



LEAVES, A Newsletter of the INTERNATIONAL ENVIRONMENT FORUM Volume 21, Number 03 15 March 2019

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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

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 23rd Conference in New Zealand in April Planetary Health and Sustainable Development

Auckland and Rotorua, New Zealand
5-14 April 2019

Below is the latest programme for the IEF 23rd Annual Conference in New Zealand, which will consist of five interrelated events around the general theme of **Planetary Health and Sustainable Development**.

5 April 2019, Seminar at Auckland University of Technology

Theme: **Inner Climate Change: The transformative power of spiritual worldviews for sustainability**

1-5 PM, AUT City Campus, WF Building, WF610

RSVP to management@aut.ac.nz, as space is limited

Organised by IEF member Marjolein Lips-Wiersma, Professor of Ethics and Sustainability Leadership, Auckland University of Technology

Linking spirituality to the Sustainable Development Goals

Arthur Dahl, President, International Environment Forum, retired Deputy Assistant Executive Director of UN Environment, and organizer of SPREP

Working with different spiritual worldviews in co-hosting the World Conference on Health Promotion in NZ

Sione Tu'itahi, Executive Director, Health Promotion Forum of New Zealand and Vice President, South West Pacific Region, International Union for Health Promotion and Education (IUHPE)

Kaitiakitanga: more than sustainability

Amber Nicholson, Lecturer, Auckland University of Technology, PhD student at Auckland University
a Maori perspective

Sustainability and Mindfulness

Shaun Bowler, Principal Sustainability Advisor, Enviro-mark

Activism and self-care

Marjolein Lips-Wiersma, Professor of Ethics and Sustainability Leadership, Auckland University of Technology

For detailed programme and map, see: <https://www.aut.ac.nz/events/inner-climate-change-the-transformative-po...>

Friday evening 5 April: International Environment Forum Annual General Assembly

7:00 p.m. at a location near Auckland University of Technology after the above programme (open to everyone) IEF members will receive instructions to participate by Zoom

7-11 April 2019, 23rd IUHPE World Conference on Health Promotion

Rotorua, Aotearoa New Zealand

Theme: **Waiora: Promoting Planetary Health and Sustainable Development for All**

The Sustainable Development Goals (SDGs) provide the framework for the sub-themes of the conference

IEF is a co-sponsor of Sub Plenary 16:

Wellbeing for everyone in a challenging world: community and spiritual health promotion perspectives

with the Planetary Wellbeing Network (PWN) and the Spiritual Health Promotion Group (SHP)

Wednesday, 10 April 1:45-3:15 PM

Speakers include:

Prof. John Raeburn, Auckland University of Technology and PWN

Dr. Tess Liew, PWN

Sione Tu'itahi, Executive Director, Health Promotion Forum of New Zealand

Dr. Richard Egan, University of Otago, NZ

Dr. Arthur Dahl, President, International Environment Forum

Arthur Dahl is also presenting a paper:

New approaches to governance for the Sustainable Development Goals

Parallel 13a: Multisectoral governance at different scales

Tuesday, 9 April, 3:45-5:15 PM

Energy Events Centre - Unison Arena

12 April 2019 Talk and Workshop, Browns Bay Baha'i Hall

Global Governance, Climate Change and Solutions

with Arthur Dahl, Friday 12 April, 7-10 pm

Baha'i Hall, 712 Beach Road, Browns Bay, Auckland

14 April 2019 Seminar at Auckland Bahá'í Centre

One World, One People, One Health

A seminar on planetary health and sustainable development

Auckland Bahá'í Centre, 129 Taniwha St, Glen Innes, Auckland 1072

Sunday 14 April 2019, 1:30-5pm

Speakers:

Dr Arthur Dahl, President, International Environment Forum

Topic: **Drawing on recent guidance from the Baha'i World Centre for socially- and environmentally-coherent action**

Sione Tu'itahi, Executive Director, Health Promotion Forum of New Zealand

Topic: : **Learnings from co-hosting a world conference on planetary wellbeing and sustainable development**

