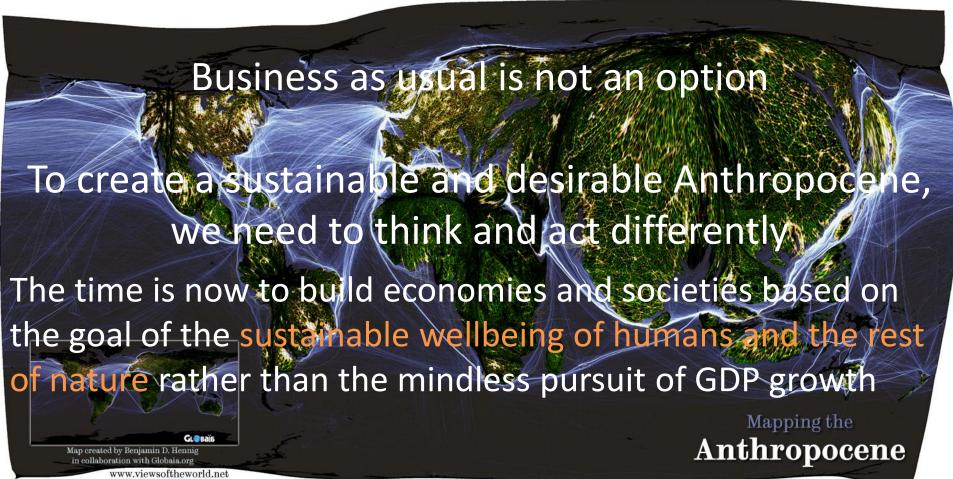


Human influence on the earth system is now so large, that a new geologic epoch (the Anthropocene) has begun. We now live in a "Full World"



Vision

How the world is How we would

like it to be

Tools & Analysis

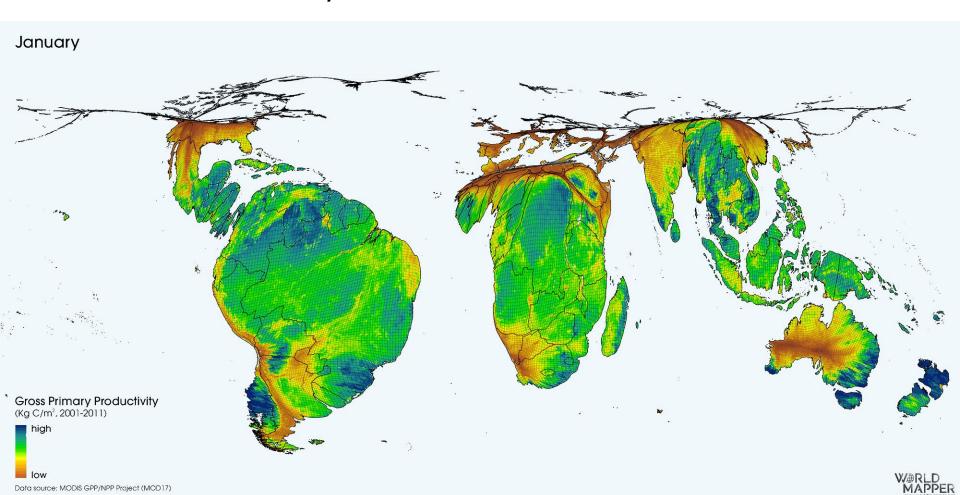
Systems
Thinking
and
Modeling

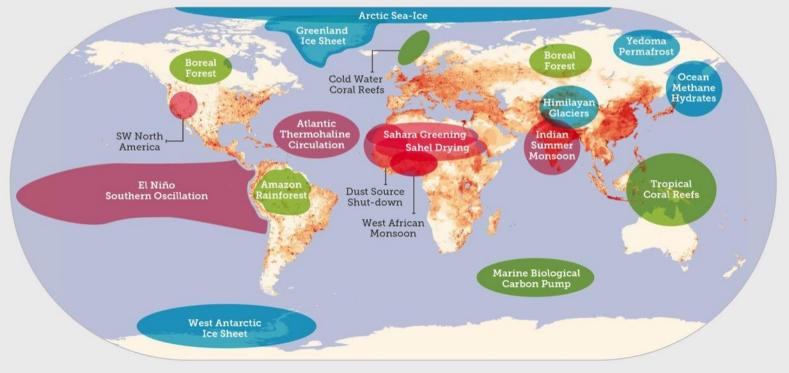
Sustainable Wellbeing

Implementation

New Institutions and Societal Therapy

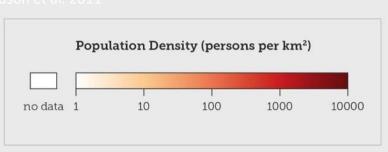
Net Primary Production Heartbeat of Planet Earth



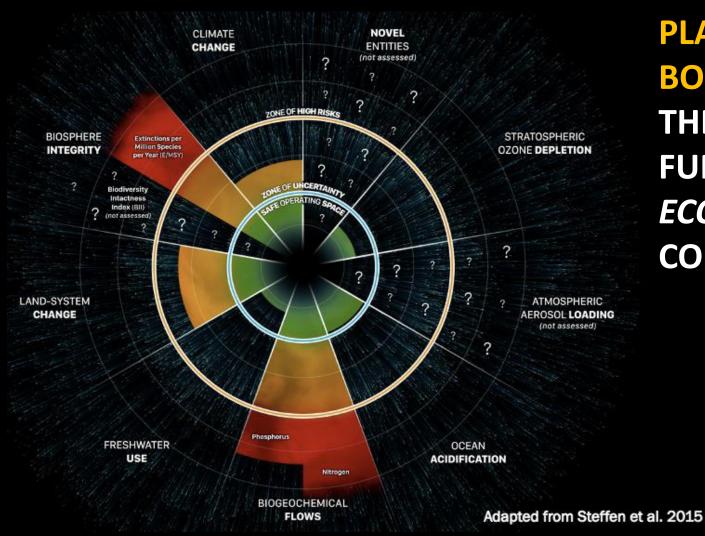


Huber Lenton and Schellnhuber in Richardson et al. 2017





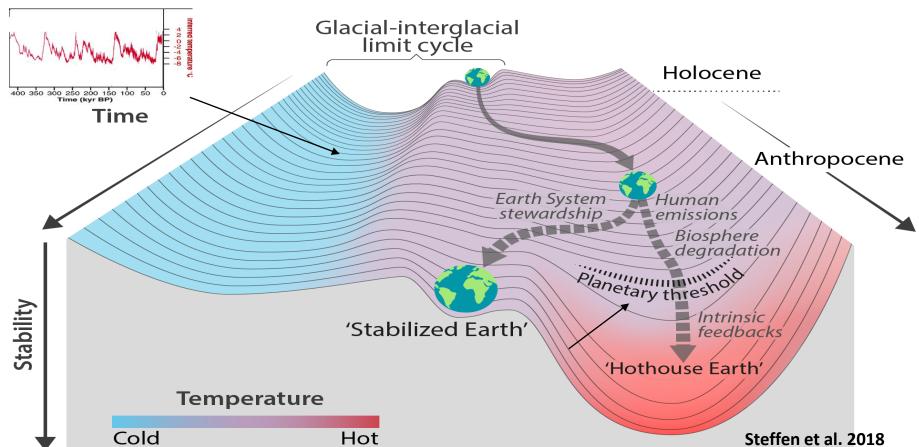
The world is a complex, non-linear, adaptive system, with thresholds, tipping points, and surprises

