlined:

- 1) India project development
- 2) Australian Project Feasibility Study
- 3) Victorian Fuel Supply Opportunity

The project in India is focused on the deployment of an integrated Coldry demonstration-scale plant and Matmor pilot-scale plant at India’s largest lignite mine and power generation site.

The joint development of the project with NLC and NMDC is driven by India’s incredible growth story and desire to extract greater value from relatively low cost resources in support of the country’s need for energy, and infrastructure-building iron and steel.

Coldry has the ability to upgrade lignite to produce a black coal equivalent thermal coal, enabling its use in higher efficiency power generation or as a ‘gateway’ to further upgrading via coal conversion technologies to produce oil, gas and fertiliser.

Matmor has the ability to produce iron and other higher value metals without the need for coking coal.

At the 2015 AGM the Company provided an overview of the steps ahead as follows:

Coldry:

- Thermax ready to go, substantial preparation works complete
  - Proprietary equipment vendor development works
  - Integration engineering and site specific aspects scheduled following Matmor Pilot Plant Development works
- *Financial trigger*
- Construction
- Commissioning, optimisation & validation
- Commercial expansion

Matmor:

- MN Dastur appointed engineering partner
- Pilot Plant development program commenced:
  - Test Plant upgrades already started
  - Data development runs to inform Pilot Plant design
  - Designs prepared for EPC costing
  - *Financial trigger*
  - Construction
  - Commissioning
  - Test program
  - Next Steps... following Coldry model

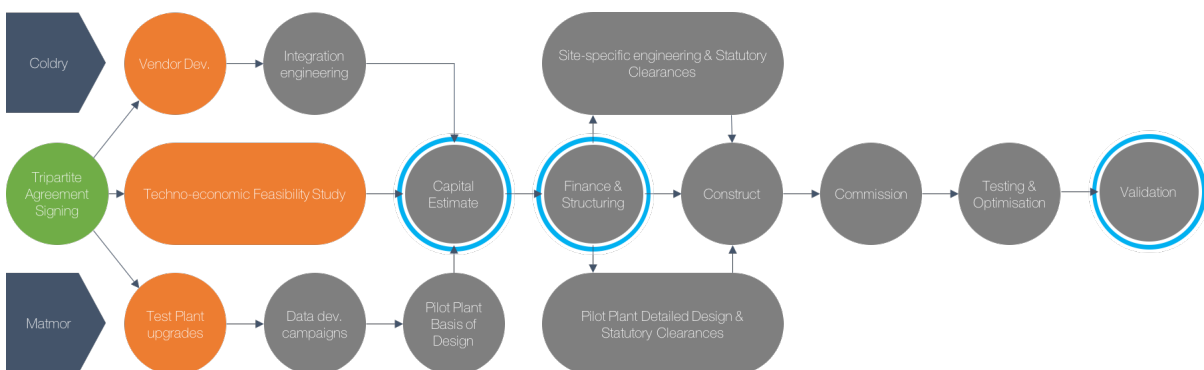
The first activity under the India project - the preparation of the TEF Study – commenced on 4 February (<http://www.ectltd.com.au/shareholder-update-key-activites/>) with the convening of the project working group consisting of ECT, NLC and NMDC and supported by Thermax (Coldry EPC engineers) and MN Dastur (Matmor design engineers).

The TEF is the trigger that precedes finance and structuring, firming up the capital estimates to an appropriate level to define the overall financial requirement and by extension the parties' contributions.

The capital cost for the Coldry demonstration-scale plant has been appropriately defined for some time. The task ahead is to bring Matmor up to speed and refine the integration aspects given the difference in size and stage of development between the two technologies.

The study will include a look forward at the commercial scale application to quantify the financial opportunities likely to flow from this R&D scale project, supporting the business case for the allocation of R&D investment by the parties.

The diagram below further outlines the activity pathway through to project completion.



Key points to note include:

- The Tripartite Collaboration Agreement establishes the framework for activities that build toward the objective.
- The parties will drill down to commercial agreements following the TEF study.
- Each party intends to contribute finance and resources to the project, guided by the

outcomes of the study. To meet financial control requirements for release of R&D funding via the parties, internal protocols must first be satisfied. The TEF study underpins this requirement.

The intended timing sees the progress of the TEF study being completed during June 2016.

### **The Australian Project Feasibility Study**

The Company is working through the initial scoping stage for its Australian Project as outlined at the 2015 AGM.

Focusing on product and market assessment, the study aims to determine a logical commercial pathway for both Coldry and Matmor in Australia.

Through this approach, R&D activities can be targeted toward practical commercial applications that reflect local market conditions. The Company's current preliminary view sees opportunities in developing Coldry-enabled solutions that produce gas, oils and metallurgical char products. On the Matmor front, there are several R&D pathways ranging from iron ore in Victoria and Tasmania to pre-processing of ilmenite (titanium sands) and remediation of waste (millscale).

The Australian Project is of greater scale and complexity and will necessarily be informed by the outcomes of the Coldry and Matmor R&D activities in India.

### **Victorian Fuel Supply Opportunity**

The Company has been exploring modifications to its Coldry Pilot plant at Bacchus Marsh to enhance its testing capability and generate new knowledge.

The requirement for higher testing capacity has been driven by the need to provide a robust R&D facility that can provide sufficient flexibility and volume of Coldry product to satisfy minimum quantities for end user testing in large test boilers and live generation systems.

