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GREEN ECONOMY IN ACTION:

Articles and Excerpts that Illustrate Green Economy and Sustainable Development Efforts

August 2012

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ENVIRONMENT AND ENERGY



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Articles and excerpts included in this document were selected by Hussein Abaza based on an extensive literature review. The intention of producing this document is to make available for those interested and involved in Green Economy and sustainable development-related activities a sample of the latest developments and information on the subject.

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If you would like to receive similar real-life examples of green economy in action as well as opinions, concepts and ideas from a diverse group of actors on the topic, you may visit Hussein Abaza's facebook page (<http://www.facebook.com/hussein.m.abaza>).

Disclaimer: The views expressed in this publication are those of the authors and do not represent those of the United Nations or UNDP.

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INTRODUCTION by Hussein Abaza

The concept of Green Economy is not entirely a new concept. It was first mooted by the London Environmental Economics Centre¹ (LEEC) in a publication (Blueprint for a Sustainable Economy) in 1989 authored by David Pearce, Anil Markandya, and Ed Barbier. However, at that time the concept did not receive wide acceptance. With the outbreak of the financial crisis in 2007 and the failure of most countries to move onto a sustainable development path, it has become evidently clear that the current development paradigm is not yielding the desired outcomes on all fronts economic, social, and environmental.

Efforts to transition to a sustainable development path and realize the objectives of Agenda 21 have been very modest. A number of reasons appear to have constrained this transition to take place.

One of the reasons for lack of significant progress has been inability to clearly make the business case for investing in the environment. In order to encourage policy and decision makers to invest in the environment, they need to be convinced that such a transition would result in economic benefits as well. These benefits include additional jobs generated, increased output, creation of new market niches and increased trade, and a positive impact on GDP. It is therefore essential to demonstrate that there is a clear relationship between investing in the environment, socioeconomic and sustainable development. Since human welfare should be the ultimate goal for any development strategy, a well-designed sustainable development strategy should result in poverty eradication.

Green Economy could be viewed as an approach that emphasizes these linkages. It could therefore be considered as a tool or vehicle that facilitates the transition to sustainable development.

The United Nations Environment Programme (UNEP) defines the Green Economy as *“one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”* (2010).

Another more elaborate definition of green economy is:

“The Green Economy is one in which the vital linkages among the economy, society, and environment are taken into account and in which the transformation of production processes, and consumption patterns, while contributing to a reduced waste, pollution, and the efficient use of resources, materials, and energy, will revitalize and diversify economies, create decent employment opportunities, promote sustainable trade, reduce poverty, and improve equity and income distribution.”

The following section will attempt to outline the main elements inherent in a Green Economy.

Environment can no longer be treated in isolation from mainstream economic policy. Though integrating environment in macroeconomic policies has been long called for even as far back as the Brundtland Commission, efforts have been modest to achieve this goal. In most instances, the environment continues to be addressed as a separate component without clear linkages to the social and economic aspects.

Integrated policymaking remains to be an approach yet to be adopted as the main framework for policy formulation and implementation. Lack of an integrated approach to policy formulation and implementation is therefore one of the main reasons for failing to achieve sustainable development. A Green Economy approach advocates the adoption of integrated policymaking.

Adopting an ecosystem approach rather than dealing with different environmental biomes such as deserts, forests, and aquatic life as separate and isolated components of the environment. Adopting an ecosystem approach enables a better understanding and appreciation of the fact that the different biomes function as part of an integrated whole i.e. part of an ecosystem. Adopting such an approach ensures a clearer understanding of the linkages and interdependencies between the different biomes. It consequently results in a better management of the ecosystem and the services it provides.

Following an integrated approach in dealing with the three sustainability dimensions and in dealing with the environment as an ecosystem enables us to better communicate the relationship between investing in the environment and the resulting positive social and development outcomes.

It therefore provides a strong message to policy and decision makers of the necessity of integrating environmental, social, and

¹ LEEC is a joint venture established in 1988 by the International Institute for Environment and Development (IIED) & the department of Economics of University College London (UCL).

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economic considerations in framing policies. Advocating the environment in isolation from economic and social objectives have in the past failed to deliver this strong message, which has resulted in considering the environment as a constraint or a liability rather than as an opportunity. Adopting a Green Economy approach highlights these interrelationships thus making a strong case for the transition.

Adopting a participatory approach involving relevant stakeholders in policymaking is key in policy development and implementation. It ensures that policies reflect the concerns and priorities of the public, particularly the target group and affected communities. It also ensures the support and contribution of the general public and local communities in the implementation of proposed policies, plans, and programmes. Involvement of relevant stakeholders in policy formulation provides a better chance for the implementation and success of the proposed policies. Public participation should ensure the participation of women, youth, people with special needs, and marginalized communities. Adopting a participatory approach is particularly important in countries with a centralized decision making process.

Ensuring inter- and intra-generational equity and poverty reduction is one of the main underlying principles of Green Economy. Designed policies should in the first instance ensure that the interests of the poor and marginalized communities are catered for. It should ensure that wealth generated should trickle down to the poorer segments of the population and that there is an equitable distribution of wealth between the current generation. It should also ensure that development activities now do not comprise the welfare of future generations.

Green Economy advocates good governance as an essential prerequisite for achieving sustainable development. In order to encourage local and foreign investment, it is essential to have a stable and predictable macroeconomic environment. Such an environment will also need to be transparent and accountable. In the absence of a good and strong governance structure, the likelihood of moving onto a sustainable development path would be meager. Efficient institutions and governance structures are critical in ensuring the effective implementation of policies, plans, and programmes.

Transitioning to a Green Economy requires a new mindset of doing business. It also requires a new caliber of skilled labour and professionals that can work across sectors, and able to work as part of multi-disciplinary teams. Transitioning into a Green Economy requires preparing these calibers through training and formal education. In order to achieve this objective, vocational training packages should be developed with focus on greening the sectors. The education system also needs to be reviewed to integrate the environmental and social considerations in the various disciplines.

Investing in research, technology development, innovation, and the continuous enhancement of knowledge are essential for transitioning to a Green Economy. Countries that have allocated sufficient resources and invested heavily in research and development are countries that have managed to accelerate the pace of their economic growth. However, there is a need to clearly identify areas of research to be in line with and support sustainable development objectives. Research and technology innovation efforts need to be directed towards resource efficiency, and areas such as wastewater treatment and desalination, renewable energy, solid waste recycling and recovery, green construction and buildings, and environmentally friendly equipment and industrial technologies.

In many instances government policies lack a comprehensive and holistic response to policy formulation and implementation. A suite of measures and actions are needed to achieve the goals and objectives of specific policies. These need to be designed in a complementary and supportive manner. For instance, market incentives should be designed to support regulatory measures. In many instances policy tools are designed independently and may be in contradiction to one another. Coherence and supportiveness of the different policy tools and measures should be maintained in order to support the realization of policy objectives. Subsidies for fossil fuel, for example, apart from being a burden on government budgets promote the inefficient allocation and excessive use of fossil fuel. Phasing out fossil fuel subsidies will release funds to support investment in renewable energy. Such policies may be supported by regulatory emission standards.

The importance of political economy concerns should not be underestimated. Change may either be slow coming or even obstructed by those who believe that their interests may be compromised. Those may be politicians in high places and owners of large businesses and corporations. It is therefore important that when policies are formulated those who are likely to oppose change are identified and measures taken to address the hurdles they may create in the face of change.

The role of the private sector in transitioning to a Green Economy and achieving sustainable development cannot be over emphasized. Constraints impeding the active involvement and contribution of civil society towards a transition to a Green Economy should be removed. Civil society being more familiar with realities on the ground, working closely with local

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communities, more familiar with their needs and priorities, and increased capabilities to operate on the ground can contribute effectively to achieving sustainable development objectives. Moreover, public-private-partnership consolidates efforts and enhances the potential for realizing sustainable development objectives.

The financial sector both public and private should be encouraged to support financing projects and activities that contribute to sustainable development. Governments should ensure that funding provided by Central or Federal banks support government policies in pursuit of sustainable development objectives. Commercial banks should also be encouraged to support sustainable development projects through regulatory and incentive measures. Appropriate measures should be introduced to discourage banks from providing loans that encourage land speculation, or the funding of environmentally damaging and polluting activities.

Governments spend large amounts of funding on its public service operations and activities. By greening its procurement, governments can demonstrate leadership and set the example for environmentally sound practices. On the physical side, this includes greening the construction of government offices, schools, hospitals, post offices, and other public buildings. Other green expenditures, include the purchase of environment-friendly office equipment and material. Greening its transport services for its employees would for example include providing buses run by natural gas or electricity, and providing incentives for government staff to use public transport and other means such as pooling and cycling.

Trade policy if well formulated can be an effective tool in supporting the transition to a Green Economy. A well-designed trade policy can encourage investment in environmental goods and services, and technologies to satisfy the local market and for export. It can also encourage access to foreign environmental technologies. This can be achieved through regulations, and an incentive and tariff system that facilitates access to environmental technologies.

It should be emphasized that there is no one size fits all approach to sustainable development. The manner in which countries are prepared to use the Green Economy tool or vehicle for achieving sustainable development is up to countries to frame and design. This will have to be based on the pace at which countries are prepared to make the transition, their priorities, socioeconomic circumstances, and capacities. What are important are the political commitment and the will to shift to a sustainable development path.

The review, selection and documentation of these articles emerged in response to the need to fill the knowledge gap on practical, concrete, and on the ground green economy country experience. It is in this spirit that the articles and excerpts included in this publication have been selected: to provide information and knowledge for policy and decision makers and practitioners on the positive implications of greening some priority sectors, including job creation, resource efficiency, and generally contribution to sustainable development through an extensive review of scientific publications and magazines.

Hussein Abaza

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Our Challenge – Developing an Eco-Mind

By Frances Moore Lappé
March 2012

We need to change the way we frame problems if we want to come up with real solutions to our environmental challenges.

Bombarded almost daily with news of “food scarcity,” “energy scarcity” and “resource scarcity,” it’s sure easy to absorb the scary notion that there’s just not enough of anything: from food to fuel to parking spaces. In fact, modern economics, now the dominant world religion, defines itself as the science of allocating scarce goods. Looking at the world through the lens of lack, we see it everywhere. Perceiving ourselves in endless competitive struggle over scarce goods, no wonder depression has become a global epidemic. But we shouldn’t be too surprised, for a defining trait of our species is that we each see the world through culturally formed frames that determine, literally, what we can see and what we cannot—even including what we can see in our own nature, and therefore what we believe is possible for our species. Philosopher Erich Fromm called them our “frames of orientation.” Yet, the hard fact of human existence is that if our mental frame is flawed, we’ll fail no matter how hard and sincerely we struggle.

Remaking Our Mental Map

So the central problem I address in my latest book *EcoMind*, is that, sadly, much of humanity today is stuck in precisely this “hard fact”—trapped in a mental map that defeats us because it is perversely aligned both with human nature and with the wider laws of nature. So, the question is, Can we remake our mental map? Can we learn to see through a different lens?

I believe we can. Current research by neuroscientists on the extent of neuroplasticity shows that new thoughts actually create new neural pathways in our brains. Breaking free of the dominant but failing mental map thus starts, for me, by identifying its “thought traps” that reinforce fear and feelings of powerlessness and then replacing them with evidence-based, freeing “thought leaps.” Below I offer seven widely believed ideas shaping our culture’s response to the global environmental and poverty crises, ideas that seem self-evidently true to many of us. Yet, they may in fact be blocking us from real solutions.

Mental Myths

One: Endless growth is destroying our beautiful planet, so we must shift to no-growth economies.

Two: Because consumers always want more stuff, market demand and a growing population drive endless exploitation of the earth.

Three: We’ve had it too good! We must power down and learn to live within the earth’s limits.

Four: Humans are greedy, selfish, competitive materialists. We must overcome these aspects of ourselves if we hope to survive.

Five: Because humans—especially Americans—naturally hate rules and love freedom, we have to find the best ways to coerce people to do the right thing to save our planet.

Six: Now thoroughly urbanized and technology-addicted, we’ve become so disconnected from nature that it’s pretty hopeless to think most people can become real environmentalists.

Seven: It’s too late! Human beings have so far overshot what nature can handle that we’re beyond the point of no return. Democracy has failed—it’s taking way too long to face the crisis. And because big corporations hold so much power, real democracy, answering to us and able to take decisive action, is a pipe dream.

In seven blogs to follow in this series, I’ll ask you to suspend disbelief and entertain the idea that even seemingly obvious truths might need reframing if we are to grasp the roots of our crises and to release the energy we need now to turn our planet toward life.

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I'll suggest that as we reframe each of these thought traps, we can move from the scarcity-mind to the eco-mind, and, in so doing, our way of seeing life—and our place in it—moves from the premise of...separateness to connection....stasis to continuous change. ... scarcity to co-creation.

From Scarcity Mind to Eco Mind

The scarcity-mind, for example, focuses narrowly on quantities, and through my life's work on food and hunger that means a fixation on bushels grown or calories produced. It ignores the quality of human relationships that ultimately determine whether people have power to access to what is grown.

In this world created by the scarcity-mind, we continue therefore to produce more food and yet more hunger at the same time. Fortunately, we can leave behind the lens fixed on quantities and choose to see through the lens of ecology—one incorporating the relationships among organisms and their environment.

Visionary German physicist Han-Peters Düerr once reminded me that in biological systems, "There are no parts, only participants." We are therefore all co-creators. From this ecological worldview the only choice we don't have is whether to change the world.

Every act we take, or don't take, shapes the world around us. Through an ecological lens, we can rethink the thought traps that keep us in scarcity-mind and make the "leaps of the mind" that release us from the paralysis of fear. We discover we can move forward creatively with our fear, for in developing our eco-minds we realize our power to create the world we really want.

Adapted from EcoMind: Changing the Way We Think, to Create the World We Want by Frances Moore Lappe. Published in 2011 by Nation Books, a division of the Perseus Book Group. © 2011 by Small Planet Institute. Reprinted with permission of Small Planet Institute.

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The Launch of the Green Economy Initiative in the UAE

By Moshe Terdiman
January 2012

Introduction

On January 15, 2012, Sheikh Muhammad bin Rashid Al Maktoum, the Vice-President and Prime Minister of the UAE and Ruler of Dubai, announced the launch of a long-term national initiative to build green economy in the UAE under the slogan "A green economy for sustainable development".

This initiative's aims are threefold: to make the UAE one of the global pioneers in green economy, a hub for exporting and re-exporting green products and technologies, and a country preserving a sustainable environment that supports long-term economic growth. Sheikh Al Maktoum said that "our goal from this national initiative is clear, that is, to build an economy that protects the environment as well as an environment that supports the growth of the economy. We in the UAE, within the vision 2021, are striving to build a diversified economy based on knowledge and innovation, through which we can provide excellent employment opportunities to our citizens. Through this, we can protect our natural and environmental resources, and strengthen our competitive position in global markets, especially in the areas of renewable energy products and technologies on the green economy." He added that "we are serious about the transformation of our development process to reach the first position on the global level. During the next nine years and up to the year 2021 we will launch a range of initiatives and projects in all areas to achieve our goal".^[1]

According to Sheikh Al Maktoum, the announcement coincides with the launch of the World Future Energy Summit in Abu Dhabi, which will begin on January 18, 2012, in order to "reaffirm our commitments to the world of our serious endeavor to diversify energy sources and preserve the environment, as well as to become a model for all countries that want to strive to achieve the same goal".^[2]

The green economy initiative consists of various programs, projects, legislation, and policies in six major fields, including: promoting the production and use of renewable energy and developing standards for energy consumption in the public and private sectors; encouraging investments in green economy and facilitating the production, import, export and re-export of green products and technologies; planning of green cities, green building, and environmental-friendly transportation; reducing carbon emissions from industrial and commercial sites, promoting organic agriculture, and maintaining biodiversity and the ecological balance in the UAE; regulating the use of water resources, electricity, and natural resources, recycling water and promoting environmental education; and developing green technology, while its first phase includes carbon capture and conversion of water into energy.^[3]

UAE's Vision 2021

The Green Economy initiative falls under the UAE's Vision 2021 document, which was released by the UAE cabinet on February 7, 2010.^[4] This document outlines the future challenges facing the UAE and how to best deal with them until the year 2021, when the UAE will celebrate its golden jubilee.