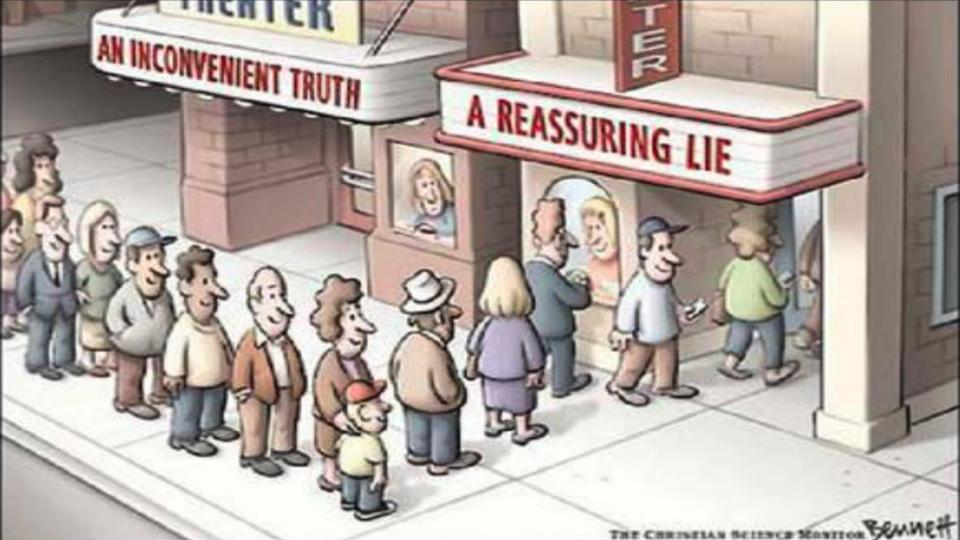


PLANETARY BOUNDARIES: THERE ARE FUNDAMENTAL ECOLOGICAL CONSTRAINTS

Earth System Trajectories

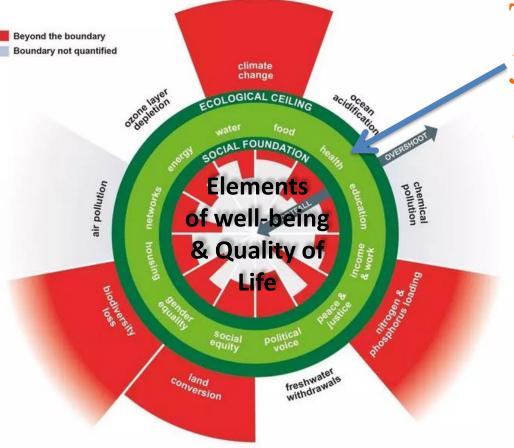












The Safe and Just "doughnut"

(after: K. Raworth. 2012. A safe and just space for humanity: can we live within the doughnut?

Oxfam International)

Integrated Questions/Goals:

- Ecologically Sustainable Scale
- Socially Fair Distribution
- Economically Efficient Allocation

stanza | Cumberland | Daly | Good Norgaard | Kubiszewski | Franco Second Edition

An Introduction to Ecological Economics

Robert Costanza
John H. Cumberland
Herman Daly
Robert Goodland
Richard B. Norgaard
Ida Kubiszewski
Carol Franco



