

# **Towards A Theoretical Model for Analysing the Quality of Corporate Environmental Disclosure: Emphasising What and Why**

Salina Siddique\*, Nick Sciulli\*\* and Jeffrey Faux\*\*\*

*The objective of this paper is to develop a theoretical model that would help in analysing corporate environmental disclosure in terms of what to report and why. Taking the natural resource-based view (NRBV) of firms, the model identifies ongoing environmental deterioration and environmental concern as a key driver for the firms to take strategic actions. It asserts that such environmental concern would impose constraints and also open opportunities for firms. It can also expose them into a new environmentally oriented market competition and force the managers to enter into a new strategic relationship with the natural environment. Quality signalling hypothesis (QSH) is then incorporated into the model to explain corporate environmental disclosure in annual reports and separate environmental or similar reports. The model is also linked to the different environmental philosophies and to different environmental reporting guidelines that stipulate what to report within the context of corporate environmental disclosure. The theoretical model which is based on NRBV and QSH demonstrates that firms use environmental disclosure as a strategic tool to gain a competitive advantage given the constraints and opportunities posed by the natural environment towards business organisations.*

**Field of Research:** Environmental accounting and reporting

## **1. Introduction**

The explanatory power of the well used and well developed theories such as legitimacy and stakeholder theories in explaining corporate social responsibility (CSR) reporting are questioned by recent literature (O'Dwyer, 2002; Bebbington et. al., 2008 and Unnerman, 2008). It has been argued that while these theories provide many useful perspectives in explaining different fields of study in social science at their embryonic stage, as the fields develop these broad theories become progressively less insightful and imprecise; rather the necessity of more refined theories with greater explanatory power are acknowledged (Unerman, 2008). The focus of this paper is on corporate environmental reporting which is a recognised subsection of CSR and the aim of this paper is to develop a refined theoretical model to explain the quality of corporate environmental disclosure (CED). While developing a model, it considers three interrelated issues, namely, environmental philosophies, environmental realities organisations are facing and the quality of disclosure emphasising what information is relevant. The first two issues have a close connection with corporate environmental behaviour and CED therein. This paper

---

\*Salina Siddique, [salina.siddique@vu.edu.au](mailto:salina.siddique@vu.edu.au), School of Accounting and Finance; Victoria University; Australia

\*\*Dr Nick Sciulli, [nick.sciulli@vu.edu.au](mailto:nick.sciulli@vu.edu.au), School of Accounting and Finance; Victoria University; Australia

\*\*\*Assoc. Professor Dr. Jeffrey Faux, [Jeffrey.faux@vu.edu.au](mailto:Jeffrey.faux@vu.edu.au), Faculty of Business and Law, Victoria University; Australia

considers that the theory that can espouse these issues for assessing CED would have greater explanatory power in analysing the quality of disclosure. It is proposed to develop a theoretical framework which is based on natural resource based theory (NRBT) and quality signalling hypothesis (QSH). The strength of the framework lies in its ability in bringing the qualitative attributes of CED, environmental philosophy and the environmental reality into a common platform by demonstrating a linkage through establishing a commonality among them. The proposed framework is able to provide specific explanation of why firms provide quality environmental disclosure.

The paper is organised as follows. Section 2 discusses the three basic premises namely environmental philosophy, environmental reality and the quality environmental disclosure, that underpin the proposed theoretical framework. Section 3 presents the proposed theoretical model along with a brief discussion of the underlying theories guiding the model. The conclusion is discussed in Section 4.

## 2. Literature Review

### 2.1 Environmental Philosophies

In order to understand the existing practice and debate about the industrial exploitation of the environment, it is important to understand the underlying philosophies behind them that are rooted in the mindset of different individuals. Such philosophies directly impact the organisational practices and at the same time, the public expectations of organisations' environmental responsibility. There is not a universally accepted paradigm about the usage of resources and the environment. Rather it embraces a plurality of traditions ranging from eco-centrism to techno-centrism demonstrated in figure 1 (Jones and Hollier, 1997).

Eco-centrism stems from a belief that,

The natural stability of the biosphere is under threat from population growth, resource depletion, species extinction, soil erosion, increasing use of organic chemicals and pollution (Jones and Hollier, 1997).