The UAE Vision 2021 specifically mentions the need to develop and promote renewable energy sources as one of the challenges facing the UAE. It says that "we want the UAE to sustain its drive toward economic diversification, as this is the nation's surest path to sustainable development in a future that is less reliant on oil. This means expanding new strategic sectors to channel our energies into industries and services where we can build a long-term competitive advantage. Balanced growth must be fuelled by a sustainable range of energy sources, within which the UAE will ensure an important role for alternative and renewable options such as nuclear power".^[5]

Facing climate change and its effects on current and future generations as well as the need to protect and preserve the environment are central challenges which face the UAE, according to Vision 2021. It says that "in the face of humanity's shared ecological challenges, we want the UAE to vigorously support international initiatives to protect the environment in full consciousness of its worldwide responsibility. As a global nation, the UAE is committed to playing its part in developing and implementing innovative solutions to protect and sustain the environment. New, energy-efficient technologies will harness the UAE's pioneering role in the green revolution and reduce its carbon footprint. The government will act decisively to reduce the

nation's ecological deficit, promoting environmental awareness and responsible behavior among Emiratis. The UAE will mitigate the effects of climate change in order to safeguard its environment for current and future generations. The nation's rich natural environment will be shielded from human-induced threats – both global and local - by preventive measures such as reducing carbon dioxide emissions, and regulations to defend fragile ecosystems from urban development. The Federation will safeguard Emiratis from harm in the event of large-scale natural or man-made environmental emergencies, guarantee the rights of present and future generations to clean air and water, and protect citizens from environmental health hazards. Anticipating the problems of tomorrow is the only reasonable way to preserve and enhance our way of life, acting with initiative in full awareness of our collective responsibility".[\[6\]](#)

The Arab Green Economy Initiative

The Green Economy Initiative in the UAE has also been influenced by the Arab Green Economy Initiative, which was presented for the first time by Najib Sa'ab, the Secretary General of the Arab Forum for Environment and Development (AFED), at a special session held during the Global Ministerial Environment Forum, which convened in Nairobi on February 21-24, 2011. According to Najib Sa'ab, the Arab Green Economy Initiative aims at "transitioning from virtual economy based on real estate and financial speculation and depletion of resources, to the real economy based on sustainable growth combined with productive investment which creates new job opportunities". Najib Sa'ab said that the Arab development agendas are facing demanding challenges, as populations grow fast and rapid economic growth strain institutional capacities and natural resources, such as water. He added that "Arab economies are requested to provide gainful employment to tens of millions over the next 10 years, alleviate poverty, address food and water security risks, drive economic growth, and adapt to climate change". Sa'ab emphasized that these challenges demand strong action by Arab governments guided by a bold vision and concluded that a shift to a green economy can bolster the region's economic competitiveness and diversify national incomes, while maintaining social stability, cultural identity, and environmental sustainability.[\[7\]](#)

The AFED is regarded throughout the Arab world as the leading and the most influential and important regional environmental organization that has become the main source of credible information on the state of Arab environment and policy options. According to its website, the "Arab Forum for Environment and Development (AFED) is a not-for-profit regional non-governmental organization, grouping experts together with civil society, business community and media, to promote prudent environmental policies and programmes across the Arab region". The AFED was officially established in Beirut on June 17, 2006, at the conclusion of a regional conference on Public Opinion and the Environment, organized by the Environment and Development magazine on the occasion of its tenth anniversary. The AFED is based in Beirut and has been endorsed by the Arab League and the UNEP.[\[8\]](#)

The Arab Green Economy Initiative has won the backing of the Council of Arab Ministers Responsible for the Environment (CAMRE) as well as other regional bodies, who have cooperated with the AFED to develop a joint Arab vision for green economy, which will be presented at Rio+20 Summit that will be held in Rio de Janeiro in June 2012.

In the meantime, in October 2011, the Arab Forum for Environment and Development conducted its fourth annual conference on Green Economy in a Changing Arab World, held in Habtoor Grand Hotel, Beirut. The conference called on Arab governments to allocate a higher priority to agricultural rural development; to introduce a policy shift towards water demand management and fair water tariffs; to adopt national and regional strategies for energy efficiency, demand-side management, cleaner energy, and renewable energy; to introduce municipal zoning regulations; to develop a national industrial policy that provides appropriate and favorable institutional and regulatory framework for low-carbon industries and research and development (R&D) capabilities; to make use of green solutions in buildings; to make sustained investments in mass public transportation in Arab cities; to adopt a resource management approach to municipal solid waste; to promote investments in converting organic food waste into compost and biogas, as well as waste-to-energy strategies; to develop a package of policy instruments to implement sustainable tourism practices in travel, hospitality, and recreational services, as well as community-based cultural tourism; to help in nature conservation and to support local economies. The conference also called on regional organizations and governments to activate the Arab Environment Facility and establish regional green economy initiatives, covering: research and development, renewable energy solutions, sustainable communities, cleaner production, sustainable agriculture, and regional transport networks.[\[9\]](#)

Summary

The UAE is the first Arab country to launch the green economy initiative. This initiative, which falls under the UAE Vision 2021 and under the Arab Green Economy Initiative, seems to be a natural continuity to the recent green economy initiatives in the

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UAE, such as the building of the Masdar City, the first green city in the world; the investment in the creation of renewable energy sources, including nuclear energy; and the development of greenhouse and organic agriculture. The UAE has also become the center of green building in the Arab world. Therefore, it has been only natural for the UAE to launch the green economy initiative.

Hopefully, more Arab countries will soon join the UAE in launching the green economy initiative, which has a good potential in some countries to boost even more socio-economic and environmental progress while in other countries it has a good potential to solve many acute and difficult socio-economical and environmental security challenges facing the Arab world.

Thus, future possible implementation of the green economy initiative in more Arab countries might shift the whole regional economy throughout the Middle East and North Africa into a green economy, which is much more sustainable than the current economy.

This article was originally published by Green Compass Research and can be found at <http://gc-research.org/uae%20green%20economy%20initiative/>.

- [1] See on-line at: <http://www.emaratalyoum.com/business/local/2012-01-15-1.452985>
- [2] See on-line at: <http://www.emaratalyoum.com/business/local/2012-01-15-1.452985>
- [3] See on-line at: <http://www.emaratalyoum.com/business/local/2012-01-15-1.452985>
- [4] For the full text of the UAE Vision 2021, see: <http://www.vision2021.ae/>;
[http://www.uaeinteract.com/docs/Cabinet_releases_UAE_Vision_2021_\(full_text\)/39555.htm](http://www.uaeinteract.com/docs/Cabinet_releases_UAE_Vision_2021_(full_text)/39555.htm)
- [5] See on-line at: <http://www.vision2021.ae/united-in-knowledge.php>
- [6] See on-line at: <http://www.vision2021.ae/united-in-prosperity.php>
- [7] See on-line at: <http://www.afedonline.org/ar/inner.aspx?contentID=586>
- [8] See on-line at: <http://www.afedonline.org/en/inner.aspx?menuID=1>
- [9] See on-line at: <http://www.afedonline.org/en/inner.aspx?contentID=683>

Implementing Sustainable Development in an Integrated Manner: From the Local to Global Level

By Rob Wheeler
March 2012

It is clearly evident that humanity is living far from sustainably on planet earth. There are very few things that we are doing in a fully sustainable manner. We thus need to make changes across the board. Fortunately there are plenty of examples, best practices and success stories, covering pretty much all sectors, that demonstrate how we can adopt more sustainable practices and begin to live sustainably.

It has been recognized, by most of those participating in the Rio+20 process, that we must proceed in an integrated, coherent and much more effective or ambitious manner. It is thus imperative that we adopt an integrated, multi-sectoral approach to sustainable development that focuses on protecting and restoring the natural environment and providing for all people's basic human rights and needs.

There are three aspects to this that are then essential. First integration needs to be both vertical and horizontal. The development and implementation of local and national sustainability strategies, along with the action plans on sustainable consumption and production (SCP), still need to be integrated and supported at all levels of government from the local to global. In other words, a global program is needed to support countries in developing and implementing their national strategies; and global and national processes also need to be developed to support sub-national government and local communities in developing and implementing their local and regional strategies and plans as a part of, and to inform, national processes and implementation efforts.

We also need to include horizontal integration linking and bringing together all of the various planning, development, and implementation efforts -- across all sectors of society -- at the same time - thus increasing the level of coherency and making much more rapid progress as improvements in one area will support and assist in others.

The Secretary-General's GAP Report states that, "While integrated planning or policies and national sustainable development strategies have become acceptable, their impact remains limited because of ad hoc and inconsistent application. While important institutions have been established to promote or monitor the integrated pursuit of sustainable development, many have not received adequate support, some have languished, and most have not been able to synergize well with complementary processes or institutions. While financial and other commitments of international support have been made, they have neither achieved greater coherence nor always been fully realized in practice. While the participation of Major Groups has become the norm, there is limited success in scaling up or replicating promising multistakeholder initiatives."

In order to respond to these findings, a global program or partnership is needed to bring the leading organizers, processes, governments, agencies and stakeholder groups together to determine how we can best finance, support, and implement these processes in a much more effective, coherent, integrated, inclusive and participatory manner.

Similarly, the Report found that, "As of 2009, 106 countries (out of 192) have reported that they are currently implementing a national sustainable development strategy (NSDS), but these are rarely viewed as the principal vehicles for policy coordination. In practice, a number of coordinating and planning mechanisms have been used in developing countries, often in parallel, and with similar or overlapping tasks, including conventional development planning, PRSP, UNDAF, DWCF, NCS, NEAP, and others. The resulting proliferation undermines their very purpose by weakening and fragmenting the efforts to introduce coherence."

And finally, the SG's Report suggested that, "There is a lack of a proper framework for vertical integration between local and national processes. Even the prominent Local Agenda 21 processes were hardly reflected in national processes."

Again, only about half of the countries have fulfilled the Johannesburg commitment to develop and begin to implement a National Sustainability Strategy by 2005; and only a very small percentage of the millions of cities, towns and villages around the planet have developed local strategies or action plans.

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It is thus essential that much more and better support be developed at the international level to assist with the development and implementation of the local to national strategy processes. These Strategies, and also the SCP Action Plans, must then be based on the Rio Principles; focus on achieving Agenda 21, JPOI, the MEAs and all other international sustainability agreements; and strive to support humanity in making a rapid transition to a fully sustainable economy and world.

In the 1990s the United States was well ahead of the curve under the Clinton/Gore Administration. With 8 Sustainability Task Forces drafting recommendations and reports; multi-sectoral committees and an inter-agency task force driving collaboration and integration; and a President's Council on Sustainable Development that included Cabinet Officials, key business leaders, and the heads of key civil society organizations, we were well on our way to developing and implementing a National Strategy for Sustainability. (<http://clinton5.nara.gov/PCSD>)

Unfortunately, these efforts were dropped before the Bush Administration was even elected; and they've never been picked up again since. Fortunately, quite a few state and local efforts have continued; but they have not been well-integrated with Obama Administration efforts to advance sustainable development.

In the US we have thus missed out on a tremendous opportunity; but this has been matched by the world community as well. Many of us may remember the UNDP Capacity 21 program. Many of the initiatives that resulted in the development of National Sustainability Councils and Strategies in the developing world began and were built with Capacity 21. But for some reason, still unknown to most, the effort to develop a Capacity 2015 program following the Johannesburg Summit, which was to pick up from where Capacity 21 left off - namely with implementation, was unfortunately never instituted.

It is thus essential that some type of global program, or at the very least, a UN Partnership Initiative, be established to support and assist in the development of local to national sustainability planning processes linked with effective, integrated and coherent implementation plans. Local and National Councils need to be established in all countries and communities to drive the process and encourage responsible action. These councils and strategies should include and be based on achieving the SDGs, Targets, and Indicators. And the new UN Sustainable Development Council should be tasked with carrying out a review process to ensure that all countries and communities are on track and do receive the support needed to carry out and achieve their sustainability plans.

Finally, I want to mention an important part of this local to global planning process that has been rather neglected: ie developing such efforts in fairly small rural communities and impoverished urban neighborhoods. Perhaps it is not too surprising that this has occurred, given that such communities have far fewer resources and institutionalized planning processes than do larger towns and municipalities. However, it is incredibly important that we include a focus on such communities in both the Rio process and Outcome Document, and in the Local and National Action Plans and 10 YFPs on Sustainable Consumption and Production, given that 70% of those facing extreme poverty live in rural areas. And most of the rest probably live in impoverished urban communities.

There are fortunately again however many examples that demonstrate how such integrated, multi-sectoral community based planning processes can be quite successful. For example, the Millennium Villages developed in cooperation with the Millennium Promise (www.millenniumvillages.org), the Green Productivity - Integrated Community Development program that was implemented in Vietnam with the assistance of the Asian Productivity Organization in the 1990s (www.apo-tokyo.org/gp/45icd.htm), and the Global Ecovillage Network (www.ecovillage.org) have worked in thousands of villages and local communities to demonstrate how such an integrated, multi-sectoral approach, that is owned and managed by the local community, can provide dramatic improvements in the sustainability, resilience, and ability to meet basic human needs and live cooperatively with nature.

Indeed ecovillages are probably among the most sustainable of communities on earth -- specifically because they use a multi-sectoral community based approach to sustainable rural development - embracing community owned and driven planning processes. Indeed, ecovillage design processes are perhaps the closest that a small community can come to developing and implementing what could be called a Local Agenda 21 sustainable community plan - which we all agreed in Rio that every community should develop. See: www.gaiaeducation.org

Following the Johannesburg Summit Conference, thirteen villages associated with the Global Ecovillage Network in Senegal received funding from the GEF Small Grants Program to implement an integrated, multi-sectoral community based approach to sustainable rural development linked with a training program and development processes. These villages were so successful

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that Senegal has created the first National Ecovillage Agency in the world and is intending and planning to use this model of development in all 28,000 rural villages throughout Senegal (www.ecovillages-sn.org).

Indeed, it could provide an excellent model to assist in ensuring that all people's basic human needs can be met, particularly in rural and impoverished urban communities. The EcoEarth Alliance UN Partnership Initiative has developed a proposal calling for a global network of resource and service centers to be established in various regions around the world to support the development of such an integrated community based approach to sustainable rural development. Each resource and service center could work with some fifty villages in the region and provide access to knowledge, information, technologies, best practices, basic supplies, equipment, and training programs.

Following the section on Cities in Article 102 in the Zero Draft Text we have asked that the following paragraph be added to address the need for a program to support sustainable rural development: "An integrated, multi-sectoral community based approach to sustainable rural development is also needed. We call on the UN to establish a global network of grassroots support organizations, resource and service centers, and training programs to develop local capacity building and assist villages and rural communities in eradicating poverty and meeting basic human needs."

We have also requested that "Local and Rural Communities" be added as a priority area, after Sustainable Cities, under article 107 in the Outcome Document to ensure that the needs of such communities are also adequately addressed in the Sustainable Development Goals. There is a great need to stem the flow of rural to urban migration and thus more easily provide for all people's basic human right and needs. The Global Ecovillage Network, along with many others, have already demonstrated how this can fairly easily be accomplished if sufficient resources are provided to invest in sustainable rural and impoverished urban development.

This article was originally published by Stakeholder Forum and can be found at <http://stakeholderforum.org/sf/outreach/index.php/int3day2home/87-int3/701-int3day1item>.

The Green Economy is the Right Solution for our Troubled Times

By Richard Matthew
February 2012

The green economy offers a powerful solution to both a warming planet and economic volatility. There are a host of political and economic crises in the world today. The Eurozone crisis is expected to be followed by a European recession. In China we are seeing strong evidence of a slowdown and many are calling for major economic reforms. Finally, the hope and promise of the “Arab Spring” has given way to a winter of discontent, as the Arab world suffers due to a weak economy and high unemployment.

Amidst all this economic uncertainty, global warming continues unabated. The National Oceanic and Atmospheric Administration (NOAA) said all 11 years of the 21st century rank among the 13 warmest. NASA noted 9 of the top 10 warmest years in its record have occurred since 2000. The La Nina effect was the warmest on record in 2011, according to data from NOAA and NASA. The increasing probability of massive flooding caused by melting Greenland and Antarctic icecaps are creating real concerns about the future of the planet.

The string of warm years in the last decade is linked to rapidly increasing concentrations of greenhouse gases. In a press release, NASA wrote “Higher temperatures today are largely sustained by increased atmospheric concentrations of greenhouse gases, especially carbon dioxide.” As the world’s economies get stronger, energy demands will keep increasing and carbon emissions will keep rising.

As reported in a Green Energy Intelligence Report, it is predicted that by 2030, U.S. energy related CO2 emissions will amount to 6.9 billion metric tons (“MT”) under a “business-as-usual” scenario. Worldwide, energy-related CO2 emissions are projected to increase from 28.1 billion MT in 2005 to 42.3 billion MT in 2030. Together with non-energy related CO2 eq emissions (deforestation, industrial production processes, etc.), total CO2 eq emissions are projected to reach 62 giga (billion) tons (“Gt”) by 2030 (McKinsey June 2008).

The IEA’s chief economist has said that governments only have five years to avoid more than 2°C of global mean temperature rise. Extreme weather events add to the data and send an easy to read message that the time has arrived for a new economic framework. According to NOAA, there were 10 massive weather disasters in the U.S. last year, each exceeding a billion dollars. The unprecedented weather extremes include the following estimates of death and damage:

- Hurricane Irene: 50 deaths and \$7 billion
- Upper Midwest flooding along the Missouri River: \$2 billion
- Mississippi River flooding in spring and summer: \$4 billion
- Drought and heat waves in Texas and Oklahoma: \$5 billion
- Tornadoes in the Midwest and Southeast in May: 177 deaths and \$7 billion
- Tornadoes in the Ohio Valley and Southeast in April: 32 deaths and \$9 billion
- Tornadoes in Oklahoma and Pennsylvania in April: \$2 billion
- Tornadoes in the Northeast and Midwest April 8-11: \$2.2 billion
- Tornadoes in central and southern states April 4-5: \$2.3 billion
- Blizzard in January from Chicago to the Northeast: 36 deaths and \$2 billion
-

The costs of extreme weather are astronomical, and it is predicted they will get much worse if we do not address the anthropogenic greenhouse gases that cause climate change. We need a framework to address both the economic and environmental ills that the world is facing. We also need a means of increasing our energy supply without increasing our greenhouse gas emissions. The Green Economy offers the solutions we so desperately need.