CRC Press



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Overlapping Ideas

Circular BioEconomy

Ecological Economy

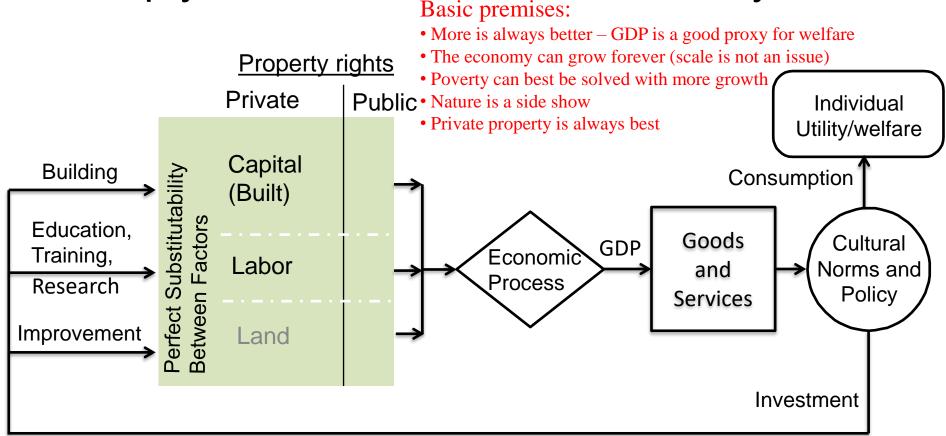
Regenerative Economy

Ecological Civilization

Doughnut Economy

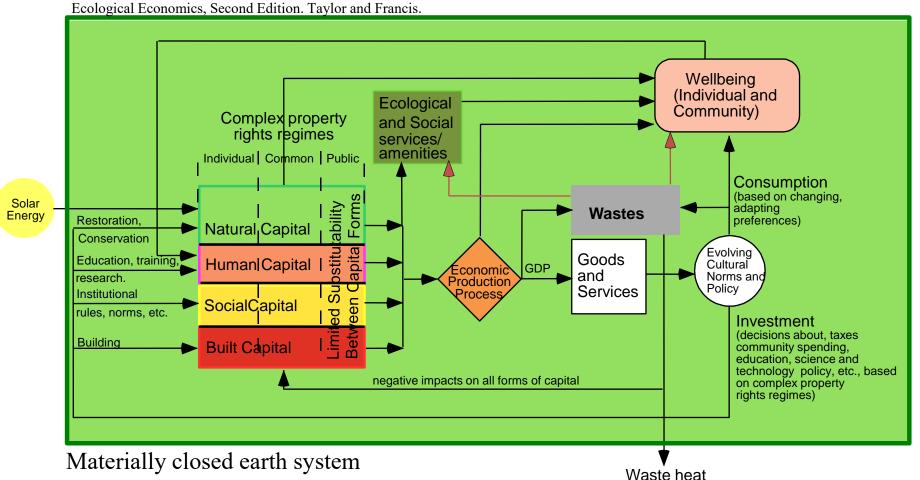
Steady State Economy
Lagom Economy

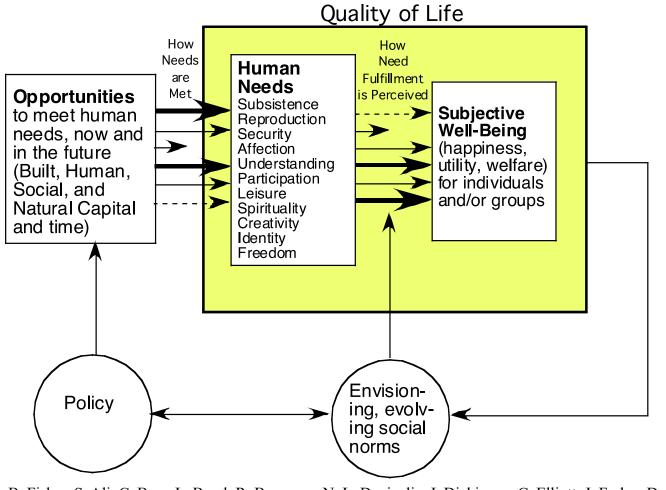
"Empty World" Vision of the Economy



"Full World" Vision of the Whole System

From: Costanza, R., J. C. Cumberland, H. E. Daly, R. Goodland, R. Norgaard, I Kubiszewski, and C. Franco. 2014. An Introduction to

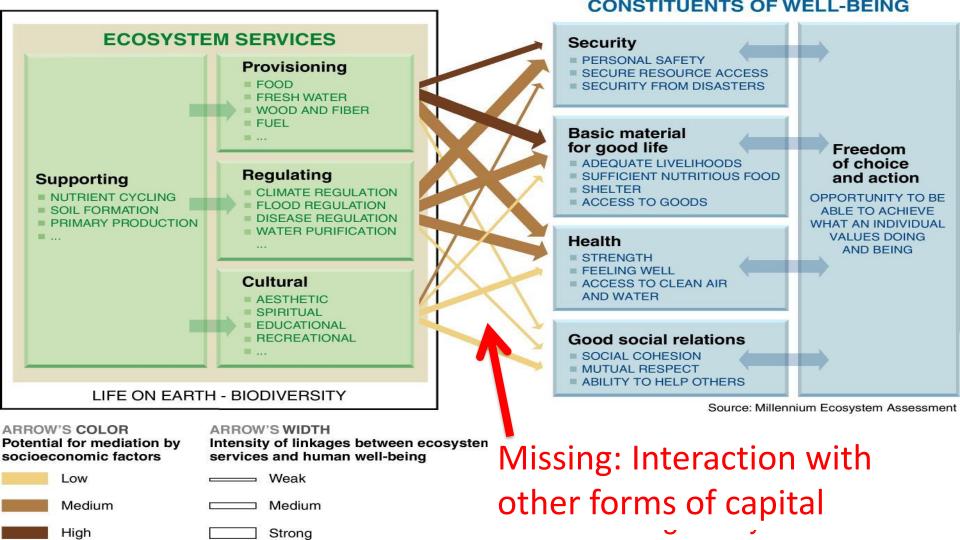


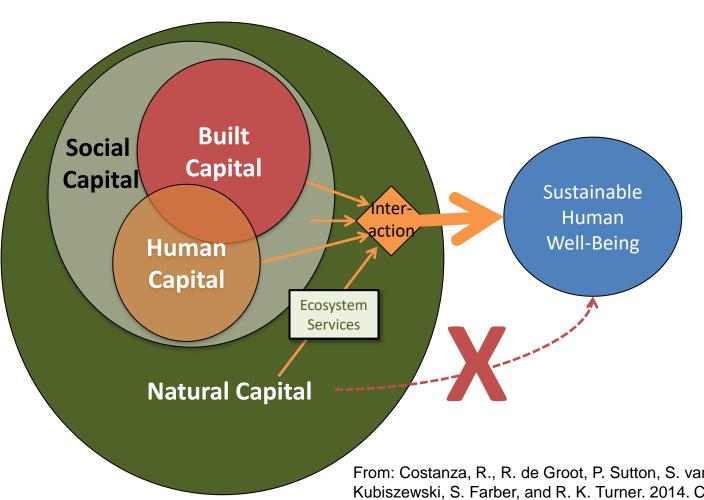


From: Costanza, R. B. Fisher, S. Ali, C. Beer, L. Bond, R. Boumans, N. L. Danigelis, J. Dickinson, C. Elliott, J. Farley, D. E. Gayer, L. MacDonald Glenn, T. Hudspeth, D. Mahoney, L. McCahill, B. McIntosh, B. Reed, S. A. T. Rizvi, D. M. Rizzo, T. Simpatico, and R. Snapp. 2007. Quality of Life: An Approach Integrating Opportunities, Human Needs, and Subjective Well-Being. *Ecological Economics* 61: 267-276

Near Synonyms:

Quality of life Wellbeing One Health/Ecosystem Health Prosperity (Inclusive) **Flourishing**





From: Costanza, R., R. de Groot, P. Sutton, S. van der Ploeg, S. Anderson, I. Kubiszewski, S. Farber, and R. K. Turner. 2014. Changes in the global value of ecosystem services. *Global Environmental Change* 26:152-158.



IPBES

IPBES negotiations

IUCN's support to the IPBES process

News and Events

Contacts

Home + About IUCN + How we work + Programmes + Ecosystem Management Programme + IPBES

Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

What is IPBES?

The "Intergovernmental Platform on Biodiversity and Ecosystem Services" is a mechanism proposed to further strengthen the science-policy interface on biodiversity and ecosystem services, and add to the contribution of existing processes that aim at ensuring that decisions are made on the basis of the best available scientific information on conservation and sustainable use of biodiversity and ecosystem services. IPBES is proposed as a broadly similar mechanism to the Intergovernmental Panel on Climate Change (IPCC).

What is the science-policy interface?

Science-policy interfaces are social processes which encompass relations between scientists and other actors in the policy process, and which allow for exchanges, co-evolution, and joint construction of knowledge with the aim of enriching decision-making at different scales. This includes 2 main requirements:

- a) that scientific information is relevant to policy demands and is formulated in a way that is accessible to policy and decision makers; and
- b) that policy and decision makers take into account available scientific information in their deliberations and that they formulate their demands or questions in a way that are accessible for scientists to provide the relevant information. Click here for a graphic showing the cycle of

ESP

The Ecosystem Services Partnership

Worldwide Network to enhance the Science and practical Application of ecosystem services assessment



Home

About the Partnership Become a member ESP Services ESP Working groups ESP Conferences 2012 Journals

News

ivews

Upcoming events

Vacancies

Links

Contact

> Homepage

Welcome to the new ESP website

Several pages and functionalities are still under construction or are being updated. If you have any suggestions please contact ESP Support Team.

