

PROMOTING STABILITY IN FINANCE
AND THE
ENVIRONMENT

with a

Currency Sustainability Standard
for Exchange Rates

by

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ABSTRACT

The late economist, Susan Strange, noted that the two greatest threats we are facing are global financial instability and the global environmental crisis. My project reviewed recent efforts to advance environmental sustainability through the arena of finance. As post Cold War development funding has significantly shifted from multilateral public funding to multinational private funding, some non-governmental organizations (NGOs) have developed campaigns to raise environmental standards in international banks and financial institutions; as NGOs proposed Collevocchio Declaration principles, the World Bank put forth the Equator Principles. NGO activism has succeeded in motivating some multinational banks to adopt environmental policies. BankTrack, an NGO formed to monitor multinational banks, has begun to measure and assess global banks according to a yardstick of social and environmental standards.

Many attempts have been undertaken to embed sustainability into business, economic, and social processes: getting corporations to adopt environmental standards and policies voluntarily or by regulation, quantifying environmental costs and benefits and internalizing them into green accounting systems, green tax policies, cap and trade policies, and nature exchange programs. International agencies and treaties aimed to resolve global environmental problems. Parallel to the above developments, the financial system has become increasingly unstable. Monetary policy has moved from the gold standard to the “nonsystem” of floating currency exchange rates. A Global Greenback Reserve System has been proposed as a new form of international money to advance stability as well as to provide for social and environmental problems. To aid stability of exchange rates, this project considered a currency sustainability standard (CSS) through which indicators of environmental sustainability could form a new basis for valuation of currencies. It examined the possible outcomes of embedding such standards into our very medium of exchange, money, the measuring units used for everyday decision-making as well as comparative research studies.

A multidisciplinary literature review examined many analyses and approaches that have been undertaken to address the problems of global environmental degradation and increased financial instability. In addition, an interview guide was developed to examine the perceptions of local bank and finance officials and their awareness of sustainability initiatives in their field.

M.A. Program: Interdisciplinary Studies
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DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

BankTrack: a global coalition formed in 2002 of NGOs (non-governmental organizations), including Friends of the Earth (FOE), Rainforest Action Network (RAN), World Wildlife Foundation-UK, and the Berne Declaration, due to concerns about commercial banks “bankrolling disasters.”

Cap and Trade System: this is a system of quotas and tradeable permits used in some countries to limit sulfur dioxide emissions or regulate fisheries. An umbrella quota is established, then divided and distributed among polluters as permits or among resource users as an individual quota. After firms own these permits or quotas, they are free to buy and sell them to their perceived advantage. Thus if pollution reduction is costly for one firm, it can buy permits from a firm that can reduce its units of emissions at a lower cost (Daly & Farley 2004, p. 375-382).

CERCLA: Comprehensive Environmental Responses, Compensation, and Liability Act of the US, commonly referred to as the Superfund Act.

FDI: Foreign Direct Investment. Sometimes abbreviated as DFI in Europe.

FI: financial institution or financial intermediary. This includes banks, FDI, insurance, pension and mutual funds, mortgage companies, stock and bond brokers, export credit agencies, both public and private.

Finance: as a word, finance signifies a unit of meaning. I view it as a symbol of cultural meaning of a community of people relating to money or a substitute for it like credit, which may be backed by something ascribed value, or the expectation that something of value will result as a consequence of the exchange. In contrast, there are other forms of exchange such as barter or reciprocity such as gifting or sharing norms.

MEA: Multilateral Environmental Agreement or treaty.

Money Supply: according to the theory of monetarism, the main cause of changes in aggregate output production and price levels is fluctuations in the money supply. The monetary rule is that the money supply should be increased at the same annual rate as the potential rate of growth of the real gross domestic product. Erratic growth of money supply is considered the major cause of macroeconomic instability. A tight money supply typically applies when interest rates are elevated so that firms and people tend to borrow less, thus fewer dollars are put into use in the business or community at large.

NGO: Non-governmental Organization. Sometimes referred to as CSOs or civil society organizations.

OPEC: Organization of the Oil Exporting Countries. OPEC currently includes 11 oil producing countries.

Precautionary Principle: According to Speth and Haas (2006) the principle was set out in the Rio Declaration and other international documents, that assert “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental harm.” (p. 91). It thus placed the burden of proof of safety on the agents contributing to the harm or risk.

Regime: Several definitions have been offered. 1) According to Peet (2003, p. 27) regime refers to sets of rules and conventions given authority and influencing relations among nations, but they are neither orderly or systematic. 2) Gilpin (2001, p. 83-100) offers another perspective describing regime as international rules, typically negotiated, and formal regulatory organizations. There may be competing approaches and motives that impact nation-states differently. To date there has always been a hegemon or a leader that acts as a stabilizing agent; they lack enforcement power so cannot offer governance as such. A hegemon (rather than a leader) may exert power to establish and maintain a liberal world economy; either is expected to promote public goods.

SDR: Special Drawing Rights. SDRs were created for IMF member countries with their distribution set at a rate based on a country's IMF quota, which is related to its GNP and international trade. The value of the SDR as a unit is based on a weighted basket of major international currencies. They are intended for use to support foreign exchange values during short term fluctuations.

Sustainability: Social sustainability relates to labor rights, human rights, community health, and indigenous rights of communities with subsistence lifestyles who may generally exist outside the market; it can also relate to traditional cultural values or ways of living that support the health of future generations. Environmental sustainability relates to biological and ecological aspects of sustainability. There are many components: minimal use of non-renewable natural resources (oil, natural gas), use of renewable natural resources at a rate that does not destroy their ability to regenerate to abundance (fish stocks, forests, freshwater supplies). It also relates to the integrity and complexity of ecosystems as a whole that requires diverse types of biological species and geological conditions to thrive and remain healthy. Thus it is not only concerned about the use of resources, but also contamination and waste. Both aspects of sustainability are considered interrelated.

I. Introduction

A. Purpose of the Project

My project aims to develop a fuller grasp of finance as a system, indeed a deeply embedded part of the value system of Western culture, that has broad influence at both international and community levels. It equally tries to form a better understanding of how this influence primarily impacts environmental sustainability in both local and international settings. Since the “financial bottomline” is an overt and tacit basis for a major part of decision-making in industrialized, market-driven societies, many institutions, organizations, and individuals have adapted their lifestyles and operations to how finance has evolved in their society. Typically this means money or a substitute for it like credit, often based on a monetary valuation of some form of property, or future income, to which one can lay legitimate claim as a form of collateral. This brings us back to the central issue of values and the process of valuation. This includes fluctuations in the value of property like a patch of land, dwellings, or financial assets, where market science would stress the effect of supply and demand.

Value often lies in the eye of the cultural beholder, as gold metal still commands a high value in economic affairs as a ritual tradition from the past. Whatever the theory, these symbols of value play out in our everyday practical affairs and influence real social and environmental conditions. Unfortunately, I have come to believe that the workings of our current market system is intricately related to maladaptive activities that have contributed to critical globalized environmental problems, threatening the true “environmental bottomline,” the unique diversity of life on our planet. This project looks to alternative ways to connect environmental values to financial values.

B. Scope of the Project

The project looked at the concrete ways that money and finance seem to operate. It also undertook a multidisciplinary literature search for theoretical understanding, as well as to learn of the efforts of concerned citizens, groups, institutions, and governments to bring about change related to finance and the environment. I have been inspired by the efforts of NGOs that have led legislative and direct action campaigns to change the practices of public multilateral banks and, more recently, private multinational banks. Getting powerful multinational financial corporations to adopt environmental policies has been a major step forward. The project also included the development of an interview guide and interviews with officials at local community banks and financial institutions to look for possible trickle down effects of these policies.

However, this progress in changing financial institutions seems slow and limited. Researching multilateral financial institutions like the World Bank and the IMF leads to awareness of efforts to deal with global environmental problems through the framework of global environmental governance. Although governance seemed like a promising way to resolve global environmental issues, at the international level it is complex and is restricted by conflicts of interest between international agencies and nation-states.

Environmental degradation is often linked to economic globalization. To fully understand the possibilities of addressing the environmental crisis, this study explores the fields of international economics and finance. The review has helped to explain the increasing causes and concerns about the stability of the global financial system, and it has helped to clarify key relationships and components that contributed to global financial instability. Problems with the international money supply and floating exchange rates

provide a basis for proposing the currency sustainability standard that could aid financial and environmental stability.

C. Significance of the Project

The project looks at financial intermediaries as responsible agents (rather than neutral transactors) for the activities in which they engage. This puts them at the center of the ethical basis for the activities that they fund, both abroad and at home. This understanding pushes forward an awareness that voluntary standards for financial institutions have an ethical foundation for becoming legal precedent.

The project also undertakes an overview of the approaches that have been pursued to resolve escalating environmental damage: institutional, governance, and monetary. This provides a context for understanding their current limitations and potential for change in the future.

Lastly, the project examines the flaws in the current global financial system that goes beyond the conventional views explored in the typical business classroom. It attempts to look beyond how to adapt to a dysfunctional system that has experienced multiple financial and economic crises in recent decades. An alternative scenario views money as an evolving sociolinguistic concept, offers a new role for currency in light of collective global problems, and explores how this semantic shift could offer a better means to support a sustainable world.

D. Limitations of the Project

The community interviews were limited in number and scope. The interview guide focused on environmental awareness. Information gathered could be used for a broader mail survey to provide public information, or for another type of project, like one that

could aim at changing customer preferences.

The broader exploration of a multidisciplinary approach to the problems of global environmental sustainability and financial stability are limited by the nature of multidisciplinary research. Trying to bridge the language and concepts that differ between disciplines presents a challenge to understanding and conveying the ideas. This can limit the depth that can be achieved in each field. Deciding what seems relevant to the topic may be difficult to assess.