According to a July, 2011 report from the Brookings Institution, 2.7 million Americans work at green jobs – more than work in the fossil fuel industry. The US Conference of Mayors estimates that number will almost triple by 2040.

The green jobs study by the Brookings Institute suggests the U.S. should put primary emphasis on new, technology-intensive, energy-related sectors. The study by the Brookings Institution Metropolitan Policy Program is called “*Sizing the Clean Economy: A National and Regional Green Jobs Assessment*” The chief conclusion they came to is that the driving force

behind jobs and the growth of the U.S. clean economy over the last decade has been emerging energy technologies. This is a conclusion echoed in Google's energy innovation report.

Green jobs are also quality jobs with median wages 13 percent higher than the average. Investment in clean energy projects yields more than three times as many jobs as investing in fossil fuels. Although the green economy is producing results now, the growth potential is staggering.

The failure of the US Congress to pass comprehensive climate and energy legislation has slowed the growth of the green economy, but it is not too late. A good example of what can be done even in the absence of federal government legislation comes from a Los Angeles cleantech business incubator (LACI). The LACI approach identifies local talent, nurtures it, and helps it get to market, resulting in more jobs and a bigger green economy in Los Angeles and beyond.

A UNEP study reveals that investing in the green economy will spur growth. Contrary to conservative belief, the greening of economies is not generally a drag on growth but rather a new engine of growth and a net generator of decent jobs. The Green Economy Report is compiled by UNEP's Green Economy Initiative. The report, called *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*, recommends spending \$1.3 trillion a year on the green economy.

Pavan Sukhdev, head of UNEP's Green Economy Initiative said, "Governments have a central role in changing laws and policies, and in investing public money in public wealth to make the transition possible. By doing so, they can also unleash the trillions of dollars of private capital in favour of a green economy."

This article was originally published by Global Warming is Real and can be found at <http://globalwarmingisreal.com/2012/02/29/the-green-economy-is-the-right-solution-for-our-troubled-times/>.

Environment: Act Now or Face Costly Consequences, Warns OECD

By OECD
March 2012

As countries struggle with the immediate challenges of stretched public finances and high unemployment, they must not neglect the longer term. Action needs to be taken now to prevent irreversible damage to the environment.

“Greener sources of growth can help governments today as they tackle these pressing challenges. Greening agriculture, water and energy supply and manufacturing will be critical by 2050 to meet the needs of over 9 billion people.” said OECD Secretary-General Angel Gurría.

The OECD Environmental Outlook to 2050: The Consequences of Inaction presents the latest projections of socio-economic trends over the next four decades, and their implications for four key areas of concern: climate change, biodiversity, water and the health impacts of environmental pollution. Despite the recent recession, the global economy is projected to nearly quadruple to 2050. Rising living standards will be accompanied by ever growing demands for energy, food and natural resources - and more pollution.

The costs of inaction could be colossal, both in economic and human terms. Without new policies:

- World energy demand in 2050 will be 80% higher, with most of the growth to come from emerging economies (for North America about +15%, for OECD Europe +28%, for Japan +2.5, for Mexico +112%) and still 85% reliant on fossil fuel-based energy. This could lead to a 50% increase in greenhouse gas (GHG) emissions globally and worsening air pollution.
- Urban air pollution is set to become the top environmental cause of mortality worldwide by 2050, ahead of dirty water and lack of sanitation. The number of premature deaths from exposure to particulate air pollutants leading to respiratory failure could double from current levels to 3.6 million every year globally, with most occurring in China and India. Because of their ageing and urbanized populations, OECD countries are likely to have one of the highest rate of premature death from ground-level ozone in 2050, second only to India.
- On land, global biodiversity is projected to decline by a further 10%, with significant losses in Asia, Europe and Southern Africa. Areas of mature forests are projected to shrink by 13%. About one-third of biodiversity in rivers and lakes worldwide has already been lost, and further losses are projected to 2050.
- Global water demand will increase by some 55%, due to growing demand from manufacturing (+400%), thermal power plants (+140%) and domestic use (+130%). These competing demands will put water use by farmers at risk. 2.3 billion more people than today –over 40% of the global population – will be living in river basins under severe water stress, especially in North and South Africa, and South and Central Asia.

These projections highlight the urgent need for new thinking. Failing that, the erosion of our environmental capital will increase the risk of irreversible changes that could jeopardize two centuries of rising living standards. “We have already witnessed the collapse of some fisheries due to overfishing, with significant impacts on coastal communities, and severe water shortages are a looming threat to agriculture. These enormous environmental challenges cannot be addressed in isolation. They must be managed in the context of other global challenges, such as food and energy security, and poverty alleviation.” says Gurría.

Well-designed policies to tackle environmental problems can also help to address other environmental challenges, and contribute to growth and development. Tackling local air pollution contributes not only to cutting GHG emissions but also to reducing the economic burden of chronic and costly health problems. Moreover, climate policies help protect biodiversity, for example by reducing emissions from deforestation.

Premature deaths from ground-level ozone: Number of deaths per million inhabitants



Source: OECD (2012), *OECD Environmental Outlook to 2050; Baseline*, output from IMAGE suite of models.

To avert the grim future painted by the Environmental Outlook to 2050, the report recommends a cocktail of policy solutions: using environmental taxes and emissions trading schemes to make pollution more costly than greener alternatives; valuing and pricing natural assets and ecosystem services like clean air, water and biodiversity for their true worth; removing environmentally harmful subsidies to fossil fuels or wasteful irrigation schemes; and encouraging green innovation by making polluting production and consumption modes more expensive while providing public support for basic R&D.

Green growth policies are already in place in many countries. For example, Mexico's new pilot programme gives direct cash transfers to farmers instead of subsidising the electricity they use to pump irrigation water, thus removing the price distortion that encouraged over-use of groundwater. The UK government has earmarked GBP 3 billion for the new UK Green Investment Bank; this should leverage an additional GBP 15 billion of private investment in green energy and recycling by 2015. The US government has been working to phase out preferential tax provisions worth about USD 4 billion per annum that continue to support the production of fossil energy. Capitalising on its knowledge-base and environmental technologies, city of Kitakyushu in Japan is working with businesses to enhance its competitiveness as a "green city" for low-carbon growth. Governments, businesses, consumers all have a part to play to move towards greener growth.

This article was originally published by the OECD and can be found at:

http://www.oecd.org/document/34/0,3746,en_21571361_44315115_49897570_1_1_1_1,00.html.

An Education System towards Sustainability

By Agripa Munyai
April 2012

The reality is that nearly 50% of the world's population (almost 3 billion people is under the age of 25). The numbers continues to increase on a daily basis. One of the big concerns regarding the increase in youth population has been education and employment opportunities. It is a fact that the more young people are added to the world population, the higher the demand for relevant education systems and employment opportunities.

In South Africa, thousands of young people graduate from Universities and colleges throughout the country every year. These are the people who are educated to take a job in the corporate world in order to earn money and sustain themselves into the unknown future. However, majority of them simply go back to their parents' houses to sit and wait to get a job. I have met many of the young people with certificates and different qualifications but they are discouraged because they cannot find employment. It is from the interaction with them that I learned that one of the shortcomings of the public education system is that it educates young people to be job seekers and consumers.

I strongly believe that the education system should stimulate and give young people direction to a better future. This will enable them to use their talents and abilities in amanner, which serves others and respects the planet. In short, everyone who goes through the education system should be able to discover what he or she is good at and what he or she wants to do. The sad reality is that majority of them sit and wait for a job opening to be available while adding to the number of unemployed graduates.

The big challenge is that the education system is not designed to help young people discover what they are capable of doing. It actually squanders talents and abilities by encouraging good grades and obtaining academic certificates. I believe that if the young people can learn to know themselves and to understand what they are capable of doing, they will not have to look for jobs but they will create many new opportunities. The truth is that there are so many gaps in the society that young people can contribute in bridging. It is sad that they are not being equipped to fill the service gaps but to wait for someone to give them jobs.

The reality is that the public education system continues to create more individuals who are takers. These are people who are seeking to acquire more and more because that is what they are taught to believe education is for. They are taught to believe that education will help them earn money in order to acquire the material things of life. That is why career choices are about *"how much am I going to get paid if I follow this career?"* It is hardly about service and giving back. Those careers that encourage service and giving back, like community development are looked down upon. In addition young people who choose to follow them are ruthlessly discouraged.

Part of the reason the society is experiencing climate change is that millions of people are not aware of the consequences of their consumer choices. The education system continues to shape more individuals who are consumers but not informed about the impact of their choices on the future. I believe that if we are to address climate change and other environmental challenges facing the present and future generations, we have to redesign the education system thoroughly. The focus should be on shaping individuals who understand and care about the fact that we are all part of a living planet system. This means that whatever we take out of it has to be given back; one way or another. In this way we will be able to empower the young generations to create a sustainable society.

In the words of Martin Lurther King Jr, *"we all can be great because we all can serve."* I believe that public education system should focus on encouraging self-awareness, tolerance, understanding, care and service more than acquiring certificates and earning money. This will help individuals who go through public education system to understand the significance of service for the benefit of fellow human beings and the planet we all live in.

This article was originally published by Icologie and can be found at: <http://www.icologie.com/news/education-system-towards-sustainability/>.

Groundwater Pumping Leads to Sea Level Rise, Cancels Out Effect of Dams

By Eurasia Review
May 2012

As people pump groundwater for irrigation, drinking water, and industrial uses, the water doesn't just seep back into the ground — it also evaporates into the atmosphere, or runs off into rivers and canals, eventually emptying into the world's oceans. This water adds up, and a new study calculates that by 2050, groundwater pumping will cause a global sea level rise of about 0.8 mm per year. "Other than ice on land, the excessive groundwater extractions are fast becoming the most important terrestrial water contribution to sea level rise," said Yoshihide Wada of the Utrecht University (Netherlands) and lead author of the study.

In the coming decades, he noted, groundwater contributions to sea level rise are expected to become as significant as those of melting glaciers and ice caps outside of Greenland and the Antarctic. Between around 1970 and 1990, sea level rise caused by groundwater pumping was cancelled out as people built dams, trapping water in reservoirs so the water wouldn't empty into the sea, Wada said. His research shows that starting in the 1990s that changed, as populations started pumping more groundwater and building fewer dams.

The researchers looked not only at the contribution of groundwater pumping, which they had investigated before, but also at other factors that influence the amount of terrestrial water entering the oceans, including marsh drainage, forest clearing, and new reservoirs. Wada and his colleagues calculate that by mid-century, the net effect of these additional factors is an additional 0.05 mm per year of annual sea level rise, on top of the contribution from groundwater pumping alone. The research team's article is being published today in *Geophysical Research Letters*, a journal of the American Geophysical Union. The last report of the United Nations Intergovernmental Panel on Climate Change in 2007 addressed the effect on sea level rise of melting ice on land, including glaciers and ice caps, Wada said. But it didn't quantify the future contribution from other terrestrial water sources, such as groundwater, reservoirs, wetlands and more, he said, because the report's authors thought the estimates for those sources were too uncertain. "They assumed that the positive and negative contribution from the groundwater and the reservoirs would cancel out," Wada said. "We found that wasn't the case. The contribution from the groundwater is going to increase further, and outweigh the negative contribution from reservoirs." In the current study, the researchers estimated the impact of groundwater depletion since 1900 using data from individual countries on groundwater pumping, model simulations of groundwater recharge, and reconstructions of how water demand has changed over the years. They also compared and corrected those estimates with observations from sources such as the GRACE satellite, which uses gravity measurements to determine variations in groundwater storage.

With these groundwater depletion rates, Wada and his colleagues estimate that in 2000, people pumped about 204 cubic kilometers (49 cubic miles) of groundwater, most of which was used for irrigation. Most of this, in turn, evaporates from plants, enters the atmosphere and rains back down.

Taking into account the seepage of groundwater back into the aquifers, as well as evaporation and runoff, the researchers estimated that groundwater pumping resulted in sea level rise of about 0.57 mm in 2000 — much greater than the 1900 annual sea level rise of 0.035 mm. The researchers also projected groundwater depletion, reservoir storage, and other impacts for the rest of the century, using climate models and projected population growth and land use changes.

The increase in groundwater depletion between 1900 and 2000 is due mostly to increased water demands, the researchers find. But the increase projected between 2000 and 2050 is mostly due to climate-related factors like decreased surface water availability and irrigated agricultural fields that dry out faster in a warmer climate. If things continue as projected, Wada estimates that by 2050, the net, cumulative effect of these non-ice, land-based water sources and reservoirs — including groundwater pumping, marsh drainage, dams, and more — will have added 31 mm to sea level rise since 1900. The new study assumes that, where there is groundwater, people will find a way to extract it, Wada said, but some of his colleagues are investigating the limits of groundwater extraction. One way to decrease groundwater's contribution to sea level rise, he noted, is to improve water efficiency in agriculture — to grow more with less groundwater.

This article was originally published by American Geophysical Union and can be found at http://www.agu.org/news/press/pr_archives/2012/2012-25.shtml.

Failing Water Infrastructure Drains Economy, Report Warns

By Paula Melton
February 2012

Leaky pipes, poor drainage, and inadequate water treatment facilities present risks for both public health and the economy. Only medical services are poised to see growth--primarily due to an increase in water-borne illnesses.

Aging water infrastructure could seriously imperil both public health and the economy if current investment trends continue, according to a new report released by the American Society of Civil Engineers (ASCE).

In the second report in its "Failure to Act" series, the group lays out the economic consequences of increasingly unreliable water delivery and wastewater treatment, forecasting the loss of 700,000 jobs by 2020 and \$1.4 million jobs by 2040. A GDP loss of \$416 billion is predicted between 2011 and 2020. ASCE only foresees one growth industry coming out of the deteriorating water network:

"medical services are expected to grow between 2020 and 2040 due to increasing outlays to fight water-borne illnesses." While neglecting water infrastructure could have dire consequences, the report concludes that worst-case scenarios can be prevented by increasing investments in water infrastructure, developing more sustainable water delivery and wastewater treatment methods, and changing land use patterns.

This article was originally published by Building Green.com and can be found at <http://www.buildinggreen.com/auth/article.cfm/2012/2/2/Failing-Water-Infrastructure-Drains-Economy-Report-Warns/>. To download the full report, visit www.asce.org/failuretoact.

Egypt: A New 'Roof-Top Revolution' Emerges

By Catriona Knapman
March 2012

The current growth of urban agriculture echoes the citizen-led change witnessed in Egypt last year.

On Cairo's rooftops and vacant land, people are coming together with visions of cultivating a different sort of development in the city. Community groups, social entrepreneurs and individuals are responsible for this new growth which intertwines local development and environmental consciousness in an effort to achieve food secure neighbourhoods.

The Food and Agricultural Organisation (FAO) stated in *The State of Food Insecurity in the World Report* (2011) that the urban poor are particularly vulnerable to current global increases in food prices. In Egypt, urban agriculture offers the opportunity to address these problems holistically.

Aspirations for urban gardening in Cairo were first voiced through international institutions in the early 1990s. A decade later, FAO in coordination with the Egyptian government launched the "Green Food from Green Roofs" project. This project offered a policy-based approach to developing food production. In contrast, the current growth of urban agriculture echoes the citizen-led change witnessed in Egypt last year. These new initiatives operate at a local level, with objectives that prioritise local change. Having spoken to a collection of the leaders of these projects, it is clear that each group aims to enchain a wider reaction within Cairo's communities. They are working with other NGOs and individuals to begin small-scale gardening projects on balconies or rooftops - and setting up trainings in agricultural techniques.

The groups are also well-informed of previous projects, and they have developed innovative techniques to overcome problems. Schaduf, a social enterprise managed by two brothers, aims to lift people above the poverty line through an income generated by the sale of garden produce. Sherif Hosny, joint-CEO, says previous projects required residents to sell produce themselves, yet they were ill-equipped with the business and marketing savvy to make a profit.

His business now buys produce from individual families then sells it in bulk to retailers. Schaduf's CEO Hosny is however quick to point out that there is nothing novel about urban gardening in Cairo. He says on one of the rooftops where his project is operating, residents were already tending to healthy populations of goats and chickens. A number of small farmers use two of Cairo's Nile Islands entirely for agriculture.

The new projects are also seeking to develop current systems. For example, Schaduf focuses on developing hydroponic agriculture which grows produce in mineral rich water, without soil. The One Thousand Garden Project coordinated by Slow Food also uses agroecology, which draws on traditional farming practices and seeks to make use of them in modern contexts.