ESP Services

- Networking & Outreach
- Case studies & Showcases
- Data & Knowledge sharing
- Training and Education
- Guidelines & Toolkits
- Funding/Cooperation calls
- Contact
- Support & FAQ
- Members & Partners
- Become a Member

ESP Activities and Networks

Thematic Working Groups



Biome Expert Groups



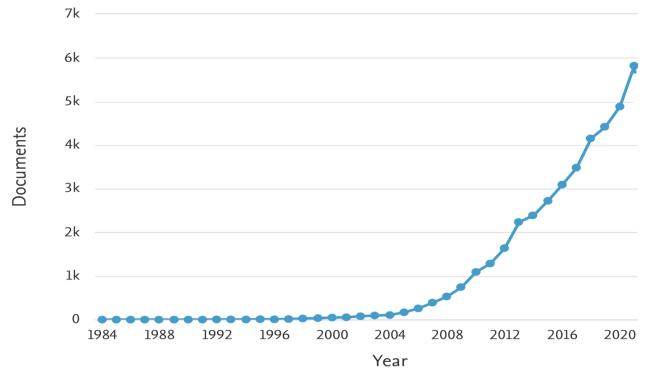
National ESP Networks



Number of articles on "ecosystem services" in SCOPUS by year

Total as of 5/5/2022 = 41,889

Documents by year









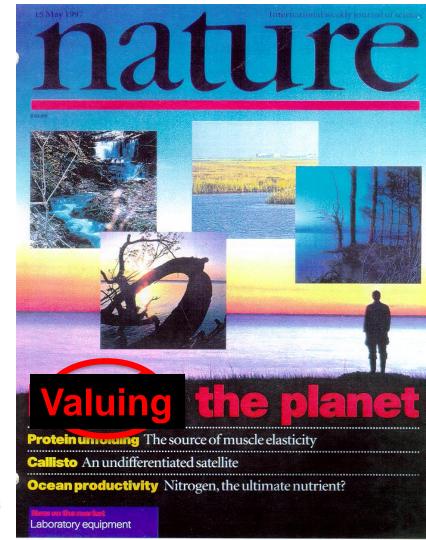
NATURE VOL 387 15 MAY 1997

The value of the world's ecosystem services and natural capital

Robert Costanza, Ralph d' Arge, Rudolf de Groot, Stephen Farber, Monica Grasso, Bruce Hannon, Karin Limburg, Shahid Naeem, Robert V. O' Neill, Jose Paruelo, Robert G. Raskin, Paul Sutton & Marjan van den Belt

For the entire biosphere, the value (most of which is outside the market) is estimated to be in the range of US\$16–54 trillion per year, with an average of US\$33 trillion per year.

2nd most cited article in the Ecology/Environment area according to the ISI Web of Science with more than 10,000 citations – which puts it in the top 0.01% of all papers ever published.





Contents lists available at ScienceDirect

Global Environmental Change

journal homepage: www.elsevier.com/locate/gloenvcha



Changes in the global value of ecosystem services



Robert Costanza a,*, Rudolf de Groot b, Paul Sutton c,d, Sander van der Ploeg b, Sharolyn J. Anderson d, Ida Kubiszewski a, Stephen Farber e, R. Kerry Turner f

- ^a Crawford School of Public Policy, Australian National University, Canberra, Australia
- b Environmental Systems Analysis Group, Wageningen University, Wageningen, The Netherlands
- ^c Department of Geography, University of Denver, United States
- ^d Barbara Hardy Institute and School of the Natural and Built Environments, University of South Australia, Australia
- ^e University of Pittsburgh, United States
- ^f University of East Anglia, Norwich, UK







Contents lists available at ScienceDirect

...we estimated the loss of



ecosystem services from 1997 to

2011 due to land use change at

\$4.3-20.2 trillion/yr.

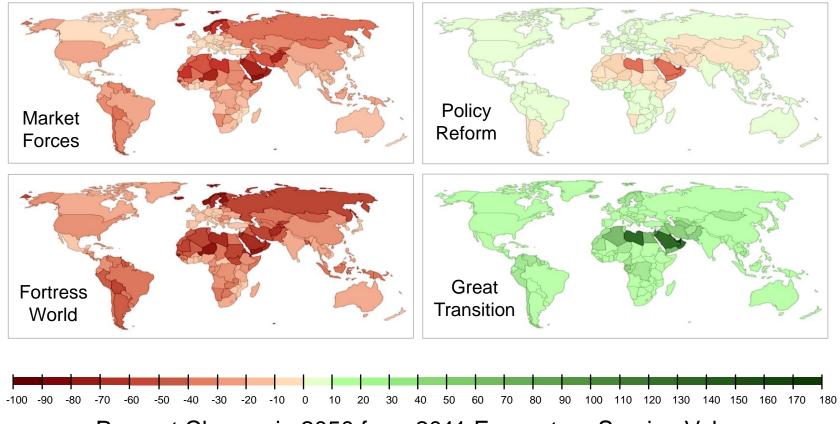




UNU DUNCE ENVIRONMENTS, UNIVERSITY OF SOUTH PROSTRING, PROSTRING

^e University of Pittsburgh, United States

^f University of East Anglia, Norwich, UK



Percent Change in 2050 from 2011 Ecosystem Service Values

From: Kubiszewski, Costanza, Anderson, and Sutton. (2017). The Future of Ecosystem Services: Global Scenarios and National Implications. *Ecosystem Services*. 26:289-301.



In a word, businesses profit by calculating and paying only a fraction of the costs involved. Yet only when "the economic and social costs of using up shared environmental resources are recognized with transparency and fully borne by those who incur them, not by other peoples or future generations", can those actions be considered ethical.

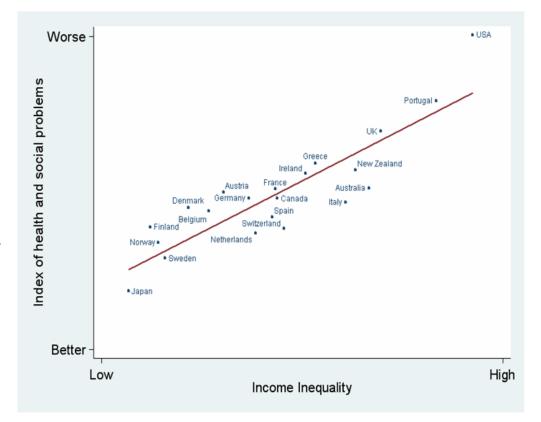
Pope Francis, ENCYCLICAL LETTER LAUDATO SI' - ON CARE FOR OUR COMMON HOME