E. Methodology

A large part of my project involved a literature review to offer support for proposing a currency sustainability standard. Several fields were reviewed.: 1) social movements involved in global finance, 2) global environmental governance which includes political economy, environmental studies, and international studies, and 3) international economics, finance, and political economy (IPE).

The other part of my research involved conducting interviews with financial officials within the local community to assess awareness of sustainable finance. In addition, my goal was to find ways to present information about sustainable finance that would be appealing and that would motivate further interest and action in these new topics and policies in finance. In developing an interview guide, I did a broad survey of interview methods and theory in several disciplines.

Sources consulted included Denzin's (2000) comprehensive *Handbook of Qualitative Research*, Bernard's (2002) *Research Methods in Anthropology: Qualitative and Quantitative Approaches* as well as social, clinical, educational, journalistic and organizational methods (Kennedy, 2006; Miller & Crabtree, 2004;

Rose, 2003; Sarantakos, N.D.). I was reminded that research is never value free and that the project can have a moral, caring, and therapeutic basis. These sources also offered suggestions about interviewer approaches, questioning and phrasing of questions, and the meaning-making process in qualitative semi-structured interviews.

One of the most helpful resources for approaching the interview was *The Ethnographic Interview* by anthropologist James Spradley (1979). Spradley describes a structured sequential way to approach the interview process. It helped clarify the grounded theory research approach which emphasizes avoiding preconceived ideas and preset categories in which to place the data sought and acquired through interviews. Rather it encouraged me to approach the interview as a means to begin to understand a complicated meaning system that reflects the complexities of informants who work in the culture of the modern finance field. Spradley emphasizes that culture is “the acquired knowledge that people use to interpret experience and generate social behavior” (p. 5), like a cognitive map that forms a set of principles that create social dramas. He also views culture as a system of meaningful symbols where meaning is created by social interaction (symbolic interaction theory).

According to Spradley, listening is key, but ongoing analysis is also intrinsic to the process during the interview phase, since an informant's understanding is often tacit rather than overt. His approach is language-based and begins with descriptive questions (“could you tell me...” , “could you describe...” , “how do you talk about...”), focusing on how an informant would “use” a word, phrase or a concept rather than “why”; direct questions that would not uncover tacit knowledge are discouraged. Repetition, restating in “native” terms, and considering hypothetical situations are

other elements of the process. Spradley encourages the researcher to act as a learner, and view the interviewee as a teacher. Active listening without judgment is key to establishing trust. Descriptive questions could be lengthy to inspire and provide time for the informant to reflect on the topic of the question. He recommends that an interviewer not be too familiar with the scene. Informants should have at least one year of experience and be active in the field. Yet they should not try to overly analyze their situation as an “outsider” for the researcher, since their interpretations may be misleading. The purpose of the study should be repeatedly explained, and it is best to encourage informants to use the language they would typically use in their setting with others. The dialogue should explore ways in which the study could be useful to the informants.

To analyze the information, the researcher needs to look for symbols in order to figure out what they refer to, and interrelate symbols to create meaning; this process is referred to as the relational theory of meaning. Domains of symbols can be organized into more complex categories. The boundaries of these hypothesized domains can be discovered by adding questions about differences and similarities. The interviewer then uses structural questions about the contexts where these symbol groups are used to find out how these domains might be related. Contrast questions help to define boundaries and differences between groupings. By uncovering more of the attributes of symbol groupings, the researcher may begin to uncover broader themes in a widening complex of symbolic meaning. In Spradley's approach, the researcher acts as an anthropologist seeking cultural meaning.

Journalistic approaches begin with a public orientation to information that

emphasizes the use of open-ended, flexible questions and that offer the interviewees the opportunity to present their side of a story (Stewart & Cash, 2000; University of Wisconsin Green Bay, 2006). Public relations research focuses on a clearly defined master problem broken down into sub-questions. It is clearly targeted to social change, and considers stages of behavior change that proceed from 1) changing awareness, 2) seeking more information, 3) evaluating new information, 4) carrying out a trial reflecting the change, and 5) fully adopting of a new product or policy (Watson, 2005). This type of approach is intensively targeted so that it seemed too direct for my immediate research purposes; it would likely have required a team effort. On the other hand, public relations research considers the individual within the context of an organizational structure, an issue that I would need to address.

In seeking to re-energize the field of organizational development, Anderson and Anderson (2001) express concern that current efforts in the field were failing to produce the intended results. For them, participative change entails change in the very approaches to change. With a constantly changing environment and marketplace, particularly since deregulation in the 1970s, change becomes an imperative. In the innovative environment of the 1990s, organizational change goes beyond incremental development change, or problem and project-oriented transitional change. In “survive or die” transformational change, employees' mindset, behavior, and the organization's culture are forced to shift. Change takes on an emergent quality and includes systems, multidimensional, and continual learning approaches that involve an on-going conscious assessment of purpose and values. Rather than consider frameworks of change, they emphasize a process model of change that thinks upstream and

anticipates a “wake-up call” to initiate the process. Although their approach does not specifically address environmental issues, their approach has similarities to the “backcasting” model of *The Natural Step for Business* (Natrass, 2001), in which planners envision future critical, environmental, bottleneck constraints as resource supplies become scarce, and demand increases from changes in affluence and population. Awareness of such constraints leads to actions to create a more eco-efficient society.

In addition to surveying different interview techniques, I examined literature to guide the content of the Interview Guide. Harris and Crane (2002) offered a specific example of a European research study on the greening of organizational culture. They noted that green management literature argues that sustainable change needs to go beyond technical solutions to internalize environmental values into the organization's very culture. Yet they found a lack of empirical evidence about whether such attempts at change have been successful. Their study aimed to find qualitative evidence about the extent that managers perceived change and about the factors that are barriers or facilitators to change. In their literature review, they found two trends. One focused on a top-down process where management's new values trickle down to the employee level. The other trend noted that the competitive advantage of sustainable enterprise is difficult to imitate; decision-makers would need to embrace environmental values. Other questions that emerged included how to define green culture and whether voluntary change is an oversold idea.

Harris and Crane found a contrast between what the company advocated and what happened in actual practice. Change might be limited to particular departments. Green

directives could conflict with job performance expectations like pressure to produce profits, as well as personal beliefs or business philosophies such as customer orientation. On the other hand, green activities could be supported by industry regulations or a symbolic event that could impact employee perceptions or company reputation.

But overall, Harris and Crane seem pessimistic: “it is likely to be extremely difficult to initiate and sustain the process of cultural greening” [document form unpagged]. Change could take a lengthy period of time, given that many problems Harris and Crane identify are typical of current organizational dynamics. Green business may be overly optimistic concept given the realities of the workplace. They recommend new directions in research with a focus on larger scale samples, customers, or the impact of other economic and environmental indicators.

Documenting additional research from Europe, the book *Sustainable Finance: The Greening of Finance* (Bouma, Jeucken, & Klinkers, Eds., 2001) offered a resource rich in ideas and examples for inclusion in my approach and interview guide. One of the most intriguing initiatives described in the book was a public-private program initiated in the Netherlands (van Belleghem, 2001). Demonstrating that government can facilitate the way to change, the Netherlands created a Green Fund System (GFS), which provides a tax exemption to private individuals who invest in Green Funds that finance small-scale environmental projects. The lower interest rate on these tax-free investments allows the bank to charge a lower interest rate to an entrepreneur who borrows to undertake green projects; thus, entrepreneurs who undertake green projects benefit from a lower cost of borrowing. Other incentives include accelerated

depreciation, operational leases, and tax deductions on clean technology equipment. The public could also borrow money for “Green Mortgages.”

Financial institutions could profit from the projects which also enhance their public image. To make the program successful, they initially needed to promote the creation of green projects and to use their financial expertise to screen the projects. The government added transparency and consistency to the program by controlling the definition of what qualified as a green project, and auditing the green fund system's results. Overall, the objective was to support economically sound projects that offered a high level of environmental benefits, yet were not profitable enough for typical market forces to promote them. Projects included nature conservation, organic agriculture, alternative energy, green mortgages, and low-energy greenhouses. The program was eventually extended to projects abroad. The success seemed related to the willingness of investors to receive average returns in exchange for lower taxes and low risk, bank-guaranteed investments that would benefit community welfare. In addition, “The Green Mortgage system [was] so strongly supported by private homeowners that the banks in the Netherlands [were] more or less obliged to participate in it” (p. 240).

To make the interview guide tangible and concrete, I considered how banks could initiate programs to create incentives for sustainable choices by designing loan programs that offered slightly lower interest rates or attractive terms for energy-efficient autos or homes. In gathering information from several local green building programs, I learned about Energy Efficient Mortgages (EEMs), provided through a national Fannie Mae program, which could offer benefits for lenders and individuals

buying or improving a home with energy efficient features.

Another helpful resource to introduce informants unfamiliar with the central concepts of sustainable banking was the pamphlet *Your Financial Institution and the Environment* (2003) issued by the Environmental Bankers Association in the US.

This booklet offered a synopsis of the main components of an environmental program for a financial institution, as well as valuable links to key organizations supporting this undertaking.

Through local networking, I contacted and interviewed seven officials at different community banks, credits unions, or mortgage companies. All had worked in the field of finance from over 6 years up to 26 years. All had worked in their current position a minimum of one and a half years. Job titles ranged from office, branch, or sales manager, to assistant or senior VP of a regional area and CFO/ Executive VP. Educational levels ranged from 2 years of business at a community college to an MBA in Finance or Corporate Finance; one was a CPA and had experience working for an international accounting firm.