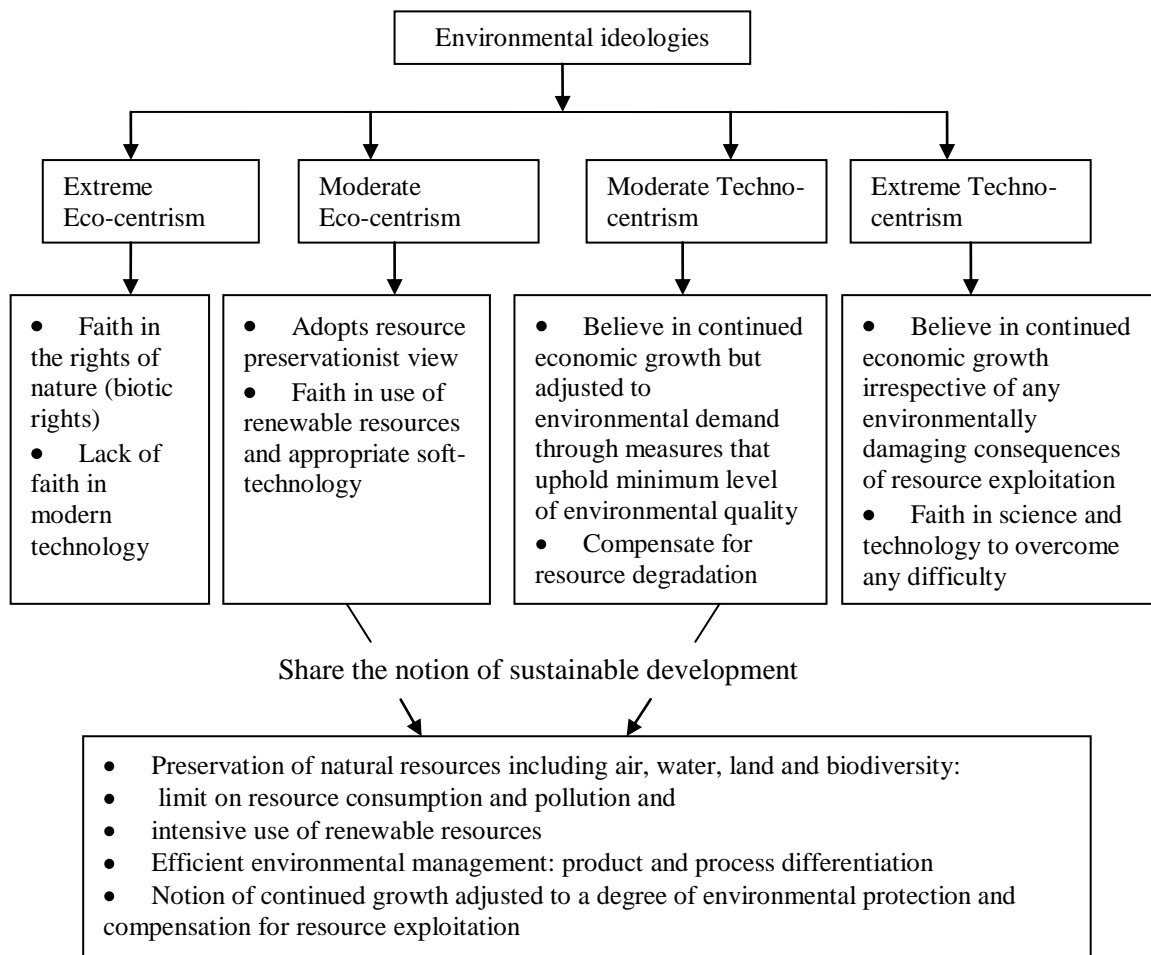
This is in line with the view of Ehrlich, Ehrlich and Holdren (1973, p. 8) that, mankind is systematically diminishing the capacity of the natural environment to perform its waste disposal, nutrient cycling, and other vital roles at the same time that the growing human population and rising affluence are creating larger demands for these natural services.

In its extreme form, the eco-centrists adopt a deep environmentalist view. They see the protection of natural ecosystems as a biotic right rather than a human-centred perspective. They do not have any faith in the modern technological fix of environmental problems; hence, the notion that survival is possible through minimal technological intervention is rejected by them. They urge for 'de-development' to bring the consumption pattern of the over-developed world in line with contemporary ecological realities. Being emerged as radical reformists who believe in redistribution of power in the society, they insist on limits to growth in three areas – 'limits to population, limits to technology, and limits to appetite and greed' (Zimmerman et al., 1998).

## Siddique, Sciulli & Faux

However, moderate eco-centrists take a resource preservationist position, believing that the earth's bounty is finite and steps must be taken to control their use and to constrain economic growth and to stress more on self-reliance and self-sufficiency (Meadows et al., 1972). They urge for adoption of a new approach towards production, consumption, economic growth, technological development and environment. They emphasise economical and ecological equilibrium where population and economic growth should be zero as they believe that the global carrying capacity of earth has already been exceeded.

**Figure 1: Philosophy of use of resources and environment; Adapted from O'Riordan, 1981, p.376.**



On the contrary, techno-centrism is enrooted in the ideology of progress, efficiency and rationality; techno-centrists are fuelled by optimism with a special faith in technological intervention and manipulation (Jones and Hollier, 1997). In its extreme form, it adopts a growth oriented or resource-exploitative philosophy, views the scarcity of resources as a short-term disequilibrium while supply shortages lead to higher prices and stimulate a new round of innovative technological advancement, substitution or exploration of alternative sub-economic reserves. According to Jones and Hollier (1997, p. 6), while the extreme techno-centrists are aware of environmental problems they believe that,

## Siddique, Sciulli & Faux

Any difficulties that arise in pursuing unbridled economic growth will be overcome by the intervention of technology and by means of objective techniques such as cost-benefit analysis in which all factors, including however, intangible environmental ones are converted into money values.