Fair distribution is essential to quality of life

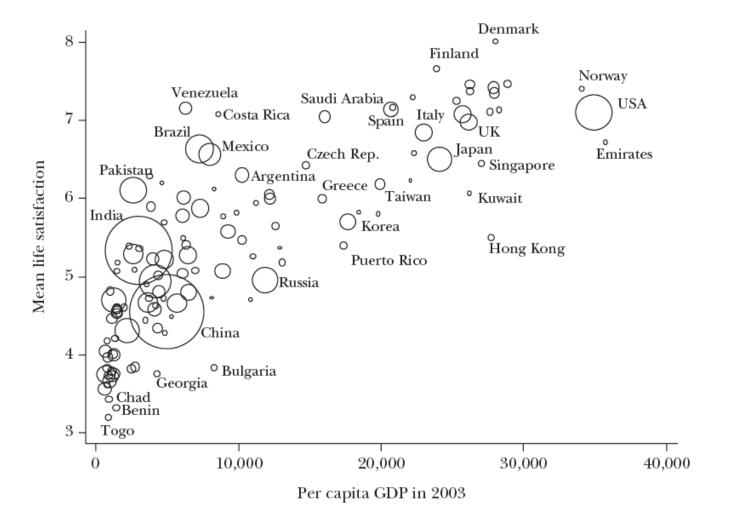
Health and Social Problems are Worse in More Unequal Countries

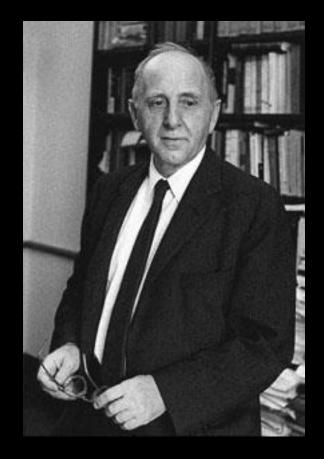
Index of:

- · Life expectancy
- · Math & Literacy
- · Infant mortality
- · Homicides
- · Imprisonment
- · Teenage births
- Trust
- Obesity
- Mental illness incl. drug & alcohol addiction
- · Social mobility



Life Satisfaction and Per Capita GDP around the World



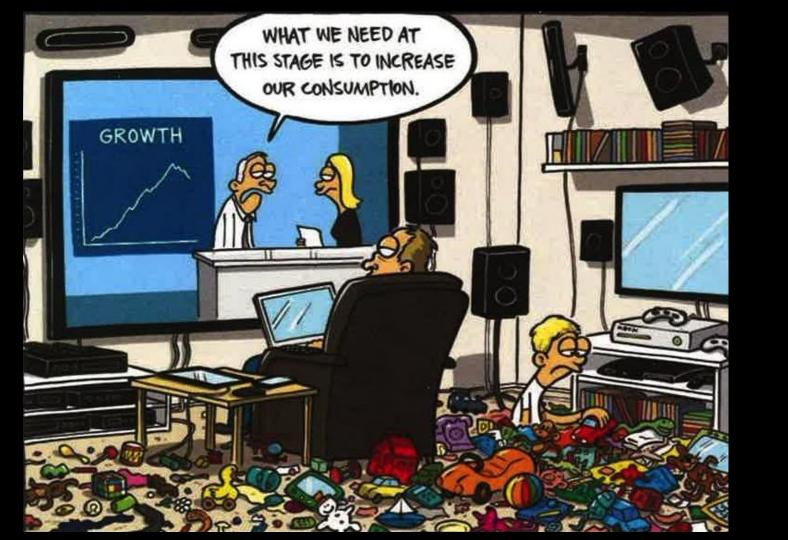


"The welfare of a nation can scarcely be inferred from a measurement of national income as defined by GDP...Goals for 'more' growth should specify of what and for what."

Simon Kuznets



Bretton Woods conference in 1944

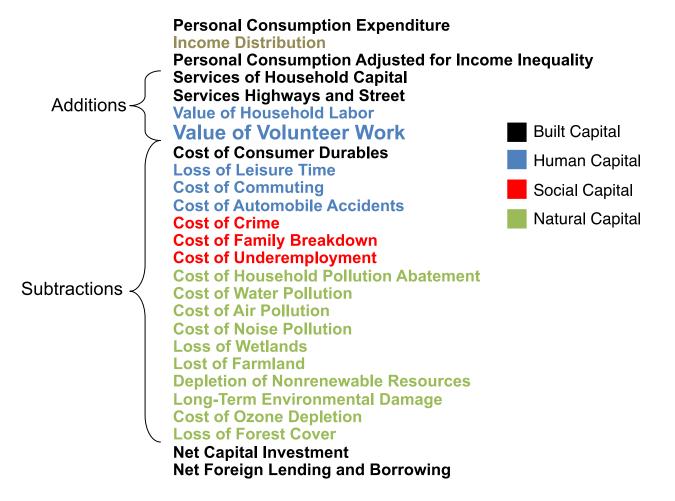


Time to leave GDP behind

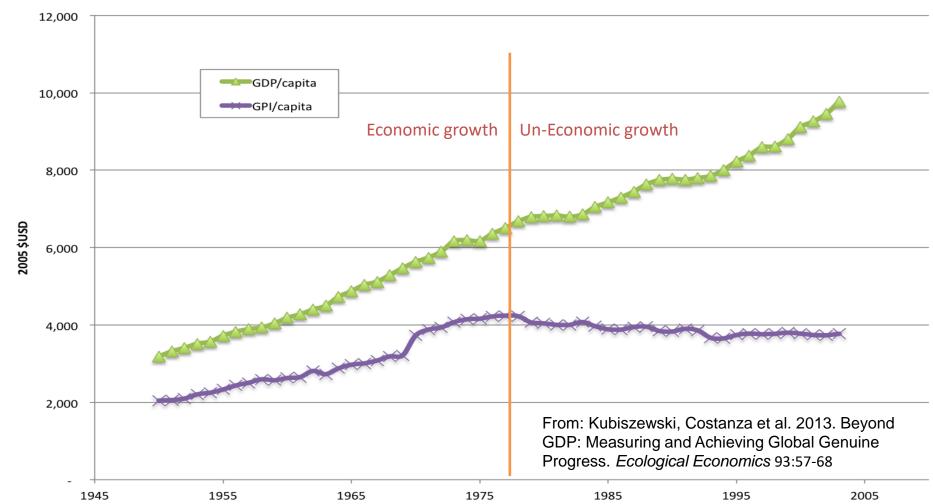
Gross domestic product is a misleading measure of national success. Countries should act now to embrace new metrics, urge Robert Costanza and colleagues.

