



Greening Capitalism, Quietly: Seven Types of Organizations Driving the “Necessary Revolution”

Michael Marien

Senior Principal, Security & Sustainability Guide;
Fellow, World Academy of Art & Science

Michael Sales

Principal, Security & Sustainability Guide;
Former Co-Chair, Society for Organizational Learning, North America

Executive Summary

In 2008, MIT's Peter Senge et al. wrote that the Industrial Age bubble was ending and that, especially due to climate change, a “Necessary Revolution” was needed to create a sustainable flourishing world in the decades ahead. Since then, many business organizations have moved toward sustainability to some degree, and many other organizations have emerged, mostly non-profits, to help business and/or prod them to pursue ethical strategies. This report explains how the revolution is unfolding, by briefly mapping some 150 organizations that are driving the greening of capitalism, and grouping them in several meaningful categories: Business-Led Groups, Ethical Groups, Broadened Accounting Groups, Certifying Organizations, Green Investing Groups, Sustainability Consultants, and Green Business Publishing. Each of these groups is important in facilitating the revolution, especially those promoting corporate social responsibility, broader accounting practices, certification, and green investing. Among groups that list their beginning, the median start-up date was 2003—thus a doubling in 13 years.

*This revolution certainly appears to be well underway, leading to a contest between 21st Century Green (or Sustainable) Capitalism, valuing the triple bottom line of People/Planet/Profit to some degree vs. 20th Century Industrial Era Capitalism that adheres to a single bottom line and narrow accounting measures. But the revolution is a quiet one that is underappreciated, due to fragmentation and lack of leadership. Hopefully, if well-publicized and widely discussed, the January 2017 **Better Business, Better World** report of the Business and Sustainable Development Commission, making a strong all-win business case for pursuing the UN's 17 Sustainable Development Goals, could provide a large boost to the necessary revolution. In turn, this could energize the larger system of more than 1500 sustainability-related organizations that are identified in the 329-page April 2017 Interim Draft of **The Security & Sustainability Guide**. We are not yet winning the struggle for sustainability in our era of great and intensifying uncertainty and danger. But with cities and responsible business taking the lead, and with more horizontal thinking that includes broad consideration of security issues, the necessary revolution can become more visible and thus accelerate.*

1. Introduction

In his thoughtful and important 2008 work, *The Necessary Revolution: Working Together to Create a Sustainable World*,¹ MIT's Peter Senge and four colleagues argued that the "extended bubble" of the Industrial Age is coming to an end, as concerns energy, food, wasted materials, growth measured as GDP, and societal organization and priorities. The only question, they conclude, is when and how, recognizing that collapse could occur rapidly. Reducing greenhouse emissions and creating a sustainable flourishing world for life beyond the Industrial Age in the decades ahead is "perhaps the greatest learning challenge humans have ever faced."

Senge, an expert on systems thinking,* management, and learning organizations, goes on to discuss how we got into our predicament, thinking together about the larger system, the business rationale for sustainability, getting people engaged, cross-sector collaborations, purposeful networking, innovation inspired by living systems, new strategic possibilities, the future of corporations and leadership and much more. Several dozen illustrative organizations are mentioned in passing, but the authors modestly note that "we are at the beginning of the beginning."²

Nearly a decade has passed since this inspiring work, and many business organizations have moved toward sustainability to some degree, and many other organizations, mostly non-profits, have emerged to help business and/or prod them to pursue ethical strategies. As Senge *et al.* note, "The watchdog role of countless NGOs is now a feature of the business landscape."³

The purpose of this report is to explain *how* the necessary revolution is unfolding, by briefly mapping a system of some 150 organizations that are driving the greening of capitalism, and to cluster them in several meaningful categories or sub-systems: Business-Led Groups, Ethical Groups, Broadened Accounting Groups, Certifying Organizations, Green Investing Groups, Sustainability Consultants, and Green Business Publishing. In short, business leaders are themselves pursuing the "necessary revolution," but there are many organizations driving them and supporting them. We believe that this important and positive development in a time of great uncertainty and danger is not adequately recognized, if at all. A broad mapping overview, even if necessarily imperfect, can enhance the understanding of this profound but quiet revolution, well under way, and hopefully speed it along.

Several caveats are needed. *First*, all of this information has been collected from organization websites. Some of the information may involve inflated promises or numbers; on the other hand, some information may be outdated and understated, in that organizations have added more staff or members, issued new and useful publications, and developed even more initiatives and alliances that seek to do good at a time when such is needed.

* Peter Senge, *The Fifth Discipline: The Art & Practice of the Learning Organization*. New York: Doubleday Currency, 1990; revised edition "with 100 new pages," 2006. The fifth discipline is systems thinking, which integrates the other disciplines of personal mastery of seeing reality, mental models of how to take action, building shared vision, and team learning for genuine thinking together. The cover of the 2006 paper edition claims "more than 1 million copies in print."

Second, the number of organizations covered here is constantly expanding. We hope that the most important players have been identified, but we have doubtlessly overlooked organizations that deserve to be listed. And, due to limited space, activities of organizations that are identified may not be fully represented.

Third, we apologize for the extensive name-dropping, which may assume mind-numbing proportions. But that is the point: to briefly illustrate the range and diversity of green organizations related to post-industrial-era business. If readers discover just one organization that closely fits their interest and needs, it will more than repay their investment in scanning this list. However, in many instances, there will be several organizations that deserve to be checked out by the readers. We have assigned an asterisk to organizations that seem to be more important, but this can easily be overridden by other considerations. We also include the date of founding, location of main offices, and number of staff if this information is provided on the website (in many instances it is not).

Fourth, this profusion of organizations makes a strong case that the greening of capitalism is underway, but not that green capitalism has arrived, nor will it fully arrive anytime soon. Unfortunately, many businesses have yet to make efforts related to sustainability, and many that have “gone green” have done so consciously or unconsciously in superficial ways. And many will not embrace greening, for a variety of reasons. And definitions of “green” and “sustainability” vary, while overlapping. Thinking “green” is generally narrower, suggesting energy efficiency and/or renewable energy sources, but can be broad, as in the “green growth” concept. “Sustainability” and “Sustainable Development” are generally broader, notably as articulated in the 17 UN Sustainable Development Goals. Overall, and most important, the many organizations embracing green and/or sustainable pathways point to an emerging bifurcation in the world of capitalism. The sooner this is seen and debated, the better.

