

INSTITUTE OF EARTH SCIENCES

Rethinking Economics: Investments for Wellbeing

NordicSIF 2022: Oceans Harpa, Reykjavík June 15-16, 2022

Kristín Vala Ragnarsdóttir, University of Iceland Member of Club of Rome Ambassador for Wellbeing Economy Alliance Advisor to Global Choices and Ecocide Law Alliance

The Dasgupta Report 2021



Natural resources

and regulating

services such as

water quality

Produced

Capital

......

......

Pollution

and waste



Link between capitals

Natural Capital

Goods and

services, income

Innovation and abour

and coastal

protection

Links from ecosystems to economy

Over the last 50 years



- Human population has doubled
- Global economy has grown nearly 4-fold
- Global trade has grown 10-fold
- This has driven up **energy** and **materials** use exponentially
- There will be peak production of most natural resources before 2050

Sverdrup and Ragnarsdottir 2014; IPBES 2019

The current damaged Earth: Planetary Emergency





Ecological economics framework



Figure from Ragnarsdottir 2022

Impact investments are key to regenerate our Earth!







Elín Elísabet





Places to intervene in a system

Donella Meadows





Figure after Abson et al. (2017)





New goals for the economy

Purpose of Wellbeing Economy: Deliver shared wellbeing on a healthy planet





WELLBEING ECONOMY ALLIANCE

WEAII

Our vision for a movement to bring about economic system change: BOLD, VITAL - AND ENTIPELY POSSIBLE



Wellbeing Economy Governments https://weall.org/wego

Canada Joining 2022

Nichola Sturgeon First Minister Scotland





Mark Drakeford First Minister Wales

Katrín Jakobsdóttir

Prime Minister

Iceland

WEGo meeting Edinburgh in May, 2019



Colla

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Sophie Howe Future Generations Commissioner Wales



Jacinda Ardern Prime Minister

Sanna Marin Prime Minister

https://www.ted.com/talks/nicola_sturgeon_why_governments_should_prioritize_well_being?language=en

KATRIN JAKOBSDOTTIR





Change what we measure in the economy



OF ICELAND

WEAll focuses on new indicators of progress

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.

16 JANUARY 2014 | VOL 505 | NATURE | 283

What we measure matters: Genuine Progress Indicator

Genuine Progress Indicator GPI = GDP

- bad activity
- + good activity







Kubiszewski, Costanza et al. 2013. Beyond GDP: Measuring and Achieving Global Genuine Progress. *Ecological Economics* 93:57-68



Wellbeing indicators

Iceland – 39 Wellbeing Indicators

social deprivation

Equality (Gini-index)





Where to invest – in the new economy?

C (atomic mass 12)

1 Peta gram = 1 Giga ton = Billj ton

Carbon cycle +15 Gt CO₂/yr increase in

atmacahara

Carbon Dioxide Emissions from Fossil Fuels and Land Use Change





CO₂ Atomic mass 44

Solutions considered to be politically feasible 1.5°C scenario from Drawdown (2020)



Solutions 1-10 (Gt CO_{2eq}) Reduced/Sequestered (2020-2050)

Total	1.	Onshore wind turbines	148
1177	2.	Utility-scale solar PV	119
LU/food	3.	Reduced food waste	95
527	4.	Plant rich diets*	92
Food	5.	Health and education	85
240	6.	Tropical forest restoration	85
Energy	7.	Improved clean cookstoves	73
	8.	Distributed solar PV	69
Total	9.	Refrigerant management	58
1577	10.	Alternative refrigerants	51

Solutions 11-20 (GT CO_{2eq}) Reduced/sequestered (2020-2050)

11.	Silvopasture (cattle and forest)	42
12.	Peatland protection and rewetting	42
13.	Tree plantations (on degraded land)	40
14.	Perennial staple crops (eg bananas, breadfruit)	31
15.	Temperate forest restoration	28
16.	Managed grazing	
	(controlling lifestock density)*	26
17.	Tree intercropping (agroforestry)	24
18.	Concentrated solar power	24
19.	Public transit	23
20.	Regenerative annual cropping (compost/manure)*	22