Appendix A contains the final version of the Interview Guide. Appendix B is a “Finance and Environmental Sustainability Resource List” handed out to informants at the end of the interview to encourage continued interest and reflection about green finance initiatives.

II. Implementing Environmental Ethics Through Financial Institutions and Governance

Nearly two thirds of the services provided by nature to humankind are found to be in decline worldwide. In effect, the benefits reaped from our engineering of the planet have been achieved by running down natural capital assets...Unless we acknowledge the debt and prevent it from growing, we place in jeopardy the dreams of citizens everywhere to rid the world of hunger, extreme poverty, and avoidable disease – as well as increasing the risk of sudden changes to the planet's life-support systems from which even the wealthiest may not be shielded. (my emphasis)

The 2005 Statement of the Millennium Ecosystem Assessment Board composed of 1360 scientists and experts worldwide (cited in Speth & Haas, 2006, p. 16).

A. The Critical Nature of the Global Environmental Crisis

Environmental degradation is so widespread now that most of the global impacts are unavoidable and many are getting worse every year. James Gustave Speth and Peter Haas (2006, pp. 17-47) list and describe 10 major problems:

1. Air Pollution and Acid Rain
2. Ozone Depletion
3. Global Climate Change
4. Deforestation
5. Land Degradation and Desertification
6. Freshwater Degradation
7. Marine Fisheries
8. Toxic Pollutants
9. Biodiversity
10. Excess Nitrogen

There is a human face to this crisis; and, in a number of the areas, the assessments are hard to imagine. Crop and forest losses in China due to air pollution and acid rain are estimated to exceed \$5 billion per year. Tropical forests are disappearing at the rate of 1 acre per second. Desertification causes huge declines in food production making people vulnerable to famine, migration, and social unrest. The World Health Organization estimates that 5 million people die each year due to unsafe water sources. 75 percent of

ocean fisheries are overburdened, putting at risk one fifth of the world population who depend on fish as their main source of protein. An EPA review of 3000 synthetic commercial chemicals found that 40 percent had no toxicity data at all. Biodiversity losses at 1000 times the normal expected rate can have many impacts including decline in pollination of food crops. Excessive nitrogen fertilizers are wasted and washed into waterways where dead zones devoid of aquatic life are created.

Many of these problems are interlinked and aggravated by social and economic processes. The public is enamored with technology and ignores potential negative consequences of current and emerging technologies. Global trade and industrialization contribute to and aggravate this long list of global problems. Export-driven production is extremely harmful, with costly ecologically damaging ports, airports, dams and canals in addition to the environmental costs of global transport, fossil fuel use, refrigeration and packaging (Speth & Haas, 2006, pp. 17–48, 145).

B. Environmental Ethics and Financial Institutions 1970 to 2003

Efforts to address environmental issues through financial institutions (FIs) began not long after the environmental movement started in the 1970s. Non-governmental organizations and civil society organizations (NGOs and CSOs) created campaigns to address harm to indigenous groups and their lands resulting from misguided development projects initiated with World Bank or regional development bank funding.

In 1980 the Superfund Act (CERCLA), was passed by the U.S. Congress in response to the Love Canal tragedy. The Love Canal incident resulted from decades of chemical dumping into a canal which was then covered over with dirt, sold to the city of Niagara Falls, which subsequently built homes and a school on the land. Years later, residents

found rusting metal drums erupting at the surface oozing foul smelling liquids and odors; birth defects were more frequent than normal (Beck, 1979). The resulting congressional act not only made the commercial companies liable for the damage (some had ceased business or gone bankrupt), but in many cases liability was extended to the banks funding the companies. Even banks in Europe and those involved in international development lending took notice and began doing due diligence for environmental liabilities (Barannik, 2001, p. 251; Coulson 2001, p. 300; Jeucken & Bouma, 2001, p. 24; Kearins & O'Malley, 2001, p. 354).

Through the initiative of the Sierra Club, the U.S. Congress passed the 1989 International Development and Finance Act, also known as the Pelosi Amendment. This required the World Bank to do an environmental assessment of any project with possible significant environmental impacts and make it publicly available at least 120 days prior to voting; without such assessment, the U.S. Executive Director (that is, the U.S. representative) would be blocked from voting in favor of any such project (Barannik & Goodland, 2001, p. 328). As the largest contributor to the World Bank, the U.S. was allotted the largest block of votes; although a majority could still easily be secured, voting by tradition was based on consensus (Boas & McNeill, 2003, pp. 17-19, 100-103; World Bank, 2003, p.3). So without the U.S. vote, such projects would not go forward. As a result, the World Bank developed a *Pollution Prevention and Abatement Handbook* and an environmental assessment process (World Bank, 1991, 1998). Projects were put into A, B, or C categories based on high, possible, or low risk, and detailed mitigation measures were outlined.

With the end of the Cold War when foreign aid was linked to strategic interests and

with expanding deregulation of capital flows around the world, official public funding for development projects was eclipsed by private funding with sources such as portfolio or equity investments, foreign direct investment (FDI), and project finance (Chan-Fishel, 2003; Seymour, Dreier, & Donge, 2002; Ganzi et al, 1998; Klein & Hartford, 2005, p. 45). Figure 1, p. 26, clearly shows this shift. NGOs such as Friends of the Earth (FOE) and Rainforest Action Network (RAN) noticed these trends. RAN, frustrated with stopping a logging project in one part of the world only to find a new one emerge in another distant part of the world, initiated a Global Finance Campaign seeking to intervene at a higher level in the system by stopping the funding of companies engaging in damaging projects (Firger, 2005). Within three years of an intensive campaign that included students nationwide destroying their bank credit cards, RAN negotiated an environmental policy with multinational bank Citigroup. Using standards such as those developed by the International Union for the Conservation of Nature, the bank became the first FI to ban projects that used timber from an illegal or endangered source (Rainforest Action Network, 2005, 1995-2006a, b, & c; Multinational Monitor, 2004).

C. Evolving Standards for Financial Institutions

Seeking to broaden the movement to instill environmental ethics into the activities of financial institutions, a coalition of NGOs announced a set of guidelines for FIs called the Collevocchio Principles at the World Social Forum in January 2003 (Friends of the Earth, 2003a & b). The six principles offered general precautionary guidelines:

1. **Sustainability:** This emphasized that sustainability should have equal priority with shareholder and client satisfaction.
2. **Do No Harm:** This advised the use of the Precautionary Principle by honoring standards like the Forest Stewardship Council.
3. **Responsibility:** FIs are expected to pay their share of financial, social, and environmental costs related to developing country projects.

4. **Accountability:** FIs are expected to consult with CSOs about best practices and respect the right of community members to reject a project.
5. **Transparency:** This principle meant providing information to stakeholders rather than citing business confidentiality as an excuse.
6. **Sustainable Markets and Governance:**
FIs are expected to support public policies and market mechanisms to support sustainability rather than to resort to tax havens, currency speculation, or a short term focus.

Three months later, the World Bank announced the Equator Principles (EP) for application to private FIs. These basically extended the use of the environmental assessment standards developed by the Bank following the Pelosi Amendment. The EP principles tended to focus on mitigation rather than prevention, and the NGO community remains critical of their extent and implementation (Equator Principles, 2006; Global Policy Forum, 2003; Missbach, 2004). The Equator Principles were revised in 2006 amid controversy among financial and NGO groups.

A promising development has been the effort of NGO BankTrack to develop specific standards by which to measure multinational bank policies and their implementation. In January 2006, they issued a report that surveyed the policies of 39 international banks. A framework for assessment included 13 categories, such as human rights, chemicals, fisheries and forests, and each of these outlined specific international standards of practice with commentary about what banks should do. For example, the Climate and Energy category listed standards like Kyoto and the Greenhouse Gas Protocol and advised banks to 1) include climate in their risk assessments, 2) require clients to include GHG (greenhouse gas) accounting and reporting, 3) require clients to meet carbon reduction targets, and 4) activate strategies to invest in energy efficiency and renewable energy projects. Banks were then graded by these standards. With the highest score achieved being D+, there was clearly room for improvement. BankTrack has planned to

release a new assessment that includes evaluation of policy implementation in September 2007 (BankTrack and WWF, 2006).

Standards of environmental ethics for FIs have been updated and negotiated by differing interests. Currently such standards are voluntary, which limits their effectiveness. Recently the legal community has taken notice of the Equator Principles and has considered the possibility that they could become part of customary international law or adopted legislatively (Kass & McCarroll, 2006).

D. Trickle Down Ethics and Local Financial Institutions

To assess whether the above changes in standards were having any influence at the local level, a interview guide was created to gather information about the context of local financial institutions and awareness or activities relating to sustainable finance.

Interviews were conducted with seven experienced financial or bank officials at various levels of management in the fall of 2006.

The results suggest that local banks have faced a number of changes and challenges in the financial field. Among them was increasing competition – especially for deposits with competition from online, insurance and brokerage banks or nonprofit credit unions. Other challenges were mass consolidation and technological changes, and an orientation that has moved from service towards sales. Rooms full of desks and paperwork have been downsized by computers that speed the pace of transactions. Home mortgages have been consolidated and are treated like a commodity in secondary markets; these economies of scale made it difficult for small local banks to compete.

There were some common patterns in awareness of sustainable finance. Most officials, especially ones involved in commercial loans, were aware of environmental due

diligence. Commercial loan applications often required questionnaires to assess for additional environmental risk evaluation, either by in-house staff or an environmental consultant. This suggested that the impacts of the Superfund Act had become institutionalized. A few had undertaken green remodeling of their corporate headquarters; although green remodeling of branches was limited, since many were leased for cost savings.