2. Seven Types of Organizations

2.1. Business-Led Groups

There are a number of corporate-led groups that are well aware of emerging sustainability challenges and have been taking a leadership role in addressing these risks. Perhaps the two best-known groups are the **World Business Council for Sustainable Development (WBCSD)* (1992, Geneva) and the **World Economic Forum* (1971, Geneva; 400 staff). The WBCSD has 200 corporate members from 35 countries, and has issued an *Action 2020* platform and a *Vision 2050* best-case scenario. The WBCSD Chair is Paul Polman, CEO of Unilever, which initiated the Unilever Sustainable Living Plan in 2010, “to make sustainable living commonplace.”

The World Economic Forum, much older and larger, is widely known for its annual January meeting of business and government leaders in Davos, but also issues many reports on such topics as sustainability, global risks, human capital, food security, the circular economy, health for all, and the water/food/energy nexus. The **Business and Sustainable Development Commission* (Jan 2016, London; 12 staff), launched in Davos by Paul Polman and Mark Malloch-Brown (former UN Deputy Secretary-General), makes the business case for a

new economy based on the UN's Sustainable Development Goals. Its outstanding "flagship report," **Better Business, Better World** (Jan 2017, 121p), offers a compelling growth strategy for business and the world economy, arguing that achieving the Global Goals will create more than 380 million new jobs by 2030, 70 million of them in affordable housing.*

Other similar groups are **Ceres* (1989, Boston), a very active coalition of 130 organizations to mobilize investor and business leaders for a sustainable world, the *Corporate Eco-Forum* (2008, 5 staff) for executives in 67 large corporations in 18 industries, the *Responsible Business Forum on Sustainable Development* (2012, Singapore) to build prosperity with economic, social, and natural capital, the *American Sustainable Business Council* (Washington; 12 staff) claiming >200,000 businesses and holding an annual Sustainable Business Summit, **Business for Social Responsibility* (1994, San Francisco; 100 staff in 8 offices) which networks >250 member companies, *Environmental Entrepreneurs* (2000, Washington) with 850 business leaders for sustainability, *Sustainable America* (Stamford CT, 5 staff) for entrepreneurial solutions, and *Sustainable Value Creation* (2008, Uxbridge UK) for sustainable business.

Small business is represented by the *Business Alliance for Local Living Economies* (Oakland CA) which claims 500,000 businesses supporting localist values and resilient communities, and the *Climate Action Business Association* (Boston, 6 staff), which helps small business leaders with climate action business plans. Focus on a specific industry is demonstrated by the *Global Alliance for Action on Banking Values* (2009, Zeist, Netherlands) assembling 27 banks for Principles of a Sustainable Banking Culture, and the *Copenhagen Fashion Summit* (2009, Denmark) which drew >1,200 participants to "the world's largest meeting on sustainability in fashion" and promotes new business models.

The impact of these various entities is not clear, and further research is needed. But the number of these associations and their ambitions is growing, presumably with at least some positive results.

2.2. Ethics-Driven Groups

Many groups explicitly stress ethics, responsibility or corporate social responsibility (CSR), and leadership and organizational ratings and performance reports reinforce these virtues. The best-known ethical driver is probably the **UN Global Compact* (2000, Geneva), which has 12,000 business signatories in 170 countries to 10 Principles regarding human rights, labor standards, environment, and corruption. The *UN Global Compact Cities Programme* (2003, Melbourne) encourages urban innovation and local businesses joining the Compact. Unfortunately, the Compact lacks any effective monitoring and compliance machinery.

Explicit mention of ethics is found in *Ethical Corporation* (London), which publishes a *State of Responsible Business Report*, Hazel Henderson's **Ethical Markets Media* (St.

* **Better Business, Better World**: The Report of the Business & Sustainable Development Commission (London, Jan 2017, 121p.), chaired by Lord Mark Malloch-Brown, asserts that achieving the SDGs opens up at least US\$12 trillion of 60 market opportunities in four economic systems: Food/Agriculture (e.g. urban agriculture, sustainable aquaculture, micro-irrigation, land restoration, reduced food and packaging waste), Cities (e.g. affordable housing, energy-efficient buildings, public transport, smart metering, car sharing, municipal water leakage), Energy/Materials (e.g. circular models, renewables, energy efficiency/storage, CCS, green chemicals), and Health (risk pooling, telehealth, counterfeit drug detection, electronic records, healthcare training). Achieving these Global Goals would create >380 million new jobs by 2030.

Augustine FL), which publishes a *Green Transition Scoreboard* on swelling corporate investments and the *Ethical Money Directory* of 200 asset management firms, ***Ethical Trading Initiative*** (1998, London; 30 staff) promoting improved working conditions in global supply chains, and the ***Ethos Institute of Business and Social Responsibility*** (1998, Sao Paulo, Brazil), which pursues a CSR strategy for a fair and sustainable society.

Responsibility is the focus of the ****CSR360 Global Partner Network*** (1999, London) which claims 133 organizations from 64 countries reaching 6,000 companies, “to mobilize business for good.” The ***CSRwire*** (1999, Northampton MA) offers books, reports, and press releases on corporate social responsibility. The ***ICCR Corporate Examiner*** is published 3 times/year by the ***Interfaith Center on Corporate Responsibility*** (1971, New York), which encourages “sustainable and just practices.” Since 2002, the ***Corporate Responsibility Index*** has been compiled by ***Business in the Community: The Prince’s Responsible Business Network*** (1982, London; 9 staff), to build “a fairer society and more sustainable future.” ***Business Fights Poverty*** (2008, c/o Inspirus, London; 17 staff) promotes “responsible investing” to bring the SDGs into reality. The ***Center for International Environmental Law*** (1989, Washington; 15 staff) pursues legal levers for systemic change including “transboundary corporate accountability.” ***Tomorrow’s Company*** (1996, London; 15 staff) enables business to be “a force for good.”

