

## 2.2. Natural Capital: The Finance Sector & Financial Reporting – Catalysing Action?

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### Sustainability and the Finance Sector

Given the widespread impact of the recent global financial crisis, increasingly, the finance sector is now in line to be affected by factors of sustainability, as well as intensifying social and environmental risks and impacts. As a direct consequence, more attention must be paid by financial institutions to sustainability programs that are shaped and driven by factors such as corporate strategies, policies, goals and initiatives. In turn, these are based on drivers of economic, social and environmental risk, as well as, in addition to reputation, financial return and natural resources. Sustainability programs ensure that, amid environmental, social and economic uncertainty, an organization is able to adapt and, thereby, remain viable for the long-term interest of its owners.

Financial reporting systems will play a major part in watching the sector's progress towards sustainable policy adoption. This will include IT system integrations, making financial flows more transparent and increasing pressure for implementing a less speculative global currency model. Appropriate accounting and reporting systems are needed urgently. Additionally, these must have a global

reach in tracking and valuing financial products if the financial sector is to play a critical role as a catalyst and integrator in moving other global financial reporting initiatives forward.

### A changing agenda for financial institutions

We now understand the intellectual argument that natural capital (land, air, water, and living organisms in particular) provides significant value to society and the economy. But, it is not recognised or accounted for accordingly. What does this mean for the finance sector? Let's explore the type of risks that financial institutions should begin to think about when it comes to natural capital; these are:

**Credit risks:** The default of investments can be caused by risks associated with natural capital, and this can also prompt inaccurate information affecting counterparts. Collateral risk is central to this, as banks don't have the means of recognising the loss of natural capital and what this means in relation to their investments.

**Operational risks:** These are most serious when it comes to an acceleration of natural disasters or the effects of ecological degrada-

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tion on business outputs, such as agriculture. Losses are a probable outcome.

**Reputation risks:** being associated with financing an entity that is involved in major ecological liabilities bears increased risk. Once a financial institution loses its reputation in this manner, it is very difficult to build that back up.

These risks, and others, are recognised inherently by the 2010 UN-sponsored study on "The Economics of Ecosystems and Biodiversity" (also referred to as the TEEB initiative - see [www.teebweb.org](http://www.teebweb.org)). Even so, the finance sector must pioneer fundamental changes in how it estimates and analyzes risks. It is more than likely that some within the finance sector will be hit harder than others. The insurance sector represents a particular case in point where exposure to natural capital risk is more pronounced, especially due to accelerating climate and environmental risks.

It must be said that the lack of agreement on valuation mechanisms and metrics are a barrier. Yet, banks today use a wide range of instruments. These must be brought together in a systematic way, such as in a financial sector tool kit that addresses natural capital. This would also identify good examples of the financial instruments, the institutional processes,

and the valuation mechanisms that are already implemented.

### **Key innovation trends in the sector**

Investors can play a forward-thinking role in treating natural capital issues as drivers of shareholder value. There are several areas where some innovation is taking place and where effort is needed by the industry to accelerate necessary change.

### **Benchmarking**

The Natural Value Initiative (see [www.naturalvalueinitiative.org](http://www.naturalvalueinitiative.org)) is a leading example of benchmarking and has found that only one out of 31 companies analyzed in the food, beverage and tobacco sectors were particularly mature in their approach to natural capital. Benchmarking companies in the responsible investment research industry are developing fast. But, these entities are trying to cover a large amount of companies by way of predominantly public information that is available. It is noteworthy that a study released by the UN-backed Principles for Responsible Investment (PRI) and the UN Environment Programme Finance Initiative (UNEP FI) estimated that global environmental damage was caused by human activity in 2008 represented a monetary value of \$6.6 trillion, with this being equivalent to 11% of global GDP. Major financial companies, such as Bloomberg, Thomson Reuters Asset4, Risk Analytics, are now getting into

this space. Even so, attention also needs to be given to what is being benchmarked as different companies are good at varying elements. Many smaller entities, such as AccountAbility (see [www.accountability.org](http://www.accountability.org)) and Gaia-Metrics (see [www.gaia-metrics.com](http://www.gaia-metrics.com)) are helping clients to benchmark information or provide standards and tools. In turn, this leads to better reports.

