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From the Editor, Request for information for upcoming newsletters

This newsletter is an opportunity for IEF members to share their experiences, activities, and initiatives that are taking place at the community level on environment, climate change and sustainability. All members are welcome to contribute information about related activities, upcoming conferences, news from like-minded organizations, recommended websites, book reviews, etc. Please send information to newsletter@ief.org
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Please share the *Leaves* newsletter and IEF membership information with family, friends, and associates and encourage interested persons to consider becoming a member of the IEF.

IEF officers re-elected

After the election of the IEF Governing Board at the IEF Annual General Assembly in March, the Governing Board held its first meeting of the year over skype on 9 April, and has re-elected Arthur Dahl as President and Emily Firth as General-Secretary. Planning is now underway, in consultation with the Baha'i International Community, for IEF participation in the UN Climate Change Conference (COP21) in Paris in December. A number of IEF members have offered to contribute to IEF activities in and around the conference.

PERL

Partnership for Education and Research about Responsible Living
www.livingresponsibly.org
March 2015 newsletter

Leading the Change

Youth Can Move the World

An online event for youth was held on the 27th of February to create a wave of action that makes an impact on the world. Coordinated by the Adora Foundation and PERL workgroup #7, the event was called: "Youth can Move the World: Social Responsibility + The Decision to Act". The event gathered youth from all over the world to hear amazing real life stories from youth who have achieved extraordinary things against extraordinary odds, to experience inspiring audiovisual art, to engage in creative dialogue with other youth, to take a single step of spontaneous individual action together on a global scale. The main purpose of the event was for youth to realize that it doesn't matter if the change they make is huge or small: if it's positive, you have made a difference. And if we all take a step at the same time….the world will surely feel it.

The Adora Foundation has been established by IEF member Ismael Velasco.

PERL -- Galvanizing the transition to more sustainable, responsible lifestyles

"PERL's mission to empower individuals and their communities to recognize the influence they have as stakeholders, citizens and fellow human beings; and PERL's efforts to assist people in putting principles into action-- remain both relevant and extremely important." This was the conclusion of the PERL international conference hosted by UNESCO in March 2015 at which 120 people from 36 countries participated.

After extensive discussion about the present needs related to the transition to more sustainable lifestyles, the PERL conference participants strongly recommended that:

a) PERL continues as a consortium of organizations and individuals engaged in social change that galvanizes the transition to more sustainable, responsible lifestyles;
b) PERL partners maintain their active involvement in the public discourse on how to achieve equity, dignity and well-being for all and thereby continue to contribute to the existing international frameworks on education and sustainable development;
c) PERL partners continue to pursue cutting edge, action-based research;
d) PERL partners undertake to give visibility to innovative models of sustainable living, as well as, to relevant traditional wisdom from diverse groups and persons;
e) PERL promotes the development of values-based learning and assessment;
f) PERL endeavours to encourage empathy, caring and moderation in a wide variety of learning settings;
g) PERL further develops active, participatory learning methodologies and tools.

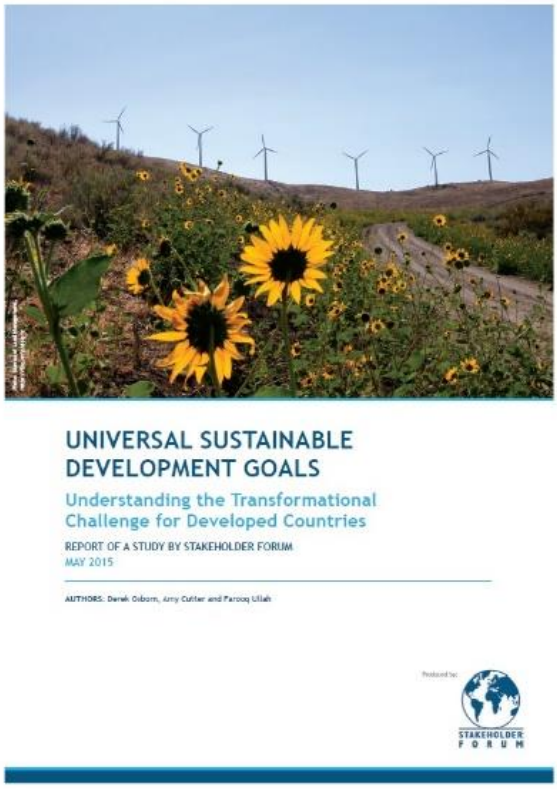
To achieve these goals, the conference participants recommended that PERL partners actively seek opportunities and assume greater responsibility for initiating and coordinating projects on research and education for responsible living under the PERL banner.

Some highlights of the conference were: Arjen Wals examination of education for sustainable development; Arvind Singhal's presentation of positive deviance; Bert de Vries's discussion of integrative world views; and Mariana Nicolau's description of leverage points for social change. The symposium sponsored by The International Environment Forum on "Ethical Transformation and Education for Service at the Community and Institutional Level", and the workshop lead by Jan Vandermortele on "Global Frameworks for the Transition to Sustainable Lifestyles" contributed to valuable discussion. Likewise, the workshop held by Guus Geisen on "systems thinking in education for responsible living" and the international roundtable discussion provided much food for thought.