On the other hand, the moderate techno-centrists, still adhering to the concept of continued growth also believe that it can best be sustained by introducing some element of conservation and resource management (Jones and Hollier, 1997). They believe in introducing fiscal and legal measures such as imposing tax and regulation to bring about minimal level of environmental quality and to compensate for any environmental disturbances and degradation. They demand for effective environmental management strategy and insist on greater responsiveness and accountability of business organisations, political, regulatory and planning institutions (Jones and Hollier, 1997).

As the extreme views largely ignore either economic or environmental realities they are found to be difficult of being translated into pragmatic suggestions for actions and hence, put aside for the purpose of this paper (Gray, 1992). However, consideration of the moderate eco and techno-centrists demonstrate some sort of shared notion of sustainable development in terms of their emphasis on resource preservation and efficient environmental management. Therefore, environmental disclosure on the efficient use of resources in terms of savings and renewability, product leadership in life-cycle assessments and damaging consequences of organisational operations – both in physical and financial terms, carry significance to them. These expectations can be translated into pressures or constraints imposed on firms while they collectively apply their environmental conscience as customers, investors, employees, voters, environmental lobby groups and regulators.

### 2.2 Environmental Reality

Organisations have to depend or share the natural environment with the rest of society thus, their activities are directly impacted by the risk and opportunities posed by the environment. The main risks presented by the environment are diminishing natural resources and climate change.

Population growth, ecological overspending and resource depletion result in a decrease in the carrying capacity of earth to support the human activities through regenerating resources and absorbing wastes including carbon di-oxide (CO<sub>2</sub>). According to Global Footprint Network (September, 2010), the current rate at which natural resources are used and wastes are absorbed requires about one and a half planets and if the current trend continues, by the early 2030s it will require the equivalent of two earths to support all human beings. From an accounting point of view, such depletion of natural resources capital at a rate faster than it is being replenished means continual increase in ecological debt over assets. This in turn indicates an ecological crisis in terms of a severe shortage of natural resources including metal and minerals, water resources and fisheries, land, forestry and biodiversity.

Climate change is the most evident cost of ecological overspending resulting from emission of carbon-di-oxide faster than its re-absorption by the planet's forestry. There is overwhelming scientific evidence that global warming is real and is one of

## Siddique, Sciulli & Faux

the greatest environmental threats the planet is now facing. It has been thought until recently that keeping the atmospheric concentration of carbon-dioxide (CO<sub>2</sub>) as low as 450 parts per million (ppm) would be enough to prevent dangerous levels of global warming. However, Hansen (2008, cited in Ackerman, 2009), one of the top climate scientists of NASA, claimed that according to paleo-climatic evidence, 450 ppm is the threshold or transition point for the earth to become ice-free, which means a catastrophic rise in sea levels and consequent flooding of all coastal regions. According to the National Oceanic and Atmospheric Administration, U.S. (NOAA), current atmospheric CO<sub>2</sub> is around 390 ppm and rising. Since CO<sub>2</sub> persists in the atmosphere for a long time, it is difficult to reduce its concentration in a short period. According to the climate scientists, the world needs to stabilize CO<sub>2</sub> concentration at 350 ppm to avoid any crisis in future which requires massive decarbonisation and its likely downward consequences on the global economy (Ackerman, 2009).

Given such an environmental reality, 'no one in power wants to listen to climate sceptics any more' (Ackerman, 2009). International and national regulatory interventions including Kyoto Protocol, European Emission Trading Scheme, Proposed Carbon Reduction Trading Scheme in Australia, National Greenhouse and Energy Reporting Act in Australia and so forth are some examples of direct consequences of community concern of ecological crisis. As it challenges businesses to work out ways to survive in a resource constraint world, the environmental concern is becoming repositioned as a key strategic risk management tool and at the same time becoming a new source of innovation and business value. It offers opportunities to build on research and development to find out innovative technologies that can provide effective solutions for renewable resources and advanced product and process design with low environmental impact.

### 2.3 Quality of Environmental Disclosure

While quality of disclosure is a broad term and comprises several attributes including relevance, reliability, understandability, comparability and materiality suggested in different reporting guidelines, the focus of this paper is on *relevance* or *what to report*. This is the fundamental qualitative attribute that mimics fertilized ovum from which other attributes develop. The definition of CED itself can provide insight on relevance of environmental disclosure. CED can be defined as –

“any information, expressed in qualitative or quantitative terms, physical or financial, connected to the impact that the company has on the natural environment and that can have consequences on the financial and economic structure of the company” (Salomone and Galluccio, 2001, p. 9).