Solace in an urban jungle

The Permaculture Project in the Heliopolis neighbourhood of Cairo is also working to reinvent the status quo. This project is the vision of one man, supported by a motivated group of neighbours and volunteers. Gamal El Nehry, the project's visionary, dreams of a transforming Cairo's public spaces into aesthetically beautiful areas where people can meet and spend time together.

The rows of flowers and trees which blossom in the Permaculture Project's garden give a taste of the Cairo he envisages. "People have become isolated," he says, "and this garden is an opportunity for them to rediscover each other...for us to come together and understand our differences". The Permaculture Project's vision for Heliopolis also includes better use of under-utilised spaces so that they can support the community's food security by producing more nutritious fruit and vegetables.

The NGO Nawaya's farm-focused projects are also bringing together Egyptian society through workshops in Cairo in which city dwellers and farm workers meet and work together in order to learn new agricultural skills. Its founders note that city dwellers are interested in learning about these techniques, and that such workshops offer a "social platform for dialogue", making each group aware of the others' challenges.

This sentiment is echoed by Marta Messa, Coordinator of the One Thousand Gardens Project, who states that each garden is a “chance for a shared experience ... a place where the diverse experiences of the community are applied and appreciated”. The issue of food sovereignty is also key for the One Thousand Garden Project, which aspires to create gardens that grow clean safe food as well as inspire pride in local products.

Food insecurity is a security issue

During parliamentary discussions earlier this month, many Egyptian MPs stated that the food issues in the country had become a matter of national security. In contrast to the community aims, current parliamentary debates on the issue of food have focused on the redesign of government subsidies with the aim of cutting spending and limiting subsidies to those most in need. Another issue which is dominating the debate has been the import of carcinogenic wheat into Egypt during Mubarak's presidency. The similarity of parliament's concerns and those of the community groups is noticeable – although their approaches for a solution are very different.

These urban gardens are very much a product of modern Cairo, and the obstacles they encounter demonstrate the political and social context of a changing Egypt. Groups highlight the difficulties in generating support in some parts of the city where residents see farming as a lower class activity. Many people are also unaware of environmental issues involved. Furthermore, sourcing funding remains a challenge, and government support is lacking.

Yet The Permaculture Project speaks with optimism of the forthcoming local council elections, which are set for July or August of this year. They hope that having elected representatives in Cairo's local councils will increase support for their work. They also hope to be able to build similar support amongst MPs, with the objective of working alongside public institutions to develop the city.

It was of course the famous 2011 Egyptian revolution which brought about these political changes. El Nehry notes that Egyptians were brought together in 2011 by an eminent political threat, but that this alone does not establish deeply rooted changes in society. Rather, he believes that there are many underlying layers of social problems which must be addressed and working with gardens teaches people to be responsible at a micro-level.

This, he adds, can translate into a greater social consciousness in political and other issues. “All it takes is to sow a few seeds to create beauty and food,” states El Nehry. The flowers and herbs which the Permaculture Project has cultivated in Heliopolis are testament to these words – and these sentiments are being repeated across Cairo by groups of motivated individuals.

Through the practice of gardening, they are aspiring to build a Cairo with sustainable community resources and a cleaner environment. Their produce is making a peaceful, yet determined stance against Cairo's polluted roads and the problems of poverty and food shortages. In other words, they are directly addressing the social, economic, and environmental problems currently faced by a country in a state of change.

This article was originally published by Think Africa Press and can be found at <http://thinkafricapress.com/egypt/new-roof-top-revolution-emerges>.

United Nations Trade Official Encourages Expansion of Organic Farming

By Africa News
May 2012

Organic farming - Expanding Africa's shift towards organic farming will have beneficial effects on the continent's nutritional needs, the environment, farmers' incomes, markets and employment, the deputy head of the United Nations trade and development body said today.

"Organic agriculture can offer an impressive array of food security, economic, environmental, and health benefits for developing countries, including in Africa," said the Deputy Secretary-General of the UN Conference on Trade and Development (UNCTAD), Petko Draganov, during the opening of the 2nd African Organic Conference in the Zambian capital, Lusaka.

Mr. Draganov said UNCTAD, which is tasked with promoting the integration of developing countries into the global economy, strongly supports the growing use of organic farming practices in Africa - the region has more certified organic farms than any other continent - and pointed out that organic agriculture was a central topic of UNCTAD's recent quadrennial conference in Doha, Qatar.

"The conference emphasized the importance of food security, sustainable agriculture, and a transition towards a 'green' economy," Mr. Draganov said. "Clearly the subject of this meeting - organic agriculture - can have an important role in achieving sustainable and inclusive development."

Among the objectives of the three-day conference in Lusaka is the development of an African Organic Action Plan intended to spur expansion of the organic farming sector, streamline certification and 'organic equivalency' systems for vigorous trade in organic goods, and add to the continent's markets for organic produce.

Organic agriculture avoids the use of artificial fertilizers and other chemicals, which are expensive for the continent's farmers because 90 per cent of them are imported. It also preserves and enhances the soil in a region where land degradation and expanding deserts are a serious concern. The farming method relies primarily on locally available renewable resources, shielding farmers from price shocks associated with external farming inputs.

According to UNCTAD, organic agriculture can increase farm yields by 100 per cent or more and help farmers receive higher prices for their produce, which sells at a premium. The method also helps create jobs in rural areas.

The conference in Lusaka is jointly organized by UNCTAD, the African Union, the International Federation of Organic Agriculture Movements, the UN Food and Agriculture Organization (FAO), the Zambian Ministry of Agriculture and Livestock, the Organic Producers and Processors Association of Zambia and Grow Organic Africa.

This article was originally published by the United Nations and can be found at <http://www.un.org/apps/news/story.asp?Cr=agriculture&Cr1=&NewsID=41904>.

China Motivated to Adopt Sustainable Energy Solutions

By John Brian Shannon
May 2012

Could it be that the world's largest emitter of greenhouse gas is the same country that spends more on green technology than any other country?

It says everything about China, that a nation of 1.35 billion people which is enjoying a rapidly growing economy, chooses to spend unimaginably large sums of money to green-tech its industry – even as many competing domestic interests vie for government revenue.

Beijing residents rarely see the sky these days due to constant smog caused by coal-fired power plants, industrial pollution, transportation and the construction sector. Many cities in China are finding themselves completely blanketed by thick, particulate-laden clouds. At a certain point smog begins to affect worker attendance and productivity rates -- which affect the corporate bottom line.

According to CLPmag.org, a non-profit organization working throughout Asia: "It has been estimated that 410,000 Chinese die as a result of pollution each year." That's every year, folks.

It is a vicious circle. High pollution levels induce worker ailments, which lower productivity, resulting in lower profits, and layoffs, all of which conspire to cause company directors to demand stricter environmental regulations, as they now recognize the costs of environmental inaction are much higher than the cost of environmental action.

China is now the largest producer of solar panels in the world, having surpassed the U.S.A. in late 2011. A smaller percentage of those panels are available for export these days as they are being redirected for domestic use as a way to taper the need for more coal-burning power plants.

However, on account of the staggering demand for electricity due to the rapid growth in China, completion of one coal-fired electrical power generation station per week continues and has been the case since 2008. One must also keep in mind a very significant number; for each ton of coal burned, 2.4 tons of CO₂ is created, not to mention tons of particulate, airborne mercury, arsenic, SO₂, NO_x and carbon monoxide.

Of particular interest to the Chinese government these days is the cost of constructing (for this example) 100 megawatt blocs of electricity generation – enough to power 62,000 homes – using various methods;

Concentrated Solar Power (CSP) solar power plants -- which cost around 700 million dollars in 2010, but is steadily dropping in price -- are noted for producing solar power 24 hours per day, storing the heat generated in vast underground pools of molten salt. After manufacture and construction, all emissions are zero.

A 100 MW CSP power plant saves the environment 164,000 tons of CO₂ per year, and fuel cost for the Sun to power those curved mirrors is zero.

A Photovoltaic (PV) solar power plant generally costs around 300 million dollars, although prices are dropping almost monthly. Fuel cost for the Sun to power those solar modules is zero. After manufacture and construction, all emissions are zero. These facilities require very low maintenance. A 100 MW PV power plant also saves the environment 164,000 tons of CO₂ per year.

A coal-fired power plant, which currently costs about 250 million dollars, but that price is rising yearly as expensive environmental technology is added to improve air quality. Constant maintenance is a factor with coal-fired power plants.

In the coal power plant scenario, the construction cost is only one factor out of many high costs to be borne by the plant operator and ultimately passed on to citizens.

At the end of 2010, China operated 620 coal-fired power plants burning over 3 billion tons of coal per year. That's a lot of CO₂, sulfur dioxide, nitrous oxides, airborne mercury, other toxins and particulate. Separate from the initial manufacture and

construction emissions, normal coal power plant operations added together in China cause CO2 emissions alone of 7.2 billion tons per year. And, except for nitrous oxides (due to a successful Chinese government program to drastically reduce NOx levels), all those numbers will easily double by 2020.

Then there is the fuel equation; In China, coal costs 815 yuan (\$125) a ton and it burns over 3 Billion tons per year, to total 375 billion dollars annually. Rail and shipping costs are extra - which represent a substantial amount of money. Some of China's coal supply comes all the way from western Canada and the U.S.A.

Significantly, those numbers too, are expected to more than double by 2020. That is a lot of money to spend year in and year out, even for the world's largest economic performer.

This brings us right back to 410,000 deaths per year in China due to the environmental degradation of the air, water, land and even food. Is it any wonder that China is determined to pursue sustainable solutions to improve its environment?

In first-world nations, delivering on the environmental front is seen to be one step up from receiving a Cub Scout badge.

In China, delivering on the environmental front means saving tens of thousands of lives every year along with accumulating health-care savings.

Is it any wonder that the government of China has displayed such a high level of interest in pursuing green energy policy?

China's government has realized the importance of clean energy to the overall health and survival of many thousands of citizens per year and its economy. Although late entering the game, China is now making huge strides to properly address its environmental challenges.

This article was originally published by Eco Point and can be found at <http://www.ecopoint.asia/2012/05/01/china-goes-green/>.

World Wind Power Climbs to New Record In 2011

By Matthew Roney
March 2012

Wind energy developers installed a record 41,000 megawatts of electricity-generating capacity in 2011, bringing the world total to 238,000 megawatts. With more than 80 countries now harnessing the wind, there is enough installed wind power capacity worldwide to meet the residential electricity needs of 380 million people at the European level of consumption.

China led all countries in annual wind power gains for the third straight year, installing a jaw-dropping 18,000 megawatts for a total wind capacity of 63,000 megawatts. This country's rise to the top of the world rankings has been swift: after doubling its wind capacity each year from 2005 to 2009, China surpassed the United States in 2010. (See data at www.earth-policy.org.)

China's ambitious Wind Base program will help ensure a widening lead for some years to come. Across the wind-rich northern provinces, wind mega-complexes of between 10,000 and 38,000 megawatts each are now under construction. By 2020, these "wind bases" will approach 140,000 megawatts of total installed capacity—more than the entire world had at the close of 2008.

As impressive as China's achievements have been thus far, such rapid growth in capacity has created significant challenges. Badly needed electric grid and transmission upgrades in remote areas lag well behind wind farm completions, meaning that many turbines stand idle. This, combined with growing concerns over the safety and performance of hastily built wind farms, has led regulators to cap the allowed new wind capacity at 15,000–20,000 megawatts per year and to make improved project quality and grid access a priority.

Now trailing well behind China, the United States installed 6,800 megawatts of wind generating capacity in 2011. The U.S. wind fleet now totals nearly 47,000 megawatts across 38 states, enough to meet the electricity demand of more than 10 million homes. Another 10,000 megawatts could be on the way in 2012. The outlook for 2013 is not as upbeat, however. If an important tax credit expires at the end of 2012, as scheduled, the industry fears a precipitous drop in new wind capacity. This would put thousands of jobs at risk in what has been a welcome success story in U.S. manufacturing.

Texas, now with 10,400 megawatts installed, has been atop the U.S. wind leaderboard since 2006. Next in line is Iowa, with 4,300 megawatts. In share of electricity generated from wind, Iowa and South Dakota lead at 20 percent each. Texas, home to 25 million people, gets 8 percent of its electricity from wind farms.

As in China, some of the best U.S. wind resources are located in remote areas and require new or upgraded transmission lines to move electricity to population centers. Many long-distance high-voltage transmission projects are under development across the United States to help address this, including four projects proposed by Clean Line Energy Partners in the Midwest, South, and West that would transport more than 17,000 megawatts of renewably generated electricity. Clean Line's "Grain Belt Express," for example, would allow wind-rich Kansas to export renewable electricity eastward to Missouri, Illinois, and beyond.

With close to 100,000 megawatts of wind capacity, Europe leads all regions of the world. The 9,600 megawatts of wind installed in the European Union (EU) in 2011 accounted for more than 20 percent of the bloc's new electricity generating capacity. (Solar power provided most of the rest.) Since 2000, the EU has added a net 84,000 megawatts of wind while reducing coal and nuclear power capacity by a net 10,000 and 14,000 megawatts, respectively.

Denmark gets over a quarter of its electricity from wind, more than any other country. The government has pledged to reach 50 percent by 2020. Spain—ranking fourth in the world behind Germany in total wind capacity—gets more than 10 percent of its electricity from wind, as do Portugal and Ireland. In Germany, where wind covers 8 percent of national electricity use, four northern states each boast impressive wind power shares of more than 40 percent.

Less-mature wind markets in the EU are beginning to gain momentum. Belgium just surpassed 1,000 megawatts installed and is expected to double that capacity by the end of 2012. And Romania, which grew from only 14 megawatts in 2009 to 980 megawatts in 2011, could add another 850 megawatts in 2012.

India, whose Suzlon has become one of the world's leading wind turbine manufacturers, installed 3,000 megawatts of wind in 2011. It remains fifth in the world wind rankings, with 16,100 megawatts total, a figure the government hopes to double within

five years. Eighteen of India's 28 states encourage wind energy development through feed-in tariffs. Widely used in Europe, these policy mechanisms require utilities to pay a premium for electricity generated with renewable energy.

Neighboring Pakistan, which just introduced a national feed-in tariff, looks to add over 1,500 megawatts to its existing 6 megawatts by 2013. Much of this expansion is slated for Sindh province, home to the country's largest city, Karachi. Overall, Pakistan's wind capacity potential comes in at 350,000 megawatts—enough to meet its electricity needs 10 times over. Countries in Latin America, Africa, and the Middle East are also taking advantage of their wind resources. Brazil, which leads the way in the rapidly expanding Latin American market, reached 1,500 megawatts of total wind capacity in 2011, a 63 percent increase over 2010. Wind projects representing another 7,000 megawatts already have customers contracted to purchase their electricity once they go online. In sub-Saharan Africa, the long-awaited 300-megawatt Lake Turkana wind farm is set to break ground in northwestern Kenya in April 2012. Ethiopia brought its first wind farm online in 2011, and both Nigeria and Mauritania are poised to do the same in early 2012. And in the Middle East, Turkey has grown from 20 megawatts of wind in 2005 to 1,800 megawatts in 2011, and it has five times that amount in the pipeline.

The vast majority of wind turbines operating today are on land, but offshore wind development is ramping up. Now totaling more than 4,000 megawatts, almost all of it in Europe, offshore wind generating capacity has grown fivefold since 2006. More than half of the total belongs to the United Kingdom, whose 380-megawatt Greater Gabbard offshore park is already the world's largest. It will exceed 500 megawatts when complete. The European Wind Energy Association expects the region's offshore generating capacity to reach 150,000 megawatts by 2030—covering 14 percent of projected EU electricity demand.

The only operational offshore wind farms outside Europe are in Asia. China has installed more than 200 megawatts offshore since 2010, and Japan has built 25 megawatts since 2004. Ambitious near-term goals, if realized, will sharply accelerate offshore expansion: China aims for 5,000 megawatts by 2015 and South Korea plans to have 2,500 megawatts by 2019.

A frequent argument against renewable sources of electricity is that they are much too expensive to compete with nuclear or fossil fuel power plants. In the most suitable locations on land, however, wind is already often cost-competitive. Analysts at Bloomberg New Energy Finance estimate that as wind costs continue to fall, even the average wind farm will be competitive by 2016.

Global wind power capacity is projected to at least double between 2011 and 2016, as mature players build on a sizable base and as more countries enter the market. The race is on to shift from finite and costly fossil fuels to renewables swiftly enough to avoid the disastrous consequences of runaway climate change. With its long list of attractive attributes—widespread and abundant, quick to scale, climate-benign, and zero fuel cost—wind power is driving the transition to a new energy economy.

This article was originally published by Earth Policy Institute and can be found at http://www.earth-policy.org/indicators/C49/wind_power_2012. Data and additional resources are available at www.earth-policy.org.