The parallel research presentations were inspiring and gave a great overview of current research done in the areas of sustainable solutions at the local level, mobilizing youth, transforming learning environments, building the capacities of educators and trainers and advancing policy. The conference participants looked closely at what has been accomplished during the last decade and carefully considered new scientific evidence and practices about sustainable, responsible living. Different parallel workshops gave participants an opportunity to touch on subjects on a more in-depth level.

New report: The implications of the SDGs for developed countries

Universal Sustainable Development Goals
Understanding the Transformational Challenge for Developed Countries



Stakeholder Forum was recently commissioned by the United Nations Development Programme (UNDP) to undertake a rapid new study to aid better understanding of the implications of the Sustainable Development Goals (SDGs) for **Developed** Countries, since this aspect has tended to receive less attention in the international discussions. A report of the study has just been published.

The study introduces a new methodology for assessing the degree of both transformational challenge represented by each of the different SDGs (and their respective targets) and the transformational changes that will need to be made in implementing them in different national circumstances.

A first application of the methodology leads to the conclusion that ***the most transformational opportunities for developed countries in implementing the SDGs domestically are clustered around the goals of transitioning economies towards more sustainable modes of consumption and production, greater sustainable energy production and combating climate change***. This contrasts with the position of developing countries for which the goal of eradicating poverty is still the central challenge, and for which they still need support in many forms from more developed countries and the international community.

It is important to note that **all** of the SDGs contain relevant and significant challenges for **all** countries. Therefore, all of the SDGs apply to even the most developed of countries. However, this study seeks to understand better the differing emphases for action within the SDG framework that will arise for different countries so as to relieve the overall anthropogenic pressures on the planet and its natural systems at the same time as eradicating poverty and promoting greater equality within and amongst countries.

The methodology proposed is described in some detail so that it could be taken up in any country or groups of countries and used to assess the extent of the challenge represented by the different SDGs in different contexts. It is hoped that it could in this way become a useful tool for countries at all levels of development as they make their plans for SDGs implementation. It could help any country to analyse their current situation in relation to the SDGs, to identify which of the goals and targets will represent the biggest transformational challenges and opportunities for them, and thence to determine their own emphases for action toward achievement of the SDGs.

The report can be accessed and downloaded at http://www.stakeholderforum.org/sf/images/stories/SF_-_SDG_Universality_Report_-_May_2015.pdf

Please contact Farooq Ullah for additional information about this study - fullah@stakeholderforum.org

UN preparing for the Sustainable Development Goals

As the intergovernmental negotiations to finalize the Sustainable Development Goals (SDGs) advance towards their planned adoption at a Summit session of the UN General Assembly in New York on 25-27 September, the different parts of the UN system are preparing to take on what will become the framework for international development action for the next 15 years. IEF President Arthur Dahl prepared an analysis for the UNEP Regional Office for Europe on the environmental dimensions of all the SDGs and their implications for its work programme (available at http://yabaha.net/dahl/papers/Dahl2015a_UNEP_ROE.pdf). He has also been advising the UN system-wide Environment Management Group on the SDGs as a framework to guide future UN system collaboration on the environment. In mid-April he prepared a study for an expert meeting called by the International Resource Panel on "Resource efficiency improvements and marine resources management in the Sustainable Development Goals (SDGs)" (http://yabaha.net/dahl/papers/Dahl2015d.html). It is clear from this work that governments by themselves will not be able to monitor all the SDGs and their targets, and a much wider implication of the UN system, the scientific community and all stakeholders will be needed to take this ambitious agenda forward.

The FAO has prepared its own summary for food security post-2015 in "100 facts in 14 themes linking people, food and the planet" available at http://www.fao.org/fileadmin/user_upload/mdg/100_facts/100facts_EN.pdf

IEF comments on the UN Statistical Commission report

The UN Major Groups Programme Coordinator in the Division for Sustainable Development requested stakeholder feedback regarding the UN Statistical Commission's technical report on indicators for the Sustainable Development Goals, which are to be adopted in September. The IEF submitted the following comments on the technical report in the limited space provided.

The technical report reflects the present capacity of national statistical services to respond to the aspirations of the SDGs, and they already have the challenge to disaggregate and to speed up reporting, so it is impractical to ask them to take on more immediately. Other proposals like SDSN have gone much further, and these also should be encouraged. A comparison of indicators for ocean and coastal issues from the technical report, SDSN and Global Ocean Commission (Dahl 2015 cited below) shows little overlap between indicator sets and a large potential for new policy-relevant indicators that is beyond the present capacity of national statistical services. This gap should be filled with other processes to develop and test indicators that might ultimately be integrated into the SDG set.

The UN should organize a process with UN task managers for each SDG, as was done for Agenda 21 after UNCED, to improve existing indicators and fill gaps in the targets covered. Other partners (UN agencies, OECD, CSOs) could be responsible for indicators in their areas of competence that are beyond the capacity of national statisticians or need further development. Some international NGOs (Transparency International, etc.) and research centers (Earth Institute etc) already produce useful indicators in complement to official indicators. For higher level integration, UNDP could harmonize all economic indicators, UNEP EMG environmental indicators and the World Bank social indicators. The highest integration would be in the Sustainable Development Report. A broader stakeholder process should encourage complementary indicators at national and local levels, so that the top-down SDG process is supported by a bottom-up response of local communities and the public to the SDGs. The statisticians cannot do it all by themselves.