Top 20

Nature-Based Solutions

"By 2050, the total investment needs of nature will amount to USD 8.1 trillion, and will be over USD 536 billion annually." (UNEP)

"A regenerative approach to nature Will provide around a **third of the solution to climate change**." (Walmart)



Source: Exponential Roadmap





Regenerative Economy/ Investment





After Fullerton 2015 Ragnarsdottir and Parker 2022

TYPE OF ECONOMY	CHARACTERISTICS	INVESTMENT
Conventional	Current neoliberal economic paradigm; mechanistic design, reductionist thinking, energy and resource intensive	Neoliberal financial gymnastics, passive index funds, activist hedge funds, leveredged buy outs, passive ESG
Green	Renewable energy; also resource greedy	Active ESG (Environmental, Social and Governance)
Sustainable	Less energy and resource intensive	Impact investments, green bonds
Restorative	Restoration of nature and communities	Place based integral capital
Regenerative	New regenerative economic paradigm; economy built on patterns and principles that nature uses to built sustainable systems throughout the world	Systemic investment, often with wide Public Private Partnership



Fullerton 2015 Ragnarsdottir and Parker 2022





Remember the circular economy





Circular bioeconomy for wellbeing



Regenerative economy

After Fath et al. 2019, Palahi et al. 2020, Ragnarsdottir and Parker 2022



Integral Investment for Angel/Venture capital



Mariana Bozesan

Integral Investing

From Profit to Prosperity

Foreword by Ken Wilber





From traditional investing and philanthropy...





Integral investing facilitates the integration...





The value chain creation in early stage investing...



The Theta Model: De-risking steps of the AQAL due diligence process



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Three levers





From Bozesan 2020





Larger investment operations

30



For transformative change – need to link together Natural Capital, Social Capital, Human Capital







Linking Regenerative Investment with Carbon Markets

Business and Investors are Seeing the Benefits of Space and Natural Capital Analytics





"Nature-Enhancing Solutions are

the key to solving the climate crisis" (Forbes)

"By 2050, the total investment needs of nature will amount to **\$8.1 trillion,** and will be over **\$536 billion annually**" (UNEP)

Data Fusion - Digital Twin Natural Capital Analytics

Downforce Technologies © 2022



Data enabled investments in nature



Land stewards transitioning to regenerative agriculture and forestry and carbon farming 2 Industries transitioning to Net Zero Emissions and Biodiversity Net Gain

Investors opening up natural asset markets and ESG supply chains



New Partnerships for Voluntary Carbon Market in the Mau Mara Forest, Kenya/Tanzania





https://capitalscoalition.org/data-hunting-in-the-mara-and-mau-forest/

Creating Green Transition Investment Pathways for Mau Mara

- Loss of >50% forest cover (250,000 ha) since 1970s; 7000km of surface rivers reduced to 4000km
- 13.6m people living in the Mau Mara Forest Complex; 30 million people downstream rely on water from the Mau Forest
- Today average annual household income <2500 USD;
- Using carbon markets can double incomes in all households and restore the forests and rivers to 1970s extent



Forest gardening 1300 USD 12 δCO_{2eq} t/ha

Carbon farming $18 \ \delta CO_{2eq} \ t/ha$













Pollachius virens L. (Pollock)

Gulf Stream Warm Core Rings observed from space

Connecting Natural Capital Assets

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Chagos Conservation Trust, Anne Sheppard, Jon Slayer

Unsplash, Andrew Buchanan

Chagos Conservation Trust, Anne Sheppard, Jon Slayer

Detecting Change in Natural Capital Assets



Pollutants

Air – the fast route Rivers, oceans & sea ice

New Migratory Routes

New Alien Routes

Let us set a vision to restore our planet: Investing in naturebased solutions and communities







Donella Meadows





Figure after Abson et al. (2017)



Thank you for listening!





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