In other words, relevant environmental disclosure constitutes – a) information on the impact of organisational activities on natural environment and b) the consequences of the community perception of such impact on financial and operational activities of the organisation. The following frameworks and guidelines are considered to provide an insight on relevant environmental disclosures:

- Global Reporting Initiative (GRI) G3 guidelines prepared by inputs from a wide range of stakeholders groups,
- Global Climate Disclosure Framework (GCDF) which is prepared by national and international electric utility investors association,

## Siddique, Sciulli & Faux

- Climate Disclosure Standard Board (CDSB) Framework which is prepared by CDSB that advocates a generally-accepted international framework for companies to disclose information about climate change-related risks and opportunities.

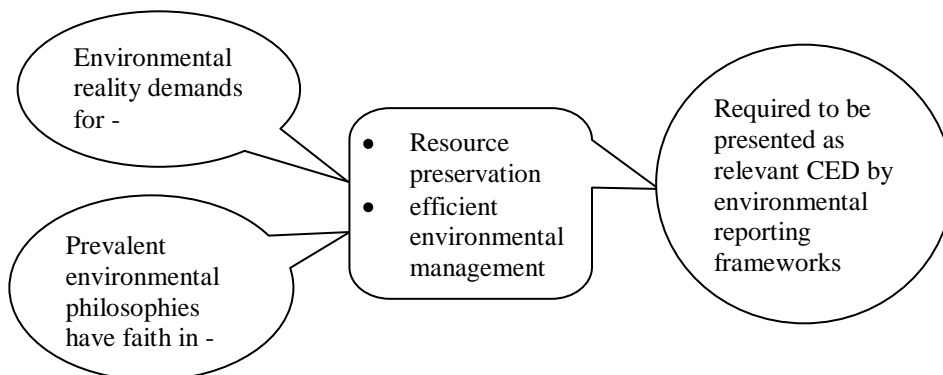
A comprehensive list is prepared from these frameworks through a process synthesis using N-vivo Research analysis tool (shown in Table 1).

**Table 1: List of relevant environmental disclosure**

What to report	GRI	CDSB	GCDF
<b>Disclosure on strategy</b>			
- Identifying challenge	√	√	√
- Identifying business impact	√	√	√
- Setting performance target	√	√	√
<b>Disclosure on impact and performance</b>			
- Material, water and energy use	√	√	√
- pollution: emission/effluents and waste	√	√	√
- Product and service	√	√	
- Transport	√		
- Compliance to environmental regulation	√		

The list implies that environmental information is relevant when it provides information on the company's impact on natural environment including use of resources and pollution, and the company's strategy in identifying risks and opportunities results from such impact. Therefore, CED can be argued to be relevant when it addresses the existing environmental philosophies within a given environmental reality. The commonality and interrelatedness among them are demonstrated in Figure 2.

**Figure 2: Interrelation among environmental philosophy, environmental reality and Relevant CED**



### 3. Development of Theoretical Framework

#### ***Inefficiency of some well-known frameworks***

Corporate environmental disclosures are mostly investigated within the theoretical framework of Political Economy Theories (PET) including legitimacy and stakeholder theories (Youngvanich and Guthrie 2007; Cowan & Gadenne 2005; Cunningham & Gadenne 2003; Deegan 2002; Deegan, Rankin & Tobin 2002; Milne & Patten 2002; O'Donovan 2002; Wilmshurst & Frost 2000; O'Donovan 1999; Deegan & Gordon 1996; Deegan & Rankin 1996;). Legitimacy theory views organisations' interactions with society as a process through which organisations continually seek to ensure that their actions are congruent with the norms and value systems of their respective society. On the other hand, stakeholder theory (managerial branch) adopts the view that organisations are likely to meet the expectations of the powerful stakeholders in terms of providing resources. The rationale behind using these theories largely is that their focus is not solely concentrated on the organisational economic interest or wealth maximisation effort; rather, they view the organisational activities within the broad "political, social and institutional framework within which the economics take place" (Gray, Kouhy & Lavers 1995b, p. 52). These theories recognise that CED and other social disclosure as an extenuating strategic tool to manipulate the attitude of external stakeholders (Guthrie & Parker 1990). For example, as is identified by Lindblom, (1994), when an organisation perceives that its legitimacy is in question because of incongruence of its value with that of the society, among other techniques, it may seek to change stakeholders' perceptions of the organisations' action without changing its actual behaviour. While researchers have identified other legitimisation strategies that differ and might be embraced by an entity depending on whether it attempts to gain, maintain or repair its legitimacy, the theoretical development remains weak in this area (Deegan, 2009). Further, legitimacy or stakeholder theory revolves largely around justifying problems. Therefore, recent literatures question the explanatory power of these theories (O'Dwyer, 2002; Bebbington et. al., 2008 and Unnerman, 2008). Given the risks and opportunities offered by today's dire environmental reality as discussed above, provision of environmental disclosure is becoming an essential strategic tool rather than a broad pacifying strategy for meeting the expectation of the powerful stakeholders or society as a whole. Consequently, researchers call for narrower and more refined theories to explain the motivation for CED (Unnerman , 2008).