One pervasive pattern was efforts to reduce paper use; most FIs were trying to recycle and reduce paper use or electronically image information. Some FIs or officials had supported local environmental events, organizations, or conservation efforts by local government. Most thought government could aid sustainability through partnerships and incentives, but they generally shunned regulations. Few environmental products were marketed; for the most part, loans for green undertakings were client-initiated. One official was aware that his institution offered an energy efficient mortgage (EEM), a government initiated program started in the 1970s; but with 400 competing loan products, clients generally found other mortgages more suitable.

To transform communities towards sustainable lifestyles, financial institutions will need to actively promote environmental products and services to clients by creating incentives for products like fuel efficient vehicles or energy efficient mortgages. Although government support may help the process, some FIs in the U.S. have offered products like these. Carrying out a broader local survey like that done by BankTrack, and making results public, could encourage banks to move in this direction. Organizational development and journalism suggest other alternatives for future research. Studies done about organizational change suggest that internal change can be slow and meet resistance.

Examining outside impacts such as changing customer preferences or industry practices could offer new approaches (Anderson & Anderson, 2001; Harris & Crane, 2002). In the field of journalism, public relations research campaigns target social change with well crafted stages: changing awareness, exploring new information, evaluating the information, trying out a new product, and finally incorporating the product into regular practice (Watson, 2005). Such a public campaign could be focused on bank clients, since FIs seem responsive to patterns of client preferences.

One strategy to deal with competition for bank deposits could be a product that linked a minimum deposit balance to better terms or a slightly lower rate for an energy efficiency mortgage. Energy efficiency could be defined as simply installing a quality energy efficient furnace, or insulating heating airducts, a \$1500 to \$3000 cost that could be recovered in a few years.

Such initiatives could help by reducing the demand for energy and natural resources by consumers in industrialized countries. These could help alleviate the excessive use of limited supplies of natural resources and the environmental degradation related to mining, extraction, and logging projects in developing countries. Such an effort presents one way to help change a dysfunctional system, but other efforts will be needed.

E. Global Environmental Governance

Efforts at global environmental governance, both through formal institutions and informal arrangements, began in the 1970s. The 1972 United Nations Stockholm Conference on the Human Environment (UNCHE) set up the UN Environment Program (UNEP) and established an *Action Plan*. The World Commission on Environment and Development (WCED) in 1987 recognized that industrial countries were on an

unsustainable path, but thought economic growth in a sustainable manner could resolve perceived problems. The 1992 UNCED Conference on Environment and Development, the Rio Earth Summit, sought to implement this vision with the Agenda 21 blueprint. Unfortunately it was nonbinding and neglected. The last Johannesburg World Summit on Sustainable Development (WSSD) in 2002 lacked leadership; Millennium Development Goals (MDGs) were too vague, corporate partnerships were overemphasized, and talk of a “triple bottomline” diluted priorities. In their book on global environmental governance, Speth and Haas (2006, pp. 52–78, 101-105, 125-150) come to the conclusion that international laws have failed; deep and broad cultural and social changes are needed.

The United Nations University Institute for Advanced Studies in Tokyo in recent years coordinated researchers to evaluate changes in environmental governance and to offer recommendations for reform (Chambers & Green, 2005; Kanie & Haas, 2004). Some of the issues raised were the need for a strong regulatory system to balance public and private interests. Furthermore, the current system of “self-regulation” by business undermines public involvement. In addition, multilateral environmental agreements (MEAs) needed to be binding on business firms as well as governments in order to be effective (Gleckman, 2004). Recommendations included creating a World Environmental Organization, adding legal clarity to the Precautionary Principle, clustering MEA secretariat sites and meetings for better coordination, creating a resolution process for disputes between the WTO and MEA provisions (a particularly critical issue), and facilitating the use of the International Court of Justice Chamber of Environmental Matters (Charnovitz, 2005; Oberthur, 2005; Pauwelyn, 2005; Sampson, 2005).

Governance by the Bretton Woods institutions, the World Bank, the IMF, and the

WTO tends to be lacking as well. The World Bank has demonstrated a persistent lack of environmental sensitivity (see Barannik & Goodland, 2001). IMF conditionality has undermined governments and aggravated social and environmental problems. And the WTO undermines the ethics and laws of sustainability in industrialized nations. Rather than dissolve them, authors like Morten Boas and Desmond McNeill (2003) of the Centre for Development and the Environment at the University of Oslo recommend “profound” reform.

F. Limitations of Institutions and Global Environmental Governance

The above examination of organizational and governance approaches to resolving deepening environmental problems suggests that new avenues may need to be explored or added to existing efforts. Organizational change can be slow and resisted. Voluntary standards in the midst of intense financial competition create a free-rider problem where those that avoid the standards may have a competitive advantage over those institutions that adopt them. A level playing field requires regulations that apply to all players in the market. International political economist, Robert Gilpin (2001, pp. 390-402) points out that effective international governance efforts suffer from the relatively recent formation of such institutions. Sovereignty resides in nation-states that have evolved and stabilized over centuries. International power and compliance mechanisms tend to be weak.

In addition to environmental treaties, policies, standards and regulations, other initiatives have tried to calculate and internalize environmental costs (and benefits) through green taxes and full-cost accounting frameworks. Under democracies, representatives would need to legislate and reaffirm green taxes, not always a popular political position. Full cost accounting could be undermined by a free rider effect without

uniform legislation. Public support would also be needed for cap and trade legislation. Nature exchange programs, some by corporations or NGOs, have helped. Although these initiatives can be effective to an extent, they still seem indirect ways to link financial decision making to environmental values and necessities.

As an alternative to solutions for global environmental problems through financial institutions, environmental governance, and other initiatives, a better understanding of the international financial system seemed necessary as a way to consider market alternatives. This includes examining the valuation of the primary product that banks depend upon...money.

III. Financial and Monetary Approaches to Environmental Sustainability

A. The Global Financial System and the International Money Supply

International finance has been described as an evolving system, its major component being an international supply of money. When international rules specified that paper money be backed by gold, the system had some self-regulating features. As increasing trade and economic activity demanded an increase in the money supply, rising prices would be constrained by the rising costs of gold production needed to back the new money. But the system was often disrupted by changes in mining technology and outbreaks of war. Relationships in the system were changed by crises, breakdowns and innovation, and international rules were limited by evasion, changes in technology, and incompatible national agendas (Aliber, 2002, pp. 1-46).

B. Recent History of the Financial System

Under the Bretton Woods regime, instituted following World War II at a time when the U.S. had acquired large reserves of gold, gold was set to a price of \$35 dollars per ounce. The IMF was set up to maintain fixed exchange rates based on this standard. The regime was expected to provide stability and encourage trade among nations. Various factors contributed to its downfall in the early 1970s, including rising debts of the U.S. government incurred with the Vietnam War and the War on Poverty. Devaluation of the dollar and the creation of a new IMF international money, the Special Drawing Right (SDR), failed to uphold the old system (Aliber, 2002, pp. 46 – 57). Before the measures could take effect, a number of countries had started to float their currencies in financial markets.

But the shift to floating rates of major currencies, which some refer to as a

“nonsystem” to underscore its unreliable nature, has resulted in greater volatility and instability. One difficulty in the arrangement is that balance of payments surpluses did not require revaluation, i.e., raising the value of a currency. In addition, loosening capital flows between nations has created a “trilemma” in which independent domestic economic policies conflict with floating exchange rates and the free flow of capital. In the 1960s, banks seeking to escape regulations in the U.S. set up offshore Eurobank branches in London where clients could transfer large dollar deposits to earn higher interest rates. Eurobank deposits have gone from \$1 billion in 1961 to \$7000 billion in 1998; approximately 70 percent of these offshore deposits are in U.S. dollars (Aliber, 2002, pp. 47, 57 – 83, 124-133; Gilpin, 2001, pp. 239, 248). As other changes in the financial system have loosened capital controls, increasing amounts of dollars are in foreign lands.

In the 1970s, the international system was destabilized by petrodollars (the arrangement to sell oil in U.S. dollars) and rapid increases in the price of oil by OPEC. To deal with this, countries could either borrow dollars or devalue their currencies to acquire dollars through exports (Aliber, 2002, pp. 152-164). By the end of the decade, rising unemployment and double digit inflation undermined Keynesian approaches of government involvement in the economy and support of social welfare programs; policy shifted to cutting taxes and reducing government spending (Allen, 2001, pp. 219 - 220).

In the 1980s rising interest rates to deal with inflation contributed to highly valued “superdollars,” which attracted foreign investors to the high rates on dollar assets (Aliber, pp. 118 –120). But these rates also undermined the U.S. mortgage and housing market, which in turn undermined the banking industry (Aliber, pp. 171-177). The high value of the dollar made U.S. exports more expensive; as exports declined the U.S.

became a debtor nation and a net importer of capital (Allen, 2001, p.283).

C. Developing Country Impacts

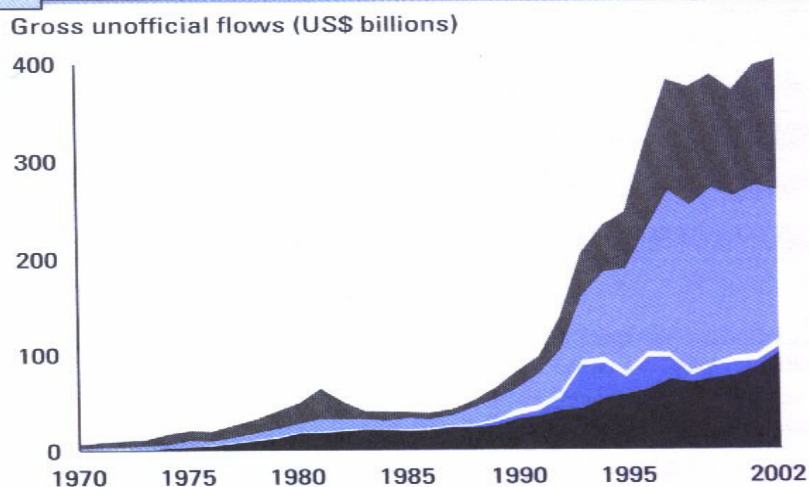
Developing countries' place in the financial system set in motion different dynamics in response to policy changes in the U.S. and other industrialized nations. In the 1960s they welcomed debt as a way to enhance their economies through economic growth. U.S. lenders were happy to lower their risks by diversifying their loan portfolios with loans to developing countries (Aliber, 2001, p. 188).

