

1-1-2009

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### **Recommended Citation**

Zhang-Debreceeny, Emma; Kaidonis, Mary A.; and Moerman, Lee: Accounting for emission rights: an environmental ethics approach 2009, 19-27.  
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### Abstract

We argue that the International Accounting Standard Board's difficulty in arriving at a standard for accounting for emission rights, which is central to Emission Trading Schemes, is an opportunity to re-examine the issues from an environmental ethics approach. We critically evaluate the IASB approach which privileges profits, and views emission rights as tradeable entitlements to pollute. We consider social ecology, an example of an environmental ethical perspective which holds that humans' survival and the environment's sustainability are inextricably linked. We conclude that social ecology can inform accounting standard setters about the accounting treatment of emissions rights.

### Keywords

approach, accounting, rights, emission, ethics, environmental

### Disciplines

Business | Social and Behavioral Sciences

### Publication Details

Zhang-Debreceeny, E., Kaidonis, M. A. & Moerman, L. (2009). Accounting for emission rights: an environmental ethics approach. *Journal of the Asia-Pacific Centre for Environmental Accountability*, 15 (3), 19-27.

# ACCOUNTING FOR EMISSION RIGHTS: AN ENVIRONMENTAL ETHICS APPROACH

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## ABSTRACT

We argue that the International Accounting Standard Board's difficulty in arriving at a standard for accounting for emission rights, which is central to Emission Trading Schemes, is an opportunity to re-examine the issues from an environmental ethics approach. We critically evaluate the IASB approach which privileges profits, and views emission rights as tradeable entitlements to pollute. We consider social ecology, an example of an environmental ethical perspective which holds that humans' survival and the environment's sustainability are inextricably linked. We conclude that social ecology can inform accounting standard setters about the accounting treatment of emissions rights.

## 1. INTRODUCTION

Climate change presents challenges for all stakeholders - individuals, policy makers, industries, and the eco-system (IPCC 2008). In 1997, the Kyoto Protocol was released as an international response to climate change, whereby industrialised countries agreed to reduce Greenhouse Gas (GHG) emissions "by 8% between 2008 and 2012, in relation to 1990 levels" (Blass, 2006, p. 30). The challenges and responses to climate change also provide an opportunity to engage in ethical approaches to the environment, not only by immediate stakeholders but by accounting standard setters.

The dominant response of industrialised countries to abate GHG has been to apply market mechanisms (Lohmann 2009, MacKenzie 2009). Emissions Trading Schemes (ETS) provide a market mechanism

whereby a central authority transforms GHG, of which 'carbon' is one, into a new tradable commodity (Andrew, 2008). It is assumed that the value of carbon pollution can be arrived at by trading emission rights that is, trading in the "right to emit pollutants" (IASB 2008a, para5).

Solomon and Lee (2000, p. 35) described ETS as a market means of "internalizing externalities". Traditionally the cost of pollution is considered an externality and thus is excluded from production costs. By giving carbon pollution a 'price tag', it is assumed that entities would be given an economic incentive to reduce carbon pollution in order to avoid the additional financial burden of having to purchase emission rights to cover actual emissions.

In order that ETS succeed in reducing overall emissions, there needs to be a limited supply of emission rights, and as a scarce resource the market is meant to determine the most efficient price of emission rights (Andrew, 2008). Price would influence whether it is more efficient for a firm to adopt carbon friendly technology rather than keeping the same polluting technology and buy emission rights. Blass (2006) argued that by allowing participants of an ETS to buy or sell emission rights it would mean that the Kyoto target could be achieved by the most cost efficient means. For entities that are unable to meet the emissions reduction target, they would have to purchase additional emission rights from 'cleaner' entities, and/or a central authority and/or a 'greener' country in order to cover their actual emissions level. While a central authority sets the maximum allowable carbon emissions quantity, the market mechanism is used to trade in permits and therefore will drive the price of emissions rights (Blass, 2006, Andrew, 2008).

Despite the fact that ETS have been in operation for about 4 years, according to the World Bank they were estimated to be worth

around “£15billion in 2007” worldwide (PricewaterhouseCoopers, 2008, p.18). Companies participating in ETS need to reflect this impact in their financial reports. Accordingly, the international accounting profession, through its standard setting guidelines, is required to engage with this new mechanism for carbon abatement. While it is the notion of a ‘carbon pollution cap’ that is expected to set the goal of emissions reduction, it is the cost of emission rights that is expected to change business behaviour in order to deliver emissions reduction (Andrew, 2008). The need to internalise costs of pollution or trade in emission permits, has the effect of shifting what was traditionally an external and costless concept into a costly activity and, hence, is “at the heart of the challenge to standard setters” (Cook, 2009, p. 457). The environmental crusader Gore (2007) urged:

a re-examination of accounting systems and measurement protocols to include the environment in the routine, everyday calculations by which our economy is governed.