In this paper, NRBT (Hart, 1995) is put forward in conjunction with QSH (Tom, 2002) to explain the provision of quality environmental disclosure. Unlike the PET it specifically pinpoints the environmental expectation of the community with the resultant risks and opportunities imposed on the firms. The strength of the following model stems on firms' risk management rather than risk justification. It deems the environmental disclosure as a necessity in today's context rather than a virtue.

#### ***Natural Resource Based Theory (NRBT)***

This is a theory of competitive advantage which is based upon the firm's relationship to the natural environment. Hart (1995, p. 989) argued that,

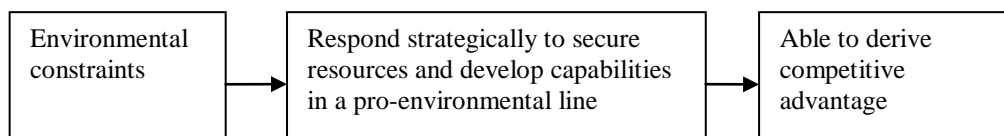
One of the most important drivers of new resources and capability development for firms will be the constraints and challenges posed by the natural (biophysical) environment.

## Siddique, Sciulli & Faux

Thus, the ecological overspending and its potential for irreversible environmental damage on a global scale manifested in today's environmental reality have been identified as key driving forces in the NRBT. Besides, the increasing number of existing and emerging national and international environmental regulations and schemes (such as NGER, Kyoto Protocol etc.) results from an increased level of global awareness to put additional constraints on business organisations, especially those in the resources sector. These regulations or schemes impose (or have potential to impose) restrictions on using natural resources and polluting the environment by companies. Such restrictions call for efficient environmental management and product differentiation in line with pro-environmental attributes, which, in turn, expose the companies into new competitive market environment.

NRBT therefore, views that the complex nature of environmental problems will force the firm to focus on activities like emission reduction, waste minimisation and recycling, energy conservation, development of internal resources to compensate for the lack of availability of natural resources and reduction of business impacts on the ecosystem. NRBV asserts that it is those firms that are able to secure resources and develop emerging capabilities such as waste minimisation, green product design and recycling technology in response to the environment challenge will gain a competitive advantage in coming years (refer to figure 3).

**Figure 3: Natural Resource-Based Perspective**



Thus, this theory articulates the relationship between environmental challenge and constraints facing the firm and firms' resources operationalised through different inter-connected strategic capabilities, namely, pollution prevention, product stewardship and sustained competitive development to derive competitive advantage.

Pollution prevention strategy aims at reducing emissions, effluents and waste. It involves developing capabilities in continuous improvement of methods that focus on reducing or preventing emissions rather than relying on costly end-of-pipe pollution control technology. Through better utilization of inputs, it increases the productivity and efficiency of the firms. By offering the potential to cut emissions well below the required level it reduces compliance costs as well. Thus, it contributes to minimising cost thereby improving cash flow and profitability.

Product stewardship aims at reducing environmental impact created by the product system from 'cradle to grave' by using life-cycle analysis (LCA). Life-cycle thinking entails minimising the use of non-renewable materials, using renewable resources matched with their rate of replenishment and avoiding the use of toxic materials. It emphasises on redesigning the existing product in a way that would enhance its ability to degrade or to be reused or recycled at the end of its useful life (Hart, 1995). It derives competitive advantage by offering a new revenue stream by establishing the firms as an early mover in the green product domain.



## Siddique, Sciulli & Faux

The sustainable-development strategy of NRBV of the firm is fostered by a strong sense of environmental commitment which is defined by Henriques and Sadorsky (1999) as an organisation-wide recognition of the importance of the natural environment that influences organisations to develop and deploy low-impact technologies consistent with the interests of the natural environment. Such an environmental commitment or long-range shared vision of the future is considered to be the key in generating the internal pressure and enthusiasm needed for innovation and change (Hart, 1995).

### ***Role of quality signalling hypothesis***

Signalling hypothesis stems from agency theory that focus on agency problem arising from the information asymmetry between the principal and agent. The hypothesis suggests that managers have incentives to signal (providing disclosure) if there are higher returns to disclosing entities (Watts and Zimmerman, 1986). Quality signalling hypothesis suggests that true signals that demonstrate observable relationships will be believed and false one will be rejected where certain conditions are fulfilled (Toms, 2002, p. 261). It states that managers will provide signals when they have incentives to disclose, when the signal is difficult to imitate, and when it is cost-effective (Toms, 2002).

Therefore, if management have made investments in activities that would build up competitive advantage in the form of minimising cost, enhancing profitability, gaining competitive pre-emption and building reputation and future performance, then, according to signalling hypothesis, it can be argued that, they clearly have compelling incentives to inform their stakeholders about their performance. It is suggested in Toms (2002, p.261) that

In terms of environmental disclosures, it follows that specified, quantifiable and verifiable information will be perceived to be of higher quality.