This would typically be an R&D expense to the business in pursuit of generating new knowledge.

Coinciding with this activity, a confluence of factors in the Victorian market has created a compelling economic opportunity.

The Victorian market for thermal coal is experiencing a disconnect from the global market. While the global price for thermal coal is hovering around \$60 per tonne, brown coal briquettes are fetching significantly higher prices in Victoria.

The closure of the briquette factory in Victoria is having repercussions. And while there are solutions, such as importing black coal from NSW or connecting to the gas network, both options are very expensive. Some consumers have resorted to looking at the feasibility of importing brown coal briquettes from Germany. Solar and wind aren't appropriate for starting power stations or raising steam.

This has created a potential opportunity to supply a dried brown coal product such as Coldry into the Victorian market. If successful, the Company hopes to defray some of its R&D costs through the sale of output from its R&D activities in the Victorian market while achieving valuable new knowledge from our pilot plant and its resulting products.

The scoping of the pilot plant upgrade is currently proceeding, in addition to market and logistics assessment.

## **Clarification on Trading Halt and Voluntary Suspension**

On 19 January 2016 the Company requested the ASX halt trading in its securities pending the completion of a transaction relating to its capital management plan.

The completion took longer than expected, resulting in the Company seeking voluntary suspension on 21 January 2016, which was lifted on 27 January 2016.

Feedback from shareholders reflected a broad degree of misinterpretation ranging from simple misunderstanding of terminology to wilful, yet incorrect, speculation.

Some shareholders described the halt as 'backfiring', suggesting those shareholders believed the Company was using the halt as a build up to the signing of the tripartite agreement. This was not the intent. The market was kept fully informed of anticipated timing of the tripartite agreement signing.

For avoidance of doubt, the Company only uses trading halts and voluntary suspensions as required to manage its continuous disclosure obligations. In this instance the Company was finalising a transaction in relation to capital management activities. The halt and voluntary suspension were implemented to prevent trading in the Company's securities as the circle of participants involved in the transaction widened.

The subsequent announcement (27 Jan 2016) then provided full disclosure on the nature and outcome of the transaction under the heading of 'Capital Management', including the conversion of the previous 'Fast Finance' loan facility to equity.

Shareholders are reminded that the Board has obligations under the Corporations Act and ASX Listing Rules to manage continuous disclosure. Trading Halts and Voluntary Suspensions are tools provided by the ASX for this very purpose.

## **Understanding the Tripartite Collaboration Agreement**

Shareholders have posed several questions in relation to the nature of the agreement with NLC and NMDC.

In order to gain a better understanding of what the agreement is, it is helpful to understand the Company's engagement with its Indian partners in the context of a first-of-a-kind deal with Public Sector Undertakings (PSU's).

It became apparent as the engagement with the parties developed that typical Australian or Indian 'deal making' approaches would be inadequate. The challenge for the parties lay in bridging the gap between the need to drive R&D outcomes that require financial commitments on one hand, and the need to meet procedural controls within Indian PSU's on the other hand. Allocating taxpayer funds in any jurisdiction involves substantial probity and compliance considerations, which can take considerable time to satisfy.

To bridge this gap required innovation in terms of agreement structure in addition to vision on the part of the PSU's. The key was the creation of a binding, collaborative framework, that incorporated both the necessary activity to drive project development through the TEF study stage towards execution of commercial agreements which will detail the equity investments and other contributions of each party, while allowing parallel compliance with policies, process and procedures. This balances the need for an appropriate level of investment certainty with the need for probity over allocation of public funds toward the R&D project.

For further context, officials from the Australian High Commission in India have noted the significance and uniqueness of the achievement during discussions with the Company. In addition, the Company has received approaches from several Australian firms seeking guidance on how to enter the Indian market.

Given the unique nature of the engagement and the innovative approach to structuring a balanced, collaborative approach, the Tripartite Collaboration Agreement isn't easily 'pigeon-holed'. The Company sees this innovative, 'trail blazing' approach as crucial to attracting and engaging partners and aims to further build this as a core competency in future developments.

## **Conclusion**

The Company is focused on progressing the Techno-Economic Feasibility study for the India project through to conclusion by the end of June and will continue to provide updates and further clarifications on the way through.

If shareholders have any questions, the Company encourages you to email us at [info@ectltd.com.au](mailto:info@ectltd.com.au). Topics of interest can then be covered in further updates.

## **For further information, contact:**

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### **About ECT**

ECT is in the business of commercialising leading-edge coal and iron making technologies, which are capable of delivering financial and environmental benefits.

We are focused on advancing a portfolio of technologies, which have significant market potential globally.

ECT's business plan is to pragmatically commercialise these technologies and secure sustainable, profitable income streams through licencing and other commercial mechanisms.

### **About Coldry**

When applied to a range of high-moisture coals, the Coldry beneficiation process produces a black coal equivalent (BCE) in the form of dry, densified pellets. Coldry pellets have equal or superior energy value to many black coals and lower CO<sub>2</sub> emissions intensity than raw lignite.

### **About MATMOR**

The MATMOR process is a significant advancement in the field of primary Iron production, being the only process to utilise relatively low-cost low-rank coal in place of higher cost metallurgical coal.

MATMOR is a simple, low cost, low emission, continuous production technology, incorporating the patented Coldry Process as the front-end material preparation stage ahead of the unique MATMOR retort, which enables the use of lower cost raw materials to produce primary iron and iron based alloys.

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