Energy Solutions #165 - Getting Off Fossil Fuels

By Alex Wilson
May 2012

There are a lot of things not to like about fossil fuels. Most obviously, the burning of oil, natural gas, propane, and coal releases huge quantities of carbon dioxide into the atmosphere, where it traps heat through the greenhouse effect. Fossil fuels were created over hundreds of millions of years when vegetation accumulated in oxygen-poor conditions and did not fully decompose before being trapped underground. Heat and pressure gradually turned that organic matter (and its stored carbon) into these various carbon-rich fuels. When we burn those fuels to heat our homes, generate electricity, or power our cars, the hydrocarbon reacts with oxygen, converting the stored carbon into carbon dioxide, which causes global warming.

But even if burning fossil fuels *didn't* cause the release carbon dioxide and cause global warming (just for a moment, let's say those climate change deniers were right), there would still be plenty of reasons not to burn these fuels.

The extraction of coal, oil, and natural gas is highly damaging to the environment. From mountaintop removal of coal in West Virginia to open-pit mining of tar sands in Alberta, Canada, to the newest fracking practices that are thought to be contaminating aquifers in From Pennsylvania to North Dakota, the fossil fuel extraction business isn't pretty.

There's air pollution from burning these fuels. Natural gas isn't so bad (except from a global warming standpoint), but coal combustion generates significant particulate emissions and sulfur dioxide, causing acid rain, and both coal and oil combustion may release nitrous oxides and contribute to ground-level ozone and smog production.

According to a 2010 report from the American Public Health Association, just the healthcare costs associated with air pollution from vehicles amounts to \$50-80 billion per year in the U.S. (that's as much as 60¢ per gallon of gasoline consumed); other estimates put that cost even higher.

When we buy fossil fuels we generally send money out of the community to support large corporations and foreign governments. That's money that doesn't stay in the local economy. And then with oil there's the issue of how much it costs to protect our access to this resource—fundamentally, that's what took us into Iraq. We are spending billions of dollars per week in the Middle East, not to mention the thousands of American soldiers' lives that have been lost and untold thousands of Middle Easterners.

Can we live without fossil fuels?

If we accept that it would be a good thing to get off fossil fuels, how do we do that? It isn't easy. Our modern American society has been literally built on a foundation of inexpensive fossil fuels. Our dependence is huge and deep-seated. Eliminating that dependence will be a mammoth undertaking. But I believe a necessary one.

While there are a lot of ways to approach this challenge, I'll focus here on the micro-scale: what we as individuals can do to get off fossil fuels, specifically addressing our houses.

Here are some strategies:

1. Insulate your house

By dramatically improving the energy performance of your house, you can reduce the heating loads enough that other, non-fossil-fuel, heat sources can realistically satisfy those needs. Adding robust amounts of insulation when building a new house isn't so hard—the extra cost can be at least partly offset by lower costs for heating and air conditioning systems—but with existing buildings it's a huge challenge.

A so-called *deep-energy retrofit* may cost \$100,000 or more for a typical home. It involves adding extra insulation to either the interior or exterior of the existing insulated shell of the house, upgrading to triple-glazed, R-5 windows, and significantly air-tightening the house.

If you don't significantly boost the energy performance of your home, you can still wean yourself from fossil fuels—but it's a lot harder.

2. Convert to a non-fossil-fuel heating system

Wood heat may be an option in some areas, but if everyone started heating with wood, air pollution would get a lot worse and we would quickly deplete forests. I generally consider this a realistic option only in very rural areas and areas not prone to weather *inversions* (atmospheric conditions trap air pollution in valleys).

Pellet stoves and larger pellet boilers are also an option—one that's gaining a lot of ground in northern Europe and beginning to generate interest in the U.S. Wood pellets are made by compressing sawdust and other wood waste (sometimes whole trees) into small pellets that look like rabbit food. Pellet stoves and boilers are a lot cleaner-burning than wood stoves and older-style wood boilers, because the pellets are burned under careful conditions with supplied air that ensures very complete combustion.

If you get heating loads low enough, you can consider electric heat as a realistic option. But for electric heat to be an affordable option, a *heat pump* should be used, rather than standard *electric-resistance* baseboard heaters. With heat pumps, the electricity is used for moving heat from one place to another—such as from the outside air (air-source heat pump) or the ground (ground-source heat pump or geothermal heat pump) into your house. For every one unit of electricity consumed by a heat pump, two to three units of heat (sometimes even more) are delivered. We can think of the heat pump as being 200% to 300% efficiency, though it's not actually a measure of efficiency.

With heat pumps, I'm a big fan of the new generation of air-source heat pumps that are often referred to as “mini-split” heat pumps but are more correctly called [VRF \(variable-refrigerant-flow\) heat pumps](#). These are made by such companies as Mitsubishi, Daikin, and Fujitsu. They perform almost as well as ground-source heat pumps and they cost a whole lot less, because digging trenches or drilling wells is not required.

3. Convert to renewable electricity

As astute readers will note, simply switching from gas or oil heating systems to heat pumps only helps wean us from fossil fuels if the electricity is produced from other than coal or natural gas power plants. Because the electric grid is so distributed, the electrons that flow through the grid come from many sources, and about half of U.S. electricity currently comes from coal, with most of the rest produced by natural gas, nuclear power, or hydropower. The last two options are fossil-fuel-free, but in most places the electricity can be assumed to come from a mix of energy sources, with a significant portion of that from fossil fuels.

To be sure that one's electricity is from non-fossil-fuel sources you can install your own renewable electricity system—with solar electricity or photovoltaics (PV) usually being the most practical option—or you can buy electricity that is designated as coming from a renewable energy source. I like the idea of installing your own PV system so that you can track your production and consumption and be sure that your consumption is being offset by solar electricity. Various tax credits, incentives, and dropping PV costs have made this option increasingly feasible in recent years.

Sourcing renewable electricity from the utility company is only an option if the utility company has a renewable energy program. Our company, BuildingGreen, pays about 4¢/kWh more for electricity through the [Cow Power program](#) of Central Vermont Public Service Company; my wife and I do the same at home. That higher rate helps to pay for on-farm methane generators that have been built on at least a half-dozen large Vermont farms.

This article was originally published by Building Green.com and can be found at <http://www2.buildinggreen.com/blogs/getting-fossil-fuels>.

Is Shale Gas Good or Bad? Panelists and the Audience at KPMG Summit are Split

By Raz Godelnik
February 2012

“Is the emergence of shale gas a positive or negative development with respect to sustainability?” This was one of the most interesting questions discussed on one of the panels at KPMG’s Global Summit last week in New York. Given the growth of both interest and dispute around shale gas, is shale gas is a bridge to a sustainable future or a bridge to nowhere?

It’s not that we lack controversial sources of energy, from nuclear energy to ethanol, but none of these resources has the potential to become a substantial resource like shale gas has for better and worse. With so much at stake when it comes to how sustainable the future of energy is going to be, it’s no wonder that even at the KPMG summit, shale gas became such a hot topic that the panelists and the crowd seemed to be very passionate about and at the same time split about the answer to the question.

First let’s look at why this question matters at all. According to KPMG’s Energy Survey 2011 there’s a growing interest in shale gas and oil: 44 percent of respondents believe these to be the energy sources that will see the most future investment (the corresponding figure was less than 1 percent in 2010). Shale gas will represent 65 percent of US gas production by the 2030s, up from an estimated 43 percent by 2015 according to the survey.

These figures are somewhat higher than the forecast provided by the U.S. Energy Information Administration (EIA). In EIA’s view, shale gas is expected to grow to nearly half of all natural gas production by 2035, spurred by new technology and a greater push toward more liquids-rich plays due to higher oil prices.

Another EIA’s estimate shows that shares of fossil fuels in global primary energy consumption will fall only slightly from 81 percent in 2010 to 75 percent in 2035, and natural gas is the only fossil fuel to increase its share in the global mix over this period. These estimates mean only one thing – shale gas is becoming a substantial energy resource that its golden years are still ahead. Add to this mix the debate on the environmental impacts of fracking and you get the idea why this energy resource has become such a hot, yet divisive topic.

Although not everyone agrees about it, the assumption used by the panelists was that natural gas is the cleanest fossil fuel. A recent research supports the argument that even shale gas is better than the fossil fuel alternatives, concluding that “shale gas has a GHG footprint that is half and perhaps a third that of coal.” Still, not all the panelists thought it makes it a worthy resource.

The arguments against shale gas in the panel usually focused on its possible negative impact on renewable energy, since this cheap source of energy makes renewables like solar or wind less attractive from an economic point of view. This approach is also backed by a study by MIT researchers published recently (‘The Influence of Shale Gas on U.S. Energy and Environmental Policy’), which shows that the expansion of shale gas can put limits on the expansion of other clean energy sources, because natural gas power plants would tend to be cheaper than wind or solar. The result might be, as one of the panelists put it, that in the long run gas might be the new coal, which means we substitute one problem with another.

Some of the panelists chose the middle road, similar to the one President Obama endorsed in his last State of the Union Address, which is basically that this can be a good energy source that will help us meet the growing demand, if we could only make sure it is sourced responsibly. Dr. Jeanne Ng, Director – Group of Environmental Affairs at CLP Holdings argued that gas is better than coal, yet concerns about risks need to be addressed, adding that she hopes there will be regulation and policy measures to manage it.

Others saw shale gas more positively. Steve Corneli, SVP, Sustainability, Policy and Strategy at NRG Energy made the point that this disruptive technology is good because it replaces coal, but it’s also bad for clean energy. He chose the good over the bad, explaining that in the long run shale gas is good, creating a healthy competition between gas and renewable energy resources like solar. This sort of competition will eventually benefit consumers as prices will go down.

Maybe not surprisingly the panel audience was split almost evenly about this question as well. A poll showed that 47 percent of the audience was favorable toward shale gas, while 53 percent were unfavorable toward it.

The debate will probably keep heating up about shale gas and whether or not it's a positive or negative development from a sustainable point of view. I do hope that Rio+20 will address this issue as it looks like shale gas is going to stay with us for some time. The least we can do is to figure out if it's actually possible to maximize shale gas' positive impacts and reduce its negative ones and if so, how to do it. After all, we really don't want to build another bridge to nowhere.

This article was originally published by Triple Pundit and can be found at <http://www.triplepundit.com/2012/02/shale-gas-good-bad-panelists-audience-kpmg-summit-split/>.

China Spending on Social Innovation to Become World First Green Superpower

By Sangeeta Haindl
April 2012

China is heavily investing in social innovation and renewable energy with the mission to emerge as the world's first green superpower. Although China is the world's biggest CO2 emitter and known for building the equivalent of a 400MW coal-fired power station every three days, it is also erecting 36 wind turbines a day and building a robust new electricity grid to send this power thousands of miles across the country from the deserts of the west to the cities of the east. It is part of a long-term plan to supply 15% of the country's energy from alternative and renewable sources by 2020.

Carbon dioxide emissions have more than doubled in the past 10 years, taking China past the U.S. as the world's number one source of greenhouse gases. Chinese environment ministry statistics suggest that 40% of river water is toxic. The government plans to tackle these problems by switching from coal to social innovation and renewable energy. However, the initiative has obstacles, since coal and gas are cheaper and more abundant. This means it could be many years before China's emissions start to fall.

Gansu is a place, where China's first oilfield, several coalmines and steel factories can be found, it has contributed to this nation's reputation as the planet's biggest polluter. Yet, things are changing in Gansu, as the government is now investing in social innovation and renewable energy, wanting to make this area 'greener'.

Jiuquan, another place in China, has also now become a source of eco-friendly energy. It has the capacity to generate 6GW of wind energy, and there are plans to more than triple that by 2015, when this area could become the biggest social innovation wind farm in the world! By 2020 Jiuquan plans to increase wind power generation six-fold to 40GW. This could be an even faster growth between 2020 and 2030, when solar power starts to take off, as by then social innovation and renewable energy technology will have matured and the generating costs will be lower.

This year, China will for the first time account for half the coal burned globally, according to Yang Fuqiang, senior adviser on climate, energy and environment at the Natural Resources Defence Council. Environmentalists see some glimmers of hope even though the pace is slow. Li Bo, at Friends of Nature, China's first green non-governmental-organisation says, "We cannot rely solely on new technology to clean up our environment. We need to talk more about social responsibility and eco-civilisation." So, by 2030, there is the strong possibility that China will get half its energy from social innovation and renewable resources.

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The Green Deal is going to Revolutionize Green Industry in the UK

By Ciaran Oliver
May 2012

The Green Deal is a UK Government initiative aimed at reducing CO2 emissions and increasing Green technology in UK homes and businesses. The Green Deal is going to be launched in October 2012.

The big driving force behind the Green Deal is the commitment that Tony Blair made to cutting CO2 output by 80% of 1990 levels by 2050.

Some have speculated that Mr. Blair didn't actually know what he was signing up to at the time. An 80% reduction in anyone's eyes is a large figure and what the current Government has realized is that this isn't something easily achievable simply through tax incentives and red tape, hence the Green Deal was born. The idea is to give loans, which are paid back through your energy supplier and there is no up-front cost to the loan. The loans will also be linked to the property and not the occupier.

Green Jobs

The Green Deal is going to create 65,000 jobs over the coming years and we all know that politicians just love a job creation scheme. If the Government can get all the proper structure in place before the initiative is launched there is a chance that a lot of new shiny jobs will be created. The politicians will be falling over themselves to be photographed with a young man fitting a solar panel, saying 'we created these jobs'. The only fly in the ointment is that the UK Governments track record, they made a huge error over the first time they incentivized Green technology. The UK Government was paying 42p per kWh to people who fitted solar voltaic panels, which led to a boom in the up-take of solar panels and created thousands of jobs. But it wasn't sustainable, ironic, and the scheme was slashed to 21p per kWh causing some firms to scale back and make redundancies. The solar industry took the Government to the high court to challenge their discussion and the word 'fiasco' was attached to the whole of the Governments Green credentials.

Green Loans

One huge thing that the UK Government can champion is that the Green Deal loans will have no upfront costs, this will be an incentive to people who are struggling in these times of austerity. To be able to fit these new technologies and save money on their energy bills is going to be a driving factor. There is a caveat of course, the loans have to be lower than ones currently available. No one is going to take out a loan if they can get a better deal from their bank. So the loans associated with the Green Deal need to be competitive against the open market.

Green Apathy

One of the biggest problems that western Governments and environmentalists have been facing over the past few years is apathy both for politics and for Green issues. In the UK people are much more concerned about jobs and their finances than they are about green issues. This is an area that the Government really needs to focus on because if people don't take up the initiative it might all collapse.

The UK Green Deal is a huge opportunity to revolutionize the Green industry in the UK but there are some hurdles in the way as we have observed in this article. With some good incentives and some hard selling the UK Government can produce the jobs and cut carbon in the UK. One thing that does come out of these large scale Government schemes is that the costs for green technology comes down.

Economies of scale dictate that cost prices will fall when there is a large take up of an emerging technology, so we can all look forward to lower prices. The knock on effect can be innovations in the technology itself as well as competition within the market, which can further drive prices down. Only time will tell if the Green Deal is going to be a success but what is evident over the last few years is that if you pitch it properly Green technology can create jobs and build sustainable markets.

This article was originally published by Clean Techies and can be found at <http://blog.cleantechies.com/2012/05/09/the-green-deal-is-going-to-revolutionize-green-industry-in-the-uk/>.

What 4 Global Trends Will Drive 21st Century Investing

By R. Paul Herman
March 2012

Human, social and environmental challenges surround us. In recent years, many capitalists have treated these seemingly intractable issues as nuisances for governments to debate or nonprofit organizations to address. However, leading businesses and investors are finding that 4 global trends can provide attractive opportunities for growth, resilience and competitive advantage. In other words, companies and investors can solve human problems for potential profit.

The world is shifting as growing populations seek higher quality of life, finite natural resources are depleting in serving those needs, transparency of everything is on the rise, and consumers demand products and services that are “good.” These 4 global trends are driving forces underlying 21st century investing.

Trend 1: 9 billion customers with many unmet human needs

Businesses focused solely on traditional “developed” markets are missing tremendous opportunities for growth. The global population is expected to be 9 billion by 2050, 40 percent growth over four decades – so high-growth “developing” markets provide a wealth of opportunities.

Today, over 3 billion people live on less than \$2 per day. By comparison, some European cows are “paid” more, when farm subsidies are calculated. Companies developing new products like Group Danone’s yogurt in Bangladesh focus on this new class of customers, resulting in revenue growth for the firm and its franchising local entrepreneurs selling at retail and door-to-door.

Meanwhile, one of the fastest growing restaurant companies in India is Yum! Brands, owner of KFC, Taco Bell and Pizza Hut. However, the products are localized: Tandoori and Masala pizzas in Bombay and vegetarian choices at “Kentucky Fried Chicken.” Back in the U.S., the chain offers grilled chicken to meet nutrition-conscious customers. Innovators can leverage their big brands, while adapting to local tastes to seek out revenue growth and market share – with healthier choices.

Trend 2: Finite natural resources are increasingly scarce

As a society, we often consider natural resources to be boundless but the reality is becoming clearer — we are using (and abusing) the resources faster than they can be created. We risk exhausting these key resources, including oil, copper, and fresh water. Leading companies recognize this. Hewlett Packard manages fleets of printers and recaptures end-of-life printers for recycling and so focuses on “dematerializing” its products into services.

