

# The Political Economy of Biodiversity Banking

Written by Molly Bond

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MOLLY BOND, JUL 17 2015

In the hunt for the highest rates of profit, David Harvey predicted in *Limits to Capital* that a well-developed financial system will empower capital to flow effortlessly through every sector of the economy and discover new ones. Financialisation, a process defined by the 'increasing dominance of financiers, financial institutions and financial markets over the accumulation process' has become a prominent feature of late capitalism and in particular the Green Capitalism being crafted today (Loftus 2015:173). Since the 2007-08 financial crisis, rather than imposing limits on the financial sectors' expansionary tendency, public bailouts have substantially *reinforced it* in 'both resources and power to command legitimising strategies by national governments' (Sullivan 2012:200; Bellemy-Foster 2009). Monetising ecosystems, emissions, species, micro-organisms and global-commons in recent years has evolved the ideology from 'selling nature in order to save it' to 'saving nature in order to trade it' (McAfee 1999; Sullivan 2012).

### Towards a Green Economy

Reflecting the increasing influence of the private sector in the economic trajectory of the previous 20 years, the 2012 Earth summit 'Rio+20' was attended by twice as many CEOs than Prime-ministers or Presidents. Nonetheless the negotiations accounted for the dramatic failure of sustainable development policies and institutions to curb climate change, biodiversity loss or inequality, acknowledging the 'widespread disillusionment of the prevailing economic paradigm' following financial crisis of 2008 (UNEP 2011:1).

The Leaders united around the idea of the 'green economy' as the only solution to protect the planet. The Green Economy solution rejects what it calls the 'widespread myth that there is an inescapable trade-off between environmental sustainability and economic progress', 'the concurrent crises of different kinds' the key 'Rio+20' document states, is the result of 'market failures' and 'the gross misallocation of capital' (UNEP 2011:1-3).

Since Cotanza *et al.* (1997) famously estimated the 'value' of global ecosystem services to be between \$16-54 trillion annually, calculations of the micro and macro-constituencies of life proliferate. Calculations are based on classic cost-benefit analyses and the construction of supply and demand curves, where each good or service an ecosystem provides or the costs to its degradation can be assessed on its relative abundance/degradation and its usefulness/impact to the market and thus allocated a price (Bellemy-Foster 2002). The green economy attempts to internalise these costs within the market with the intention of making the environment profitable to protect. A process the UNEP are convinced will create *'The Future We Want'* in which public-private partnerships incentivise 'greener' financial, banking, and business behaviour (UN 2012).

### 'Demystifying Materiality: Hardwiring Biodiversity and Ecosystems into Finance'[1]

The carbon market is one of the most comprehensive schemes capitalism has come up with in order to be greener. Due to the political failure of attempts to mitigate emissions through taxes, the carbon market was established to send 'price signals' to industries to reduce emissions and encourage mechanisms for 'clean' development, it includes two schemes; 'Cap and Trade' which involves placing a cap on emissions in line with the Kyoto Protocol, then giving, selling or auctioning a set-amount of permits to industries which theoretically incentivise reduced emissions through flexible trading. Running in parallel with cap and trade schemes is the offset scheme. Offsetting compensates

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emissions made in one place by sequestering, stopping or offsetting emissions in another, this generates 'carbon-offset credits' which are traded on the voluntary carbon market. It is through these financial schemes of trading and offsetting that the conservation of global habitats, ecosystems, species and biodiversity is increasingly being turned over.

Paradoxically however, the carbon market has failed to *significantly* reduce emissions. In practice, the 'caps' can be unscrewed. Emissions permits have often been miscalculated and given away by governments incentivising companies to increase their pollution and thus increase their allocation of permits in the future. Trading carbon derivatives with the aim to generate future profit has not incentivised reduced pollution but led to increased speculation and market volatility (Bond 2012). Moreover companies can buy cheaper emissions allowances from low-polluting countries or industries as well as buy carbon-offsets which effectively raise their emissions cap, meaning that pollution has shifted around rather than *significantly* reduced. Despite the downfalls, the multi-billion dollar scheme which has been very lucrative for brokers and many industries in the EU's Emissions Trading Scheme (ETS) is now being rolled out globally (Biron 2013). A move which has increased demand for a diverse array of environmental offsets.

The cheapest place to generate offsets is the global south, especially in countries where 'natural capital' is abundant, governments are less-powerful and populations have fewer rights over land. In the last several years new "mechanisms" for generating conservation and offset credits have been implemented through schemes under the banner of 'payments for ecosystem services' (PES) which include the notorious UN and World Bank's REDD scheme (reduced emissions from deforestation and degradation). Markets are excited about forests, savannahs, wetlands, peatlands and their resident species and services for one reason, their financial value as 'carbon or ecosystem stocks' and the opportunities they offer to print new, low-cost and less-regulated permits to emit carbon or degrade or destroy ecosystems.