The wellbeing of the planet is one of the most significant issues for humanity today. Dr Dahl and Mr Tu'itahi are Baha'is who work in the field of health promotion and sustainable development. They are

speakers in a subplenary at the 23rd World Conference on Health Promotion, to held in Rotorua on April 7-11, 2019. Mr Tu'itahi is the co-chair of the world conference which is to be held for the first time in New Zealand. More on the conference: <http://www.iuhpe2019.com/en-gb/iuhpe-home>

For registration or further information for the 14 April event, contact Sylvia Aston or Sione Tu'itahi, or ief@iefworld.org

Video Contributions to the Conference

IEF member Dr. Mojgan Sami from the University of California prepared an excellent short video clip on planetary health promotion as a contribution to our conference. The link is <https://drive.google.com/file/d/1UI9ncd5pjoqzfvuLhZ4yCweTMgsVmNj8/view>.

IEF member Prof. Rafael Amaral Shayani from the Universidade de Brasília highlights the importance of spirituality for the health of the global environment in his video "The role of spirituality in creating new social and environmental sustainability mindsets: The need of a new energy paradigm": <https://youtu.be/GQmEQFyycCY>

Members Corner – Your Active Participation is Welcome!

Call for Introductory Videos

All IEF members are invited and encouraged to prepare 2-3 minute videos on their activities and how they apply Baha'i principles. By sharing your experiences and thoughts, you will allow others to get to know you and your areas of expertise. You will contribute to the mission of the International Environment Forum to facilitate collaboration among its members. Please, send your videos to ief@iefworld.org.

Call for Involvement with Biodiversity Project

Are you interested in biodiversity? The IEF Board is inviting all interested IEF members to participate in a new IEF project on biodiversity.

The loss of biodiversity is a huge issue and is increasingly gaining importance as a topic of public discourse. The IEF board decided to collect Baha'i perspectives on nature, biodiversity, and the spiritual dimensions of diversity in nature, which can then be used as a resource by Baha'is and Baha'i institutions. The compilation will include quotations, questions, and topics that need to be addressed, ranging from agriculture and forests to sustainable use and food security, the roles of indigenous peoples and rural women, as well as company agendas on the relation of business and nature. If you are interested in participating, please, contact ief@iefworld.org.

INTERNATIONAL SCIENCE COUNCIL

The International Science Council, that coordinates the Science and Technology major group for UN processes, issued a call for inputs to the S&T position paper to be submitted to the UN High Level Political Forum in July. Last year, the IEF submitted text and they used much of it, so it seemed important to make proposals again on the HLPF themes, even if we cannot participate in the HLPF this year. Arthur Dahl submitted the following text on behalf of IEF:

Science and Technology and the HLPF Theme: Empowering people and ensuring inclusiveness and equality.

Knowledge, and particularly scientific knowledge, should be available to everyone on the basis of ability, and with new information technologies, the previous physical barriers to the distribution of knowledge have largely disappeared. Unfortunately new barriers have taken their place, including intellectual property rights regimes that privatize scientific data, reports and papers for profit. A new divide has formed between those that can afford access to science and those for whom it is beyond their means. Equity and inclusiveness require that alternatives be found to ensure that everyone everywhere has free access to the scientific knowledge that can empower them to achieve sustainability.

Science and Technology & Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Research is needed on alternative economic systems that are environmentally sustainable, socially just, create meaningful employment for all, and eliminate poverty. Profitability should just be one measure of economic sustainability among others, not an end in itself. Economic, social and environmental capital should be given equal weight and acknowledged as interdependent.

Science and Technology & Goal 10. Reduce inequality within and among countries.

Systems science should be drawn on to model the properties and control mechanisms that increase or reduce inequalities among the entities of a system, whether economic or social. Homeostatic processes could then be introduced to prevent our societies from going to the destabilizing extremes of inequality observed today. Design criteria could be developed for corrective mechanisms to be included to support the fundamental transformation in processes and institutions called for in the 2030 Agenda.