Leadership is emphasized by the ****Cambridge Institute for Sustainability Leadership*** (1989, Cambridge University; 132 staff), which offers executive education and graduate degree programs and promotes business action, and the ***IMD Global Center for Sustainable Leadership*** (1990, Lausanne, Switzerland), developing leaders to create best practices for future sustainability institutions and supply chains. And many individual business school professors, such as Sandra Waddock of Boston College, are promoting corporate responsibility and sustainability leadership. The ***Center for Environmental Leadership in Business***, one of three major programs at ***Conservation International*** (1987, Arlington VA; 900 staff in 30 offices), works with corporate partners to improve industry responsibility in mining and energy, promote sustainable sourcing, and invest in conservation innovations. Individual companies touting their leadership include ***LafargeHolcim*** (115,000 staff in 90 countries), “a new leader for a new world” of building materials for sustainable development, and ***Acciona*** (1997, Madrid; 33,000 staff in >30 countries) a Spanish conglomerate aspiring to leading in renewable energy, and sustainable water and infrastructure.

Ratings of business organizations are provided by the ****Dow Jones Sustainability Index*** (1999, New York), which evaluates sustainability performance of 2,500 large companies in 24 industry groups. ***Insight 360*** (7 staff) provides a dashboard for >8000 companies showing rank in sector and performance on sustainability and ESG (environmental/social/governance) factors. The ***Global Cleantech 100*** list of top companies is issued by the ***Cleantech Group*** (2002, Oakland and London; 14 staff) which seeks to accelerate sustainability innovation and help corporations and investors. ***GameChangers 500*** (2013, San Francisco) ranks the world’s “top for-benefit companies.” The ****Global Initiative for Sustainability Ratings*** (2011, Washington), sponsored by Ceres and the Tellus Institute, rates the raters of corporate sustainability activism and engagement, and seeks a single standard. Standards are

also developed by the **Global Reporting Initiative* (1997, Amsterdam) which issues *Sustainability Reporting Guidelines* for corporate sustainability reports; their *GRI Sustainability Disclosure Database* has 37,000 reports for >10,000 companies.

Ethics, responsibility, leadership, and sustainability are not necessarily defined in the same way, but the similarities in definitions may well outweigh the differences. This area, too, requires further research. Listings of the bad actors, past and present (e.g. Koch Industries), do not appear to be nearly as prevalent, but would also be helpful.

2.3. Broadened Accounting

The traditional image of accounting as dull number-crunching is quickly fading. As argued by Jane Gleeson-White in **Six Capitals, or Can Accountants Save the Planet? Rethinking Capitalism for the 21st Century**,⁴ the “language of business” is increasingly learning to speak in multiple tongues reflecting the “triple bottom line.” Modern corporate accounting, she argues, should assess the condition of six states of capital: traditional financial assets, physical assets, intellectual (idea) capital, human capital (well-being and engagement of staff), social capital (relationships with various communities), and natural capital.

Various groups are working to establish this broader picture. In addition to **GRI**, mentioned above, the **Sustainable Accounting Standards Board* (2011, San Francisco; 26 staff), chaired by Michael Bloomberg, is developing standards for more than 80 industries. *The International Integrated Reporting Council* (2012, London) encourages business to “think holistically” about sustainable development and value creation over time. **Ceres* (1989, Boston; 65 staff), a coalition of >130 organizations, advocates accounting standards that abolish the concept of free pollution and accelerates policies that reward sustainability performance. Ceres serves as a linking node between some of these organizations. **Measure What Matters*, a three-year program led by the Green Economy Coalition (2012) of 150 global leaders, seeks to align global, national, and business indicators, to measure success beyond profit alone to include human well-being and health of the planet, proclaiming that “a data revolution is underway.” *GIST Advisory* (2004, Mumbai; 6 staff), the Green Indian State Trust, offers sustainability consulting and encourages green accounting for Indian states. *Accounting for Sustainability* (2004, London; 11 staff), set up by HRH The Prince of Wales, convenes senior finance leaders to shift toward a sustainable economy and resilient business models. The *Climate Disclosure Standards Board* (2007, London; 8 staff), catalyzed by the World Economic Forum, supports a framework for business information in corporate reports. The *American Carbon Registry* (1996, Winrock International, Arlington VA) provides tools for greenhouse gas reporting and promoting carbon offsets. The **Carbon Disclosure Project* (2000, London; 34 major staff) seeks to “transform the way the world does business,” working with corporations and investors to disclose greenhouse gases and water usage.

Complementing these efforts for a broader view, several other groups have a specific focus on natural resources. The **Natural Capital Finance Alliance* (Oct 2016) of >90 institutions, sponsored by the UNEP Finance Initiative and the Global Canopy Alliance, builds on the Natural Capital Declaration of the Rio+20 summit and encourages consideration of natural

capital in loans, equity, and accounting and disclosure frameworks. The *Natural Capital Coalition* (2012, Amsterdam) seeks standardized accounting for business using their Natural Capital Protocol. **Wealth Accounting and Valuation of Ecosystem Services* or WAVES (2010, World Bank Group) is a coalition to promote Natural Resources Accounting for sustainable development. *Trucost* (2003, London/NYC/Paris/Hong Kong) helps companies and investors to understand the economic consequences of natural capital dependency and issues a stranded assets report. *Sustainable World Initiative* (2008, Washington) promotes natural resource accounting and managing ecological footprints. Ecological footprint accounting tools have been highly developed by the **Global Footprint Network* (2003, Oakland CA and Geneva; 47 staff), founded by Mathis Wackernagel.

These efforts to broaden accounting, even though they appear to have some differences, are important steps in reforming economic thinking that is appropriate to the 21st century. Criticism of the Gross National Product measure of economic progress has been made by numerous observers over several decades,* with little or no impact. One reason for this failure, despite increasing obsolescence of the GNP, is that the measure is deeply entrenched in economic thinking and not easily displaced or even supplemented by a more accurate and appropriate measure such as the Genuine Progress Indicator. Secondly, the critics of GNP are fragmented and largely non-activist academics, whereas organizations promoting broadened accounting are activists, and more prone to forming alliances. Thirdly, reforming business accounting, especially as concerns natural resources, can be a significant bottom-up step toward reforming systems of national accounts, as suggested by the Measure What Matters program, which seeks to align global, national, and business indicators.