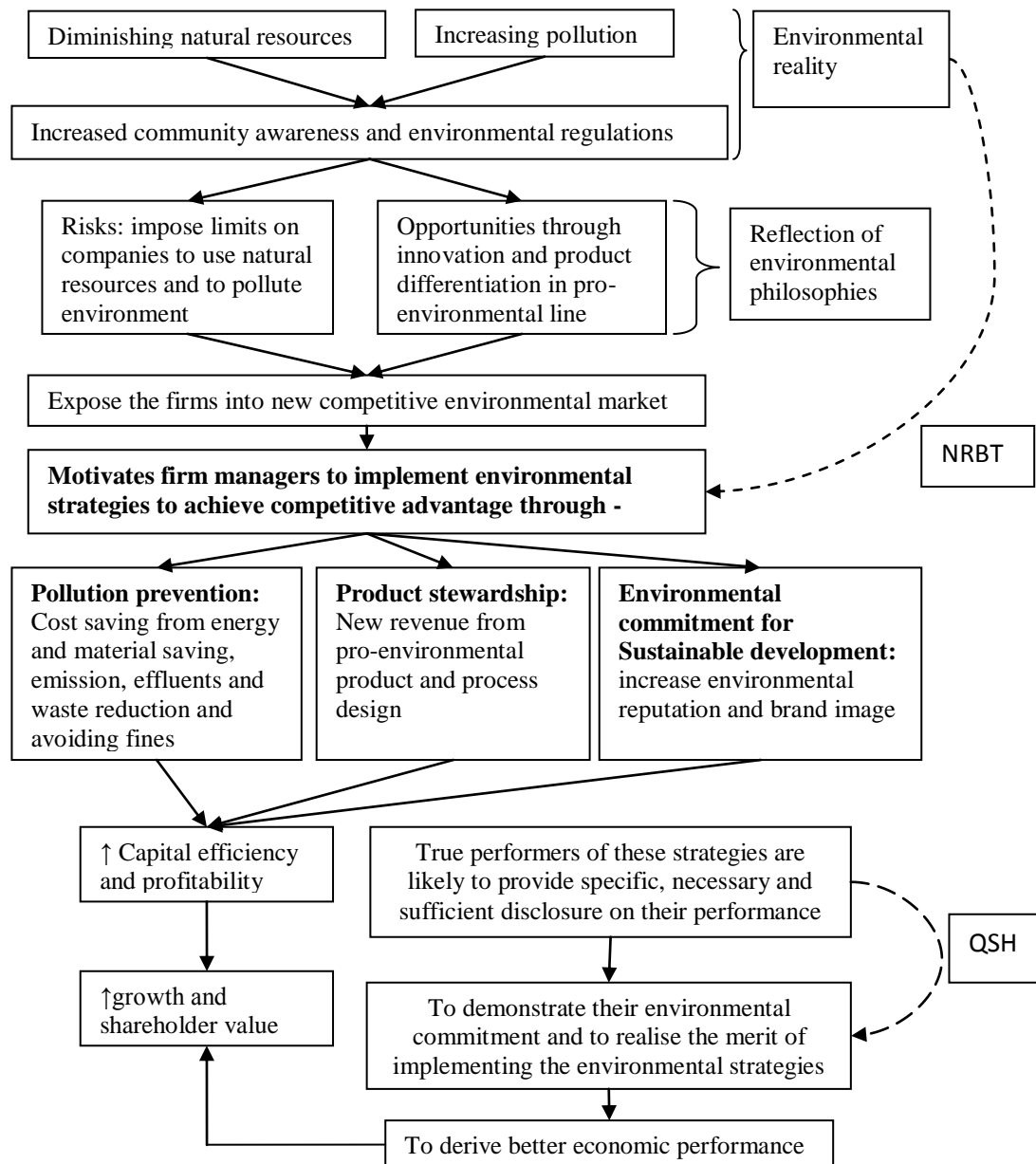
So, in order to be perceived to have better quality, CED needs to provide specific information on organisational initiatives to reduce pollution and waste, the outcomes of such initiatives, the extent of use of direct and recycled materials, the extent of emissions, effluents and waste in a quantifiable, understandable, comparable and verifiable manner.

Henriques and Sadorsky (1999) suggest that what a company is actually doing, or has done, in relation to environmental issues, can describe its commitment to the natural environment. Thus, in relation to sustainable development strategy, information about corporate environmental planning and programs, their outcomes and environmental review reports would be perceived to have enhanced quality. Such disclosures demonstrate better environmental responsibility and accountability than the disclosures that are merely rhetoric and descriptive. It has been argued that it would be very difficult for a firm which is not pursuing environmentally responsible strategies to imitate a legitimate competitor if that firm followed such a quality signalling strategy (Toms, 2002). Thus, high quality corporate environmental disclosure has the ability to demonstrate credibility, trustworthiness and environmental responsibility, which in the form of difficulty of being imitated provides a crucial link NRBT.