But the petrodollar arrangement and the rapid increases in oil prices created severe deficits in the 1970s for many countries. In the Philippines, President Marcos initiated a program that encouraged “heroes of the nation” to migrate abroad to earn money to help resolve the country's balance of payments crisis. Earnings sent home, called remittances, have become a worldwide phenomenon. In 2003, remittances in the Philippines totaled \$7.6 billion with a country GDP of \$80.6 billion (Rupert & Solomon, 2006, pp. 87-95). As shown in Figure 1, p. 26, the World Bank includes them as a sizable form of “foreign aid” (Klein & Hartford, 2005, p. 45). But rising oil prices in recent years have again burdened many HIPCs (highly indebted poor countries) and developing countries; higher oil costs have washed away the benefits of debt cancellation programs (Jubilee USA Network, 2006).

The 1980s added to developing country challenges. Inflation and higher interest rates had led to a worldwide recession. With higher rates on their loans and less demand for their exports, loan defaults in developing countries threatened U.S. and international banks (Aliber, 2001, pp. 189-190). Labeling this a short-term financial liquidity crisis (rather than a longer term insolvency problem), Secretary of the Treasury James Baker

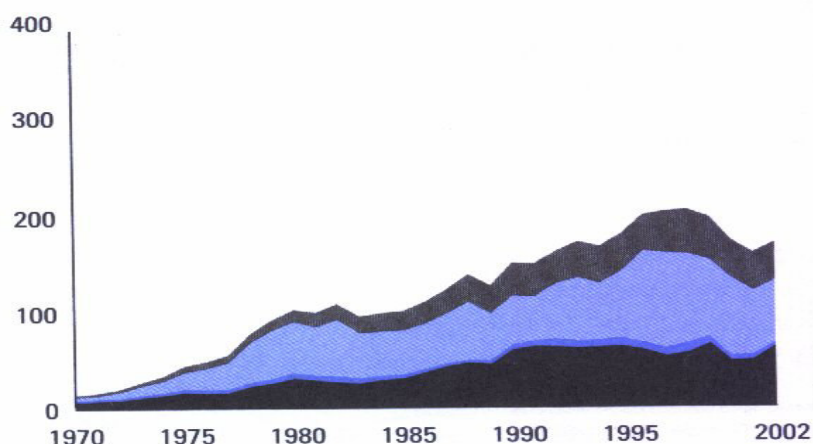
Figure 1. Financial Flows of Private and Public Finance. Note major increase in private funding with a significant level of remittance funding [this reproduction was taken from Klein & Hartford, 2005, p. 45].

Figure 1 Unofficial flows far outstrip official flows to developing countries



■ Private, nonguaranteed debt ■ Portfolio equity (net)
 ■ Foreign direct investment (net) ■ Remittances
 □ NGO grants

Gross official flows (US\$ billions)



■ Multilateral loans and grants ■ Export credits
 ■ Other publicly guaranteed debt ■ Bilateral loans and grants

Source: World Bank, Global Development Finance database; OECD Development Assistance Committee.

formulated the “Washington Consensus” structural adjustment policies (SAPs) to address third world debt. These emphasized privatization, capital market and trade liberalization, deregulation and removal of constraints to integration into the global economy, so that economic growth could take off. Governments were expected to reduce spending, which meant cutting education, health, and social programs. IMF and World Bank loans often included such policies as conditions for approving loans. In many cases, these policies made bad situations worse, aggravating poverty and environmental damage and increasing social conflicts (Gilpin, 2001, pp. 313–316).

D. Increasingly Frequent Crises

The international financial system has become increasingly dysfunctional with unstable exchange rates, volatile capital flows between nations, austere development policies, and the interaction of domestic policy adjustments on other countries in globalized markets. In the 1990s, Japan experienced a prolonged recession and Mexico had a severe peso crises. Towards the end of the decade, the East Asian crisis drew worldwide attention. According to financial historian Larry Allen (2001, pp. 222, 230), many East Asian countries had pegged their currencies to the dollar; so as the dollar (and their currencies) rose in value, exports in these countries became more expensive. Tighter money policies were adopted to keep their currencies within the range of the dollar. This encouraged capital inflow, mostly short term, from foreign investors. But declining exports put pressure on the Thai Baht to devalue. In response, other countries devalued to keep their currencies competitive. But as the currencies lost value, foreign investors fled rapidly, taking capital out of the countries. The threat of the crisis was that it could spread and become global.

At international meetings, some participants called for a new global financial architecture. But negotiations were difficult and little was accomplished. A Financial Stability Forum (FSF) was established to monitor the international financial situation with biannual meetings (Gilpin, 2001, pp. 270, 276).

E. Financialization, Defunct Theories, and Normative Commitments

Financialization is described as “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies” (Epstein, 2005, p. 3). A number of scholars believe that along with neoliberalism and globalization, financialization has been “very detrimental to significant numbers of people about the globe” (Epstein, p. 5). Among them, Robert Blecker (2005) notes that globalized markets have undone many of the theoretical frameworks taught in economics textbooks. Balance of payments are not automatic, exchange rates are unpredictable despite various models to forecast rates, purchasing power parity (PPP) is persistently violated, and misallocation creates persistent trade imbalances. These distortions have multiple causes: capital mobility, differing monetary situations, the pursuit of absolute advantage – especially the lowest labor costs, and high import prices that cause inflation in developing countries. He believes the solution lies with exchange rate management and context-based policies.

The field of international political economy (IPE) offers a distinctive perspective to the understanding of the international financial system. Political economist Robert Gilpin (2001, pp. 12–45, 68) notes that neoclassical economics is not just a set of theories; it embodies normative commitments. These relate to how a society chooses to use and distribute wealth. In addition, the state is not a collection of rational individuals, it

expresses a collective interest that is bound to citizens' loyalty, security, and prestige. He adds that the post - World War II vision that peace could be secured by the interdependence of trade ignores the unequal gains and distribution of free markets.

Differences in normative commitments are clearly evident in examining three major economies. The U.S. market-oriented model emphasizes consumer choice and maximizing wealth; it places high priorities on shareholder ownership, profits, and business management. In the Japanese model, the state is deeply involved. Individuals and consumers are considered subordinate to producers. Emphasis is placed on maximizing sales and marketshare through quality and innovation. Capital comes from retained earnings, network banks, and government-backed loans. The German “Social Market” model has a unique orientation with little government involvement, where workers and business organizations are stakeholders involved in corporate governance. Capital is provided by affiliated banks, while laws foster savings and capital accumulation (Gilpin, pp. 150–191).

Gilpin (pp. 378-9, 390-97, 402) feels that better global economic governance is needed to deal with market failures and to provide for collective public goods like rule of law, financial stability, common business standards, and environmental solutions. What is needed is a power mechanism for compliance in the international setting, but he thinks this is unlikely to be achieved anytime soon. Effective international institutions have existed for only 50 years, while nation-states have stabilized their sovereignty over 300 years. What will be needed is a greater base of shared beliefs and values at the global level.

F. The Global Greenback Reserve

A number of researchers have recommended the activation of IMF Special Drawing Rights as international money to bring balance back to the international financial system (Aliber, 2002; Allen, 2001; D'Arista, 2005; Davidson, 2005). However, Joseph Stiglitz (2006, pp. 245–268) has proposed an innovative alternative that he refers to as the Global Greenback Reserve System.

Balance of Payments are composed of three categories. The bulk of the current account refers to trade balances between imports and exports of goods and services. The capital account relates to exchanges of financial assets or public and private lending and investments. The official reserves include gold, foreign currencies and convertible securities that are held at central banks as emergency funds to deal with an economic or natural crisis and to maintain confidence in a country and its currency. The sum of the three should balance out, i.e. equal zero. (Shapiro, 2003; Stiglitz, 2006)

Stiglitz (2006) highlights a serious malfunction of this system: “The richest country in the world, the United States, seemingly cannot live within its means, borrowing \$2 billion a day from poorer countries” (p. 245). There are two main causes of the problem: 1) countries buy dollars and dollar assets to devalue their currencies to deal with pressures to export, and 2) with many U.S. private loans callable at any time and with heightened concerns about international stability since the East Asian crisis, countries are increasing their holdings of official reserves. Stiglitz offers the example where a private bank loan to a developing country could charge an interest rate (risk-related) of 20 percent on \$100 million. The poor country government then buys U.S. Treasury bills paying 5 percent interest for the same amount in order to avoid financial instability should the private loan

be recalled suddenly. This results in a net transfer of \$15 million to the U.S., worsening the country's overall financial position.

The global greenback reserve proposal would differ from SDRs, which are issued sporadically and distributed mostly to wealthy countries. The global greenbacks would be issued annually and would be used not only to aid global financial stability but also to deal with deeper global problems such as poverty and environmental degradation. One way that Stiglitz estimated the annual issuance of greenback reserves was based on a constant ratio of reserves to global GDP; if the GDP grew at 5 percent, he estimated an annual emission of \$200 billion. In one scenario, greenbacks would be issued to central banks only and convertible to dollars or euros with an exchange rate formula.