2.4. *Certifying Organizations*

The internet, trade, and global travel are frequently cited as forces for globalization. Certifying organizations seeking global, regional, or national standardization of best practices are another driver, albeit a quiet one. The **International Organization for Standards* (1947, Geneva; 135 staff), comprising 163 national standards bodies, has issued many ISO standards, including Environmental Management, Energy Management, Risk Management, Food Safety, Information Security, and Social Responsibility.

But the world of global certification is far broader, as reflected by the **ISEAL Alliance* (2002, London; 25 staff), the International Social and Environmental Accreditation and Labelling Alliance of 19 standard-setting organizations and certifying systems, to distinguish and promote credible sustainable standards for products and services. ISEAL publishes an Annual Report, and sponsors Codes of Good Practice and the ISEAL Credibility Principles. Six ISEAL members have formed the *Global Living Wage Coalition* (2013), partnering with the UN Global Compact, to improve wage levels in certified supply chains. GLWC includes **Social Accountability International* (1997, New York), which issues the SA8000 Standard for decent work, used in 3,500 certified factories in 72 countries and 65 industrial sectors. SAI promotes its Social Fingerprint rating system for companies and supply chains.

* Michael Marien, "New and Appropriate Economics for the 21st Century: A Survey of Critical Books, 1978-2013," CADMUS, 1:5, October 2012, pp.86-102, covering 118 books in six categories. Available online from www.cadmusjournal.org.

Other specialized organizations certifying for sustainability and human rights:

- EXTRACTIVE RESOURCES: ***Extractive Industries Transparency Initiative** (2002, Oslo) claims to be the leading global standard for extractive resource wealth as a key engine for sustainable growth and reduced poverty. See *EITI Standard Progress Report 2015*.
- DIAMONDS: **Kimberley Process Certification Scheme** (2002) involves 54 participants from 81 countries certifying conflict-free diamonds that do not finance rebel movements.
- SEAFOOD: **Marine Stewardship Council** (1996, London + 18 offices) certifies responsibly caught fish with the blue MSC label; it now covers 281 fisheries with almost 10% of the global seafood catch, plus 97 others being assessed.
- FORESTS: The **Sustainable Forestry Initiative** (1994, Washington & Ottawa; 18 staff) promotes the FSI Forest Certification Standard, Chain of Custody Standard, and Certified Sourcing labels. **Forest Stewardship Council International** (2003, Bonn) provides FSC Certification and publishes a 32-page *2015-2020 Global Strategic Plan*. **Programme for the Endorsement of Forest Certification** (1999, Geneva) is an umbrella organization of 35 national forest certification systems for small forest owners.
- AGRICULTURE: ***IFOAM – Organics International** (1972, Bonn), The International Federation of Organic Agriculture Movements, has some 800 affiliates in >100 countries and sponsors the Organic Guarantee System to certify organic labels. **UTZ: Better Farming Better Future** (1999, Amsterdam) certifies sustainable cultivation of coffee, tea, and cocoa, covering >1 million farmers and farm workers in 36 countries. **Animal Welfare Approved** (2013? Marion VA; 29 staff) certifies family farms with high welfare methods. **The Roundtable on Sustainable Palm Oil** (2004, Kuala Lumpur) offers RSPO certification of sustainability claims based on RSPO Principles and Criteria. Similarly, **The Roundtable on Renewable Soy** (2006, Buenos Aires) offers certification based on the RTRS Standard.
- FAIR TRADE: **Fairtrade International** (1997, Bonn; c70 staff), formerly Fairtrade International Labelling Organization, sponsors the FLOCERT certifying organization to reduce poverty and increase sustainable development. The **World Fair Trade Organization** (1989, Amsterdam) promotes the Fair Trade Guarantee System and 10 Fair Trade Principles.
- PRODUCTS: **Cradle to Cradle Products Innovation Institute** (2010, San Francisco) has a Product Standards Guide and products registry for 2,500 products. **McDonough Braungart Design Chemistry** (1999, Charlottesville VA) provides “cradle to cradle” certification for sustainability companies. **GoodWeave** (1986, Washington) sponsors Child-Labor-Free Certification for the carpet industry and the GoodWeave standard of no forced or bonded labor.
- WASTE: **The Zero Waste Business Council** (2011, Corona del Mar CA; 4 staff) provides facility certification.

- **PROFESSIONALS:** *The International Society of Sustainability Professionals* (2007, Portland OR) certifies core competencies for individuals and has 1000 members in 10 chapters. *The Association of Climate Change Officers* (2008, Washington) began a CCO Certification program in 2015 to advance professional skills in public and private sectors worldwide. *Chartered Institution of Water and Environmental Management* (1987, London) provides training and academic accreditation.
- **CORPORATIONS:** **B Lab* (2006, Wayne PA), promoting Business as a Source for Good, has certified 2140 beneficial “B-Corps” in 50 countries and 130 industries as of May 2017.

Some of these certifying organizations are larger and better established than others, but, considered together, they represent a powerful non-governmental governance force for sustainability, conservation, and human rights.

2.5. Green Investing

Three broad indicator clusters suggest the robust turn toward green or sustainability investing, arguably the most potent of the seven groups of organizations surveyed here, because it is based not only on ethics but on increasingly strong economic arguments. First, the **Sustainable Stock Exchanges Initiative* (2009), facilitated by the UN Global Compact, UNCTAD, UNEP Finance Initiative, and Principles for Responsible Investment, now has 60 partner exchanges on board to promote sustainable business practices and responsible investment. Their “flagship event” is the bi-annual SSE Global Dialogue. The *UN Environment Programme Finance Initiative* (1992, Geneva) seeks systemic change in banking, insurance, investment practice, real estate finance, and valuing ecosystem services. *Principles for Responsible Investment* (2006, London) claims to be the “world’s leading proponent of responsible investment,” and offers online training via the PRI Academy and transparency reports of asset owners and investment managers.