Science and Technology & Goal 13. Take urgent action to combat climate change and its impacts.

The Talanoa Dialogue as used last year by the UNFCCC to raise ambition through positive stories shared among stakeholders was an innovative example of new approaches to international diplomacy that should be replicated more widely. <https://iefworld.org/Talanoa3>

Science and Technology & Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Global governance through the UN system needs significant reform to make it effective, accountable and inclusive. Significantly strengthened scientific advisory processes should be incorporated in such reforms, along with technology assessment mechanisms to anticipate potential risks from new technologies ranging from geoengineering and nanomaterials to artificial intelligence. <https://iefworld.org/governanceWG>

Wilmette Institute Online Interfaith Course on Climate Change

1 April - 26 May 2019

This course on Climate Change provides a basic understanding of the causes and impacts of climate change, discusses its ethical challenges, and relates them to the spiritual teachings of the world's religions, particularly those of the Baha'i Faith. The course is open to people of all, or no, religious backgrounds.

In past courses, discussions among the participants have always been interesting and lively. The participants who have registered for this course so far come from Bosnia and Herzegovina, Canada, New Zealand, 12 different states of the US, and Switzerland.

All the faculty are IEF members: Christine Muller, Arthur Dahl, and Laurent Mesbah, who invite other IEF members and the wider community to join the course.

For more information and to register, go here: <http://www.cvent.com/events/climate-change/event-summary-7e8c80bee96f421889c4f70da45233cc.aspx>

Faith Climate Action Week, 5 – 14 April, 2019

Each year, the US organization Interfaith Power & Light organizes Faith Climate Action Week around Earth Day. Religious leaders are asked to preach or talk about climate change, and faith communities are encouraged to take some meaningful climate actions. The National Spiritual Assembly of the Baha'is of the United States has sent a letter to the American Baha'i community each year to encourage Baha'i participation in this interfaith effort.

This year's letter, dated 8 March 2019, starts with stating that "climate effects resulting from human-induced greenhouse gas emissions will persist in the environment for centuries. The letter then refers to the [29 Nov. 2017](#) message of the Universal House of Justice for guidance in our participation in public discourse on the subject. The letter then continues:

“Those friends with a deeper interest in both discourse and action related to climate change may wish to participate in the Wilmette Institute’s [climate change course](#), which provides a basic orientation to the issue, especially as it relates to spiritual teachings, and will next be offered from April 1 to May 26. You may also want to consider participating, either as individuals or jointly with your community, in [Faith Climate Action Week](#), an initiative of the Interfaith Power and Light organization. ... Faith Climate Action Week ... seeks to make people of faith more aware of their duty to be responsible stewards of God’s creation, and provides resources to inform discussion, host movie screenings, and join a nationwide prayer campaign.”

Global Environment Outlook – GEO-6: Healthy Planet, Healthy People

UN Environment, March 2019

The 'ecological foundations of society' are in peril

Human health in dire straits if urgent actions are not made to protect the environment

“The sixth Global Environment Outlook is an essential check-up for our planet. Like any good medical examination, there is a clear prognosis of what will happen if we continue with business as usual and a set of recommended actions to put things right. GEO-6 details both the perils of delaying action and the opportunities that exist to make sustainable development a reality.” - António Guterres, Secretary-General of the United Nations.

The most comprehensive and rigorous assessment on the state of the environment completed by the UN in the last five years was published on 13 March, warning that damage to the planet is so dire that people’s health will be increasingly threatened unless urgent action is taken. The report from UN Environment says that either we drastically scale up environmental protections, or cities and regions in Asia, the Middle East and Africa could see millions of premature deaths by mid-century. It also warns that pollutants in our freshwater systems will see anti-microbial resistance become a major cause of death by 2050 and endocrine disruptors impact male and female fertility, as well as child neurodevelopment.

But the report highlights the fact that the world has the science, technology and finance it needs to move towards a more sustainable development pathway, although sufficient support is still missing from the public, business and political leaders who are clinging to outdated production and development models.