This paper re-examines accounting for emissions rights in a way that is appropriate to address our ecological crisis.

In this paper we will first demonstrate that efforts to recognise emission rights, so far, have been dominated by mainstream accounting approaches. We critically evaluate the proposed mainstream accounting approach in order to open further discussion about accounting for emission rights. We highlight the implication of accounting for emission rights from an environmental ethics perspective. In particular we consider social ecology as an example of an environmental ethics approach and use this to re-examine the ‘nature’ of emission rights. We conclude that a social ecology view, an approach of environment ethics, offers insights into why accounting for emissions rights as assets or liabilities would undermine efforts to reduce GHG emissions.

## 2. BACKGROUND

Global ETS participants continue to await comprehensive and clear guidance from the International Accounting Standards Board (IASB). The IASB’s efforts to develop comprehensive guidance on accounting for emission rights have already been extremely challenging. The IASB’s International Financial Reporting Interpretations Committee (IFRIC) issued IFRIC 3 *Emission Rights* as “an appropriate interpretation of existing IFRSs for accounting for the EU Scheme” (IASB 2005). Despite the subsequent withdrawal of IFRIC 3, the IASB continues to have accounting for ETS on its board agenda (IASB, 2007; IASB 2008a; IASB 2008b). According to IFRIC 3 and consistent with the IASB Framework, emission rights are recognised as assets. The question remains: can this recognition adequately capture the ‘nature’ of emissions rights and still be consistent with the Kyoto protocol?

IFRIC 3 was withdrawn because it “creates unsatisfactory measurement and reporting mismatches” (IASB 2005). Therefore, companies were also concerned that the application of IFRIC 3 would force them to show a “distorted picture of their performance” (Cook, 2009, p. 457). This delay in implementing comprehensive and clear guidelines on accounting for emission rights from the IASB provides an opportunity to reconsider the basis upon which earlier attempts to arrive at an accounting standard rest. This paper focuses on the recognition issue rather than the measurement issue in relation to emission rights. The IASB (2008) has identified that, apart from the measurement issue, there are other fundamental issues that need to be appropriately addressed first. For example, what is the nature of an emission right? Is an emission right an asset? How should an emission right be recognised initially, particularly if a reporting entity receives it from a government as a grant or free of charge? Should a liability be recognised? Without resolving the nature of emission rights, accounting standard setters would not

be able to decide what attributes of an emission right they are trying to represent and ultimately to measure. In the next section, the notion of environmental ethics will be introduced to help shed light on how the 'nature' or 'essence' of emission rights can be re-examined.

### **3. MAINSTREAM APPROACHES, ENVIRONMENTAL ETHICS AND SOCIAL ECOLOGY**

#### **3.1 Mainstream Approaches**

The importance of understanding emissions rights in the context of the environment is not merely a technical issue of recognition or measurement. There are fundamental issues at stake which are reflected in the questions Hopwood (2009, p. 435) raises, namely:

...can the ethical considerations of environmentalists be transferred to the economic market place? Or will the values of the market place overwhelm those of the environmental sphere, introducing a totally new set of unanticipated consequences and actions which are likely to be to the longer term detriment of the original concerns?

If emissions rights are seen as private property, then they possess the fundamental characteristics of assets with economic benefits, controllability and tradability. However, is the essential nature of emission rights adequately reflected if they are recognised as assets? The challenge to the IASB is not surprising considering that the IASB views the issue of emission rights as a technical one. The body has proposed a traditional, mainstream approach to provide answers. Mainstream approaches have considered ethical issues as non-technical and hence these have remained outside the IASB's domain. The IASB's approach is most evident when accounting standard setters see emission rights as something merely upon which the right 'price tag' must be assigned. It is at this point that we can pause to reconsider another way to conceptualise emission permits and to

consider them as inextricably linked to the ecological crisis.

In bringing to the forefront the imperative to mitigate climate change we are then able to identify that there is a serious moral dilemma, rather than a mere technical challenge. Zimmerman (1994, p. 3) argued that:

...ecological problems cannot be solved by simply tinkering with the attitudes and practices that generated those problems.