Indicator	Units	Indic ators	Explanation	Area coverage	Time
Genuine Progress Indicator (GPI)	\$		Personal Consumption Expenditures weighted by income distribution, with volunteer and household work added and environmental and social costs subtracted.	17 countries + regions	1950- present
Genuine Savings	\$	_	Level of saving after depreciation of produced capital; investments in human capital; depletion of minerals/energy/forests; and damages from air pollutants are accounted for	140 countries	1970-2008
Inclusive Wealth	\$	8	Asset wealth including, built, human, and natural resources	20 countries	1990-2008
Australian Unity Well- Being Index	Index #	14	Annual survey of various aspects of well-being and quality of life	Australia	2001- present
World Values Survey	Index #	100's	Periodic (5 so far) survey of a broad range of social, environmental, and economic variables	73 countries	1981-2008
Gallup-Healthways Well-Being Index	Index #	Χu	Annual survey in six domains: live evaluation, physical health, emotional health, healthy behavior, work environment, and basic assets	50 states in US	2008- present
Gross National Happiness	Index #		In-person survey in nine domains: psychological well-being, standard of living, governance, health, education, community vitality, cultural diversity, time use, ecological diversity	Bhutan	2010
Human Development Index (HDI)	Index #	4	Index of GDP/person, spending on health and education, and life expectancy	177 countries	1980- present
Happy Planet Index	Index #	3	HPI = subjective well being * life expectancy / ecological footprint	153 countries	3 yrs
Canadian Index of Well-Being	Index #		Includes community vitality, democratic engagement, education, environment, population, leisure, living standards, and time use	Canada	1994- present
National Well-Being Index	Index #	~	proxies for built, human, natural and social capital with weights based on regression with subjective well-being	56 countries	1 yr
OECD Better Life Index	Index #		Includes housing, income, jobs community education, environment, civic engagement, health, life satisfaction, saftey, and work-life balance	36 OECD countries	1 yr
Well-Being of Nations	Index #	63	63 indicators in 20 domains weighted and ranked	180 countries	1990-2000

Genuine Progress Indicator (or ISEW) by Component



Global GPI/capita & GDP/capita

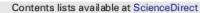


To create sustainable wellbeing economies and societies requires:

- Breaking our addiction to the "growth at all costs" economic paradigm, to fossil fuels, and to over-consumption in high income countries
 - A key step in the therapy is building a shared vision of a more sustainable and desirable future that focuses on the shared wellbeing all humans and the rest of nature









Ecological Economics

ECOLOGICAL ECONOMICS
PROPERTY OF THE PROPERTY

journal homepage: www.elsevier.com/locate/ecolecon

Overcoming societal addictions: What can we learn from individual therapies?

Robert Costanza ^{a,*,1}, Paul W.B. Atkins ^b, Mitzi Bolton ^a, Steve Cork ^a, Nicola J. Grigg ^c, Tim Kasser ^d, Ida Kubiszewski ^a

ARTICLE INFO

Artide history:
Received 11 November 2015
Received in revised form 31 July 2016
Accepted 6 September 2016
Available online xxxx

ABSTRACT

Societies, like individuals, can get trapped in patterns of behavior called social traps or "societal addictions" that provide short-term rewards but are detrimental and unsustainable in the long run. Examples include our societal addiction to inequitable over-consumption fueled by fossil energy and a "growth at all costs" economic model. This paper explores the potential to learn from successful therapies at the individual level. In particular, Motivational Interviewing (MI) is one of the most effective therapies. It is based on engaging addicts in a positive discussion of their goals, motives, and futures. We suggest that one analogy to MI at the societal level is a modified version of scenario planning (SP) that has been extended to engage the entire community (CSP) in thinking about goals and alternative futures via public opinion surveys and forums. Both MI and CSP are about exploring alternative futures in positive, non-confrontational ways and building commitment or consensus about preferred futures. We conclude that effective therapies for societal addictions may be possible, but, as we learn from MI, they will require a rebalancing of effort away from only pointing out the dire consequences of current behavior (without denying those consequences) and toward building a shared vision of a positive future and the means to get there.

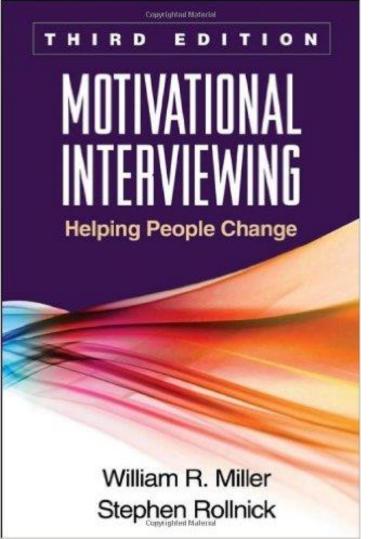
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a Crawford School of Public Policy, the Australian National University, Canberra, Australia

b Australian Catholic University, Sydney

c CSIRO Land and Water, Canberra, Australia

^d Knox College, Galesburg, IL, USA



Motivational Interviewing (MI) is one of the most effective therapies for treatment of substance addictions

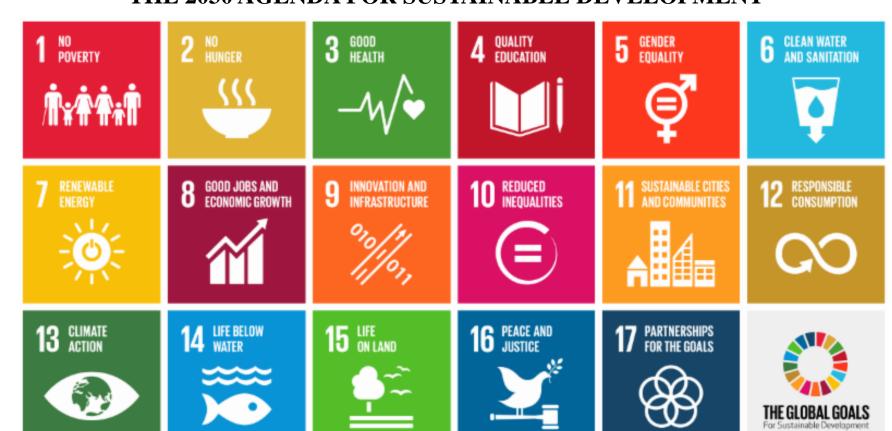
Based on engaging addicts in *a positive discussion* of their goals, motives, and futures.

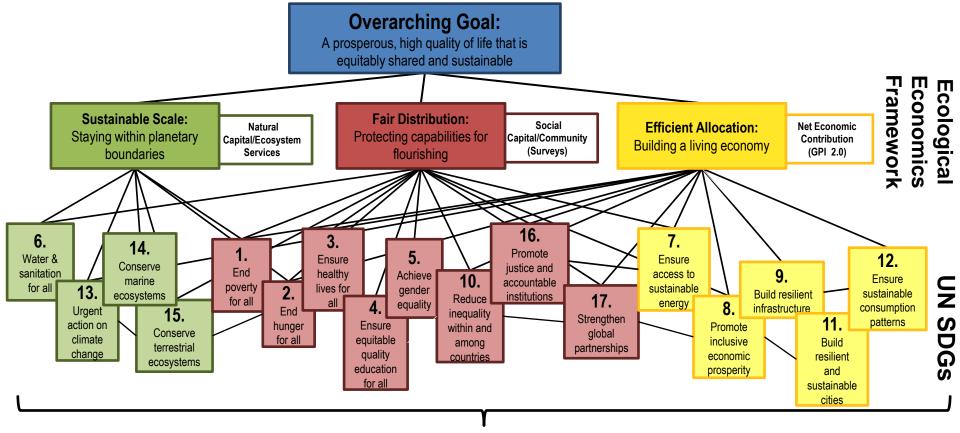


The Grand Hotel in Saltsjöbaden, Sweden, where the labor accords were debated and signed in 1938.