The 700-plus page report is the sixth Global Environment Outlook and is the UN's most comprehensive report on the state of the global environment since the fifth edition in 2012. More than 250 scientists and experts from more than 70 countries contributed to the assessment. IEF President Arthur Dahl contributed to the GEO-6 process and was one of the external reviewers. The report was released while environmental ministers from around the world are in Nairobi to participate in the world’s highest-level environmental forum. Negotiations at the Fourth UN Environment Assembly are expected to tackle critical issues such as stopping food waste, promoting the spread of electric mobility, and tackling the crisis of plastic pollution in our oceans, among many other pressing challenges.

“The science is clear. The health and prosperity of humanity is directly tied with the state of our environment,” said Joyce Msuya, Acting Executive Director of UN Environment. “This report is an outlook for humanity. We are at a crossroads. Do we continue on our current path, which will lead to a bleak future for humankind, or do we pivot to a more sustainable development pathway? That is the choice our political leaders must make, now.”

Addressing climate change is a top priority

The report echoes findings from last fall's UN Intergovernmental Panel on Climate Change report that, to avoid disastrous levels of global warming, urgent changes to all aspects of society are needed. Unfortunately, greenhouse gas emissions have locked the world into a period of climate change defined by rising seas, more frequent and intense storms and food security crises. Current efforts will fall short of the carbon emissions reductions required under the Paris Agreement and outlined by the UN panel to limit global warming to 1.5 degrees Celsius above pre-Industrial levels.

This makes addressing climate change a top priority, and because greenhouse gas emissions and climate change are intertwined with many other environmental problems ailing the planet, it cannot and should not be dealt with in a vacuum.

According to Kristie Ebi, a professor at the University of Washington's Department of Public Health, who was also a lead author of a chapter of the Intergovernmental Panel on Climate Change report, we must develop climate policies that capitalize on benefits and reduce harm. "As an example, one option to reducing carbon emissions is more extensive use of biofuels. But some research suggests that increasing the land used for biofuels could reduce the amount of land available for agriculture, which could affect food insecurity for the poor," Ebi said. "Decision-makers should ensure that the options implemented to reduce greenhouse gas emissions do not create new challenges; all the benefits and harms of a policy should be taken into consideration."

Air pollution and biodiversity loss are also major crises

Climate change is hardly the only environmental crisis unfolding due to human activity. Air pollution remains a major public health problem as the main environmental contributor to disease around the globe. Air pollution results in 6 million to 7 million premature deaths and losses of \$5 trillion each year.

We are already in the middle of a major species extinction event. Species extinction rates continue to increase at a pace that could compromise Earth's ability to meet human needs. Among invertebrates, 42% of land dwellers, 34% of freshwater species and 25% of marine species are at risk of extinction. The picture is also bleak for vertebrates: between 1970 and 2014, global species population numbers fell by an average of 60%.

Feeding the growing human population remains a challenge that is taking a toll on the environment, but by reducing food waste and eating less meat in both developed and developing countries, we can alleviate the need to produce 50% more food to feed the 9 billion to 10 billion people expected to live on the planet by 2050. Thirty-three percent of edible food is wasted worldwide, with more than half thrown out in industrialized nations.

The path to sustainability

Despite the dire prognosis, the report offers hope by outlining treatment plans for the planet that will preserve environmental and human health, but these plans of action must address global systems, not just individual issues. For instance, meeting targets related to climate change, air pollution reduction and sustainable energy are feasible -- but only if the necessary measures are taken rapidly and on a global scale. This means drastically cutting carbon emissions, improving water management and reducing pollution. Our window for action is closing fast.

The projection of a future healthy planet with healthy people is based on a new way of thinking where the 'grow now, clean up after' model is changed to a near-zero-waste economy by 2050. According to the Outlook, green investment of 2 per cent of countries' GDP would deliver long-term growth as high as we presently projected but with fewer impacts from climate change, water scarcity and loss of ecosystems.