#### **Valuation and Risk**

Banks, the investment sector and insurance companies have developed excellent risk and valuation models. The various environmental risk factors must be embedded into the general risk policies, with this needing to be beyond what, so far, is kept within the boundaries of project finance (for example, Equator Principles). Frankly, there is still too much focus on externalities. Consequently, valuations must be more object, entity and business model-centered.

#### **Awareness**

Reputation is still the leading driver of change in the finance sector. Examples of ecosystem failures as drivers of change are rare. Civil society and NGOs are playing an important role in highlighting the issue. But their strategies could also be more effective at targeting the right stories related to risk and opportunity for the finance sector. It is vital, therefore, to bring an operational risk

perspective, as well as hard business case numbers to the story, and to any associated campaigning. It stands to reason that an individual event, such as the BP oil spill in the Gulf of Mexico, can have a significant impact upon single investments and related industries.

#### **Knowledge barriers**

There is a need to accelerate translation of the biodiversity and natural capital issue into business language and associated cultures. A key consideration here is that the older generation of financiers today does not fully understand, or relate to, the language of ecologists, climatologists and earth scientists. In some areas of the finance sector, the type of scientific data that is developed by assorted earth scientists can cause financial analysts to feel discomfort, confusion and apathy. In relation to this issue, North American Electric Reliability Corporation (see [www.nerc.com](http://www.nerc.com)) is looking at collaboration between the academic sector and finance sector on biodiversity information. There is also an urgent need to bridge the worlds of science-based policy on ecological infrastructures (for instance, what is the optimum level of ecological balance?) and financial investment (for instance, how does this ecological equilibrium translate onto economic and financial values?).

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### Accounting & Reporting

Financial reporting is reliant on underpinning standards and there is also a need for standardization in how natural capital accounts are measured and integrated into financial statements. NGOs and investors have different ways of doing this, thereby making it difficult to know if we are comparing like with like.

Several models, such as that of the Global Reporting Initiative (GRI), are now proposing solutions to the disclosure and reporting of natural capital accounts (see [www.gri.org](http://www.gri.org)), with this based on sustainability. However, these efforts need to engage more thoroughly with accounting bodies and financial regulators in order to experiment with enhancing the regulations and standards. One huge issue here is that the public sector (which has most nature assets under management) doesn't report consistently. Also, while International Public Sector Accounting Standards (IPSAS) are starting to appear in public sector reporting (see [www.ifac.org](http://www.ifac.org)), it is a very slow process of adoption. Note that IPSAS are based on globally accepted International Financial Reporting Standards (IFRS) and there is no real reason why the necessary implementation of appropriate standards cannot be accelerated. Furthermore, adoption of IPSAS would have an enormous and positive effect on modernizing totally outdated,

and fragmented income tax laws in most countries. One other standard that could benefit considerably from the modernization of standards is the UN System of National Accounts (UN-SNA or SNA) that, currently, focuses too much on boundary definitions instead of object tracking and valuations.

As a positive sign of possible progress, the need to have more global overarching standards is already identified with the emergence of the International Integrated Reporting Committee initiative (see [www.integratedreporting.org](http://www.integratedreporting.org)).

Financial institutions, in particular global banks, with their worldwide operations and huge capital asset base, could serve as a driver and catalyst to utilize emerging reporting systems such as the GRI. By so doing, the banks would serve as a leading example in terms of better integrated reporting and a new way forward in relation to financial reporting. In effect, financial institutions are trailblazers in utilizing the fair value model and, with it, these entities can lead worldwide accounting convergence. Certainly, the debate around fair value accounting has highlighted the need for global harmonisation of asset and liability valuations. However, banks are weak in object tracking, as is evidenced by recent mortgage failures where it was difficult

**Table 1: Largest Banks by Asset Size, 2009**

Rank	Bank	Country	Total Assets (\$B)	Date
1	BNP Paribus	France	2,964	12/31/09
2	Royal Bank of Scotland	UK	2,747	12/31/09
3	HSBC Holdings	UK	2,364	12/31/09
4	Credit Agricole	France	2,243	12/31/09
5	Barclays	UK	2,233	12/31/09
6	Bank of America	United States	2,233	12/31/09
7	Mitsubishi UFJ Financial	Japan	2,196	3/31/10
8	Deutsche Bank	Germany	2,162	12/31/09
9	JP Morgan Chase	United States	2,032	12/31/09
10	Citigroup	United States	1,857	12/31/09

Source: Global Finance Magazine 2010

for banks to trace obligations back to the original owners through the intervening multiple layers of securitization.