Conversions could be limited to defined crises. Greenbacks would be acquired in exchange for other official reserves by members of the system; thus reserve dollars and assets could be exchanged for greenbacks. The funds received by the system could be allocated for collective global needs like the Millennium Development Goals and/or other development projects that could have conditions attached such as preventing, reducing, or mitigating negative externalities like greenhouse gas production, nuclear proliferation, or non-compliance with MEAs.

Stiglitz's proposal seems innovative and hopeful as an alternative to strictly governance approaches and offers an economic mechanism that not only enhances financial stability but addresses global environmental problems.

G. The Currency Sustainability Standard: a New Valuation and Exchange Rate System

The problems of international finance that have contributed to environmental and social degradation in recent decades offer some thoughts for reflection. Trying to control

capital or financial flows seems particularly daunting. Although Allen (p. 181) and Gilpin (pp. 261-2) note that capital flows were significantly greater under Britain in the 1800s, the current situation seems to be more complex, decentralized, and influenced by multinational corporations. With weak global governance and a diversity of national contexts, the ability of nation-states to adjust policies independently to stabilize their environmental and economic situations seems an important priority. One of the critical sources of instability in the financial system is the overuse of a domestic currency as international money. The current situation with vast amounts of dollars in foreign hands makes the international money system overly dependent on the value of the dollar. If petroeuros were used or if central banks started shifting to euros as reserves, the demand for euros could create high valuations for euros, which in turn could depress EU exports and EU economies. Stiglitz's Global Greenback reserve system could rebalance and stabilize the international supply of money as well as provide funds for global collective problems.

Another critical source of global instability, volatile exchange rates, still needs to be addressed. The currency sustainability standard (CSS) proposal offers a new valuation framework for currencies. It approaches money as an evolving sociolinguistic concept. Based on a new valuation model for money, nations would compete for strongly valued currencies to import more cheaply. But valuations would be based on environmental (and social) sustainability indicators. Competition would thus not only enhance sustainability goals but also promote financial stability by pegging exchange rates to sustainability indicators and encouraging a trend toward currency harmonization.

A key part of this proposal would be the creation of acceptable sustainability

Figure 2. CSS Process and GEFA

The Currency Sustainability Standard (CSS) Process

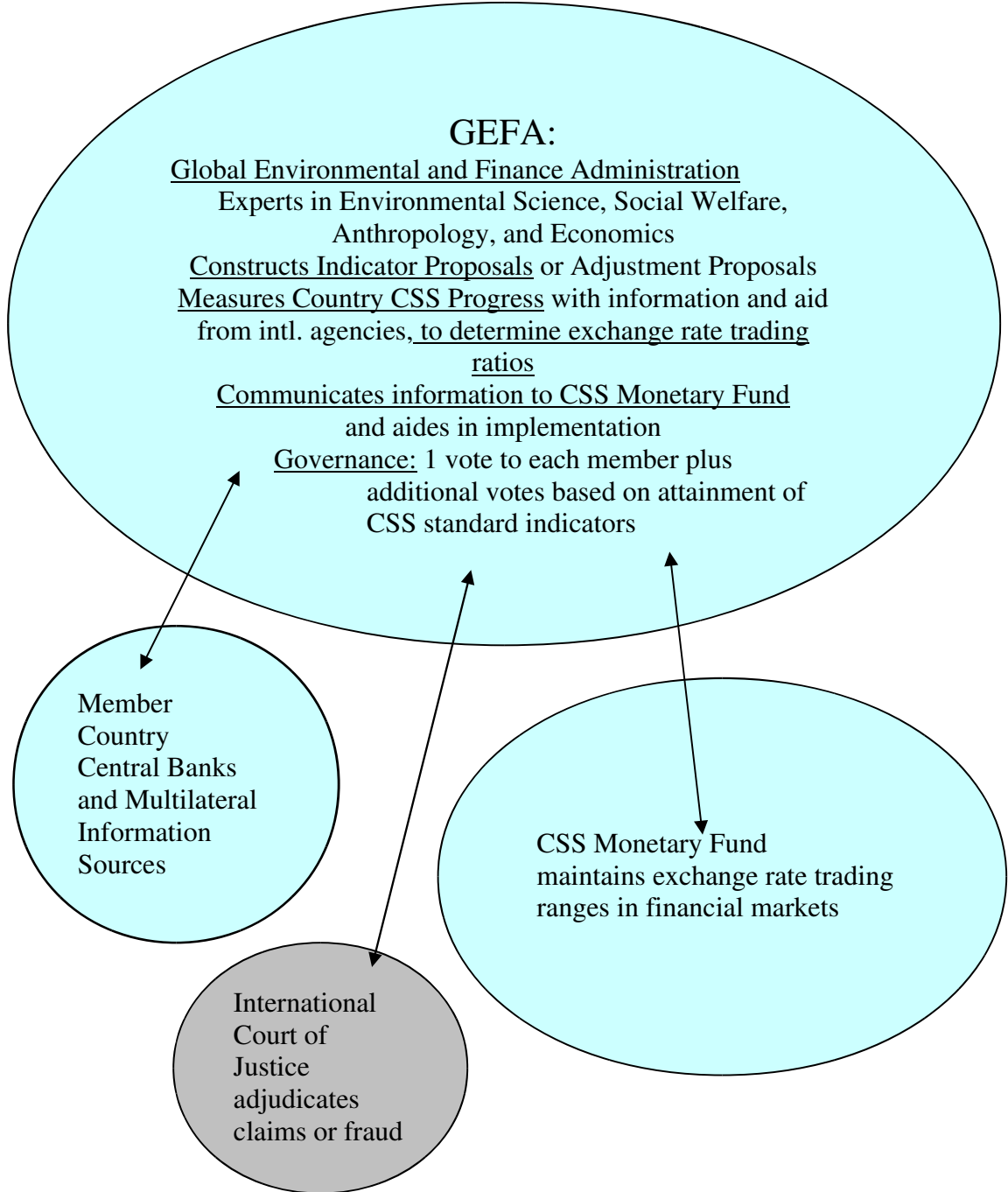


Table 1. CSS Scenario and Commentary

A Currency Sustainability Standard (CSS) Scenario

I. INDICATORS

A. Social Sustainability Indicators:

1. Economic Equity Ratios:

Highest Paid Average (or Quintile): Lowest Paid Average (or Quintile)

1:1 to 5:1 = 100 points

5:1 to 10:1 = 50 points

10:1 to 15:1 = 25 points

Over 15:1 = 0 points

2. Export, Import of Weapons of Mass Destruction/ Weaponry

No Exchange = 100 points

No Nuclear = 50 points

Nuclear Exchange = 0 points

B. Environmental Sustainability Standards

3. Greenhouse Gas Production/ Capita

Low = 100 points

Medium = 50 points

High = 0 points

4. Clean Energy Investments

High = 100 points

Medium = 50 points

Low = 0 points

II. MEASURING COUNTRIES PROGRESS: Tallies of Sustainability Scores

	USA	Japan	North Korea	Central African Republic
1. Equity	0	50	No Data Provided	100
2. Weapons	0	50	0	50
3. GHG	0	0	100	100
4. Clean \$	50	50	0	0
TOTALS	50	150	100	250

	Russia	China	Uruguay	EU	Saudi Arabia
1. Equity	25	100	100	50	0
2. Weapons	0	0	50	50	50
3. GHG	50	0	100	0	50
4. Clean \$	0	0	0	50	0
TOTALS	75	100	250	150	100

NOTE: The preceding figures are all rough guess-estimates for the sake of explaining how a very simple model could operate. The UK and Switzerland are not included in the EU, and France is considered an outlier in terms of weapons. (Mathematically, the lowest score possible is 1).

III. COMMENTARY

Trading Ratios:

US:Japan = 3:1	Japan:EU = 1:1	C.A.R.: Uruguay = 1:1
China: C.A.R. = 5:2	Japan: Uruguay = 5:3	US: China = 2:1

Based on country indicator total scores, the difference in values between two countries could be expressed as a ratio, e.g. the U.S. score of 50 points compares with the Japanese score of 150 points, thus 3 times the value score of the U.S. dollar would be equivalent to the value score of the Japanese yen. So the dollar/yen exchange would be 3 dollars to 1 yen.

At first glance, the ratios appear abrupt, and suggest that a lead-up transition time would need to be built into the process for countries to begin to harmonize to the appropriately-designed indicators. But they also suggest how lop-sided the global situation really is, and how this plays into current geopolitical relationships.

As set up, US exports to Japan, China and elsewhere would be less expensive and provide advantages to American producers and entrepreneurs, especially those who offer clean technologies. At the same time, producers in China and Japan would find incentives to export to Uruguay and the Central Republic of Africa. Some countries with equivalent values could find advantages to trade, particularly if nearby, since this would keep GHG emissions low and maintain their high currency values. Although countries with high value ratios might be tempted to go on a spending import spree, they would best buy low polluting vehicles and spread their wealth amongst their citizens if they wished to maintain their currency valuations. Countries like North Korea would find it to their advantage to be transparent, since lack of ability to verify required data would lower their currency value. Public and private elites in developing countries might be more happy holding their wealth in their own currencies, and educated and talented citizens might find opportunities to remain in their homelands.

Countries holding dollar assets in central bank reserves could be concerned about the initial drop in the dollar in this scenario since this would lower the value of their dollar holdings. This could provide an incentive to exchange dollar assets for Global Greenback Reserve assets.

indicators. These indicators would be used to measure and score countries based on the indicator scales. Exchange trading ratios would be based on the difference between country scores.