Indicators are also needed to assess development at the individual level and the role of governments and other institutions in facilitating individual progress and well-being (Dahl 2014). This also would capture the ethical dimensions of justice and equity more effectively than national averages. Such indicators would complement the collective measures in the SDG indicators and give the process a more human face.

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NASA Study Shows Antarctica's Larsen B Ice Shelf Nearing Its Final Act

http://www.nasa.gov/press-release/nasa-study-shows-antarctica-s-larsen-b-ice-shelf-nearing-its-final-act

A new NASA study finds the last remaining section of Antarctica's Larsen B Ice Shelf, which partially collapsed in 2002, is quickly weakening and likely to disintegrate completely before the end of the decade.

A team led by Ala Khazendar of NASA's Jet Propulsion Laboratory (JPL) in Pasadena, California, found the remnant of the Larsen B Ice Shelf is flowing faster, becoming increasingly fragmented and developing large cracks. Two of its tributary glaciers also are flowing faster and thinning rapidly.

"These are warning signs that the remnant is disintegrating," Khazendar said. "Although it's fascinating scientifically to have a front-row seat to watch the ice shelf becoming unstable and breaking up, it's bad news for our planet. This ice shelf has existed for at least 10,000 years, and soon it will be gone."

Antarctica's Larsen B Ice Shelf is likely to shatter into hundreds of icebergs before the end of the decade, according to a new NASA study.

Credits: NSIDC/Ted Scambos

Ice shelves are the gatekeepers for glaciers flowing from Antarctica toward the ocean. Without them, glacial ice enters the ocean faster and accelerates the pace of global sea level rise. This study, the first to look comprehensively at the health of the Larsen B remnant and the glaciers that flow into it, has been published online in the journal Earth and Planetary Science Letters.

Khazendar's team used data on ice surface elevations and bedrock depths from instrumented aircraft participating in NASA's Operation IceBridge, a multiyear airborne survey campaign that provides unprecedented documentation annually of Antarctica's glaciers, ice shelves and ice sheets. Data on flow speeds came from spaceborne synthetic aperture radars operating since 1997.

Khazendar noted his estimate of the remnant's remaining life span was based on the likely scenario that a huge, widening rift that has formed near the ice shelf's grounding line will eventually crack all the way across. The free-floating remnant will shatter into hundreds of icebergs that will drift away, and the glaciers will rev up for their unhindered move to the sea.

Located on the coast of the Antarctic Peninsula, the Larsen B remnant is about 625 square miles (1,600 square kilometers) in area and about 1,640 feet (500 meters) thick at its thickest point. Its three major tributary glaciers are fed by their own tributaries farther inland.

"What is really surprising about Larsen B is how quickly the changes are taking place," Khazendar said. "Change has been relentless."

The remnant's main tributary glaciers are named Leppard, Flask and Starbuck -- the latter two after characters in the novel Moby Dick. The glaciers' thicknesses and flow speeds changed only slightly in the first couple of years following the 2002 collapse, leading researchers to assume they remained stable. The new study revealed, however, that Leppard and Flask glaciers have thinned by 65-72 feet (20-22 meters) and accelerated considerably in the intervening years. The fastest-moving part of Flask Glacier had accelerated 36 percent by 2012 to a flow speed of 2,300 feet (700 meters) a year -- comparable to a car accelerating from 55 to 75 mph. Flask's acceleration, while the remnant has been weakening, may be just a preview of what will happen when the remnant breaks up completely. After the 2002 Larsen B collapse, the glaciers behind the collapsed part of the shelf accelerated as much as eightfold – comparable to a car accelerating from 55 to 440 mph.

The third and smallest glacier, Starbuck, has changed little. Starbuck's channel is narrow compared with those of the other glaciers, and strongly anchored to the bedrock, which, according to authors of the study, explains its comparative stability.

"This study of the Antarctic Peninsula glaciers provides insights about how ice shelves farther south, which hold much more land ice, will react to a warming climate," said JPL glaciologist Eric Rignot, a coauthor of the paper.

The research team included scientists from JPL, the University of California, Irvine, and the University Centre in Svalbard, Norway. The paper is online at: **http://go.nasa.gov/1bbpfsC**

NASA uses the vantage point of space to increase our understanding of our home planet, improve lives and safeguard our future. NASA develops new ways to observe and study Earth's interconnected natural systems with long-term data records. The agency freely shares this unique knowledge and works with institutions around the world to gain new insights into how our planet is changing.

For more information about NASA's Earth science activities, visit: **http://www.nasa.gov/earth**

First African Green Growth Forum Aims to Unlock the Continent's Economic Potential

http://www.unep.org/newscentre/Default.aspx?DocumentID=26816&ArticleID=35023&l=en#sthash.u3DGCtA8.dpuf

Standing in centre (L-R): H.E. William Ruto, Deputy President of Kenya; H.E. Geert Aagaard Andersen, Ambassador to Kenya, Denmark; Achim Steiner, Executive Director, UNEP

Nairobi, 13 May 2015 - The first African Regional Green Growth Forum opened today in Nairobi, attended by the President of Kenya, Uhuru Kenyatta, and more than 200 delegates, including African ministers of environment, policy-makers, international financial and environmental experts, and leaders from the private sector.