Environmental ethics offers another context within which to consider accounting for emission rights.

#### **3.2 Environmental Ethics**

Environmental ethics "examines how human beings should interact with the non-human world around them" (Palmer, 1997, p. 6). As a theoretical framework, environmental ethics "develops, suggests and analyses ways out of an environmental crisis" (Andrew, 2000, p. 197). In this paper we argue that social ecology, an approach of environmental ethics (Andrew, 2000) can be applicable to the re-conceptualisation of emission rights. As defined by Light (1998), social ecology posits that there is a relationship between society and the eco-system which can be investigated. Inspired by Marx's work on social hierarchy and class domination in a capitalist society, proponents of social ecology recognise the continuities between the natural world and human society, and their possible synthesis (Bookchin, 1980, Callicott and Frodeman, 2009). The ontological foundation of social ecology recognises that the exploitation of nature not only destroys the intrinsic value of eco-systems, but also the life line essential for human survival (Light 1998). Social ecologists see actions addressing ecology as social (Light, 1998; Bookchin, 1989). Accordingly, humans are deemed to have an obligation to preserve nature as it is also a part of the preservation and survival of human-kind (Bookchin, 1980; 1989; 1990). The inextricable link between humans and

the environment was also stressed by Geno (1995, p. 176):

...if human societies are to come to grips with their relationship to, and interdependence on, natural capital in the form of indispensable resources for survival, institutions such as accounting and economics must face the moral as well as technical challenges in accounting for sustainability.

Social ecology is consistent with the view that human potentialities can shape the future, and need to be brought to the forefront of humans' action (Bookchin, 1980).

### 3.3 Social Ecology

Social ecology challenges the mainstream notion of 'rationality' by describing current society as "...a totally irrational society that threatens to undermine the fundamentals of life on this planet" (Bookchin, 1980, p. 28). It is suggested that since it is logically possible for humans to achieve self-realisation without averting serious environmental damage, it is a matter of developing an attitude that appreciates the intrinsic value of nature (Holbrook, 1997, Bookchin et al, 1990). Consequently our ecological problems can only be solved with a shift in mindset (Holbrook, 1997, Bookchin et al, 1990). Such an attitude can assist us in making 'sensible' social action which has economic sense and ecological sense in the long term.

In reference to the notion of 'land ethics' Leopold, an environmental ethics pioneer, suggested that the boundaries of community need to include nature (Nash, 1990). He proposed that in a sustainable society humans and nature co-exist in a non-hierarchical manner, and the idea of life community extends far beyond traditional definitions (Leopold 1933, cited in Nash, 1990). Leopold approved the notion of responsible "alteration, management and use" of natural resources, and pointed out that humans have the responsibility to take action to "prevent the deterioration of the environment" (1933 cited in Nash, 1990, p. 71). Birkin (1996)

argued that accounting for ecology should take into account environmental externalities to ensure that economic growth does not go beyond the carrying capacity of an eco-system. Social ecology adopts an open and inclusive approach and can enable the integration of the environment into the "social realm and not divorced" from it (Gallhofer and Haslam, 1997, p. 163).

Consistent with social ecology, Eckersley (1998, p.169) pointed out that individuals make choices by

...developing new technologies, cultivating new social relations, creating new legal relations, critically re-examining human consumption patterns, needs, desires, and re-evaluating and enlarging what passes for human virtues.

Social ecology also includes "power, authority and democracy" (Light, 1998, p.86) and thus accommodates the complexities that inform and shape the social aspect of an ecological perspective. In this way, social and the ecological insights are given equal prominence and can inform each other. Social ecologists reject the notion of 'antihumanism' and 'biocentrism', which put humanity against ecology. Instead, Bookchin argued that nearly "all ecological problems are social problems" (1989, p.24) and that radically separating social evolution from natural evolution can only further alienate humanity from the natural world "in which it has always been rooted as a complex and thinking life-form" (Bookchin, 1989, p. 23). Social ecology is an approach to environmental ethics that "does not seek to destabilise anthropocentrism" (Andrew, 2000, p. 207). Social ecologists do not challenge the notion of environmental management; rather, it is the intention of environmental management that social ecologists seek to challenge. Environmental management is seen by social ecologists as a way to "exercise the powerful and privileged status humans enjoy in the natural community" (Schweitzer, 1935, cited in Nash, 1990, p. 61).