At present the world is not on track to meet the SDGs by 2030 or 2050. Urgent action is required now as any delay in climate action increases the cost of achieving the goals of the Paris Agreement, or reversing our progress and at some point, will make them impossible.

While urbanization is happening at an unprecedented level globally, the report says it can present an opportunity to increase citizens' well-being while decreasing their environmental footprint through improved governance, land-use planning and green infrastructure. Furthermore, strategic investment in rural areas would reduce pressure for people to migrate.

The report calls for action to curb the flow of the 8 million tons of plastic pollution going into oceans each year. While the issue has received increased attention in recent years, there is still no global agreement to tackle marine litter.

The scientists note advancements in collecting environmental statistics, particularly geospatial data, and highlight there is huge potential for advancing knowledge using big data and stronger data collection collaborations between public and private partners.

Policy interventions that address entire systems – such as energy, food, and waste – rather than individual issues, such as water pollution, can be much more effective. For example, a stable climate and clean air are interlinked; the climate mitigation actions for achieving the Paris Agreement targets would cost about US\$ 22 trillion, but the combined health benefits from reduced air pollution could amount to an additional US\$ 54 trillion.

“The report shows that policies and technologies already exist to fashion new development pathways that will avoid these risks and lead to health and prosperity for all people,” said Joyeeta Gupta and Paul Ekins, co-chairs of the GEO-6 process. “What is currently lacking is the political will to implement policies and technologies at a sufficient speed and scale. The fourth United Nations Environment Assembly in Nairobi in March needs to be the occasion when policymakers face up to the challenges and grasp the opportunities of a much brighter future for humanity.”

UN Environment (2019). **Global Environment Outlook – GEO-6: Healthy Planet, Healthy People**. Nairobi: UN Environment; Cambridge: Cambridge University Press. DOI 10.1017/9781108627146. (708 p.)

Summary for Policymakers:

https://wedocs.unep.org/bitstream/handle/20.500.11822/27652/GEO6SPM_EN.pdf?sequence=1&isAllowed=y

Full report: https://wedocs.unep.org/bitstream/handle/20.500.11822/27539/GEO6_2019.pdf?sequence=1&isAllowed=y

Sources:

<https://reliefweb.int/report/world/global-environment-outlook-geo-6-healthy-planet-healthy-people>
<https://edition.cnn.com/2019/03/13/health/un-global-environment-outlook-report/index.html>

**Addressing climate change will require radical changes in lifestyles:
new report by international consortium of research institutes**

If the world is to keep climate change at manageable levels before the middle of the century, changes in lifestyles are not only inevitable, but would need to be radical, and start immediately. Considering current consumption levels, citizens in many developed countries would have to cut their lifestyle carbon footprints by about 80-90% or more, and some in developing countries by about 30-80% within the next 30 years. This is one of the key messages coming from the report “**1.5-Degree Lifestyles: Targets and options for reducing lifestyle carbon footprints**,” launched on 25 February 2019 by a group of experts from an international consortium of research and policy institutes including the Institute for Global Environmental Strategies (IGES), Aalto University, D-mat, the Finnish Innovation Fund Sitra, and the KR Foundation. The report analyses the carbon footprints of household lifestyles and how changes can contribute to meeting the ambitious 1.5-degree aspirational target envisaged by the Paris Agreement on climate change. The report demonstrates that changes in consumption patterns and dominant lifestyles are a critical and integral part of the solutions package for addressing climate change. It analyses scientific emission scenarios and case studies from Finland, Japan, China, Brazil, and India, and proposes long-term targets for individuals’ lifestyle carbon footprints by 2030-2050, as well as low-carbon options that citizens and society can adopt.

The report fills a gap in the existing research by establishing global targets for lifestyle carbon footprints, examining current consumption patterns and their impacts on footprints, and evaluating potential reduction impacts of low-carbon lifestyle options. The results of the analysis are striking, showing in some cases the need for reductions of over 80% in greenhouse gas emissions (GHG) by 2050 from today’s intensity of lifestyles. Reductions will be necessary not only for developed countries; several developing countries will also need to reduce their average per capita emissions from current levels – a significant challenge where the basic needs of large parts of their populations are often still not met. However, as also identified in the report, there are clear opportunities for much needed changes, and these would require that actions start as soon as possible.