In January 2011, coal prices reached two-year highs, as Queensland, Australia floods closed ports and mines. Simultaneously, the US EPA is aggressively restricting mountain-top Appalachian sources. As the U.S. continues to generate approximately 45 percent of its electricity from coal, the risk to many residential, commercial and industrial customers are higher prices; renewable wind power, increasing swiftly in Iowa, Minnesota and Texas, can reduce price volatility and increase self-sufficiency.

However, the capital spending of the 10 largest oil companies in the US and Europe totals \$130 billion – the total wealth of Bill Gates, Warren Buffett and Carlos Slim – yet less than 5 percent is focused on renewable energy solutions. Companies that are not diversifying their fossil fuel intensity pose increasing risk to investor portfolios and the potential profits at risk from triple-digit prices of commodities like oil.

Trend 3: Everyone knows everything all the time

The quality and quantity of information available today is unparalleled. Leading firms are becoming more open and transparent, using two-way forums and tools like Facebook, Twitter, LinkedIn, and blogs, on top of annual reports, shareholder meetings, shareholder calls, and Corporate Social Responsibility reporting. In 2009, Engagement DB’s research analysts found that among large brands, higher stakeholder engagement, through social media, could contribute to an average of 18 percent Revenue growth. Those big brands ignoring these new connections with customers averaged 6 percent revenue losses.

One of the most transparent companies is high-tech titan Infosys, a global company based in India. Its 200-page annual report shares everything from its financials calculated in six different countries' accounting formats and languages, the pay and experience of hundreds of managers, and even an estimate of the "human asset value" of its professional high-tech staff on a 21st century balance sheet – where people are valued as an asset, literally.

With increased information comes increased expectations. Individuals now expect full disclosure and the real statistics behind, well, everything. Risk to volatile moves in stock price is amplified by flash mobs' use of Twitter & Facebook via rapid response and surprise action. The backlash against companies that hide from their stakeholders is real, and the reward for transparency of information is high. The more information firms disclose, the easier it becomes for investors and stakeholders to evaluate products and operations, which interestingly tends to correlate with higher portfolio performance.

Trend 4: Demand for 'Good' is growing

In addition to demanding detailed information on products, customers are seeking measures of "goodness." Moms are buying healthy, sustainable products, like organic milk and fresh fruit. Children are demanding that their families purchase earth-friendly, nontoxic products. The growth of Good Guide, an online portal and iPhone app providing health, safety, and environmental ratings of 150,000 consumer products, is a prime example of this trend.

This quest for "good" is translating into consumer action. Mintel has tracked more than 13,000 new products making sustainability claims since 2005. S&P100 firms like Campbell's Soup see it as a source of competitive advantage. Campbell's quantifies and categorizes its revenue by how many "milligrams of sodium per serving" in each food product. For fiscal year 2010, Campbell's targeted 30 percent of its revenue from "lower sodium" products (480 mg/serving or less); as of its 2009/2010 Sustainability Report, 26.8 percent of revenue came from those "wellness" and "heart healthy" products. It is this consumer demand for "good" goods that drives top-line revenue and seeks bottom-line profitability.

Investing

These 4 global trends are growing in scale and depth. Forward-looking investors are evaluating these trends for portfolio decisions, and seeking out sustainability-oriented companies that are tapping growth, managing risks, reducing costs, delivering "good" impacts and communicating openly with stakeholders.

Investors and companies pursuing a "HIP" approach, which seeks higher human impact plus profit, can build a better world while contribution to a stronger portfolio. A HIP Portfolio made up of these firms, and weighted according to their leadership, can be constructed to seek higher performance, lower risk, and increased impact. (See the HIP 100 Index Portfolio at www.HIPinvestor.com for an example of this approach.)

The next installment of this series will dive into the specific products forward-looking companies are developing in response to the world's new realities and the opportunities that come with them, aligning their approaches across five categories of human need: Health, Wealth, Earth, Equality, and Trust.

This article was originally published by Triple Pundit and can be found at <http://www.triplepundit.com/2012/03/4-global-trends-will-drive-21st-century-investing/>.

Are Businesses Missing out on a Sustainability Goldmine?

By Heather Clancy
April 2012

Businesses of all sizes may be overlooking a goldmine of competitive information in their own corporate sustainability reports.

What's more, executives could expose their companies to long-term business risks by failing to look at this data more closely or by failing to disclose all of the information that they've collected, according to a new report by consulting company Deloitte & Touche. It turns out that what you don't know can, in fact, hurt you.

"If a company in today's world is not paying attention to the long-term or short-term resources that they need to operate, they will be in trouble," said Eric Hespenheide, partner and global leader of business risk for Deloitte & Touche. "I would argue that all companies, public or private, really ought to be looking at these things."

Hespenheide is one of the authors of a new Deloitte & Touche report, "Disclosure of Long-Term Business Value: What Matters?" (His coauthor is Dinah Koehler, senior research manager for Deloitte Research.) The report contends that companies of all sizes should consider factors such as resource efficiency, business-model efficiency, the potential for innovation, brand strength and corporate culture as part of their strategic decision-making.

For example, if a manufacturer is considering a new factory, it should open its scope to look at more than just the raw financial investment involved, Hespenheide said. Those considerations might include the long-term outlook for water supplies in the region or local development plans that might affect energy prices over time. "It is more likely that you will come to a better decision if you include these things," he said.

The report (one of a planned three-part series on environmental, social and governance investing -- also known as ESG -- and business-value metrics) suggests that chief financial officers are in a unique position to encourage the inclusion of ESG considerations in the corporate decision-making process.

The authors note: "CFOs, with their unique, cross-functional vantage point, need to consider more than their results for the next quarter and a wider range of stakeholders -- customers, suppliers, consumers, employees, nongovernmental organizations and communities -- that play an important role in an organization's success."

The catch is, of course, that what is material to my company might not be material to your company. "All issues are not material to all entities. There should be a more thoughtful way for companies to figure out the material factors to their business," Hespenheide said.

While it is pretty easy for executives to figure out which financial metrics matter, there are fewer guidelines for assessing ESG measures or even for figuring out which ones should be weighted more heavily by your company.

The Deloitte authors suggest the following as a start for companies that follow the Global Reporting Initiative guidelines:

- Keep your company's mission and strategy at the top of mind. (This is why you see so many beverage and food companies, for example, making water consumption a key pivot for innovation, plant locations and so forth.)
- Find points of intersection: Which factors might impact your financials significantly in the short term or long term.
- Consider the ripple effect throughout your company's supply chain.
- Ponder which international standards or agreements might hold sway.
- Pay attention to what outside expert communities are telling you.
- Ask this question: Is there a social impact?

In order for an ESG-materiality-assessment exercise to be meaningful, however, the nonfinancial data collected and used for decision-making needs to be thorough and accurate. Which hasn't necessarily been a priority for every company.

"Framed in this manner, a company is obligated to spend the requisite time and money to implement processes and controls to help ensure accurate, timely and complete disclosure on material ESG topics and use the data for internal decision-making," according to the report.

Considered from this point of view, the exercise of tracking and reporting on greenhouse gas emissions, waste-management policies, water consumption and corporate social responsibility activities takes on a whole different dimension.

This article first appeared in GreenBiz, an online publication covering sustainability from the business perspective, and can be found at: <http://www.greenbiz.com/blog/2012/04/05/are-businesses-missing-out-sustainability-goldmine>.

2012 State of Green Business Report Indicates Slow Progress

By Leslie Hedrick
February 2012

Greenbiz.com issued the 2012 edition of their annual State of Green Business report on January 18th. Since 2008, the report has asked whether we as a nation are succeeding at creating a green economy by implementing green technology in our businesses and lives. This year's findings were both encouraging and disappointing.

The report assesses green technology and practices on 20 different fronts, such as paper use, recycling and carbon emissions. Its findings dispute the general view that green-mindedness has lost importance due to the slow economy.

Despite the state of the economy, which has indeed limited the amount of resources companies have to devote to sustainability, implementing green technology and practices remains a priority for both businesses and individuals. As the report states, "Addressing sustainability issues is no longer an optional... activity." In a climate where customers, clients and employees increasingly expect environmental measures, companies avoiding green technology are shooting themselves in the foot. For this reason, businesses are setting more ambitious green technology goals and employing a significant amount of resources to meet them.

That said, there were also some uninspiring findings:

- Carbon emissions are growing faster than the economy, and fewer S&P Companies responded to the Carbon Disclosure Project than in 2011.
- There was a "huge spike" in toxic emissions, after years of moving in the right direction.
- An 80 percent increase in the manufacturing use of toxic and bioaccumulative chemicals occurred in manufacturing.
- Organic agriculture experienced no significant growth.
- Educating consumers about the importance of recycling used electronics has resulted in some small improvements, but on the whole we're still piling too many used gadgets into landfills.

This article was originally published by Green Biz.com and can be found at <http://usgreentechnology.com/us-green-stories/2012-state-of-green-business-report-indicates-slow-progress/>. The full report is available as a free download at Greenbiz.com.

Thinking Green at Work: Five Tips for a Sustainable Small Business

By Jenny DeVaughn
March 2012

With Earth Day just around the corner, it is the perfect time of year to reflect on our current sustainable habits and how we can improve our efforts to help the planet. Do you recycle at home? Great. Do you use a refillable water bottle at the gym? Well done. It is important to live “green” at home and on-the-go, but have you thought about your habits at work?

Given a 40-hour work-week, most Americans spend approximately 36 percent of their waking hours in the work place. This is a significant portion of time, and working Americans should prioritize sustainability during work as much as they do elsewhere. While employees can make personal decisions to bring re-useable cutlery to lunch or a re-useable thermos for their coffee fix, there are many company-wide changes that will improve a business’ sustainability.

Recycle Paper and Packaging

The typical U.S. office worker uses about 10,000 sheets of copy paper each year. Whether you work in an office building, retail store or factory, your company consumes a lot of paper and packaging to run smoothly. All that cardboard, paper and plastic can be recycled, but many businesses still dispose of that valuable material. Americans recycle approximately 34 percent of municipal waste, but this rate can be improved if small and medium businesses begin to take recycling more seriously.

This Earth Day, we at Waste Management encourage small and medium businesses to begin recycling and/or composting. This sustainable practice is not only beneficial to the environment, but can also save companies money by reusing valuable materials. Recycling just one glass bottle saves enough energy to light a 100-watt light bulb for four hours, power a computer for 30 minutes, or a television for 20 minutes.

In today’s eco-conscious society, customers are sometimes more willing to patronize business that place a focus on sustainability. Some recycling service providers even offer incentives to small businesses interested in “going green.” For example, this year Waste Management will donate money to the Houston Audubon to preserve valuable habitat for migratory birds for every new business that chooses to begin recycling before April 30.

Recycling Electronics, Batteries, and Light Bulbs

Everyday items including computers, phones, light bulbs and batteries are staple products in American businesses, but they are banned from landfill disposal in many locations. These hazardous objects should be properly recycled, as improper disposal is risky to human health and the health of the environment. Find out where to best recycle your company’s hazardous waste with online resources including Earth 911 or services including Waste Management’s Lamptacker.

Upgrade Your HVAC System

Companies can save both money and emissions by upgrading to more energy-efficient heating, ventilation and air conditioning (HVAC) systems. Newer systems significantly reduce energy use by as much as 50%, and use newer refrigerants that are less harmful to the ozone layer. Many employees have little control of the HVAC systems in their workplaces, but with such a high level of potential energy savings, it is worth it to discuss the HVAC system at your company with the operations administrator. Visit sba.gov for more information.

Buy Green Energy

Like individual residences, many companies purchase power from the municipal grid. Open energy markets often have producers that get their energy from solar or wind – options that can be cost-effective as well as sustainable, thanks to certain tax incentives. Find out more insights by visiting greenamerica.org.

Encourage Employees to Reduce Energy Consumption

Turning off lights, taking the bus and reducing copying and printing are all examples of ways employees can help stay sustainable – even while at work. Small steps can make a huge impact. For example, the annual cost of 1,000 employees using paper towels (not including waste removal or janitorial services) is \$42,000. Using high-efficiency electric hand dryers can reduce this costs and waste stream.

Another opportunity to reduce waste is to provide re-usable coffee mugs, water cups, plates and utensils. Many offices provide plastic, paper and even Styrofoam tableware for employees, but this produces a lot of material waste that could be avoided with the employment of washable dishes and cutlery.

These few simple changes within your business can go a long way to saving the planet all year. Share in the comments section some things your office does – or could to better – to improve sustainability.

This article was originally published by Earth and Industry.com and can be found at <http://earthandindustry.com/2012/03/thinking-green-at-work-five-tips-for-a-sustainable-small-business/>.

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Sustainability Reporting to Manage the Transition to a Sustainable Global Economy

By Pietro Bertazzi
March 2012

'How can markets, governments and companies together make the needed transition to a sustainable global economy?' is one of the key questions in the Green Economy discourse. Green Economy, one of the two themes of the recent UN Conference on Sustainable Development (Rio+20), can only be achieved if information on organizations' governance and economic, environmental and social performance - the three pillars of sustainable development - is widely available.

Governments, regulators and private sector organizations need access to such data, to provide a basis for evaluations, assessments and analyses, and to inform decisions. When businesses and other organizations monitor and report their sustainability performance, executives have the data needed to manage risk and identify sustainability opportunities. Further, reporting sustainability performance helps companies engage with stakeholders, resulting in improved dialogue, reputation and competitiveness. Disclosure of sustainability performance information is increasingly a basis of good business conduct: Financial reporting alone is insufficient as a measure of value. Financial performance data needs to be complemented with sustainability performance data to provide a more accurate picture of an organization's long-term value. By understanding and disclosing such data, business can play its part in transitioning to a Green Economy – one that is low carbon, resource efficient and socially inclusive.

Leading companies already recognize the benefits of sustainability reporting. Recent research from KPMG shows that in 2011, 95% of the Fortune Global 250 companies currently provide information on their sustainability policies and performance – an increase from 50% in 2008. While these larger companies are leading the way, best practices provide significant incentives for small and medium sized businesses to learn and leverage their reporting as a competitive differentiator. Europe continues to see the highest uptake of sustainability reporting. But the Americas, the Middle East and Africa are quickly gaining ground, and the number of companies in China and Russia reporting their sustainability performance continues to rise.

Reporting is also increasing in developing countries: in Mexico 66% of companies reported their sustainability performance in 2011, compared to just 17% in 2008. In Brazil, 88% of companies reported in 2011 compared to 78% in 2008, and in South Africa the percentage of companies reporting their performance increased from 45 to 97% in the same period. While the number of companies reporting their sustainability performance is growing, the practice is yet to achieve its full potential: the adoption of sustainability reporting is too slow. It has taken 12 years for the percentage of Fortune Global 250 companies reporting their sustainability performance to increase from 35 to 95% – at that rate of increase, it would be decades before sustainability reporting becomes common practice across global markets, for both large and small companies.

An estimated 4,500 organizations are included in sustainability reporting databases worldwide, a fraction of the 45,000+ publicly traded companies that are required to disclose their annual accounts, and of the estimated 82,000 corporations that do business across national borders in the world today.

Widespread transparency is key for a sustainable global economy, and its success requires a global policy approach to sustainability reporting: A global policy framework on sustainability reporting, based on a 'report or explain' approach.

A global decision to ask companies to report their sustainability performance - or explain why they don't - will make sustainability reporting standard practice. It will increase the number of companies that disclose sustainability performance data, enhance the volume and quality of data available, raise awareness about sustainability issues for business, investors and the public, and ensure a more level playing field.

This approach to sustainability reporting policy presents great flexibility, as it promotes transparency without mandating it: companies can decide whether or not to report, and they retain the choice of reporting frameworks and indicators. Such a policy can be introduced in several ways, for example through smart 'soft' regulation, mandatory measures, or stock exchanges requiring listed companies to report. This flexible approach would meet the needs of the diverse economic, social and political contexts of countries around the world.

Governments, international organizations, stock exchanges and a number of private initiatives have developed policy, regulation, requirements and guidelines to promote sustainability reporting and disclosure. Others are considering doing the same. Australia, China, Denmark, the European Union, France, India, Germany, Norway, Spain, Sweden, and the United States are among the countries that have developed governmental policy initiatives to promote sustainability reporting or environmental, social and governance (ESG) disclosure. Stock exchanges in Brazil, China, Malaysia, Pakistan, Singapore, South Africa and the UK are playing a pivotal role in requiring or recommending listed companies to disclose sustainability performance information.

Policy makers and market regulators are increasingly taking action. But in any time of transition, discrepancies arise between international approaches and institutions. As the world's understanding of economic growth changes, and embraces such new criteria as the eradication of embedded poverty, a global approach to sustainability is both necessary and achievable. It is time to build on the positive policy work of these governments and stock exchanges. It is time for sustainability reporting, with agreed values and metrics, to fulfill its potential as a vital resource in the global policy arena.

This article was originally published by Stakeholder Forum.