A summary of the differences between mainstream approaches and social ecology approaches to the environment is provided in Table 1. Briefly, social ecology explores the role humans can play in achieving long-term sustainability, where sustainability includes social, ecological and economic aspects. In other words, social ecologists challenge the existing mainstream dominant ideology of short-term, economic growth which is unsustainable and which has been achieved at the cost of nature (Geno, 1995; Andrew, 2000). As seen in Table 1, the anthropocentric view implicit in mainstream approaches is suspended by social ecology in favour of a non-hierarchical relationship between humans and the ecology. Therefore, social ecology considers human survival as

**Table 1: Comparison of Mainstream and Social Ecology approaches to the environment (adapted from Andrew 2000).**

<b>Ethical premises</b>	<b>Main-stream</b>	<b>Social Ecology</b>
Ontological foundation	Anthropo-centric	Non-hierarchical
Nature	Externality	Human's equal, essential to survival
Role of human	Maximise personal utility	Nature's guardian to protect inter-generational needs
Economy	Short-term focus	Long-term focus
Role of accounting in society	Integral to capital markets	To represent nature

being inextricably linked to nature's survival. This view challenges mainstream thinking about nature as being an externality. Consistent with mainstream views, the role of humans is to maximize their personal utility (Chua, 1986), and a short-term focus of the economy is inevitable (see Table 1).

According to mainstream approaches, the role of accounting in society is integral to the requirements of capital markets. By contrast, social ecology considers humans to be guardians of nature in order to protect the needs of future generations. Accordingly, the role of accounting is to facilitate and reflect this custodial function. The focus of social ecology of the economy must therefore be long-term.

## **4. ACCOUNTING FOR EMISSIONS RIGHTS AND SOCIAL ECOLOGY**

### **4.1 Emission rights as assets**

The reliance on market-mechanisms as providing an adequate response to GHG and their impact on climate change has raised implications for environmental accounting (Hopwood, 2009; MacKenzie, 2009). Accounting does play an important role in ecological crisis, however, whether or not accounting becomes part of the solution or part of the problem (Lohmann, 2009) depends on how accounting standard setters understand the 'nature' of emission rights. The IASB's withdrawal of IFRIC 3 "illustrates the problems faced by standard setters as they explore the frontiers of accounting" (Cook, 2009, p. 457). Based on mainstream accounting, standard setters have struggled to establish a workable standard. The suggested accounting treatment of emission rights, as an asset (IASB 2005), however, appears to maintain the 'business-as-usual' mindset rather than reflect any cognisance of the importance of environmental ethics.

In applying the environmental ethics of social ecology one can ask a new set of questions which were not possible of a mainstream paradigm. Consistent with mainstream approaches, emission rights are essentially pollution rights that an entity can trade to allow GHG to be emitted. The monetary benefits that an entity can generate from the sale of emission rights lead to the treatment of emissions rights as assets. However, a 'right' is problematic in a wider social and environmental context. Table 2 provides a

comparison between mainstream and social ecology approaches to emissions rights.

A mainstream approach would view emissions rights as assets to be controlled by the entity. The capacity to sell these in an ETS ascribes a ‘future economic benefit’ to the emission rights. Accordingly, the concept of having a *right* to emit carbon pollution is incongruous with social ecology. Clark (2001, p. 435) pointed out that the idea that humans can possess the right to pollute is unacceptable and “absurd from an ecological point of view”. Schweitzer suggested, the powerful and privileged status humans take for granted, does not entail “a right to exploit” but rather, “a responsibility to protect” (1935, cited in Nash, 1990, pp. 61-62).

**Table 2: Comparison of mainstream approach and social ecology approach to emissions rights**

Mainstream	Social Ecology
Control: exclusive controlled by an entity	Responsibility: humans maintain position as ‘environmental managers’; nature guardianship
Probable future economic benefits or sacrifice (short term)	Long-term intergenerational sustainability
Only measurable economic benefits (gained and lost)	Non-monetary social and ecological benefits
A result of past transaction	Co-existence prioritised

The earlier discussion of social ecology as an approach to environmental ethics argued that it is human responsibility to reduce GHG emissions. If a responsibility to reduce emissions is recognised from holding emission rights, would it not behave a reporting entity to recognise an environmental obligation? Hayward (2007) criticised ETS for focusing merely on the right to emit. He argued that in the debate over climate change, people tend to lose sight of the fact that carbon emissions reduction is

the responsibility of humans. Hayward (2007, p. 434) noted that

...patenting the monetary value of the rights may not only take precedence over any concern about the environment, but may also serve to distract policy-makers from pursuing viable alternative approaches to making the reduction.