Second, based on corporate reports, the *Green Transition Scoreboard* (April 2017, 37p), published annually by Hazel Henderson’s **Ethical Markets Media*, calculates \$8.13 trillion in non-government green investments and commitments since 2007, divided in five categories: Renewable Energy (\$3.43 trillion), Energy Efficiency (\$1.75 trillion), Life Systems such as water and waste management (\$1.66 trillion), Green Construction (\$0.92 trillion), and Corporate Green R&D powered by the auto industry (\$0.38 trillion). Extrapolating this upward trend, the *Scoreboard* sees private investors “on track to reach \$10 trillion in green sector investments by 2020.” EMM, a Certified B-Corporation, has also published *Ethical Markets Directory* (2016), with 200 brief entries describing green asset managers, investment advisors, banks, consultants, and NGOs.

A third indicator is provided by the **Morgan Stanley Institute for Sustainable Investing* (2013, New York), which notes that “sustainable investments have more than doubled since 2012,” while “divestment in fossil fuels reached c.\$3.4 trillion globally in 2016” (likely prodded by the *Divest-Invest Philanthropy* of >500 organizations). Joining with Bloomberg

LP, MSISI recently conducted a survey of 402 asset management professionals, concluding that “sustainable investing has entered the mainstream,” with two-thirds of asset managers practicing sustainable investing and believing that its adoption will grow.* The report also cites a survey from *US SIF: The Forum for Sustainable and Responsible Investment* (Washington, 7 staff), finding that professionally managed US assets utilizing sustainable investment criteria grew from \$3.7 trillion in 2010 to \$8.7 trillion at the start of 2016. The US SIF is part of the six-member *Global Sustainable Investment Alliance*, which seeks “to deepen the impact and visibility of sustainable investment organizations at the global level”.

Some of the larger and more interesting investment organizations include the following:

- **Breakthrough Energy Ventures** (2016) of 20 mega-rich investors such as Bill Gates and Jack Ma forming a billion-dollar investment fund to transform energy R&D and “the landscape of innovation” in electricity, agriculture, manufacturing, and buildings.
- **Carbon Tracker Initiative** (2010? London; 20 staff) where financial specialists make “carbon investment risk real” with reports on the carbon bubble, stranded assets, etc.
- **Climate Bonds Initiative** (2012, London), an investor-focused non-profit to mobilize the \$100 trillion bond market for climate solutions.
- **De Tao Group** (2014, Shanghai and Beijing), a think tank sponsoring the De Tao Institute of Green Investment and a Master Academy for future new energy.
- **Generate Capital** (San Francisco; 11 staff), “The Capital Partner for the Resource Revolution” of renewable energy, food, water, and materials, which has lined up \$500 million for sustainable infrastructure projects in two years.
- **Generation Investment Management LLP** (2004, London & New York), co-founded by Al Gore and David Blood to advance “sustainability investing for the long term.” The non-profit **Generation Foundation** (2015) seeks to mobilize asset owners and investors around the business case for Sustainable Capitalism, and supports the Sustainable Accounting Standards Board and the International Integrated Reporting Council.
- **Insight 360** (San Francisco, 7 staff), “Sustainability Meets Big Data,” with the Insight 360 app to analyze sustainability performance and ESG factors (environmental/social/governance) of >8,000 companies for investment experts.
- **Investor Network on Climate Risk** (2003, Boston), a Ceres initiative of 110 institutional investors representing >\$13 trillion in assets to promote sustainable leadership, parallel to the **Institutional Investors Group on Climate Change** (2005, London; 5 staff).
- **RobecoSAM** (1995, Zurich +4 offices), “We Are Sustainability Investing” for an increasingly resource-constrained world; it assesses 3,400 companies and partners with Dow Jones in *Sustainability Yearbook 2016*, listing leaders in 59 industries.
- **Trucost** (London, New York, Paris, Hong Kong), helping companies and investors to understand impacts of natural capital dependency and stranded assets.

* Morgan Stanley Institute for Sustainable Investing, **Sustainability Signals: The Asset Manager Perspective**, Nov 2016, 20p.

- **We Mean Business Coalition** (2015), assembling 677 companies and investors as of Dec 2016 to “create a low-carbon revolution.”

Other investing-related organizations deserving mention include *Asset Owners Disclosure Project* (2012, London) to protect owners against climate risks by improving disclosure, *Association for Sustainable and Responsible Investment in Asia* (2002, Hong Kong) to promote corporate responsibility, *Billion Dollar Green Challenge* (2011, New York) to encourage universities and other nonprofits to invest in energy efficiency, *Capital Institute* (2010, Greenwich CT, 7 staff) which publishes *Guide to Investing in a Regenerative Economy* for pension funds, *Clean Path Ventures LLC* (1987, San Francisco) investing in solar PV projects, *European Sustainable Investment Forum* (2003, Brussels) to champion sustainability in European financial markets, *Global Investor Coalition on Climate Change* (2014?) with four regional groups in Europe, North America, Asia, and Australia/NZ, *Green Alpha Advisors* (2007, Boulder CO; 6 staff) to invest in the “inevitable economic/technological transition to sustainability,” *Green America* (1982, Washington; 50 staff) publishing the *National Green Pages* and a guide to socially responsible investing, *Green Century Funds* (1990, Boston) owned by environmental non-profits to promote fossil-fuel-free investing, *Kleiner Perkins Caufield Byers* (1972, Palo Alto CA) investing “heavily in green start-ups” and “world-changing ideas” with Al Gore on the Board; *Marion Institute* (1993, Marion MA; 12 staff) to incubate “Serendipity Projects” in sustainability and social justice, *Omidyar Network* (2004, Redwood City CA; c.100 staff) for “philanthropic investment” and global innovation, *Pegasus Capital Advisors* (1995, Greenwich CT; 20 staff) applying Environmental/Social/Governance leadership principles, and *SRI World Group* (1999, Brattleboro VT; formerly *Social Funds*), “the largest personal finance site devoted to social responsibility investing”, with >10,000 pages of information.

Surely there are many more similar groups that could be added to the above listings, motivated by ethics and/or the increasingly compelling “business case” for green investing in companies. In turn, mention should also be made of individual company investing. Perhaps the most notable example is Elon Musk’s *Tesla*, which seeks to “accelerate the world’s transition to sustainable energy through affordable electric vehicles and renewable energy generation and storage.” To this end, its “Gigafactory” near Reno, Nevada, began mass production of lithium-ion battery cells in January 2017; full production is expected by 2018 in what they claim will be “the biggest building in the world.”