Transactions through such PES schemes mandate that property-rights over the ecosystem functions can be defined, which has led to numerous land disputes and evictions of Indigenous and rural communities in Africa, Asia and Latin America as 'carbon-entrepreneurs' or 'bioprospectors' incentivised by the prospect of green-profit scour 'marginal' lands to appropriate for 'avoided deforestation', reforestation, afforestation or biodiversity-offset credits (RRI 2014). 'Landgrabs' and the price of socio-ecological injustice have become the new externality not *yet* internalised within the costs of the offset market, despite their well-documented centrality in making conservation projects work (Fairhead et al. 2012; Larson 2011).

## **'We use nature because she is valuable; we lose nature because she is free'[2]**

Pavan Sukhdev, a former career banker at Deutsche Bank has become a leading voice in environmental finance; heading the UNEP study in *The Economics of Ecosystems and Biodiversity (TEEB)* that pushes '*Mainstreaming the Economics of Nature*'. The synthesised TEEB policy document demonstrates the benefits enjoyed by *Hardwiring Biodiversity and Ecosystems into Finance*' - (UNEPFI 2010) as Spash (2011:142) summarises:

Financial institutions can seize opportunities related to biodiversity and ecosystems services in different ways: early movers can bolster their organisation's reputation and create value for marketing practices; building capacity in-house can be beneficial in terms of advisory services for corporate clients; advising clients how to integrate biodiversity and ecosystems services in supply-chain management can lead to cost reductions for clients; and last but not least, financial institutions that understand the new and expanding environmental markets can profit through offering brokerage services, registries, or specialised funds.

These incentives have led to an explosion of public sector financing and private sector ecosystem and biodiversity financial services, banks and exchange platforms offering an expansive range of 'marketing devices' and 'asset-classes' for biodiversity banking and endangered-species credits, offsets and derivatives. Actors in this arena range from relatively recent start-ups (such as [www.ecosystemmarketplace.com](http://www.ecosystemmarketplace.com), [www.speciesbanking.com](http://www.speciesbanking.com), [www.ekoamp.com](http://www.ekoamp.com), [www.missionmarkets.com](http://www.missionmarkets.com), [www.nature.org](http://www.nature.org)) to established and dominant firms such as Merrill Lynch and JP Morgan, to regional institutions such as the European Commission's collaboration with the European

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Investment Banks new 'Natural Capital Financial Facility' (NCFF).

Following the logic of carbon-offsets, biodiversity offsets, based on George Bush seniors' environmental philosophy of 'No Net Loss', attempt to compensate damage caused to biodiversity in one place (e.g. through development of roads, buildings or industry) by renewing or restoring habitat somewhere else to "offset" that damage; thus no overall or, net loss of biodiversity can *theoretically* be claimed in the name of economic development (FoE 2014). Calculating offsets, as Coelho and Gilbertson (2014), explain is done by 'measuring land area and the "level" of biodiversity in a region', these calculations 'rely on arbitrary equivalences between irreplaceable habitats', that they argue form an 'unlikely recipe for instituting the deep structural changes that the loss to biodiversity demands'.

The concept promotes the idea that species and habitats are tradable and replaceable. The increasing ability and profitability to trade or offset biodiversity loss, is driving a boom in biodiversity banking, enabling companies to appropriate swathes of land and resident ecosystems, dictate restrictive land-use measures to local inhabitants, allocate a price and then trade to offset degradation of a uniquely different ecosystem either within or globally across borders. Despite numerous cases of this practice resulting in protests of socio-ecological injustice, and evidence that less than a third of overseas offset projects resulting in success (Suding 2013), this coming year the EU – with support from industrial lobbies – plans to push ahead with policy to further facilitate the biodiversity offset market and join the rest of the Global North in their worthy rhetoric of win-win-wins for people planet and profit.

Numerous scholars and activists raise concerns over the material implications of this emerging trade in conserving endangered species and habitats where success is measured by profitability rather than the ability to protect or enhance nature' (Coehlo and Gilbertson 2014; Sullivan 2012; Cooper 2010). With the bottom line guiding conservation, the incentive structure is skewed against nature, so that the rarer the species, the more endangered the habitat, the faster the rate of environmental decline, the higher is its value, put simply: the *less* supply the *more* demand. Other concerns include the market presiding over which endangered species are conserved and which are not. Is a 'cute fluffy' polar bear more 'valuable', than an 'ugly' bug or a micro-bacterium vital to an ecosystems integrity, who decides and what kind of 'value' is considered? Transferring natures decline to market logic creates a 'speculative opportunity like any other in a market hungry for critical events' resulting in heightened volatility and control over national governments' conservation strategies (Cooper 2010:175). The President of the National Mitigation Banking Association acknowledges the dangers, "the risk to our industry is the race to the bottom. It's the risk that the cheapest, lowest quality mitigation solution becomes the preferred mitigation alternative. Unfortunately, you can see that risk in some of the programs and offsets today ... a lack of standards combined with a lack of equivalency for mitigation methods" (Ecosystem-Marketplace 2015)

**'Nature, in the form of the functions of ecosystems, must be decontextualized ecologically and disembedded socially to create standardized, fungible units of value.'**[3]

Investing in 'ecosystem-saving' projects, allows companies to increase degradation 'both at home and abroad on the pretext of reducing [it], while generating novel opportunities for financial speculation' (Lohman 2012). The proliferation of 'green' derivatives, bonds, securities, equities and stocks in response to ecological crises, mirror the 'crisis-fix' responses since the late 1970s which increased the politico-economic dominance of finance and extended its 'traditional role of underwriting present spending with the promise of future production' into previously uncommodified areas, 'offering unsustainable amounts of credit' and new 'speculation-based hedging opportunities' (Lohman 2012:86). It is this trend that Lohman is concerned will stimulate a 'fresh round of debt-driven expropriation' and create a new 'Southern debt to the North' (2012:88).