## Siddique, Sciulli & Faux

Based on the above discussion, the following theoretical model (figure 4) is developed. It demonstrates how NRBT together with QSH explains that companies provide CED as an essential strategic tool which address the prevalent environmental philosophies in today's grave environmental realities to derive competitive advantage.

**Figure 4: Link between the NRBV and Quality Signalling Hypotheses and Environmental disclosures**



To demonstrate the link between the proposed model and CED, Australian Government's Renewable Energy Target (RET) scheme 2009 could be used as an example. This scheme sets the renewable energy target at 20 per cent of Australia's electricity supply by 2020 (Department of Climate Change and Energy Efficiency,

2010). This regulation not only restricts the energy companies' ability to use exhaustible fossil fuels but also compel them to find alternative sources to produce energy. Reviews of the 2010 sustainability reports of AGL Energy Ltd and Origin Energy Ltd show that both companies provided detailed information including capital expenditures and expected production capacity of their renewable investment projects (Annual Report 2010, Origin Energy Ltd; Annual Report 2010, AGL energy Ltd). Related to this, the proposed model asserts that failure to take innovative steps to address the constraints and a failure to provide performance information by firms would render them less competitive. Therefore, according to the proposed framework providing relevant CED would be viewed as a competitive strategy rather than a simple legitimization tactic.

### 4. Conclusion

The prime objective of this paper is to develop a theoretical framework to justify provision of relevant CED. The framework effectively incorporates the inputs of the prevalent environmental philosophies. These philosophies share some notions of sustainable development and urge for resource preservation and product stewardship in a pro-environmental line given the severity of the environmental crisis facing the planet. Provision of information on the use of resources and product stewardship and corporate strategies about efficient environmental management is also considered to be the relevant CED by different reporting frameworks. A theoretical framework has been developed in two steps. First, it uses NRBT which asserts that the growing environmental concern acts as a powerful trigger for the companies to move into a new environmentally oriented market. NRBT stems on the view that it is those firms that are able to secure resources and develop emerging capabilities such as waste minimisation, green product design and recycling technology in response to environment challenge will gain competitive advantage in the coming years. In the next step, the framework incorporates QSH, arguing that true performers of the environmental strategies are likely to provide specific, necessary and sufficient disclosure on their performance in order to realise the merit of implementing such strategies in deriving competitive advantage. The proposed framework for explaining CED is superior to other broad theories like legitimacy and stakeholder in that, it brings the environmental philosophies, environmental crisis and organisational response to a common platform through using more refined theories like NRBT and QSH. These theories identify the natural environment as a scarce resource for organisations, it considers that management of such resource can offer both challenges and opportunities to the entity in today's environmental context and it asserts that managers adopt innovative strategies to manage risk and exploit opportunities related to environment and provide relevant information to be competitive in the market. However, the explanatory power of institutional theories is not considered in this paper which would be considered as a limitation. Detailed consideration of the quality of CED is also ignored into this paper. Further research would delve more insight in these areas.

## References

- Ackerman F 2009, The Economic Case for Slashing Carbon Emissions, Yale Environment 360, viewed 26 October 2009, <  
[http://e360.yale.edu/feature/the\\_economic\\_case\\_for\\_slashing\\_carbon\\_emissions/2200/](http://e360.yale.edu/feature/the_economic_case_for_slashing_carbon_emissions/2200/)>
- Annual Report 2010, AGL Energy Ltd, viewed 1 January, 2011;  
[http://www.agl.com.au/Downloads/887114\\_2010\\_annual-report.pdf](http://www.agl.com.au/Downloads/887114_2010_annual-report.pdf)
- Annual Report 2010, Origin Energy Ltd, viewed 1 January, 2011;  
[http://www.originenergy.com.au/files/OriginEnergy\\_AnnualReport2010.pdf](http://www.originenergy.com.au/files/OriginEnergy_AnnualReport2010.pdf)
- Bebbington, J, Larringa-Gonzalez, C and Moneva, JM 2008, "Corporate social reporting and reputation risk management", *Accounting, Auditing & Accountability Journal*, vol. 21, no. 3, pp. 337 – 361
- Cowan, S and Gadenne, D 2005, 'Australian corporate environmental reporting: a comparative analysis of disclosure practices across voluntary and mandatory disclosure systems'. *Journal of Accounting & Organizational Change*, vol. 1, no. 2, pp. 165-179.
- Cunningham, S & Gadenne, D 2003, 'Do corporations perceive mandatory publication of pollution information for key stakeholders as a legitimacy threat?' *Journal of Environmental Assessment Policy and Management*, vol. 5, no. 4, pp. 523-49
- Deegan, C 2009, *Financial Accounting Theory*, 3<sup>rd</sup> edn, McGraw Hill Australia Pty Ltd, Australia
- Deegan, C 2002, 'The legitimising effect of social and environmental disclosures – a theoretical foundation', *Accounting, Auditing & Accountability Journal*, vol. 15, no. 3, pp. 282-311
- Deegan, C, Rankin, M & Tobin, J 2002, 'An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory', *Accounting, Auditing & Accountability Journal*, vol. 15, no. 3, pp. 312-43
- Deegan, C & Gordon, B 1996, 'A study of the environmental disclosure policies of Australian corporations', *Accounting and Business Research*, vol. 26 no. 3, pp. 187-99
- Deegan, C & Rankin, M 1996, 'Do Australian companies report environmental news objectively? An analysis of environmental disclosures by firms prosecuted successfully by the Environmental Protection Authority', *Accounting Auditing and Accountability Journal*, vol. 9 no. 2, pp. 52-69
- Department of Climate Change and Energy Efficiency 2010, Renewable Energy Target, viewed 30 October 2010,  
<http://www.climatechange.gov.au/government/initiatives/renewable-target.aspx>
- Ehrlich, PR, Ehrlich, AH and Holdren, JP 1973, *Human Ecology: Problems and Solutions*, Freeman, San Francisco, Calif.
- Global Footprint Network, 2010, Global Footprint Network, CA, viewed 30 October, 2010, <  
[http://www.footprintnetwork.org/en/index.php/GFN/page/world\\_footprint](http://www.footprintnetwork.org/en/index.php/GFN/page/world_footprint)>
- Gray RH 1992, "Accounting and Environmentalism: An Exploration of the Challenge of Gently Accounting for Accountability, Transparency and Sustainability", *Accounting, Organisation and Society*, vol. 17, no. 5, pp. 339-425