2.6. Green Consulting

In addition to investment advisors, green consultants large and small offer their services to companies, cities, and other public and private entities.

Large groups include the **Carbon Disclosure Project* (2000, London + 14 offices; 34 major staff) with consulting services such as corporate footprints to promote sustainable business, products and cities, *Ecology and Environment Inc.* (1970, Lancaster NY + 50 offices) consulting on environmental management, *Environmental Resources Management* (1971, London; 5,000 staff in 160 offices) claiming “world’s leading sustainability consultancy,”

Gerding Edlen (1996, Portland OR) consultants on green development, transformational buildings, and Principles of Place, **GlobeScan** (1987, Toronto + 5 offices) providing evidence-based strategy consulting” and Sustain/Ability Survey of challenges and opportunities, and **Natural Step** (1989, Stockholm + 10 offices) helping business and communities to accelerate transition to sustainable society and future-fit business.

Smaller organizations include **Clean Energy Solutions** (Boston; 4 staff) on energy efficiency and local energy alliances, **Common Current** (San Anselmo CA; 2 staff) on urban sustainability for government/business/non-profits, **ENEA Consulting** (2007, Paris & Melbourne; 22 staff) on actors in the energy value chain, **Global Climate Adaptation Partnership** (Oxford UK, 9 staff) on local adaptation approaches, **Green Guru Network** (2010, Hastings-on-Hudson NY) to share sustainability ideas in the Hudson Valley, **International Synergies** (2005, Birmingham UK) on industrial ecology solutions for the circular economy and zero waste, **Natural Capitalism Solutions** (Longmont CO, 9 staff); headed by Hunter Lovins, formerly of Rocky Mountain Institute) on the business case and tools for regenerative solutions, **Natural Marketing Institute** (1990, Harleysville PA) consulting on wellness and sustainability, **Strategic Sustainability Consulting** (2005, Lynchburg VA, 10 staff), and **Sustainable Solutions Corporation** (Royersford PA, 10 staff) consulting on sustainable buildings and corporate sustainability.

Special mention should be made of **SustainAbility** (1987, London/New York/San Francisco; 21 staff) to define the role of business in the sustainable development agenda. It was co-founded by John Elkington, who originated the “Triple Bottom Line” concept of People/Planet/Profit in 1994. Elkington is now “Chairman and Chief Pollinator” of **Volans** (2008, London; 4 staff) to help leaders to systemic solutions and breakthrough business models in collaboration with the UN Global Compact, “for sustainable growth in an exponential world.”

2.7. Green Business Publishers

Similar to the wide variety of green consultants, large and small, green business publishers offer a broad range of books, journals, reports, and newsletters.

The newly-formed and aggressive **Business and Sustainable Development Commission** (Jan 2016, London; 12 staff) published a January 2017 “flagship” global report on accelerating the shift to a sustainable economy (see footnote on page 4). Two recent downloadable reports suggest the thinking that they are promoting: *Breakthrough Business Models: Exponentially More Social, Lean, Integrated and Circular* (Sept 2016, 39p), co-authored by John Elkington of **Volans**, and *Valuing the SDG Prize in Food and Agriculture: Unlocking Business Opportunities to Accelerate Sustainable and Inclusive Growth* (Oct 2016, 47p).

***Cleantech Group** (2002, Oakland & London; 14 staff), which seeks to accelerate sustainability innovation, provides a free bi-weekly *Cleantech Newsletter* on key trends, companies, and people in sustainability innovation and investment, *CTG Insights* bi-monthly report on the global innovation community, a *Quarterly Investment Monitor*, specialized intelligence briefs, and an annual *Global Cleantech 100* list of promising companies. **Eco-Business** (2014, Singapore; 18 staff) is a media company serving Asia Pacific’s cleantech, smart cities,

responsible business, and sustainable development communities. *Environmental Business International* (1988, San Diego) has produced some 20 market research reports and publishes a free weekly newsletter, *Environmental Business Journal* (1988, monthly; \$995 individual sub) providing strategic information in 14 business segments, and *Climate Change Business Journal* (2007, quarterly; \$495 individual sub) for firms providing services or technology, and investors in renewable energy, energy storage, green buildings, carbon markets, or consulting. **GreenBiz Group* (1991, Oakland CA; 20 staff headed by Joel Makower) offers videos, *GreenBuzz* daily newsletter, *VERGE* weekly newsletter, various reports, monthly surveys of the 3000-member GreenBiz Intelligence Panel, a *State of the Profession* report for sustainability executives, and an annual *State of Green Business Report* on the circular economy, green infrastructure, and corporate practices. *Sustainable Brands* (2006, San Francisco; 27 staff), produced by Sustainable Life Media, provides six newsletters, videos, and complimentary downloads of reports such as *22 Research Studies Proving the ROI of Sustainability*.

**Greenleaf Publishing* (1992, Saltaire UK) issues a wide variety of books on sustainability, and journals such as *Journal of Corporate Citizenship* (2001, quarterly), *Building Sustainable Legacies* (2013, 3/year) on societal value co-creation, and *Business, Peace, and Sustainable Development* (2013, 2/year) on reducing violence as part of business strategy. The giant academic publisher *Springer* (1842, Berlin) issues the *International Journal of Corporate Social Responsibility*, on CSR, sustainability, ethics, and governance, charging a \$980 “article processing fee” for authors! *CSRwire* (1999, Northampton MA) is a media platform for news and views on corporate social responsibility, with books, reports, and press releases. *Triple Pundit* (San Francisco; 6 staff) reports on the “triple bottom line” of People/Planet/Profit with a daily and weekly newsletter. *Ethical Markets Media* (St. Augustine FL, headed by Hazel Henderson) publishes the annual *Green Transition Scoreboard* of burgeoning green investments by the private sector, and the *Ethical Money Directory* of some 200 asset management firms, investment advisors, consultants, and relevant NGOs and banks.

As with each of the sub-systems we have identified, our inventory of Green Publishing is incomplete. In addition to organizations focused on publishing, there are many think tanks and action groups (e.g. OECD, IUCN, United Nations) that publish books, reports, pamphlets, factsheets, and newsletters on sustainability-related topics, as identified in *The Security & Sustainability Guide*. Unfortunately, there is no detailed consumer guide to where to get the best information on what topics, including the greening of business. At this point, we can only provide a listing of relevant organizations, with tentative suggestions as to which information sources may be most deserving of attention.