The report proposes globally unified per capita targets for the carbon footprint from household consumption for the years 2030, 2040 and 2050. It estimates current average carbon footprints of Finland and Japan, as well as Brazil, India, and China, focusing on the comparison of the level of physical consumption in order to be both comparable to global targets and compatible with household-level solutions. It also identifies potential options for reducing lifestyle carbon footprints on the basis of the literature and assesses the impact of such options in Finnish and Japanese contexts. It concludes with suggestions and implications in terms of how to proceed towards lifestyles compatible with the 1.5 °C target. As the report only covers the countries given above, similar studies can be expanded to other countries using the methodology, data sources, and results of estimation that are detailed in Annexes.

The report provides a unique analysis of potential implications of the Paris Agreement from a lifestyle perspective, whereas most existing studies predominantly focus on production- and technology-based solutions. The publication establishes the first global per-capita lifestyle carbon footprint targets for 2030 to 2050 with explicit linkages to the 1.5-degree target. It also proposes an indicator of “lifestyle carbon footprint,” a consumption-based greenhouse gas accounting used for establishing targets, examining current status, and identifying solutions. Its comprehensive series of analyses focus on the climate impacts of household lifestyles and can be further expanded to countries beyond the selected case studies.

“With this report, we can no longer wait for another ten or twenty years to take action,” said Professor Kazuhiko Takeuchi, President of IGES. “Policymakers and businesses should recognise the urgency and actively support citizens in realising low-carbon lifestyles, looking ahead to a decarbonised society by 2050.”

Bas de Leeuw, Managing Director of the World Resources Forum and Member of the Club of Rome welcomed the report and called it an important contribution to the newly released Club of Rome “Climate Emergency Plan” that sets out 10 priority actions for all sectors and governments. “With children and students taking to the streets and populists trying to derail the debate, this report is very timely,” Bas de Leeuw said of the 1.5-Degree Lifestyles report. He added that, “The report is crystal clear in its analysis and solid in its conclusions. Climate change and resources management are linked, you can’t solve the one without addressing the other. Consumers will indeed need to change their lifestyles, but they are not alone. Much of the reduced impact of their lifestyles needs to come from smarter and more resource efficient products and services.”

Michael Lettenmeier, one of the authors of the report from Aalto University, commented that “while doing this research we were surprised to note what a small role lifestyles had played in most existing scenarios on greenhouse gas emissions. Lifestyles can and must contribute to climate change mitigation, but not only households must act. Governments and businesses have to facilitate lifestyle changes by providing infrastructure, products and services that enable households to live more sustainably. These changes have to be initiated now because lifestyle carbon footprints have to drop far below half in the course of one decade in order to keep global warming within 1.5 degree.”

Key findings of the report include:

- **3-2-1 tonnes per person by 2030-2040-2050.** Globally, citizens and society need to aim for per-person consumption-based greenhouse gas emissions targets of 2.5 (tCO_{2e}) in 2030, 1.4 by 2040, and 0.7 by 2050 in order to keep global temperature rise to within 1.5 degrees. The gap analysis reveals that footprints in the developed countries studied (Finland and Japan) must be reduced by 80–93% by 2050, assuming that actions for a 58–76% reduction, necessary to achieve the 2030 target, start immediately. Even for the developing countries studied (China, Brazil, and India), a 23–84% reduction, depending on the country and the scenario, would be required by 2050.
- **What we eat, how we live and move.** Nutrition, housing, and mobility have the largest impact on climate change, accounting for approximately 75% of lifestyle carbon footprints. Hotspots include meat and dairy consumption, fossil-fuel based energy, car use, and air travel.
- **Low-carbon lifestyles.** Options with large emission reduction potentials include: car-free travel and commuting, ride sharing, living closer to work places and in smaller living spaces; renewable grid electricity and off-grid energy, heat pumps for temperature control; and vegetarian-vegan diets, and substituting dairy products and red meat with plant-based options. If these options are

fully adopted, each of them could reduce per-capita footprint by several hundred kg to over a tonne annually.