The Forum is jointly organized by the Government of Kenya, the Government of Denmark and the United Nations Environment Programme (UNEP), under the umbrella of the Global Green Growth Forum (3GF) which convenes governments, businesses, investors and international organizations to act together for inclusive green growth.

The two-day conference will work to identify the barriers to Africa's sustainable development and the ways to turn them into opportunities for green growth and improved livelihoods. It will focus on three key areas: new financing models for green growth, sustainable urbanization and sustainable lifestyles.

The forum is also expected to stimulate discussion on reliable and sustainable supply in energy for Africa, achieving sustainable industrialization through the circular economy and funnelling modern technology into the continent.

Africa holds an unparalleled green growth potential. A transition to green economy could meet many of the current challenges and create an opportunity for improved livelihoods and sustainable lifestyles. To seize this opportunity, new innovative, sustainable and inclusive growth and business models are needed.

"This year, a series of events will set the development agenda for decades to come: the Financing for Development conference in Addis Ababa, the adoption of the Sustainable Development Goals (SDGs) and Agenda, and the climate change meeting in Paris at the end of the year," said Achim Steiner, UN Under-Secretary-General and Executive Director of UNEP.

"The 3GF provides a timely opportunity for African stakeholders to define their priorities to feed into these important processes," he added. "We are seeing the continent take advantage of the many green economy opportunities at its fingertips. Building on a strong endowment of natural resource and skills, Africa is poised to become the frontline of a global transition to more-inclusive green economies."

"Africa in general, and Kenya in particular, holds an unparalleled green growth potential. A transition to green economy could meet many of our current challenges and create an opportunity for improved livelihoods and employment creation for all. If we want to seize this new opportunity, new, innovative, sustainable and inclusive growth and business models are needed," said Prof. Judi Wakhungu, Cabinet Secretary for Environment, Water and Natural Resources, Kenya.

"We need to unlock the African and global potential for green growth. To do so, all actors must work closer together and be 'powerful doers'. Together we can create a common green growth pathway by facilitating concrete action-oriented partnership solutions," said Martin Lidegaard, Minister of Foreign Affairs, Denmark. "The 3GF aims to provide exactly this common space for private and public decision-makers."

3GF-Africa is the first of a series of regional conferences that 3GF is organising in Africa, Asia and Latin America throughout 2015. By engaging high-level partners from all regions of the world, and from both public and private spheres, 3GF seeks to demonstrate that green solutions, scalable to the global level and spurring economic growth, are at hand.

UNEP will moderate the discussions, but also actively feed them through the UNEP Finance Initiative and the UNEP Inquiry into the Design of a Sustainable Financial System, which are partners for the financial segment of the forum.

In addition to discussing the green-growth strategies for the continent, the forum's participants will also engage in concrete partnership-building activities, especially between private and public sectors, in the areas of water, energy, waste management, circular economy and land restoration.

The outcomes of this regional conference will feed into the next 3GF global Summit which will take place in Copenhagen 20 - 21 April 2016.

About 3GF

The Global Green Growth Forum (3GF) convenes governments, businesses, investors and international organisations to act together for inclusive green growth. It was initiated by the Danish Government in 2011 in collaboration with Korea and Mexico. In 2012 China, Kenya and Qatar joined the partnership. In 2014 Ethiopia became the 7th government partner. 3GF Advisory Board members include: ABB, Alstom, Banco National de Mexico (Banamex), Bidco Group & Kenya Private Sector Alliance and East African Business Council, Danfoss, Hyundai Motors, McKinsey & Company, Novozymes, Samsung C&T Corporation, Siemens, Trina Solar, Vestas, OECD, the International Energy Agency (IEA), UN Global Compact, International Finance Corporation (IFC), Climate Policy Initiative, Global Green Growth Institute, Inter-American Development Bank, World Resources Institute and Centro Mario Molina.

Mobilizing the Billions and Trillions for Climate Finance

http://www.worldbank.org/en/news/feature/2015/04/18/raising-trillions-for-climate-finance

The leaders of the IMF, World Bank Group, and United Nations welcomed ministers from 42 countries for the climate ministerial.

STORY HIGHLIGHTS

- *Sessions throughout the 2015 IMF/World Bank Group Spring Meetings brought together voices from all areas of the economy – government, investment, business and civil society – to discuss how to mobilize the trillions of dollars needed globally to address climate change.*
- *Putting a price on carbon and phasing out fossil fuel subsidies are two ways governments can free up and increase public funds. Other sessions looked at the roles development banks and central banks can play in encouraging greater investment in low-carbon growth.*

Across a wide range of meetings on the many aspects of financing the transition to low-carbon, resilient growth, three points made this IMF/World Bank Group Spring Meetings different: They were standing room only, they reflected the growing sense of purpose and urgency, and they brought together voices from all areas of the economy – governments, central banks, development institutions, businesses, investors, and communities.

The climate ministerial reflected all three as 42 ministers of finance and development met with the heads of the World Bank, IMF, and United Nations and business and investment leaders to discuss meeting the world's climate finance needs and how carbon pricing can lower emission and raise public funds for clean, resilient development.