3. Lessons Learned and Questions Raised

1. The Necessary Revolution is Underway. It certainly appears that the revolution is no longer at “the beginning of the beginning.” But whether it is at the middle of the beginning or somewhere beyond is difficult to estimate. And, due to recent political developments favoring “retro regimes,” especially in the US, the revolution may be reversed to some degree, before continuing.

But the quiet trend to more and bigger groups seems sure to continue. As a rough measure, of the 150 groups noted here (several are mentioned more than once), 108 of them posted a founding date, with median start-up in 2003, thus a doubling in 13 years.

A proclaimed “data revolution” is underway led by the UN Sustainable Development Goals and the Measure What Matters program of the Green Economy Coalition, so better indicators should be available in the next few years, not only of how far we have come, but how far we have yet to go to meet the 17 SDGs, and whether greening companies are a small part of the capitalist world, say 5-10%, a large minority, or a majority. The Jan 2017 **Better Business, Better World** report (see footnote on page 4), building on the Global Goals, could go a long way in boosting the necessary revolution.

2. The Two Capitalisms. It may still be too early to note a contest between two forms of capitalism: the 21st Century Green (or Sustainable) Capitalism, valuing the triple bottom line of People/Planet/Profit and seeking to act responsibly, vs. the 20th Century Industrial-Era Capitalism that adheres to a single bottom line of maximum profit, often at any cost, and satisfying only stockholders. It is increasingly inappropriate to view capitalism and multinationals as one large monolithic entity. At some point, perhaps soon, Green Capitalism will be seen as a separate phase, and not an oxymoron, to be contrasted with Industrial-Era Capitalism. This could well be hastened by the new regime in the United States, with its nationalistic “America First” stance that could lead to ruinous trade wars (or worse), and should invite embrace of a green alternative in response. Serious debates are needed as to which option best serves American and global interests.
3. But Why is the Revolution So Quiet? Several reasons can be offered as to why Green Capitalism has yet to emerge as a truly viable, science-based, and attractive alternative. First, development of the Necessary Revolution has been gradual, similar to global warming and other environmental insults. Second, and probably most important, fragmentation and competition in the Green Capitalist system is profound, as illustrated by the many different organizations identified here, most of which have little or nothing to do with each other. There are few visible leaders, such as Al Gore, who tries to make the business case for “Sustainable Capitalism” through the Generation Foundation. Thirdly, the Green Capitalist system, as sketched here, is composed not only of individual companies, NGOs, and Global Action Networks.* Rather, it also includes components of the UN (notably the UN Global Compact, the UNEP Finance Initiative, and the UN-inspired Sustainable Stock Exchanges Initiative), for-profit consultants, and green investment advisors and publishers. All of these organization types are essential to understanding and driving the unfolding Necessary Revolution.
4. The Larger Context of Finance. A remarkable report on the “quiet revolution” in the global financial system was published in October 2015 by UNEP Inquiry: Design for a Sustainable Finance System (2014, Geneva; <http://unepinquiry.org/>). **The Financial**

* Steve Waddell, **Global Action Networks: Creating Our Future Together**. New York: Palgrave Macmillan, 2011. GANS are seen as a “critical organizing innovation,” in that they involve multi-stakeholder networks of people in government, business, and NGOs of all sizes who seek a sustainable globalization that works for all. Also see Steve Waddell, **Change for the Audacious: A Doer’s Guide**. Large Systems Change for a Flourishing Future. Boston: Networking Action Publishing, 2016. See Chapter 6 on “Creating Societal Change Systems” and Chapter 9 on systems mapping and learning.

System We Need: From Momentum to Transformation seeks to align the public and private financial system with sustainable development by advancing national and international efforts to shape “an inclusive green economy.” An updated report was issued in October 2016 (Full Report, 87p; Summary, 17p), finding that “*The last year has seen an acceleration in the quiet revolution’s momentum across the financial system*” (italics added), incorporating aspects of sustainable development into financial system design and practice across three interlocking pathways of change: market leadership, national action, and international cooperation. Nevertheless, “today’s momentum remains inadequate to deliver the transformation needed to finance sustainable development (in that) natural capital continues to decline precipitously, alongside growing social inequality and unrest.” Moreover, “sustainable financial flows and stocks remain marginal to the deployment of capital, worldwide. The financial system remains disconnected from the long-term needs of the real economy.” Although the UNEP Inquiry report is largely concerned with public policy and regulation, the business sector is an important aspect, as concerns co-evolution of market leadership and policy, market leadership as exemplified by green bonds, and public finance to mobilize private capital for sustainable development.

“We cannot have sustainability without security, nor security without sustainability.”

5. The Larger Context of Sustainability Organizations. The Green Capitalist “system,” however defined, is only a small part of a larger system of more than a thousand sustainability organizations, most of them international, as identified in *The Security & Sustainability Guide*. These organizations are devoted to such topics as climate change, energy, public finance, food and agriculture, forests, oceans, population, biodiversity, water, cities, etc. And, in turn, this “sustainability system” increasingly overlaps the broad system of security organizations (including human security, peace, terrorism, corruption, migration, cyber-security, and arms control), in that we cannot have sustainability without security, nor security without sustainability. These two large and overlapping domains could form a Global Action Network that puts the growing inter-penetration of security and sustainability concerns at the center of all corporate and government strategic planning. However, those engaged in all domains of security have acknowledged that climate change is a “threat multiplier,” whereas those engaged in promoting sustainability are virtually silent on security as a trend and driver of its context, and have yet to recognize that sustainability seen as a national and global security issue would advance their interests.
6. So, Are We Winning the Struggle for Sustainability? Probably not. It seems difficult to grasp the simple paradox of “improvement but growing inadequacy,” but this seems to be the proper assessment at this moment. As argued by environmental critic Peter Dauvergne:

“most multinational corporations have become more proactive in managing critics, avoiding obvious greenwash, and instead partnering with NGOs, offering eco-products and sponsoring third-party certification of production processes

and consumer products... (which) can make it seem as if rapid progress is now being made toward global sustainability. However, the efficiency gains of eco-business are largely lost as firms reinvest energy and cost savings to stimulate even more unsustainable growth and consumption—a rebound effect that’s at the heart of the failure of environmentalism of the rich to slow the escalating global sustainability crisis.”⁵

“Fragmentation of knowledge and advocacy will continue to seriously inhibit progress toward sustainability and human well-being.”