## Siddique, Sciulli & Faux

- Gray, R, Kouhy, R & Lavers, S 1995b, 'Methodological themes: Constructing a research database of social and environmental reporting by UK companies'. *Accounting, Auditing & Accountability Journal*, vol. 8, no. 2, pp. 78-101.
- Guthrie, J & Parker, LD 1990, 'Corporate social disclosure practice: A comparative international analysis', *Advances in Public Interest Accounting*, vol. 3 pp. 159-75.
- Hart, SL 1995, 'A Natural-Resource-Based view of the Firm', *The Academy of Management Review*, vol. 20, no. 4, pp. 986 - 1014
- Henriques, I & Sadorsky, P 1999, 'The Relationship Between Environmental Commitment and Managerial Perceptions of Stakeholder Importance', *The Academy of Management Journal*, vol. 42, no. 1, pp. 87 – 99
- Jones, G & Hollier, G 1997, *Resources, Society and Environmental Management*, Paul Chapman Publishing Ltd, London, UK
- Meadows, DH, Meadows, DL, Randers, J & Behrens, WW 1972, *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, Universe, New York
- Milne, M & Patten, DM 2002, 'Securing organizational legitimacy: an experimental decision case examining the impact of environmental disclosures', *Accounting, Auditing & Accountability Journal*, vol. 15, no. 3, pp. 372-405
- O'Donovan, G 1999, 'Managing legitimacy through increased corporate environmental reporting: An exploratory study'. *Interdisciplinary Environmental Review*, vol. 1, no. 1, pp. 63-99.
- O'Donovan, G 2002, 'Environmental disclosures in the annual report: extending the applicability and predictive power of legitimacy theory', *Accounting, Auditing & Accountability Journal*, vol. 15, no. 3, pp. 344-71
- O'Dwyer, B 2002, "Managerial perceptions of corporate social disclosure: an Irish story", *Accounting, Auditing & Accountability Journal*, vol. 15 no. 3, pp. 406-36
- O'Riordan, T 1981, *Environmentalism*, 2<sup>nd</sup> Edition, Pion, London
- Salomone R & Galluccio G 2001, 'Environmental Issues and Financial Reporting Trends: A Survey in the Chemical and Oil & Gas Industries', *Working Paper No. 32.2001, Fondazione Eni Enrico Mattei (FEEM)*, Milan, June 2001.
- Toms, JS 2002, 'Firm Resources, Quality Signals and the Determinants of Corporate Environmental Reputation: Some UK Evidence', *British Accounting Review*, vol. 34, no. 3, pp. 257 - 82.
- Unerman, J 2008, 'Strategic Reputation Risk Management and Corporate Social Responsibility Reporting', *Accounting, Auditing and Accountability Journal*, vol. 21, no. 3, pp. 362 – 4
- Watts, R & Zimmerman, J 1986, *Positive Accounting Theory*, Prentice Hall, Englewood Cliffs.
- Wilmshurst, T & Frost, G 2000, 'Corporate environmental reporting: A test of legitimacy theory', *Accounting Auditing and Accountability Journal*, vol. 13, no. 1, pp. 10-26
- Yongvanich, K & Guthrie J 2007, 'Legitimation strategies in Australian mining extended performance reporting', *Journal of Human Resource Costing & Accounting*, vol. 11, no. 3, pp. 156-177
- Zimmerman, ME, Callicott, JB, Sessions, G & Clark, J 1998, *Environmental philosophy: From Animal Rights to Radical Ecology*, Second edn, Prentice-Hall Inc., New Jersey