Other meetings peeled back the ways central banks could encourage low-carbon investment and discussed how long-term targets for renewable energy and energy efficiency and policy packages, including fossil fuel subsidy reform, can direct investment to cleaner sources. All pointed to the need for clean, low-carbon growth and ways to lower emissions and increase climate finance.

"In less than nine months, climate negotiators will be in Paris to finalize an international agreement to reduce greenhouse gas emissions and begin slowing the impacts of climate change. Their success will depend heavily on how leaders, many of them here for the Spring Meetings, shape economic policies and catalyze climate finance to respond to the risks of our rapidly warming planet," World Bank Group President Jim Yong Kim told the public and private sector guests at a meeting on climate finance co-hosted with the European Investment Bank.

The magnitude of the challenge

Over the next 15 years, the global economy will require an estimated $89 trillion in infrastructure investments across cities, energy, and land-use systems, and $4.1 trillion in incremental investment for the low-carbon transition to keep within the internationally agreed limit of a 2 degree Celsius temperature rise.

In addition, developed countries are working to meet a commitment made in 2010 to mobilize $100 billion a year from public and private sources by 2020 for climate mitigation and adaptation in developing countries. Showing the pathways to that $100 billion commitment will be important for building trust and confidence around the Paris climate negotiations that are expected to produce a new international agreement later this year.

Carbon pricing and fossil fuels

Putting a price on carbon and phasing out fossil fuel subsidies are two ways governments can free up and increase public funds. With a small percentage of the money that saved by ending subsidies or of the revenue raised from a carbon tax or permit sale going to climate finance, governments could help meet the $100 billion climate finance commitment and other mitigation and adaptation needs.

In the climate ministerial, led by World Bank Group President Kim, IMF Managing Director Christine Lagarde and United Nations Secretary-General Ban Ki-moon, U.S. Treasury Secretary Jacob Lew and ministers from China, India, Brazil, South Africa and other countries heard from CEOs, who explained how a stable carbon price can incentivize cleaner decisions and innovation, and from British Columbia Premier Christy Clark, whose province has a revenue-neutral carbon tax that has lowered income and businesses taxes and has a credit to help offset costs for the poor.

Several of the ministers raised concerns about the need to get finance flowing. Others discussed the value of carbon pricing in fueling innovation and lowering greenhouse gas emissions.

IMF Managing Director Christine Lagarde addresses the climate ministerial at the IMF/World Bank Group Spring Meetings.

Laurence Tubiana, special representative of the French Minister of Foreign Affairs for the 2015 Paris Climate Conference (COP21) and French ambassador for climate negotiations, speaks at a meeting on carbon pricing organized by the Swedish government.

Earlier in the day, Sweden's Finance Minister Magdalena Andersson described to another packed room of government officials and leaders from business and civil society how her country had implemented a high carbon tax tailored to their economy and, over time, had decoupled growth from emissions.

"It has made Sweden a driver of economic growth and efficiency," Andersson said. "You can combine steady economic growth with a reduction of greenhouse gases."

Friends of Fossil Fuel Subsidy Reform, a coalition of eight countries, was joined by France in taking on another potential source of climate finance and greenhouse gas reductions: the group released a communique calling for the phase-out of subsidies in the lead-up to the Paris conference, arguing that the harmful subsidies encourage waste and disproportionately benefit wealthier households. The nearly $550 billion a year spend on fossil fuel subsidies can be reallocated for better public use, including climate finance for sustainable development.

Central banks

On the larger question of economic transformation, the UNEP Inquiry led a discussion on "a quiet revolution" underway to redesign financial systems for low-carbon growth. Financial regulators, standard-setters, and banks are rethinking the rules governing financial systems from a sustainability perspective, the speakers said.

Ma Jun, chief economist of the People's Bank of China, offered a snapshot of some of the innovations being discussed in China as the country drafts its 13th Five-Year Plan. In the next five years, he said, China will need about 2 trillion yuan (US$322 billion) in annual investment. The fiscal system can meet about 15 percent of that, he said, leaving a large percentage to be filled by the private sector.

China is discussing greater use of green bonds, discounted loans for climate-friendly projects, the development of green banks and green funds, and it has seven pilot carbon markets and plans to launch a national carbon market as early as 2016. The chief economist suggested that public-private partnership financing could help increase the participation of the private sector in infrastructure projects.

Private investment
The meetings reflected a growing understanding in the private and public sectors of the risks that climate change poses to supply chains, business assets, and society at large. Investors, particularly long-term investors like pension funds, which were represented at the meetings, have been increasing pressure on companies to shift toward cleaner investments and avoid high-emitting assets that could become stranded in an economy evolving away from fossil fuels.

Atiur Rahman, governor of Bangladesh's central bank, told the EIB-World Bank event that he sees mindsets changing in the country's banks and increasing support for green projects. One driver, he said, has been leadership since the central bank began to focus on climate impact.

Stranded assets pose another risk flagged by investors in several sessions, including Carbon Tracker's discussion of the limits to how much of the world's fossil fuel reserves can be burned and still keep the planet from warming more than 2 degrees Celsius and what that means for the construction of power sources today.

The magnitude of the finance challenges ahead and the discussions made clear the need to build on one another's work and set targets, said World Bank Group Vice President and Special Envoy for Climate Change Rachel Kyte. "One thing that came through very clear is that you have to know where you're going. You have to have clear goals and targets at the national level," Kyte said. Shifting the world to a cleaner trajectory will require nothing short of economic transformation.