In this regard, consider Table 1 in which the massive asset holdings of global banks are shown. Of particular interest is the asset level of Deutsche Bank, which has fallen by nearly a trillion US Dollars from \$3.1 trillion in 2008, to \$2.2 trillion in 2009. Remarkably, there is no reasonable explanation provided in the annual report or other pronouncements for such a significant reduction. This is indicative of weak accounting regulations in that a sizeable bank can avoid any justification for a more than obvious drop in its assets.

#### **IT Infrastructure**

Financial institutions are proven leaders in developing global risk models, but demonstrate less success in using global IT platforms similar to what ERP system packages have done for the industrial sector.

While this is cause for concern, and for necessary change, there is increasing pressure for worldwide system improvements (for example, see the daily news on system changes and improvements on [www.finextra.com](http://www.finextra.com) and the just-published Senior Supervisors Group Issues Report on Risk Appetite Frameworks and IT Infrastructure, (see [www.sec.gov/news/digest/2010/dig122310.htm](http://www.sec.gov/news/digest/2010/dig122310.htm))). Global IT structures will lead to essential consolidation in the finance sector and

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new business models will emerge as a direct consequence. Hopefully, this will result in less speculation (particularly in relation to currencies) and enhance trust in reported numbers generated by the sector.

In addition, financial institutions can learn from industrial applications of object tracking and support the development and improvements in valuation standards. For instance, there are ones promoted by the International Valuation Standards Council (see [www.ivsc.org](http://www.ivsc.org)). The separation of objects and valuation could, in effect, be a new way forward in financial reporting.

### Financial Reporting

Regarding the separation of object tracking and valuation, it is worthwhile to compare the financial statements of an industrial/consumer goods company, such as BDF Nivea (BDF), and a financial institution, such as Deutsche Bank (DB) in respect to their reporting on people, products, infrastructure, financial assets and intangibles. It is noteworthy that both are IFRS-reporting companies.

Besides the relative size and volume of their presentations (2009 Annual Report: DB: 434 pages; BDF: 134 pages) a comparison indicates that the major differences in their reporting are:

- Better GRI and sustainability, as well as product and infrastructure reporting, by BDF (Object tracking);
- More sophisticated reporting on financial instruments and currency reporting by DB (Value reporting);
- Weak metrics on people and intangible reporting by both companies (Object reporting).

### Separating Unit and Value Flow in the Supply Chain

The mixed attribute model, which pulls together historical and fair values in the same financial statement, (see the United States Securities Exchange Commission report to Congress, [www.sec.gov/news/studies/2008/marktomarket123008.pdf](http://www.sec.gov/news/studies/2008/marktomarket123008.pdf), on page A-7), is one of the culprits in making financial reporting difficult to understand. Separating unit flow and value flow would be one way forward in order to bridge business reporting and reporting on nature. On a micro-level, there is much more *unit data* available regarding ecosystems and biodiversity than there is *value data*. In business, particularly in the finance world, it is the other way around as there is greater focus on value flow in order to capture risk and uncertainty. In this regard, consider huge general reserves and reinsurance of insurance companies.

**'Einstein's Formula' for Financial Reporting**

It is worth contemplating, at this point of the discussion, that electronic transfer and tracking systems (especially XBRL in combination with RFID, GPS and other useful applications) create a global, intelligent, chart of accounts that can help to make information, whether business-related or otherwise, more useful for stakeholder purposes (see Figure 1).

With modern technology, such as geo-tagging and photo-mechanical object recognition we are now able to track and find any number of objects in the business supply chain. Thereby, relativity becomes apparent when any objects are identified and monitored. Particularly, all identifiable objects can be aligned, and valued, in order to support improved decision making. Whether objects are apples, customers, capital items, stock holdings or deliveries, all of these

**Figure 1: Modern Technology Enables Improved Decision Making**

**"Einstein's Formula" of Financial Reporting for *objects, entities* - in various business models**

**OBJECTS** X **VALUE**

@ Location fixed (immovable) - variable @ Time

GPS - Dimension Point in time or Duration  
geo- and picture tagging

Quantity X Level: historic fair value cash

XBRL Financial Reporting Goes Global IFRS

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can be monitored and managed with considerable ease.