Blue Economy Needed to Protect Mediterranean Sea and World's Oceans

United Nations
February 2012

The Mediterranean Sea is a “key pillar” for the development of the countries in the region, a senior United Nations official said today, warning that continued degradation of the aquatic environment could put its entire ecology at risk. The call came as delegates from 22 Mediterranean and European Union countries brought their three-day meeting on safeguarding and promoting a clean and healthy Mediterranean environment to a close in Paris.

“The time has come for us to rethink how we manage our oceans,” said Achim Steiner, the Executive Director of the UN Environment Programme (UNEP) in his address to the gathered delegates. “They are a key pillar for many countries’ economic and social development, and are vital in the fight against poverty,” he added.

The participating countries have called for the creation of a “blue economy” initiative, which would be a marine version of the green economy, and hope to see a strategic policy framework adopted at the UN Sustainable Development Conference (Rio+20) to be held in Brazil in June.

UNEP defines a green economy as one that improves human well being and social equity while significantly reducing environmental risks and ecological scarcities.

“Management decisions and investments that focus on the well-being of the oceans are essential if we are to continue to profit from this rich natural resource,” Mr. Steiner said, noting that too many natural resources found in marine environments were being degraded by unsustainable use, ultimately putting their ecosystems, food security and climate regulations at risk.

“A ‘blue’ economy in the Mediterranean and elsewhere would be a big step on the right path,” he said.

The world’s marine ecosystems provide essential food and livelihoods to millions of people. According to UNEP, a switch to a blue economy would unlock the potential of the marine-based economy while reducing ocean degradation and alleviating poverty.

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Functional Ecosystems as the Engine of the Green Economy

By John D. Liu
April 2012

“If the world is a table with four legs (US, Eurozone, China/India, and the Arab world), right now, all four legs are shaky”, said Thomas Freidman, New York Times columnist after listening to discussions at the Davos World Economic Forum in January. Old capitalism, many exclaimed, is dead. What has led us to this crisis point?

Studying the Earth’s ecosystems is fascinating and can show us the way to sustainability if we are willing to act on the evidence before our eyes. When we consciously observe nature – the tides, atmosphere, movement of clouds, river systems, microbial communities, living soils, plants and animals – evolutionary logic is revealed. Nature is always adapting to changing conditions and seeking equilibrium. Everything has a purpose, nothing is lost, nothing is wasted, and nothing is extraneous. We know that the Earth’s naturally functioning ecosystems are the basis of life on Earth, providing air, water, soil fertility, raw materials and energy. It is also clear that the global economy does not recognise that the production and consumption of all goods and services depends entirely on the ongoing functionality of these ecosystems, and, as a result, fails to value it correctly. This is not surprising for a system that was founded on feudal privilege, military force, colonisation and slavery. While our stock market screens and bank accounts claim we have generated [wealth](#), in reality, we have enriched a small minority of people while impoverishing a much larger majority of people on Earth, and destroyed ecological function over huge portions of the planet.

Now nature is warning us to stop and think. We currently face numerous challenges, including human-induced climate change, biodiversity loss, large-scale deforestation, desertification, hunger, economic crisis, social instability, migration, armed conflict, political revolution and war. Commenting on this “litany of sins”, Lester R. Brown, founder of the Earth Policy Institute and author of Plan B 4.0, recently said, “We must go beyond lifestyle changes and change the system, or civilisation will end”. In the face of such urgency, many of the assumptions that our civilisation has grown up with are thrown into question. Even the founder of that bastion of capitalist thought, the Davos World Economic Forum, Professor Klaus Schwab, recently declared: “Capitalism, in its current form, no longer fits the world around us”.

From the study of natural ecosystems comes an economic answer that goes to the fundamental question of ‘what is wealth?’. Although everything that is produced and consumed comes from the [bounty](#) of the Earth, according to current economic thinking, the value of ecological function is zero. We now calculate the economy and money as the sum total of production and consumption of goods and services. By valuing products and services without recognising the ecological function from which they are derived, we have created a perverse incentive to degrade the Earth’s ecosystems. Carbon trading schemes barely scratch the surface of appropriately valuing nature. They continue to suggest that money is derived from production and consumption but offer a small proportion of that money to provide incentives for slightly less polluting behaviour. The Economics of Ecosystems and Biodiversity (TEEB) is more comprehensive and tries to put prices on the various services provided by nature, but it too falls short of the ideal by incorporating the assumption that money in its present form is the starting point. We have collectively become Oscar Wilde’s cynic and ‘know the price of everything and the value of nothing’. We need to go much further.

In order to survive and become sustainable we need to devise a system where instead of personal gain, the intention of all human effort is aligned with nature. Where is it set in stone that human work must be self-serving? Aren’t the great achievements that humans have made based on our ability to work together? In fact there have already been two Nobel Prizes (John Nash and Elinor Ostrom) awarded for recognising that if an individual pursues their own interest to the point where it damages the collective interest, it is no long in their own interest. This means that the interest of individuals and the interests of humanity can be seen to be the same. Shouldn’t we be basing our society, economy and civilisation on the highest possible understanding and principles?

Functional ecosystems can be shown to be more valuable than production and consumption. A pathway to sustainability appears if, instead of the economy being based on production and consumption of goods and services, it were based on ecosystem function. This would mean a fundamental transformation of human society. This development trajectory can be seen to address all of our most pressing problems. In an economy based on ecological function it would be economically disastrous to pollute. A functional economy would mean that conservation is not considered an expensive luxury, but the way to preserve wealth. It would also mean that restoration of degraded lands would be recognised as a means to increase wealth.

Sequestering carbon would be a matter of course rather than an afterthought. A functional ecosystem-based economy would be much more fairly distributed, because those responsible for maintaining that function – currently those who suffer worst from the degradation inflicted by consumer capitalism – would be compensated for restoring and maintaining ecosystem functions.

Seen from this perspective, it is easy to recognise that the developed economies have imposed their will on the lesser-developed economies and just assumed that they had the right to do this. A study of the thoughts of many indigenous peoples shows that their perspectives are more highly civilised in being much more respecting of the value of functional ecosystems. Since all people are equal, the views of indigenous peoples are an integral part of human culture and a crucial guide for us in mapping a new path towards sustainability.

Now many people, especially those with vested interests in maintaining the current economic structure will ask; “do we really need to have fundamental and transformational change?” If you analyse the current economy objectively you find at least three reasons why it must change. First, as already noted, it is illogical to value the derivative goods and services without ascribing an appropriate value to the source of these goods and services (functional ecosystems). It creates a perverse incentive to degrade, and we can see the results in shrinking forests, expanding deserts, drained wetlands, disrupted dry-lands and coastal regions and oceans. This basic mistake must be corrected, and soon. Secondly, it is impossible to grow the economy infinitely from finite resources, yet in the current economic model creating and maintaining jobs for new members of the labor force requires infinite growth. Simple mathematics proves that this is impossible. Thirdly, the huge crimes that have been committed to establish this system make it fundamentally immoral. This can be seen every day and everywhere in the enormous disparity between the wealthy and the poor. With seven billion people on the Earth and a billion being added approximately every 12 years, we must find a way to address the economic disparity and create a path for sustainability, based on our understanding of the need to correctly value ecosystem function.

Humanity is exhibiting the behaviour of what in a natural system would be described as a parasite – we are consuming our host. When a host dies the parasite dies as well. This characterisation, while accurate given our current behaviour, seems dark. An alternative would be to seek what is humanity's unique evolutionary niche and contribution to maintaining ecosystem function. This seems to be consciousness. We have developed the ability to think abstractly, to envision our own death, to consider time relatively and to communicate complex thoughts from generation to generation. So, if we are to be conscious beings rather than parasites, we need to consciously design a fair, sustainable economy and society. Acknowledging that functional ecosystems are the basis of all life and therefore basis of all wealth is the first step down a long path. Leaving the path of violence and inequality that we are on is fraught with difficulty, but is there really any other choice? Making functional ecosystems the engine of a new economics, positions all people's efforts to benefit themselves, their families, human society and the Earth. The path that values ecosystem function as the basis of life and wealth is the one that leads to sustainability, less conflict, and ultimately, survival for the human race.

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<http://www.stakeholderforum.org/sf/outreach/index.php/inf2day1home/90-day-2/738-inf2day2item4>.

European Union: Eco-innovation to Help Meet Future Resource Demand

Source: European Commission

A report from management consultancy McKinsey first presented at the 11th ETAP Forum in Helsinki identifies a central role for innovation to meet rising demand for resources.

The world is facing an unprecedented resource challenge, which requires a new wave of resource-related innovation. Historically, a combination of technological progress and expansion into new, low-cost sources of supply avoided resource shortages. The prices of energy, food, water and steel fell during the 20th century, even as economies and populations grew. But during the past decade resource prices have increased, reversing the past gains. Resource price volatility is also at an all time high, further impacting businesses.

Emerging economies such as China and India are developing at 10 times the speed of the UK during the industrial revolution and 200 times the scale. Demand is soaring while new sources of supply and their extraction become more expensive as resource reserves become harder to access – the average real cost per oil well has doubled over the past decade.

Shortages and price changes in one resource increasingly affect others. Natural capital is under growing strain from pressures such as deforestation, excessive groundwater extraction and climate change.

Step change in use

If the scale of the challenge is different, “the market and the innovation it sparks may once again ride to the rescue and will clearly be an important part of the answer”, according to McKinsey. Meeting future demand for resources requires both an increase in their supply and a step change in how they are used. The opportunities are there; the question is whether governments and the private sector can act fast enough to avoid higher prices, more volatility and potentially irreversible environmental damage.

On the supply side, water and land probably present the greatest challenges. There have been significant productivity improvements in agriculture, through more fertiliser use for example, but global growth in crop yields has slowed as developed countries driving innovation hit yield ceilings set by local climatic conditions. Shale gas offers a potentially innovative source of energy supply – although the effects of its production on air, water and land have yet to be fully understood, notes McKinsey.

On the demand side, resource productivity improvements could meet nearly a third of total demand in 2030. Better resource extraction, processing, and application could save society €2.2 trillion a year in 2030. The value of the opportunity grows to €2.8 trillion with a forecasted €22.4 per tonne price on carbon and scrapping of existing resource subsidies and energy taxes. Harmful subsidies on water, energy and agriculture currently amount to some €820 billion a year.

Just 15 areas, of which the leader by far is energy efficiency improvements in buildings, account for about three-quarters of the total opportunity. Second are improved yields on large-scale farms – to which the biggest barrier is technology diffusion – and third is reduced food waste.

The world could see a resource productivity revolution comparable with the labour productivity revolution of the 20th century. Spending €673 million a year on productivity improvements could create 9 to 25 million jobs and spur a new wave of long-term innovation. But only a fifth of the resource productivity opportunities are readily achievable. The others face barriers such as capital intensity, supply-chain bottlenecks and entrenched behaviours.

Enabling innovation crucial

Enabling innovation will be crucial: the McKinsey analysis is based on technologies already available, but more innovation is needed to meet the resource challenge after 2030.

Many of the enablers of resource-related innovation – such as a stable macroeconomic environment – are the same as for the broader economy, yet resource markets pose particular challenges for innovation: their commoditised nature; the capital intensity of many resource supply chains; heavy public sector intervention – leading for example to regulated rates of return; a

lack of clear and stable price signals; and the fact that many resource opportunities are at risk of policy reversal.

What will drive innovation are higher prices, the new digital economy which will enable everything from intelligent building to more precise energy exploration, government support for access to capital and standards to resolve the problem of split incentives between owners and tenants for example.

Governments need to unwind the €0.75 trillion in resource subsidies which keep prices low and encourage wasteful use, and ensure future prices reflect resources' full environmental impact, for example through carbon pricing.

In addition, governments must:

- Accelerate resource-related R&D and better coordinate such research internationally; and
- Support the uptake of innovations through green public procurement and make targeted investments in enabling infrastructure such as smart grids.

Eco-innovative technologies can play key role

Technologies in development include: electro-chromatic windows which can be darkened or lightened electronically to optimize heat gain; advanced desalination techniques which save 70 to 80% of energy compared with traditional methods; nano-structured steel which is almost three times stronger than that of today; soil nutrient management to reduce fertilizer use; and fuel cells.

Technological change related to resources has the potential to create rapid shifts in competitive advantage for businesses. Businesses will need to start catering for users rather than consumers, rethink product design, improve the effectiveness of their supply chains and maybe engage in new collaborations.

Further study needed

Increased resource supply and productivity could meet projected demand, but would probably not prevent global warming above 2°C or alleviate global resource poverty, McKinsey warns. It plans to study in more detail how accelerating technological innovation could enhance access to new resources and increase productivity. It will also address some of the limitations of this analysis, which does not allow for dynamic effects for example, such as lower resource prices triggering higher consumption.

The EU paves the way to resource efficiency

Resource efficiency has been identified as a key priority for the EU, representing one of the seven flagship initiatives of the Europe 2020 strategy. In fact, the EU has put together a 'Roadmap to a Resource Efficient Europe' that outlines how Europe's economy will be transformed into a sustainable one by 2050.

The Roadmap sets out concrete measures, among other things, for transforming production and consumption, providing incentives for green innovation investment, ensuring a greater role for eco-design and promoting greener public procurement. Governments are invited to shift taxation towards pollution and resources and to stimulate consumers' interest towards resource-efficient products. The Roadmap also recommends adapting prices to reflect the real costs of resource use.

This article was originally published by the European Commission on the EcoAP website.

World Solar PV Market Grew Considerably in 2011

By Joshua S Hill
March 2012

Worldwide solar photovoltaic (PV) market installations reached a record high in 2011 --- 27.4 gigawatts (GW), an increase of 40% year over year --- according to the 2012 Marketbuzz report released Monday by NPD Solarbuzz.

This is a report filled with numbers, as this article will also be. So, if you just want the good summary of it all, that would be that it's clear demand for solar photovoltaic systems was up in 2011 and it looks ready to rise even higher throughout much of the world in 2012. In particular, countries outside the 2011 top 10 are expected to start stealing market share soon.

The second half of 2011 saw a strong demand for photovoltaic systems ahead of a cut in incentives in several leading countries. This partially made up for the overproduction of solar panels in the first half of the year. 2011 was also a year in which demand in Asian markets for PV grew considerably and Chinese manufacturers made their mark on the global sector.

The Numbers

- 2011 saw the PV industry generate \$93 billion in global revenues, up 12% year over year.
- Germany, Italy, China, the United States and France were the top five PV markets covered by Marketbuzz, making up 74% of global demand in 2011.
- China soared from seventh place in 2010, with a year over year increase of 470%, to take third place.
- The European market accounted for 68% --- or 18.7 GW --- of world demand in 2011, down from 82% in 2010.
- Germany, Italy, and France collectively accounted for 82% of European market demand.
- Solar cell production worldwide reached 29.5 GW in 2011, up from 23.0 GW in 2010.
- Production from China and Taiwan accounted for 74% of global solar cell production, up from 63% in 2010.
- Markets grouped together as 'the Rest of the World' are expected to increase their global demand from 20% in 2011 to 32% in 2012.
- European market share is projected to fall below 42% by 2016 as North America and other Asian markets continue to grow.
- China, itself, is expected to reach 17% of global demand by 2016.

Understanding the Numbers

"Aggressive cuts in incentives in Germany and other European countries have set up the potential for a global market decline in 2012, but ahead of these the rush to install is on, especially in Germany," said Craig Stevens, President of NPD Solarbuzz.

"These cuts in tariffs will force companies to embrace self-sustaining marketing models earlier than they expected. Meanwhile, Chinese policy makers will face a decision whether to stimulate their domestic market even more than planned to support their globally dominant manufacturing base."

Stevens added: "Cutbacks in polysilicon, wafer, and cell production plans before mid-year will be required to avoid further damaging margin declines. Meanwhile, it is significant that polysilicon manufacturing capacity --- long the most constrained and profitable part of the PV chain --- now has the highest capacity in the PV chain."

This article was originally published by Cleantechnica and can be found at <http://cleantechnica.com/2012/03/19/worldwide-solar-pv-market-grew-in-2011/>.

The Green Economy, Boon or Menace?

By Emilio Godoy
January 2012

The development of the green economy is the subject of pitched debate among specialists. While some believe it will deepen social inequalities and increase corporate control over natural and biological resources, others highlight its potential role in protecting the environment and creating employment.

“The green economy does not challenge current systems of production, such as the agro-alimentary industry, nor does it aim in any way to change patterns of consumption,” stressed Silvia Ribeiro, the Latin America director of the non-governmental Action Group on Erosion, Technology and Concentration (ETC Group). Ribeiro told *Tierramérica* that some of the most troubling aspects of the green economy include “the massive use of biomass for fuel production, and the use of new technologies like synthetic biology, which can generate high levels of toxicity.”

In its study “Who Will Control the Green Economy?”, published Dec. 15, 2011, the ETC Group argues that the development of a green economy will primarily benefit large corporations, unless changes are made to the current models of production and consumption of goods and services and international governance.

It reveals that large transnational corporations in the energy, pharmaceutical, food and chemical industries are already forming alliances to exploit biomass and grab control of natural resources like land and water.

The study takes a specific look at a range of different sectors, including synthetic biology, bioinformatics and genome data generation, marine and other aquatic biomass, seeds and pesticides, plant gene banks, fertiliser and mining industries, forestry and paper, the animal pharmaceutical industry and livestock genetics.