Is it possible that these highly financialised and fetishised climate and conservation commodities with their invisible qualities and mechanisms could – just as the subprime mortgages hid from overseas traders the infeasibility of debt repayments – obscure the diverse socio-ecological consequences of projects in the Global South? Already stakes are on the entire collapse of carbon-offset markets, not unlike how investors bet on the bursting of the US housing bubble (Bush 2015; Lohman 2012). With ongoing reports of fraudulent trading of carbon, inflated derivative markets, carbon-grabs and bankers hedging bets on 'subprime' carbon targets, there are early signals that not only is green finance already proving to be a dangerous contradiction in terms, but that yet another 'carbon crash' may be looming

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(Interpol 2009). Well-known political-economists have long recognised that crises and crashes are an inherent phenomenon of 'creative-destructive' business cycles of capital (Schumpeter 1936; Harvey 2006). However with entire ecosystems and biospheric catastrophe at stake, how can environmental economists justify leaving future generations biological heritage to the will of a financial system notorious for the commodification, hedging and profiteering from risk, and who's only legal mandate is to extrapolate surplus value for investors? In other words, *can the value we place on the vitality of nature ever be reflected in a price?*

Nature is a fictitious commodity, recognised Karl Polanyi (1944), fictitious because it cannot be produced according to the rules of the market, its use-values are myriad and sometimes unknowable and so is problematically or awkwardly reduced to an exchange-value, its complete subsumption as Streeck (2014) explains will either destroy it or make it unusable. The economic reductionism and simplification of complex ecosystems down into 'rationally' priced assets, goods or services through natural capital calculations will never, ecologists argue, reflect their true value, because values have contextual plurality and are intrinsic to the means of immeasurable ends (Levins 1992). As Kant famously recognised 'that which is related to general human inclinations and needs has a market price. But that which constitutes the condition under which alone something can be an end in itself does not have mere relative worth but an intrinsic worth' (1995:51).

The process of commodification abstracts intrinsic value into a singular measurement of 'natural capital', which then abstracted further through the process of financialisation, transforms it into numbers traded as a future digital currency to offset degradation across time and space. The carbon-offset market as an example, sees only 'carbon-stocks' so a forest's value is calculated by measuring the height x circumference x quantity of trees per hectare, depending on the price of carbon on the market that day, the forest is allocated a value. The market is blind to whether that forest is a eucalyptus monoculture grown to be chopped down in 20 years or an old-growth rainforest home to myriad species, yet undiscovered medicinal compounds with numerous other functions such as filtering clean water and supporting insects that aid the vital pollination of crops.

This contradiction demonstrates capital overriding the first and third principle of ecology where the market knows better than nature, and is blind to how 'everything is connected to everything else' in which 'natural systems are greater than the disaggregated sum of their parts' (Levins 1992). The second and fourth ecological principles highlight further contradictions in the reductionism of environmental economics that do not consider the laws of thermodynamics and entropy where 'nothing comes from nothing' and 'everything must go somewhere' (Commoner 1992). The market allows the substitution of a species with lesser market value for payment to protect another species in another place yet it cannot see the multiplicity of other species, systems and micro-organisms the 'lesser-value species' supports and can 'accidentally' destroy the dynamic state of an entire ecosystem.

The sums of environmental economists orchestrating green capitalism come undone when, as Schumacher (1973:46) asserts, they try 'to impute suitable values to the immeasurable costs and benefits' undermining both the 'conditions of life and the conditions for production'. Market expansion into the realm of such 'fictitious commodities' is thus at permanent risk of undermining the very viability of capitalism itself (Streeck 2014). While commodification and markets may adjust minimal problems in the short term, this process will only accentuate the contradictions overall, ecological values cannot be reflected in a price rendering market mechanisms *inefficient*. If it was possible for capitalism to internalise all social and environmental externalities it generates, as Harvey (2011) puts simply 'it would go out of business'.

## Notes

[1] United Nations Environment Programme Finance Initiative (UNEPFI 2010)

[2] Pavan Sukhdev (Banking Nature 2014)

[3] (McAfee and Shapiro 2010:589)

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**Molly Bond** is a PhD candidate at the University of Bristol. Her research examines the political economy of

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technoscience, synthetic biology and the Bioeconomy as a 'sustainable' global solution to the concurrent and future environmental-economic crises.