To manage the new exchange system would require a new institutional arrangement. Rather than dismantle Bretton Woods institutions as the “Fifty Years is Enough” movement recommends, or undertake “profound” reform as many have called for, the proposal would recommend “re-inventing” the World Bank and the IMF. The World Bank could be redesigned as a Global Environment and Finance Administration (see Graph 1, p. 33) composed of professionals from a diversity of fields that would define a new culture. Social and environmental scientists would have equal representation with economists. They would be responsible for designing the indicators and adjusting the benchmarks progressively upward to promote sustainability and address global collective needs. They would be responsible for gathering information from international sources to assess country performance, to assign ratings and scores, and to establish the exchange ratios. The management structure would provide each member with one vote plus additional votes based on each country's attainment of the CSS indicators. The role of a CSS Monetary Fund would be to contain the exchange ratios within the prescribed trading ratio pegs in global currency markets. The International Court of Justice would adjudicate legal disputes.

The CSS desired results would include setting in motion incentives through the indicators for countries to promote sustainable activities that would be reflected in capital flows, national policies, and trade. In addition, in the short term, it would encourage competition among countries focused on the strength of their currencies. The longer term

goal would be currency value harmonization among all the currencies.

H. CSS Heuristic Scenario

1. Indicators. There are many indicators that would be appealing hypothetically on a universal basis: energy efficiency, reduction of GHG, clean energy investments, forest and biodiversity preservation, sustainable agricultural practices, toxics reduction as well as higher testing standards for synthetic substances, higher recycling and reuse rates, water quality standards, social and economic equity, nuclear containment, labor standards, and human and indigenous community rights.

Economic equity is essential to support fairness and justice in human society, and it adds to environmental sustainability by tempering the excesses of the most wealthy as well as the costs of poverty – crime, terrorism, environmental destruction in the face of desperation. In China, at one point senior managers earned no more than three times that of the ordinary worker; in Japan the multiple was 10 times (Stiglitz, pp. 45-46). In the top largest U.S. corporations, the ratio of the top CEO to the average worker reached 1044 times in 1999 (Crotty, 2005, p. 94).

For illustration purposes, the Currency Sustainability Standard scenario (see Table 1, pp. 34-35) measures economic equity by comparing the highest and lowest income quintiles of country residents. Those countries with a higher level of economic equality would receive the highest points for this indicator. Although the indicators may be uniform, they can be accomplished in a diversity of ways depending on local or national context. In a city-state like Singapore, measures could be put into law to promote economic equity; in the U.S. educational programs or minimum/maximum wages could achieve the outcomes.

There would be some issues about how to relate equity to indigenous native communities, homemakers, or the unemployed, so alternative indicators of social welfare might need to be developed. Other indicators that have been proposed include the Gini Coefficient, MEW (Measure of Economic Welfare), or the ISEW (Index of Sustainable Economic Welfare) that is a composite that includes environmental indicators (Daly & Farley, 2004, pp. 233-36, 263).

Some might suggest a democracy index or human rights index. This might work, but it might be perceived as too great an intrusion of economics on national sovereignty; these issues could be addressed through political means. In addition, income or economic equity might be a means to foster both human rights and democracy.

The second CSS social indicator underscores the threat of military and violent confrontation. In a world where weapons of mass destruction, terrorism, rogue states, and states undermined by ethnic warfare are of paramount concern, an indicator to encourage nuclear and weapons containment could be critical. Nation-states would be scored based on their engagement in sales or possession of weaponry. Involvement with nuclear weapons would greatly undermine a currency's value. Weapons proliferation in general would be suppressed.

In light of recent attention on climate change, the Currency Sustainability Standard Scenario used GHG (greenhouse gas) emissions and clean energy investments to illustrate a simple way of creating incentives for changing economic behavior with monetary valuation standards. Including both GHG emissions and clean energy investments, may seem like double-counting; but, as in nature, redundancy can act as an insurance policy. Furthermore, GHG production provides a negative incentive, while

clean energy investments offers a positive incentive.

There are numerous indicators that can be used to measure environmental sustainability besides the ones presented in the CSS Scenario. With recent public concerns about climate change, an energy per capita rating or a renewable clean energy measure could be alternatives. A healthy forestry indicator should be a high priority as the Stern Review report of the UK Treasury (2007, p. 4) finds deforestation a greater cause of climate change than transportation. Other environmental indicators could be developed related to water quality and reserves, sustainable agriculture and soil erosion rates, a biodiversity index, and many others. BankTrack's evaluation scheme (2006) for multinational banks of 13 scoring areas with extensive discussion of protocols, best practices, and standards to assess compliance could be an excellent source. Yale and Columbia Universities have devised an Environmental Sustainability Index and an Environmental Performance Index. The Ecological Footprint, or the Genuine Progress Indicator (GPI) could also be considered (Global Footprint Network, 2007; Redefining Progress, 2005 & 2006; Yale and Columbia Universities, 2006; YCELP & CIESIN, 2005).

For both social and environmental indicators, a more refined gradient scale could be developed to encourage and provide incentives for countries to make smaller, marginal changes. Valuations would ideally be assigned on the basis of outcomes rather than intended goals. There might be a need to establish a mechanism to influence the money supply in each country; perhaps some standards for savings and investment might also be needed. The model presented is not intended to offer a finished possibility, but rather tries to offer a simple, teaching device for understanding the dynamics and incentives possible

in the process.

2. *A System of Changing Relationships.* Based on a country's total scores based on the indicators, the difference in values between two countries could be expressed as a ratio, e.g. in the CSS Scenario example in Table 1, p. 35, the U.S. score of 50 points compares with the Japanese score of 150 points, thus 3 times the value score of the U.S. dollar would be equivalent to the value score of the Japanese yen. So the dollar/yen exchange would be 3 dollars to 1 yen. This would create new dynamics in the financial system. As illustrated in the scenario, US exports to Japan, China and elsewhere would be less expensive and provide advantages to American producers and entrepreneurs, especially those who offer clean technologies. At the same time, producers in China and Japan would find incentives to export to countries with high currency values like Uruguay or the Central Republic of Africa.

With a CSS scenario, trade and capital flows could flow freely, but the incentives for such would be guided by sustainable outcomes as measured by the indicators. Owners of airlines, ships, and transportation systems would consider energy efficiency and greenhouse gas production in how they design vehicles or networks so that the currency of the country in which they are based would be strengthened to increase its purchasing power overseas and in international markets. A free-rider problem, that results when one company puts capital into a more efficient fleet of planes while all competing airlines would benefit from the country's stronger currency, might be dealt with through a cap and trade system. The CSS strategy would be intended for use with other complementary approaches, including green taxation. Global Greenback reserves could be used to fund the CSS Monetary Fund.

Incentives for philanthropy, foreign aid, or FDI could be based on the fact that investments in other countries that lead to measurably sustainable outcomes would result in increased valuation levels that could be divided equally between donor and recipient country. The hope would be that competition for a strong currency would reflect cooperation for all to achieve sustainable goals and outcomes that the international community formulates through the indicator standards that apply to all member countries. For example, a U.S. company could invest in a solar panel production company in India; by doing so, the U.S. company's investment would add to the dollar's value, while the calculated reduction of GHG emissions would strengthen the Indian rupee's value. The economies of both nations would benefit (the U.S. economy could acquire profits, and the Indian economy could benefit with jobs). Furthermore, the U.S. government could benefit from additional taxes, while the Indian government could save on social services to the unemployed. Public and private sectors in both countries could be aided by a stronger currency that reduces the costs of imports and adds prestige to the country. As nations strived to achieve indicators, there would be a trend towards currency harmonization, thus there could be less of a need to trade oil in one currency only.

By internationalizing sustainable standards of valuation for national currencies, money could internalize incentives for sustainable behavior and activities at all levels – individual, household, firm, and government. This would seem to have the most impact on the level of international exchanges. Although countries with high value ratios might be tempted to go on a spending import spree, they would best buy low polluting vehicles and spread their wealth amongst their citizens if they wished to maintain their currency valuations. Perhaps even for nondemocratic or corrupt governments this mechanism

would encourage sustainable behavior, since a higher national currency value would be worth more not only in a Swiss bank account but also in international financial markets. For rogue states desiring nuclear weapons, the currency sustainability standard (CSS) might be another non-violent strategy that could be used as an alternative to economic sanctions or military actions. Transparency would be encouraged, since lack of data would lower sustainability scores.

3. Challenges. Implementing such a system would seem to involve a number of challenges. First, it would involve designing a workable system of indicators that would be easily and clearly auditable so accountability and transparency would be assured. Scales would need to be calibrated to reinforce incentives for gradual change.

The most difficult challenge would likely be political. Indicator proposals would need to offer universal appeal on an international basis so that a large number of nations would find more benefits than costs to adopting such a mechanism. This might need to take into consideration differing cultures, internal dynamics, and landscapes so that an indicator would not unduly handicap a particular country. In rare cases, a handicap measure could be included in the score for an unusual country situation.

Finally, the transaction costs of transition to such a system would need to be considered. A phase-in period may be needed. Perhaps the Global Greenback reserve system could complement the CSS mechanism and provide funding to help some countries, or it could integrate with the CSS Monetary Fund. For countries like Japan, China, Europe, and the U.S., perhaps the dynamics set in place with such a system could make trade and investment more focused on internal development that promoted sustainability, rather than a neomercantile quest for profits around the globe. In time a

more even distribution of balance of payments could result.

In the end, the CSS system could promote both financial stability as well as social and environmental sustainability. It could internalize natural science indicators into the socioeconomic decision-making of the market, and economic growth or development could be moderated and shaped by these indicators. Maybe economics could be understood by the common man and woman again. And the dollar, euro, yen, yuan, etc....could act as vehicles for ecological and social education.