Dauvergne advocates “an energetic, critical questioning of the slight-of-hand illusions of sustainable development, corporate social responsibility, business-NGO partnerships, and market solutions.”⁶ Corporations now have two games to play, and must decide how much to devote to each road. Ongoing criticism and prodding is thus important, but should not foreclose the possibilities of serious and sincere progress on many fronts. But even if climate change is confined to the goal of less than 2°C, which seems unlikely under the present Paris climate accord,^{*} there is much more to be done, as outlined in the UN’s 17 Sustainable Development Goals.[†]

7. Cities Take the Lead. On a more upbeat note, Michael Bloomberg, former mayor of New York and chair of the Global Covenant of Mayors for Climate & Energy (Jan 2017), argues that “the new Trump administration will dominate headlines in 2017, but the biggest changes in the way we live will be driven not by Washington but by cities.”^{*} This ongoing trend will accelerate, he asserts, because power will continue to shift away from Washington, where partisan warfare kills off good ideas. Rather, cities and businesses will continue to reduce emissions, save on energy, build modern infrastructure, and protect themselves from extreme weather. This is confirmed by **The Security & Sustainability Guide**, which lists 37 urban groups, such as the C40 Cities Climate Leadership Group of 80 megacities and ICLEI—Local Governments for Sustainability, virtually all of them strongly advocating many sustainability-related actions. And most big businesses have headquarters in big cities and are equally concerned.
8. The Need for More Horizontal Thinking. This report is an exercise in horizontal thinking, which seeks to take a broad integrated view of systems and emerging trends, in contrast to the vertical thinking that is widely inculcated by academic institutions and proliferating scholarly journals that look at individual trees and not the forest ecosystem.

^{*} John Schwartz, “Climate Deal Called Too Weak to Meet Goals,” *The New York Times*, November 17, 2016, A12, citing the latest World Energy Outlook of the authoritative International Energy Agency on the 2015 climate change accord in Paris.

[†] Jeffrey D. Sachs, **The Age of Sustainable Development**. Foreword by Ban Ki-Moon. New York: Columbia University Press, 2015. Especially see chapter on planetary boundaries. Also see Simon Nicholson and Sikina Jinnah (eds), **New Earth Politics: Essays from the Anthropocene** (see Marien’s review in *Eruditio*, 2:3, April-May 2017) (MIT Press, 2016) for a broader view on “Earth 2.0.”

[‡] Michael Bloomberg, “Where Washington Fails to Drive Progress, Cities will Act,” *Time*, December 26, 2016. Also see Michael Bloomberg, “City Century: Why Municipalities Are the Key to Fighting Climate Change,” *Foreign Affairs*, Sept-Oct 2015. In the US, many states are also taking the lead. See “On Climate Change, Look to the States,” *The New York Times* editorial, December 26, 2016, A20.

Such thinking in depth and detail is not necessarily bad, but needs to be balanced by many more explicit efforts to fashion larger views, and to integrate the growing number of transdisciplinary integrators. Otherwise, fragmentation of knowledge and advocacy will continue to seriously inhibit progress toward sustainability and human well-being.

9. How Can the Revolution Become More Visible? This report argues that the Necessary Revolution is surely underway, but not visible to the general public or even, fully, to its participants. Illustrative of this overly quiet development is the recent US presidential election, where only the Democratic candidates mentioned climate change and only in passing, “sustainability” was never mentioned at all, and the moderators of the presidential debates never asked any questions about climate or sustainability. “Green Growth,”* advocated by OECD, UNEP, and the World Bank, does not appear to be mentioned anywhere in North America, at least. Another indicator is that three “Year Ahead” overviews for 2017 from *Time* magazine, *Bloomberg Businessweek*, and *The Economist* make no mention of sustainability.

Efforts should be made, preferably collectively,† to encourage these annual publications to have a section on sustainability. *The New York Times* can publish a weekly section, rather than only occasional scattered mention of climate and energy issues in the news features and the weekly Science section. If the major media are unwilling to report on this major development, business leaders might purchase full-page advertisements reporting on the progress of Green Capitalism and inviting a wide-ranging and on-going debate on its merits. Many other ideas can be offered to enhance visibility of the Necessary Revolution, and we hope that this initial survey will elicit them.

Authors contact information

Michael Marien – Email: mmarien@twcny.rr.com

Michael Sales – Email: mjsales@me.com

Notes

1. Peter Senge et al., *The Necessary Revolution: Working Together to Create a Sustainable World*. New York: Broadway Books, 2010, p.12 (first published “in slightly different form” by Doubleday, 2008).
2. *The Necessary Revolution*, p.iv.
3. *The Necessary Revolution*, p.359.
4. Jane Gleeson-White, *Six Capitals, or Can Accountants Save the Planet? Rethinking Capitalism for the 21st Century* (New York: W.W. Norton, 2015).
5. Peter Dauvergne, *Environmentalism of the Rich* (Cambridge MA: MIT Press, 2016), 11-12.
6. *Environmentalism of the Rich*, p.152.

* See Global Green Growth Institute (2010, Seoul, 115 staff), Global Green Growth Forum (2011, Copenhagen), and Green Growth Knowledge Platform (2012, 8 staff), established by GGGI, OECD, UNEP, and the World Bank.

† Petra Kuenkel, *The Art of Leading Collectively: Co-Creating a Sustainable, Socially Just Future*. White River Junction VT, Chelsea Green Publishing, 2016. Parallel to the overly quiet Necessary Revolution, Kuenkel writes that her book is about the “underappreciated” collective side of leadership, in contrast to the traditional leadership paradigm that refers only to individuals. Most challenges of sustainability require building the capacity of groups and systems to move issues of common concern forward. “We cannot travel the path toward sustainability in silos; instead we need to harness collective intelligence and let it complement individual expertise.” (p.34)