The focus on accounting for emissions rights as assets has demonstrated the saliency of the profit imperative, rather than an effective action to reduce GHG emissions.

The intention of ETS is to ‘internalize’ pollution costs and ultimately alter business behaviour, that is “management strategy ... philosophies and practices” (Buhr, 2007 p. 67) However, accounting for emission rights as assets may not result in entities changing their behaviour if it is not ‘efficient’ for them to do so. Therefore, the quest to reduce GHG emissions to mitigate climate change may be mere rhetoric to enable corporate profits to be generated from ETS. The self-interest-profit-maximisation imperative upheld by mainstream approaches to climate change is evident in the following comments about ETS by Birley (2008) from the European Climate Exchange

...this scheme is allowing those who change early to make money...you put technology on top of your smokestacks that will stop the carbon from going into the atmosphere, you can profit from it.

Yet, a firm does not have to be reducing GHG emissions to be able to profit from an ETS. While emission rights are seen as having future economic benefits and fulfilling the definition of an asset, polluters could purchase emission rights and sell them later when the price has been driven up by the market. Therefore, recognising emission rights as assets could produce outcomes that undermine efforts to abate carbon pollution.

#### 4.2 Emission rights as liabilities

If emission rights are not assets perhaps they should be recognised as liabilities. A



reporting entity could recognise a liability to fulfil an obligation to purchase rights in order to be able to emit. However, this would still signal a suspension of any environmental ethics in the accounting treatment of emission rights. Is it sufficient to recognise a financial monetary obligation to be able to pollute? Gibson (1996) suggests that it would be more effective to control the source of emissions, rather than charging for the emissions when they are already in the air, an “end-of-pipe approach” (Gibson 1996 p. 659). Unfortunately, recognising a liability still upholds the self-maximising mindset of mainstream approaches since the monetary obligation ‘entitles’ the firm to emit pollution.

A social ecology approach to emissions rights provides a challenge to the mainstream approach to emissions rights accounting (see Table 2). Emission rights whether viewed as assets or liabilities, fall within the property rights held by an entity and hence within their exclusive control. A social ecology approach suspends notions of control to adopt notions of responsibility by humans as environmental managers or guardians. Rather than emission rights providing future economic benefits or sacrifices, which emphasises the short-term, a social ecology approach emphasises the imperative of a long-term view of intergenerational sustainability. From a social and ecological perspective future benefits are non-monetary. A mainstream view relies on a capacity to measure reliably the economic benefits of emission rights as a result of past transactions. The ‘nature of emissions rights from a social ecology approach, renders measurement an inconsequential issue. It is the co-existence of humans and the environment which is significant.

## 5. CONCLUSION

Efforts explicitly to cost pollution by the construction of emission rights have not yielded acceptable results even to those seeking to benefit from an ETS. While the intention of introducing an ETS is naive at best, it still relies on self-interest-profit-

maximising mindsets to prevail, and this, we argue will be at the expense of the environment. Focusing on the accounting for emission rights, a construct of ETS, has not been resolved by the IASB so far. We have seen this challenge as a reason to pause and recognise that emissions rights is an unprecedented issue which traditional views of accounting are not well equipped to address. Further, we argue that the claimed objectives of ETS to abate GHG emissions cannot be met if anthropocentric views persist.

We have presented a social ecology view, an approach of environment ethics, which can offer insights into why accounting for emissions rights as assets or liabilities would undermine efforts to reduce GHG emissions. Emissions rights when characterised as either assets or liabilities, that is, seen as future economic benefits or sacrifices are still constructs within the control of entities participating in an ETS. Reduction of GHG emissions need not be achieved, since the incentive of an ETS is to make profits on trading. A social ecology approach is based on the long-term survival of humans and the environment. Seeking monetary benefits is viewed as short sighted. We have argued that the ‘nature’ of emission rights can best be understood in the light of social ecology which keeps the environment and human survival at the forefront. Social ecology, as an environmental ethic, enables us, and importantly, accounting standard setters, to provide a foundation for re-examining the ‘nature’ of emission rights.

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#### ACKNOWLEDGEMENT

The authors are grateful for the encouragement and helpful comments from participants of the A-CSEAR 2008 conference, Adelaide and two anonymous reviewers.