- **The limits of technology.** The various reduction scenarios studied indicate that most of the existing emission scenarios assume extensive use of negative emission technologies and production-side efficiency improvement. Only a few scenarios for the 1.5-degree target have focused on lifestyle changes and demand-side actions. However, the actual availability, feasibility, and costs of technologies are uncertain, and thus solely relying on their assumed extensive and broad-ranging roll-out is a risky societal decision.

Main messages:

- The required levels of emission reductions, exceeding 80-90% based on current lifestyle carbon footprints, thus imply a radical rethink of sustainability governance and the need for new business models to shift the paradigms on which we base infrastructure, economies, and consumer lifestyles. Reductions will be necessary not only for developed countries; several developing countries will also need to reduce average per capita footprints from current levels, implying the importance of long-term strategic planning and actions to achieve both the 1.5-degree target and quality of life for citizens.
- A variety of low-carbon lifestyle options is becoming available, yet these options should be strategically developed, tested, and further promoted. The three key approaches of low-carbon lifestyles highlighted in the report, absolute reduction, modal shift, and efficiency improvement, are all indispensable parts of the solutions. In particular, shifting consumption modes from high-carbon to low-carbon and reducing the physical amount of consumption while keeping quality of life should be seen as an integral part of solutions to climate change, complementing technology-based solutions.
- Citizens' lifestyles are "locked-in" by the existing infrastructure and product availability, and the shift in lifestyles is not the sole responsibility of consumers and their individual choices. All stakeholders, including national and local governments and businesses, need to urgently act to develop and provide viable and attractive solutions, including low-carbon products and services and the design of infrastructure-supporting low-carbon solutions, in parallel with facilitating behaviour changes among citizens.

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(Lead author Lewis Akenji is a good friend of IEF and a former student of IEF President Arthur Dahl)

The technical report is available at: IGES: <https://pub.iges.or.jp/pub/15-degrees-lifestyles-2019>

Source: <https://www.iges.or.jp/files/press/PDF/20190225.pdf>

Costa Rica Launches 'Unprecedented' Push For Zero Emissions by 2050

By Thomson Reuters Foundation, 28 February 2019

Costa Rica's president has launched an economy-wide plan to decarbonize the country by 2050, saying the Central American nation aims to show other nations what is possible to address climate change. Costa Rica's environment minister, Carlos Manuel Rodríguez, said that if the plan is achieved, his grandchildren in 2035 will have the same carbon footprint as his grandparents did in the 1940s – and by 2050 his grandchildren will have none at all. "Not only are we going to reduce that footprint but we are going to bring many benefits with it", Rodríguez said.

But Jairo Quirós, an electrical energy researcher at the University of Costa Rica, warned the plan would be challenging, and "should be viewed with some caution".

Under the roadmap launched Sunday, Costa Rica by 2050 would achieve "zero net emissions", meaning it would produce no more emissions than it can offset through things such as maintaining and expanding its extensive forests. Such emission cuts – which many countries are expected to try to achieve in the second half of the century – are key to holding increases in global temperature

to well under 2 degrees Celsius (3.6 degrees Fahrenheit), the goal of the 2015 Paris Agreement on climate change. The Costa Rica plan aims to allow the country to continue growing economically while cutting greenhouse gases. The country's economy grew at 3 percent last year, according to World Bank data.

Christiana Figueres, the Costa Rican former U.N. climate chief, called the goal "unprecedented" in international politics. Only the government of the tiny Marshall Islands also has laid out a detailed plan to achieve that goal, but "they still do not have the whole plan articulated sector by sector", Figueres said in an interview with the Thomson Reuters Foundation.

President Carlos Alvarado noted that while Costa Rica represents only a tiny share of the world's climate-changing emissions, the experiments tried in the plan could be a model for other nations. "We can be that example... we have to inspire people," he said at the plan's launch, noting the country was "doing what's right".

