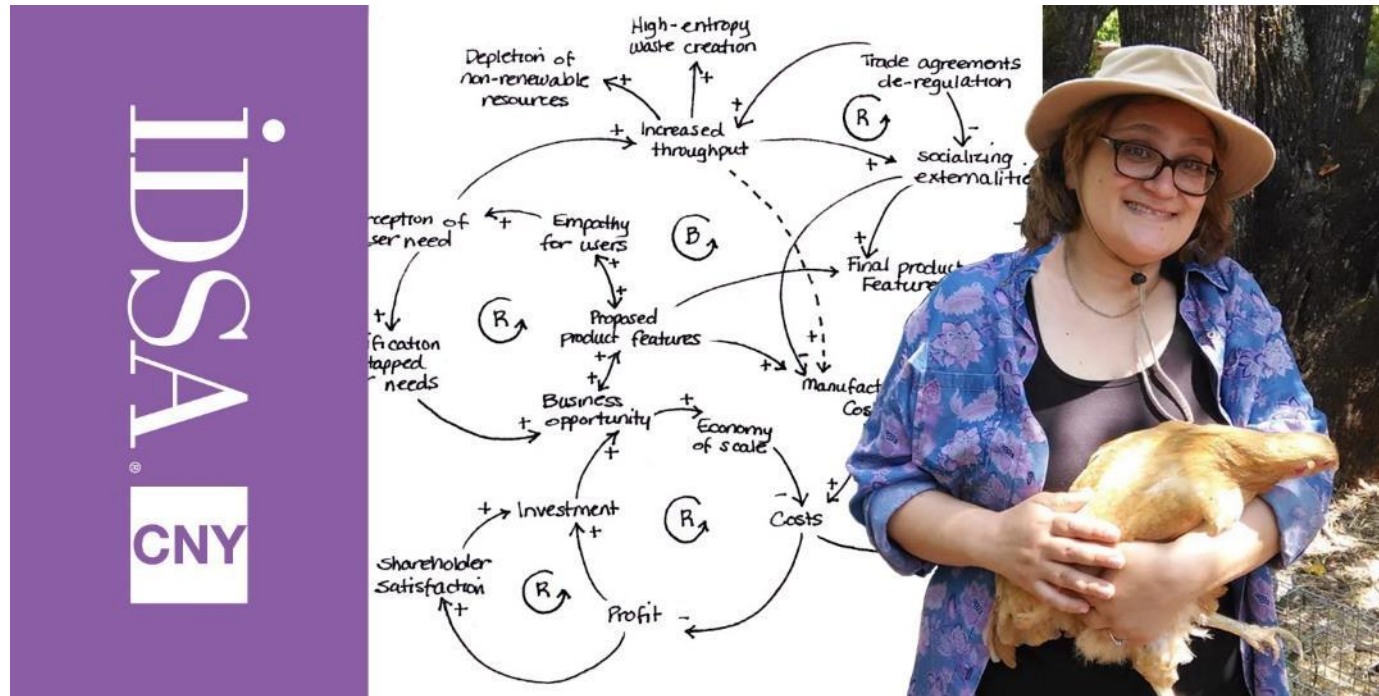


# Designing a post-pandemic, sustainable future



Sayeh Dastgheib-Beheshti, IDSA - 28/01/2021

*"I am speaking of the life of a man who knows  
that the world is not given by his fathers,  
but borrowed from his children;"*

*(Wendell Berry, 1971)*



# CLIMATE SUMMIT

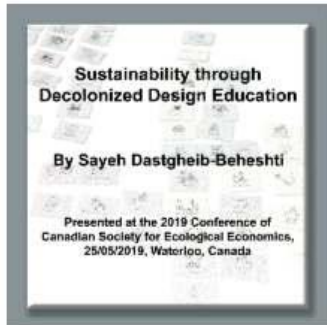
WHAT IF IT'S  
A BIG HOAX AND  
WE CREATE A BETTER  
WORLD FOR NOTHING?

- ENERGY INDEPENDENCE
- PRESERVE RAINFORESTS
- SUSTAINABILITY
- GREEN JOBS
- LIVABLE CITIES
- RENEWABLES
- CLEAN WATER, AIR
- HEALTHY CHILDREN
- ETC. ETC.



12/19 USA TODAY  
JOEL RITT

# www.sayeh.ca/research



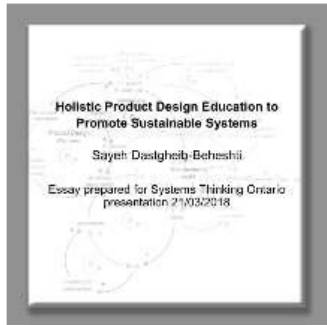
## Sustainability through Decolonized Design Education

By Sayeh Dastgheib-Beheshti

Essay presented at the 2019 Conference of the Canadian Society for Ecological Economics, 25/05/2019, Waterloo, Canada



[Look at PDF](#)



## Holistic Product Design Education to Promote Sustainable Systems

By Sayeh Dastgheib-Beheshti

Essay prepared for Systems Thinking Ontario presentation 21/03/2018



[Look at PDF](#)



## Product Design through a Systemic Lens of Ecological Economics

By Sayeh Dastgheib-Beheshti

Supervised by Dr. Ellie Perkins

A Major Paper submitted to the Faculty of Environmental Studies in partial fulfillment of the requirements for the degree of Master in Environmental Studies, York University, Toronto, Ontario, Canada – July 31, 2017