Even so, there is a need for business entities to obey a couple of rules to set the boundaries. For instance, every entity must make an individual decision on how to define objects *within their entity*. Thus, objects entering and leaving the entity could have different object definitions. Some industries already have defined object definitions for their entire supply chain (for example, RosettaNet). Outsourcing and cloud-computing are other ways to coordinate object definitions within industries. Unmovable (fixed) objects can employ different tracking devices than movable (variable) objects.

In addition, objects can be broken down into the following business/financial reporting areas:

- **People** (number of people x rates, benefits, etc.)
- **Tangible assets and infrastructure** (number of cash-generating units x fair value, value in use)
- **Products and Services** (Stock-keeping units x price)
- **Financial assets and liabilities** (contracts, currency units x fair value)
- **Intangibles and Communication** (identifiable units x fair value)

These objects can be aligned to valuation files (such as fair values, historical costs and cash flow points). At a

particular point in time and when required, the objects can be multiplied with the appropriate value files so as to avoid mixing apples and oranges, as occurs in the mixed attribute model.

The above-mentioned segregation lends itself well to the alignment of biodiversity and ecosystem data with financial and business information. Dependencies and any impact on business, such as from the use of subsoil assets, as well as the pollution of water, air and earth, could be better explained. Instead of the current silo approach, business reporting and reporting on biodiversity and ecosystems could be integrated. Sustainability reporting, currently, is still something of a stepchild to other reporting needs as it lacks timeliness, seriousness and enforcement.

### **Aligning Financial / Business Reporting and Sustainability Reporting through Disclosure**

Most often materials, resources and other valuable information is spread widely within an organisation, as well as externally. Once all of this is organized into meaningful segments (such as the aforesaid objects and sub-objects) the associated unit and value flow can be analysed. Pieces of information (now referred to as objects) that might be difficult to explain could, at a minimum, be aligned to a particular sector (for

example, social networks and their influence in the people section of any so-called financial report). Then, an indicative value can be given as an attribute in the form of a reporting disclosure.

Modern content analysis tools, such as Gaia Metrics SDR Data Prep, can help us to find, sort, and adjust information in internal company documents as well external publications, and align them (in terms of who, where, and when) in accordance with a meaningful taxonomy or reporting system. An example of this systematic and effective approach is provided in figure 2.

As the heading in this figure suggests, this application involves a human interface in ranking and flagging the results of any search. The left side of the screen shows a tree-view of the hierarchy for basic navigation.

In the main part of the screen, the top table shows a list of hits of any search, such as documents that contain the concept in the search parameters related to the selected tree to the left. The second (and middle) table shows the details of where, and how many times the given concept occurs in the hit document. This is also known as a span. Finally, the

Figure 2: Content Analysis with Human Filtering

The screenshot displays a web-based content analysis interface. On the left, a 'Hierarchy' tree is visible with a search filter 'Energy saved by conservation and efficiency (2014)'. The main area is divided into three sections:

- List of matching documents:** A table with columns: Address, Node List, Document, P. Size, Lit, Date, Path, and Action. The first row shows a document titled 'Energy saved by conservation and efficiency' with a path 'Finance.eco/finance.eco/energy/2014/energy'.
- List of details of matches inside 'current' document (above):** A table with columns: Term, Frequency, Weight, and Score. It lists terms like 'energy saved', 'conservation', and 'efficiency' with their respective frequencies and scores.
- Span Rating (i.e. annotation):** A detailed view of a span with fields for Span ID, Start Token, End Token, Start pos, and End pos. It includes a 'Rating' section with 'exclude', 'don't like', and 'like' options, and a 'User can add comment/explanation' field.

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lower area shows details about the selected span as is summarized in the middle table. This is where a human filter can score the span, and also add a description for why they scored it the way they did. That adds to the effectiveness of subsequent searches, increasingly so over time and through additional interrogations of all objects and related information.

### Call for Action – the way forward

Financial institutions are going through major changes in relation to determining the current usefulness and future form of their business models. In the process, these significant and influential entities must pay more attention to sustainability reporting. Consider that nature, with its plentiful amounts of metrics, and financial institutions, with their extensive knowledge as to risks assessment and valuations, can become a powerful combination, as well as a catalysing factor in improving financial reporting.

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