3 Steps to Decarbonizing Development for a Zero-Carbon Future

http://www.worldbank.org/en/news/feature/2015/05/11/decarbonizing-development-zero-carbon-future

Håkan Dahlström / Creative Commons

STORY HIGHLIGHTS

- *To keep temperatures from rising more than 2 degrees Celsius, as governments have agreed, will require transforming how the world uses energy. Electricity from clean energy sources plays an important role.*
- *A new World Bank report lays out three steps for a smooth transition to a zero-carbon future and provides data, examples and policy advice to help countries makes the shift.*

Getting to zero net emissions and stabilizing climate change starts with planning for the long-term future and not stopping at short-term goals. It means getting prices right as part of a broad policy package that can trigger changes in both investments and behaviors, and it requires smoothing the transition for those most affected.

A new World Bank report walks policymakers through those three steps with data, examples and policy advice to help put countries on a path to decarbonizing their development in a smooth and orderly way.

The solutions exist, and they are affordable – if governments take action today, the report says.

It warns, however, that costs will rise for the next generation the longer action is delayed. Data from the latest Intergovernmental Panel on Climate Change report suggests that waiting just 15 more years and taking no action until 2030 would increase costs by an average of 50 percent through 2050 to keep temperatures from rising less than 2°C.

"Choices made today can lock in emissions trajectories for years to come and leave communities vulnerable to climate impacts," said World Bank Group Vice President and Special Envoy for Climate Change Rachel Kyte. "To reach zero net emissions before the end of this century, the global economy needs to be overhauled. We at the World Bank Group are increasing our focus on the policy options."

Step 1: Plan for the future

By planning for the end goal rather than short-term milestones, governments can make proactive choices that lay the groundwork for future development and avoid locking in both damaging development patterns and investments that could become unusable in a carbon-constrained world.

In quickly urbanizing areas, that means designing cities for public transportation. It also means investing in the research and technology that will be needed 20 or 50 years down the road.

In the new report, *Decarbonizing Development: Three Steps to a Zero Carbon Future*, the authors also discuss the risk of stranded assets, such as coal-fired power plants that might not be able to operate as governments set limits on greenhouse gas emissions. It notes that just the fossil fuel power plants built in 2012 will emit some 19 billion tons of carbon dioxide over their expected 40-year lifetime, more than the annual emissions of all fossil-fuel power plants that were operating in 2012. Retiring them early is possible, but that changes the cost comparison for decision-makers as they weigh fossil fuels against clean energy sources.

"The goal is to reach zero net emissions by 2100, not to reduce emissions at the margin in the next decades. It implies a very different set of measures, including structural and spatial transformations of our economies," said World Bank Group Chief Economist for Climate Change Marianne Fay, a lead author of the report.

At a technical level, the report says zero net emissions is achievable as part of well-planned, robust economic growth that emphasizes four areas:

- The work starts with a shift from relying on fossil fuels for electricity to using clean energy that decarbonizes electricity.
- With increasing amounts of clean energy following, a massive shift to electrification can then increase access to clean energy and displace polluting fuels.
- Improving energy efficiency helps lower the demand.
- Keeping natural carbon sinks healthy through better forest and land management helps offset emissions by absorbing and storing carbon.

Many of the steps governments can take now – such as developing public transportation and improving energy efficiency – also offer immediate and local benefits in improved access for residents and reduced pollution.

Step 2: Get prices right as part of a broad policy package

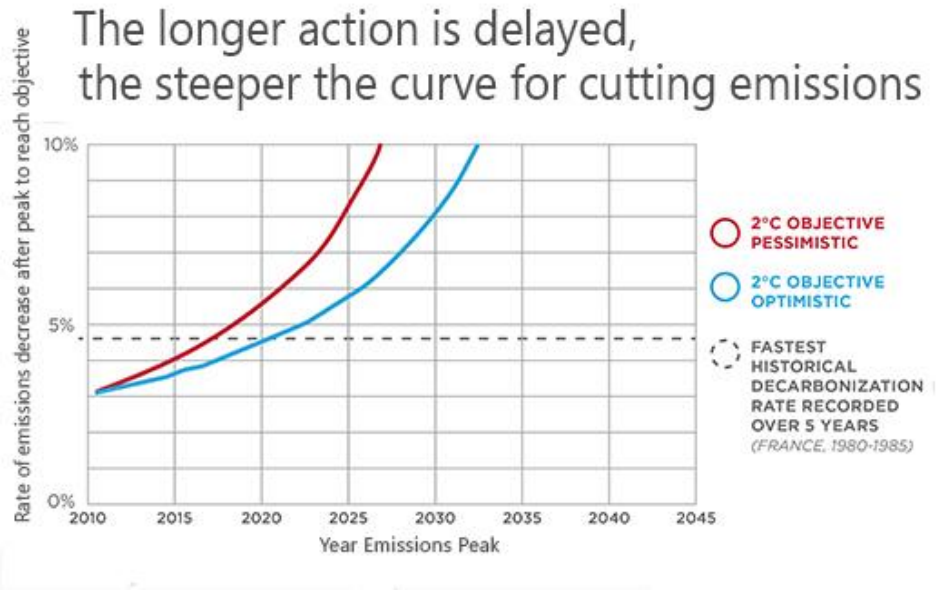
On the policy front, governments can begin shifting investments and mindsets toward low-carbon growth by getting prices right as part of a broad policy package that provides incentives to ensure low-carbon growth plans are implemented and projects financed.