UN Sustainable Development Goals (SDGs)

TRANSFORMING OUR WORLD: THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT





167 Targets 232+ Indicators

The relationship of the 17 UN Sustainable Development Goals (SDGs) to the framework of ecological economics and the overarching goal of a sustainable, equitable and prosperous system. (Costanza et al. 2016. Modelling and measuring sustainable wellbeing in connection with the UN Sustainable Development Goals. *Ecological Economics*. 130:350–355.

CREATING A SUSTAINABLE AND DESIRABLE FUTURE

Insights from 45 global thought leaders

The ever-pressing challenge for the current generation of mankind is to develop a shared vision that is both desirable to the vast majority of humanity and ecologically sustainable. Creating a Sustainable and Desirable Future offers a broad, critical discussion on what such a future should or can be, with global perspectives written by some of the world's leading thinkers, namely Wendell Berry, Van Jones, Frances Moore Lappe, Pegey Liu, Hunter Lovins and Gus Speth.

Creating a Sustain and Desirable Fut

CREATING A SUSTAINABLE AND DESIRABLE FUTURE

Insights from 45 global thought leaders

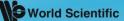


Kubiszewski









Focus on GDP growth

Market Forces

The market knows best Inequality not addressed

Policy Reform

Need planning and government Equity maintained

Community

Individualism

Fortress World

Everyone for themselves Limited Governance

Great Transition



Focus on Well-being

From: Kubiszewski, Costanza, Anderson, and Sutton. (2017). The Future of Ecosystem Services: Global Scenarios and National Implications. *Ecosystem Services*. 26:289-301.

focus on GD Great Transition Focus on Well-being

Costanza, R., I. Kubiszewski, S. Cork, P.W.B. Atkins, A. Bean, A. Diamond, N. Grigg, E. Korb, J. Logg-Scarvell, R. Navis, and K. Patrick. 2015. <u>Scenarios for Australia in 2050</u>: A <u>synthesis and proposed survey</u>. *Journal of Future Studies*. 19:49-76.

Chambers, I., R. Costanza, L. Zingus, S. Cork, M. Hernandez, A. Sofiullah, T. Z. Htwe, D. Kenny, P. Atkins, T. Kasser, I. Kubiszewski, Y. Liao, A. C. Maung, K. Yuan, D. Finnigan, and S. Harte. 2019. <u>A public opinion survey of four future scenarios for Australia in 2050.</u> *Futures*. 107:119-132

Focus on GDP growth

Free Enterprise

The market knows best Inequality not addressed

Coordinated Action

Need planning and government Equity maintained

Individuals

Strong Individualism

Everyone for themselves Limited Governance

Community Wellbeing

We're all in this together Governance at many levels Stewardship and sharing

Focus on Well-being

Preferences for the four scenarios among Australians (n= 2,083)

From: Chambers, I., R. Costanza, L. Zingus, S. Cork, M. Hernandez, A. Sofiullah, T. Z. Htwe, D. Kenny, P. Atkins, T. Kasser, I. Kubiszewski, Y. Liao, A. C. Maung, K. Yuan, D. Finnigan, and S. Harte. 2019. A public opinion survey of four future scenarios for Australia in 2050. Futures. 107:119-132



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Journal of Environmental Management





Discussion



Common asset trusts to effectively steward natural capital and ecosystem services at multiple scales

Robert Costanza^{a,*}, Paul W.B. Atkins^b, Marcello Hernandez-Blanco^c, Ida Kubiszewski^a

ARTICLE INFO

ABSTRACT

Keywords
Common asset trusts
Property rights regimes
Public trust doctrine
Payment for ecosystem services
Natural capital

Ecosystems (natural capital) produce a range of benefits to humans. Natural capital is best thought of as common property since many of the ecosystem services it helps produce are non-rival and/or non-excludable. Private property regimes and markets alone are ineffective and inappropriate institutions to manage them sustainably. These systems can be better managed as commons, using more nuanced private and community property rights and Common Asset Trusts (CATs), with legal precedent in the Public Trust Doctrine. Effective CATs embody a generalized version of Elinore Ostrom's eight core design principles for sustainable commons management: (1) shared identity and purpose; (2) equitable distribution of contributions and benefits; (3) fair and inclusive decision-making; (4) monitoring agreed behaviours; (5) graduated responses; (6) fast and fair conflict resolution; (7) authority to self-govern; and (8) collaborative relations with other groups and spatial scales. Here, we describe a few existing and proposed systems that approximate effective CATs. We also suggest how Costa Rica can transform its existing payment for ecosystem services (PES) scheme into a national CAT. Finally, we describe how CATs can facilitate more fair and effective public/private partnerships (PPPs) to invest in natural capital and ecosystem services.

^a Crawford School of Public Policy, Australian National University, Canberra, Australia

^b The ProSocial Institute, Canberra, Australia

c Environmental Consultant, San José, Costa Rica

Elinor Ostrom's 8 core design principles for sustainable commons management, with a generalized version (Atkins et al., 2019) and a description of the basic function of each principle in the context of CATs.

Ostrom's principle	Generalized version	Function
1. Clearly defined boundaries	Shared identity and purpose	Defines group and establishes property rights
Proportional equivalence between benefits and costs	Equitable distribution of contributions and benefits	Ensures effectiveness by balancing individual and collective interests
3. Collective choice arrangements	Fair and inclusive decision-making	"
4. Monitoring	Monitoring agreed behaviours	££
5. Graduated sanctions	Graduated responding to helpful or unhelpful behaviour	"
Conflict resolution mechanisms	Fast and fair conflict resolution	66
7. Minimal recognition of rights to organize	Authority to self-govern (according to principles 1–6)	Ensures effectiveness while supporting engagement
8. Polycentric governance	Collaborative relations with other groups (using principles 1–7)	Connects to other spatial and temporal scales



Claim the Sky!

www.claimthesky.org

By asserting that we all own the atmosphere as a common asset, we can begin to use the Public Trust Doctrine and the legal institutions surrounding property rights to protect the climate, charge for damages, and provide rewards to those that improve this shared resource, by creating an Earth Atmospheric Trust.