But Quirós, of the University of Costa Rica, warned the plan will take hard work to achieve. Some goals, he said, such as ensuring all buses and taxis run on electricity by 2050, may be difficult, not least because the changes will be expensive. "Although one tends to see that (electric bus) prices are falling over time, there is a lot of uncertainty regarding that," he said.

Green transport

Transport today creates about 40 percent of Costa Rica's climate-changing emissions, making it the main source of them, according to the National Meteorological Institute. To cut transport emissions, the plan aims to modernize public transport, including through the creation of an electric train line. The new line would connect 15 of the 31 neighborhoods in the San Jose metropolitan area and carry about 250,000 of the area's 1 million people each day, according to the Costa Rican Institute of Railways. Construction on the lines is expected to start in 2022, according to the institute.

"A modern and efficient public transport system has a much greater impact on achieving decarbonisation than just electrifying our vehicle fleet," said Claudia Dobles, the president's wife and coordinator of the transport chapter of the plan. Dobles, an architect and urban planner, has been coordinating many of the country's public transport efficiency initiatives, including the electric train project and a reorganization of bus routes.

Under Costa Rica's decarbonization plan, the number of cars circulating in urban areas would be cut by half by 2040, the environment minister said. By 2035, 70 percent of the country's buses would be electric and 25 percent of its cars, Rodríguez added.

Juan Ignacio Del Valle, director of operations for hydrogen-powered transport company Ad Astra Rocket Company, said the plan still needs work on some issues, such as cargo transport. Technological innovation will be needed to achieve some of the goals, he said.

Ad Astra has been testing hydrogen fuel cell buses in Costa Rica for about eight years – a fuel switch that is "vaguely" contemplated in the new plan, Del Valle said. Hydrogen transport will need more research, but it could prove the most efficient option in areas where electric vehicles fall short, including carrying cargo and for other heavy transport, he said.

Revenue from fuel taxes

For Costa Rica, the potential political battles around decarbonizing its economy are less than in many other countries because it does not have a fossil fuel extraction industry, Rodríguez said. But dependence on oil revenue could still cause roadblocks for the switch. Fuel taxes, vehicle import taxes and driving taxes, for instance, account for about 12 percent of government revenue, the minister said. To phase out fossil fuels without slashing government income, the government will need to push for "green tax reform" to find new revenue sources, he said – something that could take time, as it would need legislative approval.

Under the decarbonization plan, the country's state-owned petroleum distributor would change course and begin research on alternative fuels, such as hydrogen and biofuels, and look at helping fossil fuel workers move to clean energy jobs.

The plan also calls for further expanding forests – though at the moment most of the money to pay for that comes from taxes on fossil fuels, Rodríguez admitted. The country already has one of the

region's strongest reputations for forest protection. "In the 1960s and 70s, Costa Rica had the highest per capita deforestation rate in the world. We have managed not only to stop deforestation but to double forest coverage" as the economy grew, Rodríguez said. Forests that covered 25 percent of the country in the 1980s covered more than 50 percent of it by 2013, according to data from the State of the Nation report, assembled by the country's public universities. Over that period, the country's GDP grew from \$4 billion in 1983 to \$57 billion in 2013.

Costa Rica has already carried out some of the needed decarbonization work, officials said. Last year, 98 percent of the country's electricity came from renewable sources, according to the Costa Rican Electricity Institute, the state-owned company in charge of electricity generation and distribution.

Quirós, the University of Costa Rica researcher, said the country's plan, while "a little utopic" was clearly "a step in the right direction".

"It's good to be ambitious," he said. Figueres said she believed the the country faced a "hard task" achieving its ambitious aims, but predicted it would "lead to a transformation like no other we've seen in decades".

By Sebastian Rodriguez, editing by Laurie Goering.

Source: <https://real-leaders.com/costa-rica-launches-unprecedented-push-for-zero-emissions-by-2050/>