Putting a price on carbon though a carbon tax or cap-and-trade system addresses a market failure to incorporate the cost of environmental damage from greenhouse gas emissions. It is an efficient way to raise revenue while encouraging lower emissions, and it can be easier to administer and harder to evade than other taxes.

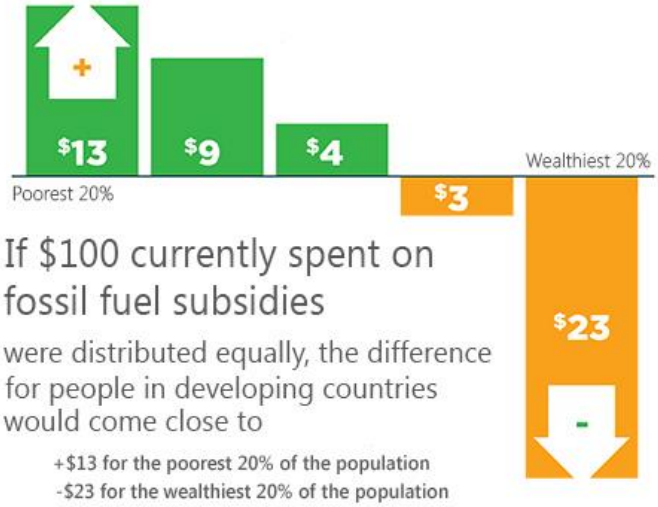
But while carbon pricing is necessary, it is not enough on its own without complementary policies, the authors write.

A complementary policy package that provides incentives to ensure green technologies are developed and deployed at scale can include measures such as performance standards for energy efficiency, rebates on fuel-efficient vehicles, and renewable portfolio standards that require electricity providers to get a percentage of their power from renewable sources all provide incentives for low-carbon choices.

Policymakers can also reduce tariffs on low-carbon goods, such as solar panels and energy-efficient lightbulbs, as the Asia Pacific Economic Cooperation countries recently agreed to do.



"Choices made today can lock in emissions trajectories for years to come and leave communities vulnerable to climate impacts. To reach zero net emissions before the end of this century, the global economy needs to be overhauled."
Rachel Kyte
World Bank Group Vice President and Special Envoy for Climate Change



Step 3: Smooth the transition

The economic transformation required to shift economies to zero net emissions before the end of the century will require public buy-in and changes in support for those most affected.

Removing fossil fuel subsidies, which primarily benefit the wealthy, and implementing carbon taxes or cap-and-trade systems are two ways to free up or generate revenue that can lower costs of education, health care, and infrastructure and provide direct support for the poor while also reducing carbon emissions.

“Data in 22 developing countries show that if fossil fuels subsidies were replaced by universal cash transfers, the bottom 60 percent would benefit from the reform,” said Stephane Hallegatte, a senior economist for climate change at the World Bank and a lead author of the report.

Smoothing the transition also includes helping businesses reinvent themselves for a cleaner world. Automakers started down that path as they improved gas mileage to meet performance standards and developed electric and low-emissions vehicles to meet demand.

The international community has an important role. The report notes that making progress on global agreements will go a “long way towards convincing economic actors that the future will be carbon neutral.”

World Happiness Report 2015

http://worldhappiness.report/

The *World Happiness Report 2015*, released on 23 April 2015, looks at the changes in happiness levels in 158 countries, and examines the reasons behind the statistics. The WHR demonstrates that well-being and happiness are critical indicators of a nation’s economic and social development, and should be a key aim of policy.

The World Happiness Report is a landmark survey of the state of global happiness. The first report was published in 2012, and the second in 2013. Leading experts across fields – economics, psychology, survey analysis, national statistics, health, public policy and more – describe how measurements of well-being can be used effectively to assess the progress of nations. The reports review the state of happiness in the world today and show how the new science of happiness explains personal and national variations in happiness. They reflect a new worldwide demand for more attention to happiness as a criterion for government policy.