INVOICE

Date: [Soon]

To: [Company XX]

Under the Public Trust doctrine, you are hereby assessed for damages to the Global Atmospheric Commons:

\$[X,XXX] per cumulative ton of CO₂ equivalent introduced into the global economy from due to due (based on the latest IPCC estimates of damages), plus ongoing damages:

= [X,XXX,00]

Deposit this amount to the Global Atmospheric Trust Fund within 90 days or face legal action and sanctions by the shareholders of the Trust—the people of Earth.

Monies in this fund will be used exclusively to maintain and improve the atmosphere for the benefit of all shareholders, present and future. These uses include, but are not limited to:

- Investment in community owned, low-carbon emitting renewable energy sources, such as wind and solar.
- 2. Investment in carbon sequestration projects including forests, soils, and wetlands.
- Investment in urban infrastructure improvements to reduce car use and improve building energy performance.
- 4. Investment in technology development to enhance and accelerate the above.

As an alternative to paying this invoice in full, you may invest an equivalent amount in projects that have been approved and monitored by the Trust in one of the categories above.

Signed,



Shareholders in the Earth Atmospheric Trust



Wellbeing Economy Alliance (WE All)

At a meeting in Glasgow, Scotland, in Oct. 2017, a group of five governments (Scotland, Sweden, Costa Rica, Slovenia, and New Zealand) committed to creating the Wellbeing Economy Alliance.



Governments

Scotland, Iceland and New Zealand established the Wellbeing Economy Governments (WEGo) initiative in 2018.

This project was inspired by WEAII and demonstrates real leadership as member countries work together to prioritise wellbeing.

Watch Nicola Sturgeon's TED Talk

Find out more about WEGo and see latest news

budget

(3 December 2019

Climate change

Iceland puts well-being ah Finland's new 34-year-old prime minister to be youngest in the world, backed by all-female leaders

Updated 30 minutes ago

SOC eco

Iceland and other Nordic nations are widely admired for family-frie



our

Iceland's prime minister has urged governments to a friendly priorities, instead of just focusing on econo

Katrin Jakobsdottir has teamed up with Scottish First Mil New Zealand's PM Jacinda Ardern to promote a "well-be



PHOTO: Sanna Marin has already been dubbed "Finland's answer to Jacinda Ardern". (Reuters: Vesa Moilanen/Lehtikuva)



What is WEALL?



WEAll exists to help bring about a transformation of the economic system, of society and of institutions so that all actors prioritise shared wellbeing on a healthy planet.



WEAll is an alliance, and we welcome organisations and people as members that are working towards the creation of a wellbeing economy in any sector, anywhere in the world.



If you agree the economy needs to be transformed into one that serves people and planet and you embrace working with others to bring about change, then you are welcome to join WEAII.

Learn more about WEAII

wellbeingeconomy.org

https://www.earth4all.life/

Who we are

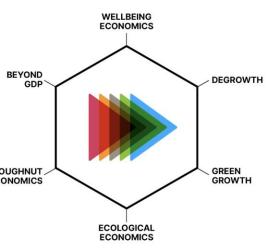
Earth4All started as a vibrant collective of leading economic thinkers, scientists, and advocates, convened by The Club of Rome, the Potsdam Institute for Climate Impact Research, the Stockholm Resilience Centre and the Norwegian Business School.

With more and more people and organisations joining, Earth4All has become a platform to connect and amplify the chorus of voices that want to upgrade our economies. We are not starting from scratch. The momentum is growing. Communities and policy makers across the world are already changing the way we think economics.

Everybody can get involved. We need everybody to secure a safe and prosperous future for everyone on this planet. It is possible.

Earth4All builds on the legacies of **The Limits to Growth** and the **Planetary Boundaries** frameworks. Science is at the heart of our work. We rethink capitalism and move beyond GDP for a safe, secure and prosperous future in the Anthropocene.





Transformational economics

New ideas about how economies work are gaining ground. And politicians are listening.

Which ideas show most promise? Where are the overlaps? Which ideas can unite societies? And which ideas can bring long-term prosperity to the majority?

Earth4All has gathered leading economic thinkers together in the **Transformational Economics Commission** to explore new economic paradigms.



A SURVIVAL GUIDE for Humanity

Sandrine Dixson-Declève | Owen Gaffney Jayati Ghosh | Jorgen Randers Johan Rockström | Per Espen Stoknes

Forewords by Christiana Figueres and Elizabeth Wathuti

A REPORT TO THE CLUB OF ROME



Managing Without Growth

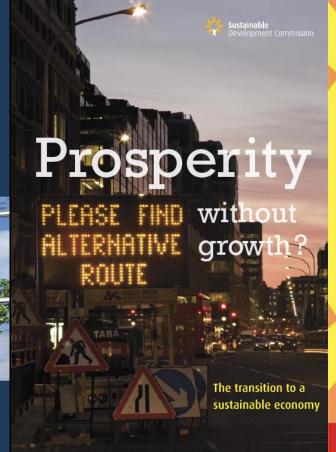
Slower by Design, Not Disaster

Peter A. Victor



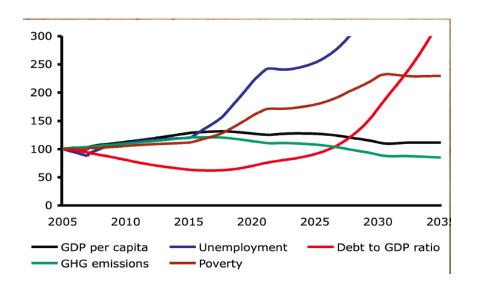
Advances in Ecological Economics series editor: Jeroen C.J.M. van den bergh



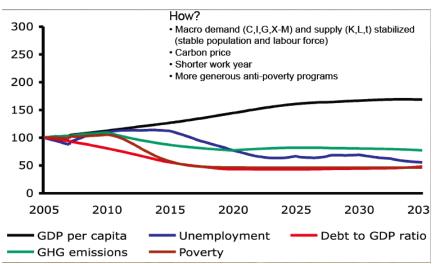




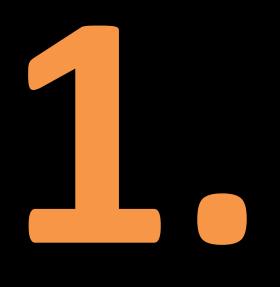
A no-growth disaster



A better low/no-growth positive economy



Source: Victor, P. 2008. Managing Without Growth, Edward Elgar.



New meanings and measures of success



Limits on materials, energy, wastes, and land use



More meaningful prices



More durable, repairable products



Fewer status goods



More informative advertising



Better screening of technology



More efficient capital stock



More local, less global















New MSc in Prosperity, People, and Planet

(11 month degree - starting Sept, 2023)

Four core courses

- Prosperity, People and Planet: Conceptual Frameworks
- Research Methods for Natural and Planetary Prosperity
- Prosperous and Inclusive Planetary Futures
- Atelier: Prototyping Natural Prosperity

Dissertation

Transdisciplinary thesis