We could achieve a healthy local and global economy that had a better moral compass to guide it. If such an undertaking is feasible, it will call upon leadership from all countries to make the transition to a sustainable relationship with our planet before it's too late. Like the nations that came together after World War II to negotiate the UN Declaration of Human Rights, nations could come together to negotiate indicator proposals that upheld environmental principles that are universal everywhere and human justice issues that are cross-cultural.

I put this proposal forward as a possibility. Whether it could work or not would require more extended conversation in both public and academic circles. Perhaps it could lead to other promising avenues to deal with our current uncertain predicament.

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Appendix A

Interview Guide for Local Financial Institutions

I. PreInterview (preview, documents, pamphlets)

II. Personal

- 1) I am interested in your general background and how you came to be in your current position at this FI. How did you become interested in finance/banking? How long have you been with this company? What kind of education or experience have you needed? Was it helpful for your job.

Could you tell me what you do in your current job position. How would you describe a typical day. What would it be like if I were in your place – what would I do or see, what people would I meet. What's the most difficult things about your job/ the most interesting. What are the job expectations for your job.

- 2) Could you tell me if there are any local organizations for banking/finance officials; are you involved in their activities.

III. Financial Institution (baseline)

- 3) What kinds of financial activities is your institution involved in? Do funds flow beyond the local community (does your financial intake or assets flow elsewhere, such as lending to local companies involved in global markets)?

Home Auto Commercial (small business, other) Other
(nonprofits?)

- 4) What is the organizational structure/chart of your company (and may I have a copy). How are decisions made?

- 5) What are the core values, key beliefs of your organization. What type of image/reputation does it project to the community. Is there a mission statement, and, in your opinion, does it reflect actual practice.

- 6) From your point of view, how has the your company and the finance industry changed during your career. Are the changes desired and what's your opinion about them. What has the company's response/opinion of them.

What kinds of pressures, constraints, concerns, issues does your company have now:
What comes up at meetings?

What future challenges do you see at your company or in the financial industry. What is your opinion of these. What plans does your company have for the future, short and long term. What kinds of changes are they talking about? What do you think are the most important questions for your situation and the industry in general?

7) How is change handled? If there is resistance? How are ideas marketed. How quickly can things change. Can you recall what happened the last time there were changes? Could you give me an example?
Are there differences between departments or groups?

8) What would be ways you – or anyone – make a difference at your company OR in your field.

IV. Sustainable Banking and Finance

9) There are a number of components of Sustainable Finance noted in books like the *Natural Step*, *Sustainable Banking*, and websites for organizations like BankTrack and the Environmental Banking Association. Are you familiar with any of those?

Are any of these part of your organization or anything like these, explain how?

Environmental Risk management EDD or risks to reputation. For loans this might include include identifying, appraising, control, mitigation, environmental insurance, legal review, and/or monitoring.

An Environmental Policy or Statement, preferably with annual action plans...
Internal aspects could include energy efficiency plans for bank buildings to reduce costs, and reduced used of paper, with supplies from certified sustainably logged forests.

External Aspects like environmental procedures and standards that are clearly stated in your dealings with employees, suppliers, customers.

Staff training (or position) about either of the above.

A Environmental Management System that monitors and takes corrective action. Environmental audits and reports. (May include ratings by outside or watch groups, or achieving certification standards)

Environmental Products and Services Such as Energy Efficient Mortgages, discounts for energy efficient autos (fleet leasing?), socially responsible or eco investments, services to small business customers offering technical solutions to environmental regulations, or cost reductions with eco-efficient business planning. This would include marketing of your environmental planning, or

products and services.

If so, how are they marketed (or any enviro initiatives): website, newsletters, newspaper ads, posters on branch windows, brochures in branches. (Thoughts or concerns about doing so, or for doing such things)

Community Involvement – does you FI engage in any environmentally relevant issues in the community, grant-making, public policy (like Smart Growth), etc.

10) Many think that these undertakings could offer banks a significant Competitive Advantage.

For example consider EEMs (Energy/Environmental Efficient Mortgages) that offer incentives to reward energy efficiency in home improvements and new homes. Some lenders have found that with Fannie Mae assistance, by lowering utility bills with a resource efficient building provides buyers/owners more money to repay loans, reducing the risk of default, so these lenders offer cheaper loan terms.

This would seem to be a real opportunity for FIs in the coming years with recent California legislation on reduction of GHG emissions.

On the other hand, some may view new products sceptically with higher interest rates.

What would be your initial viewpoint on EEMs? Your company's? What would you imagine the board or president of the company would say?

What might be the impact on your typical processing of a loan? Could this vary to situation? Could securitization of loans make a difference? Please use the terms or words loan officers would use.

11) How do you think environmental issues like those I have mentioned IN GENERAL about Sustainable Finance could impact your FI (risk, cashflow, strategies, other)?

12) Are there other things that you imagine FIs could do to promote a healthy environmentally sustainable community?

13) Could you think of things the government could do to aid the process or create incentives? (tax exemption, city building codes).

14) In your experience, are there any staff at you FI with environmental science/ planning degrees or training?

15) Are there any employees OR CUSTOMERS who have promoted environmental issues in conversations, meetings, memos, employee news? What has been the response.

16) Do you know of anyone else in the local financial setting who would be good to contact for an interview or more information?

(V. Post Interview. Any Initial Reflections)

Appendix B

Finance and Environmental Sustainability Resource List

General Sources of Information

The Natural Step for Business by Brian Nattrass and Mary Altomare explains how leading companies have used the model to become more innovation, cut costs, and gain competitive advantage.

Sustainable Banking: The Greening of Finance by Bouma, Jeucken, and Klinkers in association with Deloitte & Touche. European based, yet rich with the opportunities and risks of financial institutions, given their intermediary role in local and global economies.

Financing Change: The Financial Community, Eco-Efficiency, and Sustainable Development by Schmidheiny and Zorraquin with the World Business Council for Sustainable Development

Global Environmental Governance by James Gustave Speth, chair of Environmental Studies, Yale University and political scientist Peter Haas. They outline 10 globalized critical environmental problems that present an "increasing risk of sudden change to the planet's life support systems from which even the wealthiest may not be shielded", and how decades of efforts through international governance have not been adequate. Why business and the marketplace need to be part of the solution.

Associations

Environmental Risk Resources Association

<http://www.erraonline.org/>

Environmental Bankers Association

<http://www.envirobank.org/about.php>

Sample Environmental Policies/Programs of Some Banks

Shorebank

<http://www.shorebankcorp.com/bins/site/templates/default.asp> (Environmental sustainability is integrated throughout the bank's many programs based on its triple bottomline philosophy and Environmental Banking programs – EcoDeposits, Conservation Loans, and Environmental Advisory Services).

Citigroup (includes CitiBank)

<http://www.citigroup.com/citigroup/homepage/> (click on Environment under Corporate Citizenship box on homepage)

Bank of America

<http://www.bankofamerica.com/environment/> (or link to “about BofA” on homepage, then environment under community listings)

Self-Help Credit Union's Sustainable Development Lending Program

<http://www.self-help.org/communityimpact/sustainabledevelopment.asp>

Energy Efficient Mortgages and Programs

Ecobroker Real Estate Agents and Lenders

<http://www.ecobroker.com/>

Bay Area Build It Green Program

<http://www.builditgreen.org/index.cfm?fuseaction=about>

Fannie Mae EEM Information

<http://www.efanniemae.com/sf/mortgageproducts/pdf/eemenglish.pdf>

Printable Sheet and Resource Links

<http://www.efanniemae.com/sf/mortgageproducts/energyefficient.jsp>

EEM Lender Product Sheet

<http://www.efanniemae.com/sf/mortgageproducts/pdf/eemlenderprodsht.pdf>

Smart Commute Loans

<http://www.locationefficiency.com/>

Residential Energy Services Network – Lender Information

<http://www.natresnet.org/lender/lhandbook/overview.htm>

Setting Standards

International Organization of Standardization 14064 on Greenhouse Gas Reductions

<http://www.iso.org/iso/en/commcentre/pressreleases/2006/Ref994.html>

This is a recent addition to the ISO 14000 family of standards concerned with overall environmental management.

Reporting

Global Reporting Initiative Financial Services Sector Supplement: Environmental Performance

http://www.unepfi.org/work_streams/reporting/

Sources of Information and Articles

Environmental Finance Monthly Online Magazine

<http://www.environmental-finance.com/index.htm>

EMS and Sustainability: The Key in the Banker's Toolbox

<http://www.envirobank.org/upload/articles/EBAFINALpaper.html>

Environmental Risk Insurance for Lenders

http://www.envirobank.org/upload/articles/Environmental_Insurance_-_MBA.pdf

Environmental Liability Program

http://www.envirobank.org/upload/articles/FDIC.OCC.OTC_Regulations.pdf

Watchgroups, Independent Evaluation

BankTrack and *Shaping the Future of Sustainable Finance*

<http://www.banktrack.org/?show=news&id=47>

The Does and Don'ts of Sustainable Banking report November, 2006.

<http://www.banktrack.org/?show=news&id=91>

Other Resources**EPA Environmental Finance Program**

<http://www.epa.gov/efinpage/efc.htm>

<http://www.epa.gov/efinpage/newgbsection8.pdf>

This program assists the public and private sectors in finding creative ways to fund environmental activities. Numerous links, including EFIN, the Environmental Financing Information Network.

EPA Green Vehicle Guide and Rating System

<http://www.epa.gov/emissweb/> could help define and expand an auto eco-lending program.

Appendix C

IRB Approval and Consent Sheet