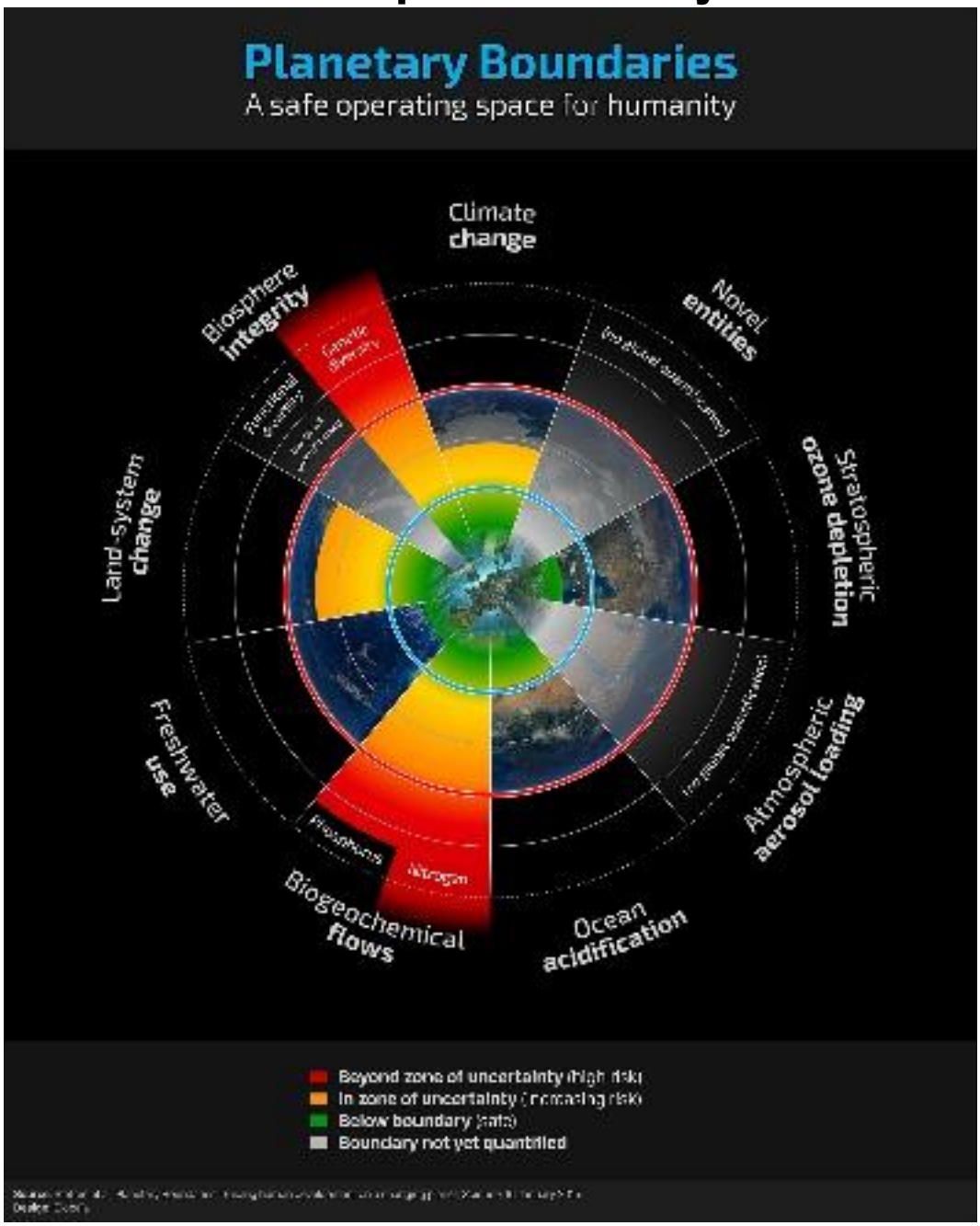
The report is published by the Sustainable Development Solutions Network (SDSN). It is edited by Professor John F. Helliwell, of the University of British Columbia and the Canadian Institute for Advanced Research; Lord Richard Layard, Director of the Well-Being Programme at LSE’s Centre for Economic Performance; and Professor Jeffrey D. Sachs, Director of the Earth Institute at Columbia University, Director of the SDSN, and Special Advisor to UN Secretary General Ban ki-Moon.

The world has come a long way since the first World Happiness Report launched in 2012. Increasingly happiness is considered a proper measure of social progress and goal of public policy. A rapidly increasing number of national and local governments are using happiness data and research in their search for policies that could enable people to live better lives. Governments are measuring subjective well-being, and using well-being research as a guide to the design of public spaces and the delivery of public services.

The year 2015 is a watershed for humanity, with the pending adoption by UN member states of Sustainable Development Goals (SDGs) in September to help guide the world community towards a more inclusive and sustainable pattern of global development. The concepts of happiness and well-being are very likely to help guide progress towards sustainable development.

Sustainable development is a normative concept, calling for all societies to balance economic, social, and environmental objectives. When countries pursue GDP in a lopsided manner, overriding social and environmental objectives, the results often negatively impact human well-being. The SDGs are designed to help countries to achieve economic, social, and environmental objectives in harmony, thereby leading to higher levels of well-being for the present and future generations. The SDGs will include goals, targets and quantitative indicators. The Sustainable Development Solutions Network, in its recommendations on the selection of SDG indicators, has strongly recommended the inclusion of indicators of Subjective Well-being and Positive Mood Affect to help guide and measure the progress towards the SDGs.

Updated Planetary Boundaries



In 2009, an international scientific team made world headlines by defining nine planetary boundaries that human society should not exceed in order to protect the life support systems of the planet on which we depend for survival (Rockstrom et al 2009). At the time, we had already exceeded three of those boundaries, for climate change, biodiversity loss and the nitrogen cycle. An updated version has now been published, which refines some of the boundaries based on new scientific information, and provides new estimates of where we are relative to them (Steffen et al. 2015). We have now overshot another boundary for land conversion.

The Stockholm Resilience Centre behind much of this research has prepared a 2-page brief on a Safe Operating Space for business, which suggests some of the ways businesses can respond to these scientific realities that will determine our future. It is available at http://www.stockholmresilience.org/download/18.6d8f5d4d14b32b2493577/1422535795423/SOS+for+Business+2015.pdf

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