The United Nations Environment Programme (UNEP) defines the green economy as “a system of economic activities related to the production, distribution and consumption of goods and services that result in improved human wellbeing over the long term, while not exposing future generations to significant environmental risks and ecological scarcities.”

The green economy will be a central theme at the United Nations Conference on Sustainable Development (Rio+20) taking place Jun. 20- 22 in the southern Brazilian city of Rio de Janeiro, 20 years after the first Earth Summit held in the same city in 1992.

The objective of the conference is to secure renewed political commitment for sustainable development, assess the progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development, and address new and emerging challenges

Rio+20 will focus specifically on two themes: a green economy in the context of sustainable development and poverty eradication, and the institutional framework for sustainable development.

UNEP has actively promoted the green economy since 2008, although it acknowledges the validity of some of the concerns raised around it.

“The green economy is an imperative. One of its goals is social equity and human wellbeing. The environment is recognised as a source of wealth,” U.S. economist Steven Stone, chief of UNEP’s Geneva-based Economics and Trade Branch, told *Tierramérica*.

Stone visited Mexico last week for the presentation of a national prospective study on the green economy, co-produced by the Ministry of Environment and Natural Resources (SEMARNAT) and Tecnológico de Monterrey, a private university.

“The real question is whether those who do the greatest damage to the environment are truly contributing to what needs to be done,” commented the director of the School of Economics at the public National Autonomous University of Mexico, Roberto Escalante.

“That is why there is a risk that greening the economy will deepen existing inequalities, so that those who have the least will bear the greatest costs of the environmental impacts,” he told Tierramérica. Escalante is conducting a research study, which he expects to complete during the first quarter of this year, on the effects of agriculture and deforestation on the environment, commissioned by SEMARNAT.

In the run-up to Rio+20, civil society organisations in Latin America are promoting a reworking of sustainable development with an emphasis on social and ecological aspects and a new economy to confront poverty and the concentration of wealth. The World Economic and Social Survey 2011, published by the United Nations Department of Economic and Social Affairs, recommends the investment of 1.9 billion dollars annually in green technologies over the next 40 years to combat the effects of climate change.

UNEP believes green investment should contribute to reducing the energy and water demands and carbon footprint of the production of goods and services.

“There are many alternatives, and the most convincing is the peasant farming economy, which already accounts for 70 percent of world food production,” noted Ribero, whose organisation focuses on the environmental, social and economic impacts of new technologies.

The ETC Group study calls for the establishment of antitrust regimes to prevent monopoly control over resources and highlights the central importance of agriculture and food sovereignty.

It also emphasises the need for greater international awareness around the proposed “techno fixes” which “are not capable of addressing systemic problems of poverty, hunger and environmental crises.”

“One of the key issues is the value of nature, which is not taken into account,” said Stone. “It is not included in economic calculations. These services need to be valued with limits and regulations.”

For his part, Escalante, whose research aims at offering alternatives for low-carbon agricultural production, advocates the use of new technologies, the participation of university institutions, and the formulation of integrated public policies.

“Environmental issues are essentially financial issues. This will be a key subject of discussion at Rio+20. A new vision should prevail, incorporating the prices of the environment in the world of the economy and establishing a scheme that guarantees equity,” he stressed.

*The writer is an IPS correspondent. This story was originally published by Latin American newspapers that are part of the Tierramérica network. Tierramérica is a specialised news service produced by IPS with the backing of the United Nations Development Programme, United Nations Environment Programme and the World Bank.

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Do You Recycle? The Go Green Guy – 19 Items you May Not Know that you can Recycle!

By Jeff Davis
January 2012

Recycling is one of the easiest ways to start down the road to Greener living. Nobody is going to be completely Green, but like I've said before, "take baby steps! Every little step adds up. For every action there is a reaction."

If you make positive actions, no matter how small they may seem, the overall reaction can be huge! So why not concentrate on something that is really easy to do and maybe even get paid for some of it. RECYCLE! Many of you reading this are already doing some sort of recycling at your home or work place. Beverage containers, maybe paper products, but there is so much more!

Many items are recyclable that people do not seem to know about. The Go Green Guys 19 items you may not know that you can recycle!

1. Blue Jeans

Donating jeans (as with any used clothing and household items) to Goodwill is always a great option. But if they're too raggedy, they can be recycled into cool products. Companies like Green Jeans Insulation and Bonded Logic manufacture insulation products from recycled denim and cotton fibers. Green Jeans Insulation recycles jeans into natural fiber insulation used for interior and exterior walls and ceiling applications.

2. Shoes

When old shoes are too worn out, beat down and just plain disgusting to donate to your local charity the landfill isn't the answer. Check out the Website recycledrunners.com for shoe recycling facilities and organizations near you. Also note that Nike is happy to take your rubber-soled shoes—no matter who made them—and recycle them into new athletic surfaces like basketball courts and running tracks. Find your nearest drop off location at the Nike Reuse-A-Shoe Web site

3. Carpet

Removing old carpet is a pain and so is getting rid of it. Before you send it to the local landfill find out if you have a carpet reclamation company in your area. Check out Carpet Recovery—they just might be able to turn your old carpet into composite lumber, roofing shingles, railroad ties, or automotive parts.

4. Batteries

There are many places now where you can bring in your used one time use batteries for recycling. Battery Solutions offers products and services to recycle all battery types anywhere in the U.S. and in any quantity.

5. Rechargeable batteries

While nine states have passed laws banning rechargeable batteries from landfills, New York City and the state of California have passed the only laws requiring manufacturer take-back programs. This includes batteries for cell phones, laptops and other electronic devices. But if you live in an area that's not covered by this mandate, Call2Recycle is a great place to start finding a recycling location.

6. Wine

We all know that wine bottles can be recycled along with all of your glass and metal containers, but what about the cork? ReCORK by Amorim claims to have recycled 14,568,152 corks since they started their program in 2007. They get corks

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from wineries, restaurants and individuals. Used corks are ground up to be used in products ranging from floors to sporting equipment to shoes. WineFashionistas should check out shoes being made with cork by SOLE. Don't forget the left over wine, don't dump it down the drain, wine can encourage the composting process. Just pour your left over wine in the compost bin!

7. Crayons

National Crayon Recycle Program has diverted more than 47,000 pounds of crayons from landfills. The company has drop-off bins nationwide and a mail-back option. The program accepts unwanted and broken crayons for recycling into new crayons. You can also melt down your old crayons and mold into new fun shape crayons – here is a sample of a fun re-use of your old crayons

8. Cotton Swabs

If you compost, cotton balls, cotton swabs (as long as the handle is made of cardboard), lint from the dryer and even old shredded cotton and wool clothing can all go in your compost bin.

9. Golf Balls

Every golfer has a collection of junk balls you picked up while trudging through the rough in search of a lost ball, you can bring those old golf balls to a Dixon Golf retail location or mail them in for recycling. OnlyGolfBalls.com will buy old golf balls in bulk. Also, check out LostGolfBalls.com to purchase recycled and used golf balls.

10. Trophies

In days of old, trophies were hard earned and very special, now they are given out to every participant on a given sports team. They add up fast. When you are tired of dusting them off, don't put them in the trash. There are options. Total Awards & Promotions, Inc. has a trophy recycling program to benefit charities. Through a mail-in program, the company recycles your defunct awards or re-engraves and donates them to nonprofit organizations. One of many trophy recycling programs offered nationwide, the company also manufactures its own awards made of recycled glass and newsprint.

11. Keys

How about all of those old keys you toss into a drawer, do you really think you will ever use them again? Don't toss them in the trash either. They're made of valuable metal, after all. Keys For Kindness is a small, family-run program designed to raise money through metal key recycling for the Multiple Sclerosis society. The donor pays for shipping, but we're sure karma points are said donor's future.

12. Bicycles

To most of us a bicycle is a recreational item, a child's toy or a piece of exercise equipment. For many others in the world, a bicycle is basic transportation and one they can not afford. Providing bicycles to those living in Third World countries can change lives for the better. Americans throw away more than 15 million bicycles each year, but the nonprofit organization Bikes for the World is working to keep those unwanted bikes out of our landfills and put them in the hands of people who really need them.

13. Mattresses

It is estimated that about 20 million mattresses are replaced every year in the U.S. Where do you think the old ones end up? Yep most of them end up in landfills! But an increasing number of mattress retailers will accept your used mattress for recycling, but specifically ask/insist about recycling before you agree to buy a replacement. Mattress recycling centers are springing up around the country, where they recycle about 90% of the mattress into fiber for clothing, wood chips, foam products, and scrap metal.

14. Scrap Metal

Old scrap metal can be a money maker. Anything that you may have kicking around, taking up space, if it is made of metal, scrap it! To find out more check out I Scrap App. They provide information on local scrap yards, pricing, etc...

15. Hair

Human hair is compostable and recyclable. Hair from your hairbrush or fur from your pet are full of useful nitrogen that can be thrown in the compost pile. Donating your hair could help clean up future oil spills. San Francisco nonprofit Matter of Trust collects human and pet hair to create booms that soak up oil.

16. Eye glasses

Take them down to your local Lions club or Project 20-20. There are always those with limited funds who could use glasses.

17. Foam packing and EPS (commonly known as Styrofoam®)

Take the foam packing peanuts to one of your local pack and ship places such as the UPS store and Box and ship, to find one click here just type in your zip code. They will reuse it. (call first to make sure they are accepting). As for EPS, there is the Pack-it-Back EPS recycling program, they take the crumbly styro foam containers, they also take hardcover or paper back books, cd's, dvd's, VHS and cassette tapes.

18. Scratched DVD/CD/Game

If you have a scratched disc, don't just throw it out. They can actually be fixed at www.auratech.com and they will work good as new.

19. Computers and electronics

We have talked about these in recent post and you have many options. E – Waste – What is it? What do we do with it? will answer all of your questions.

If you ever have any questions about items that you are not sure are recyclable or where to recycle them, you can inquire at: Earth 911 – they are one of the best sites for searching local recycle items and drop off locations. In Canada try Canada-Earth911, If you live in the UK try recycle-more to locate recycle locations by postal code!

Remember the more we reuse and recycle, the less is going into landfills.

This article was originally published by Go Green America TV and can be found at <http://gogreenamericatv.com/do-you-recycle-the-go-green-guy-19-items-you-may-not-know-that-you-can-recycle/>.

Public Shows Overwhelming Support for Plastic Bag Ban in Europe

By EcoWatch
January 2012

Brussels, 17th January 2012. Over 70% of respondents to a European Commission public consultation have voted in favour of a ban on the distribution of plastic bags. Green groups Seas at Risk and EEB say the Commission should now act on this overwhelming support and implement a ban across Europe.

The public consultation was intended to explore options to reduce the use of plastic bags and options to improve the requirements of biodegradability under EU law.

Over 15,500 responses were gathered by the Commission with just over 15,000 replies from EU citizens.

The results of the consultation show that over 70% of respondents agree that a ban on plastic bags across the EU is needed with only 12% agreeing that current requirements on compostability and biodegradability in the Packaging Directive were appropriate.

Chris Carroll of Seas At Risk said: "Plastic bags are a menace to the marine environment and this consultation has shown that European citizens have had enough of them. The Commission must listen to this resounding support for a ban and implement one across Europe as soon as possible. The Commission must also now look at how to reduce the use of other single use and disposable products and packaging that often end up as waste in the marine environment."

Stephane Arditi of the European Environment Bureau said: "With more than two thirds of respondents supporting a ban of single use plastic bags, a clear signal is being sent to European institutions: it's time for longer lasting products and for effective legal instruments supporting waste prevention ."

This article was originally published by Seas at Risk and can be found at http://www.seas-at-risk.org/pdfs/SAR_EEB_Press%20release_PB.pdf.

10 Ways to Go Green and Save Green

By Worldwatch Institute*
May 2012

How can we live lightly on the Earth and save money at the same time? Staff members at the Worldwatch Institute, a global environmental organization, share ideas on how to GO GREEN and SAVE GREEN at home and at work. To learn more about Worldwatch's efforts to create an environmentally sustainable society that meets human needs, sign up here for weekly e-mail updates.

Climate change is in the news. It seems like everyone's "going green." We're glad you want to take action, too. Luckily, many of the steps we can take to stop climate change can make our lives better. Our grandchildren-and their children-will thank us for living more sustainably. Let's start now.

We've partnered with the Million Car Carbon Campaign to help you find ways to save energy and reduce your carbon footprint. This campaign is uniting conscious consumers around the world to prevent the emissions-equivalent of 1 million cars from entering the atmosphere each year.

Keep reading for 10 simple things you can do today to help reduce your environmental impact, save money, and live a happier, healthier life. For more advice, purchase *State of the World 2010 - Transforming Cultures: From Consumerism to Sustainability*, a report from 60 renowned researchers and practitioners on how to reorient cultures toward sustainability.

1. Save energy to save money.

- Set your thermostat a few degrees lower in the winter and a few degrees higher in the summer to save on heating and cooling costs.
- Install compact fluorescent light bulbs (CFLs) when your older incandescent bulbs burn out.
- Unplug appliances when you're not using them. Or, use a "smart" power strip that senses when appliances are off and cuts "phantom" or "vampire" energy use.
- Wash clothes in cold water whenever possible. As much as 85 percent of the energy used to machine-wash clothes goes to heating the water.
- Use a drying rack or clothesline to save the energy otherwise used during machine drying.

2. Save water to save money

- Take shorter showers to reduce water use. This will lower your water and heating bills too.
- Install a low-flow showerhead. They don't cost much, and the water and energy savings can quickly pay back your investment.
- Make sure you have a faucet aerator on each faucet. These inexpensive appliances conserve heat and water, while keeping water pressure high.
- Plant drought-tolerant native plants in your garden. Many plants need minimal watering. Find out which occur naturally in your area.

3. Less gas = more money (and better health!)

- Purchase *State of the World 2009: Into a Warming World* to learn more about overcoming global climate change
- Walk or bike to work. This saves on gas and parking costs while improving your cardiovascular health and reducing your risk of obesity.
- Consider telecommuting if you live far from your work. Or move closer. Even if this means paying more rent, it could save you money in the long term.
- Lobby your local government to increase spending on sidewalks and bike lanes. With little cost, these improvements can pay huge dividends in bettering your health and reducing traffic.

4. Eat smart

- If you eat meat, add one meatless meal a week. Meat costs a lot at the store-and it's even more expensive when you consider the related environmental and health costs.
- Buy locally raised, humane, and organic meat, eggs, and dairy whenever you can. Purchasing from local

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farmers keeps money in the local economy.

- Watch videos about why local food and sustainable seafood are so great.
- Whatever your diet, eat low on the food chain [pdf]. This is especially true for seafood.

5. Skip the bottled water

- Purchase State of the World 2011: Innovations that Nourish the Planet to learn more about eating sustainably.
- Use a water filter to purify tap water instead of buying bottled water. Not only is bottled water expensive, but it generates large amounts of container waste.
- Bring a reusable water bottle, preferably aluminum rather than plastic, with you when traveling or at work.
- Check out this short article for the latest on bottled water trends.

6. Think before you buy

- Go online to find new or gently used secondhand products. Whether you've just moved or are looking to redecorate, consider a service like Craigslist or Free Sharing to track down furniture, appliances, and other items cheaply or for free.
- Check out garage sales, thrift stores, and consignment shops for clothing and other everyday items.
- When making purchases, make sure you know what's "Good Stuff" and what isn't.
- Watch a video about what happens when you buy things. Your purchases have a real impact, for better or worse.

7. Borrow instead of buying

- Borrow from libraries instead of buying personal books and movies. This saves money, not to mention the ink and paper that goes into printing new books.
- Share power tools and other appliances. Get to know your neighbors while cutting down on the number of things cluttering your closet or garage.

8. Buy smart

- Buy in bulk. Purchasing food from bulk bins can save money and packaging.
- Wear clothes that don't need to be dry-cleaned. This saves money and cuts down on toxic chemical use.
- Invest in high-quality, long-lasting products. You might pay more now, but you'll be happy when you don't have to replace items as frequently (and this means less waste!).

9. Keep electronics out of the trash

- Keep your cell phones, computers, and other electronics as long as possible.
- Donate or recycle them responsibly when the time comes. E-waste contains mercury and other toxics and is a growing environmental problem.
- Recycle your cell phone.
- Ask your local government to set up an electronics recycling and hazardous waste collection event.

10. Make your own cleaning supplies

- The big secret: you can make very effective, non-toxic cleaning products whenever you need them. All you need are a few simple ingredients like baking soda, vinegar, lemon, and soap.
- Making your own cleaning products saves money, time, and packaging—not to mention your indoor air quality.

11. Bonus Item!

- Stay informed about going green. Sign up for our weekly newsletter or subscribe to World Watch, our award-winning magazine.
- Want more? Check out Going Green: 12 Simple Steps for 2012.

*Thanks to members of Sustain US, the U.S. youth network for sustainable development, for contributing their ideas on how to go green and save green at home and at work.

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*Empowered lives.
Resilient nations.*

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