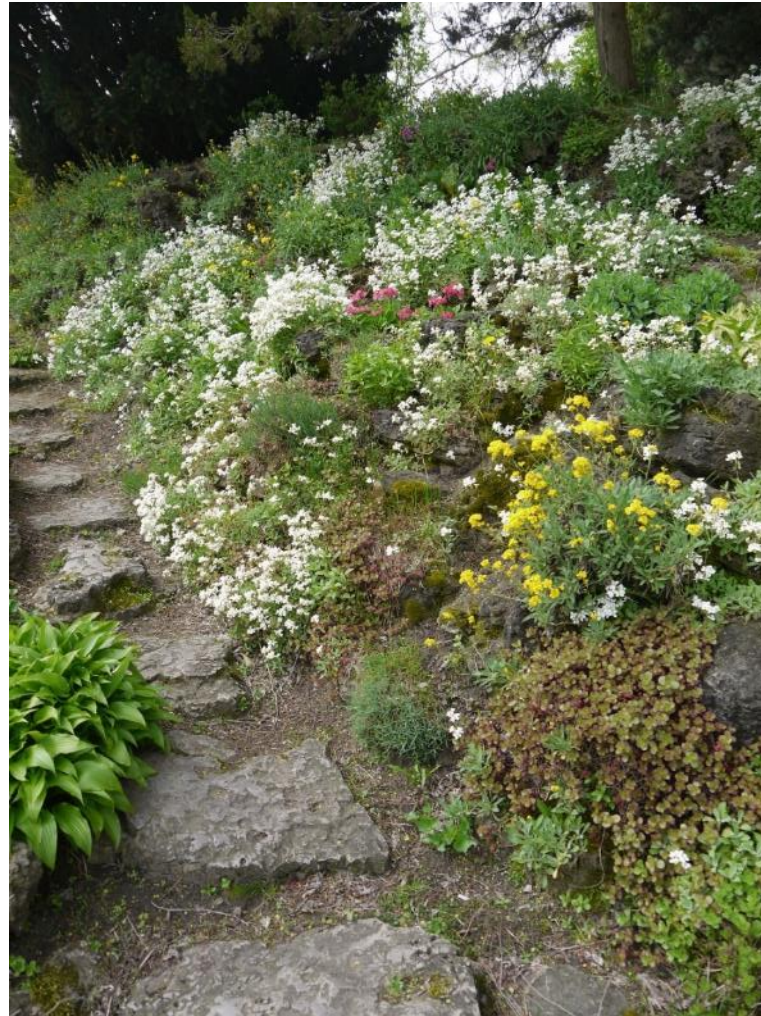


[Look at PDF](#)

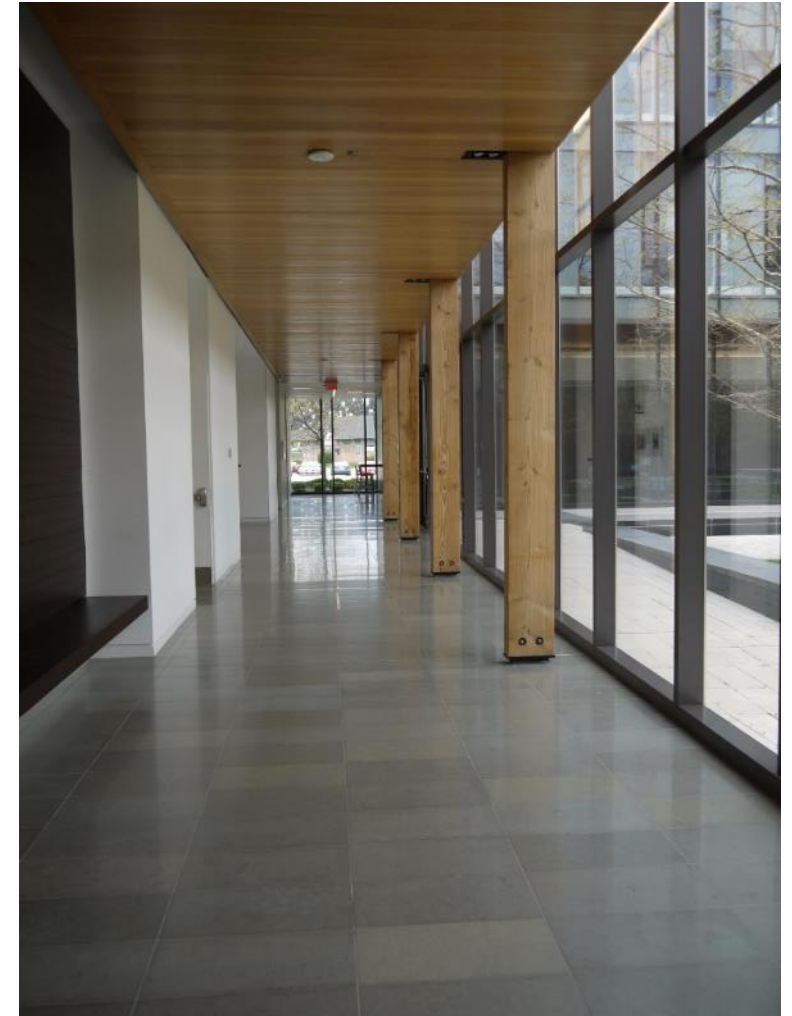
We are surrounded by design to the point that we no longer see it.



Koffler Scientific Reserve north of Toronto

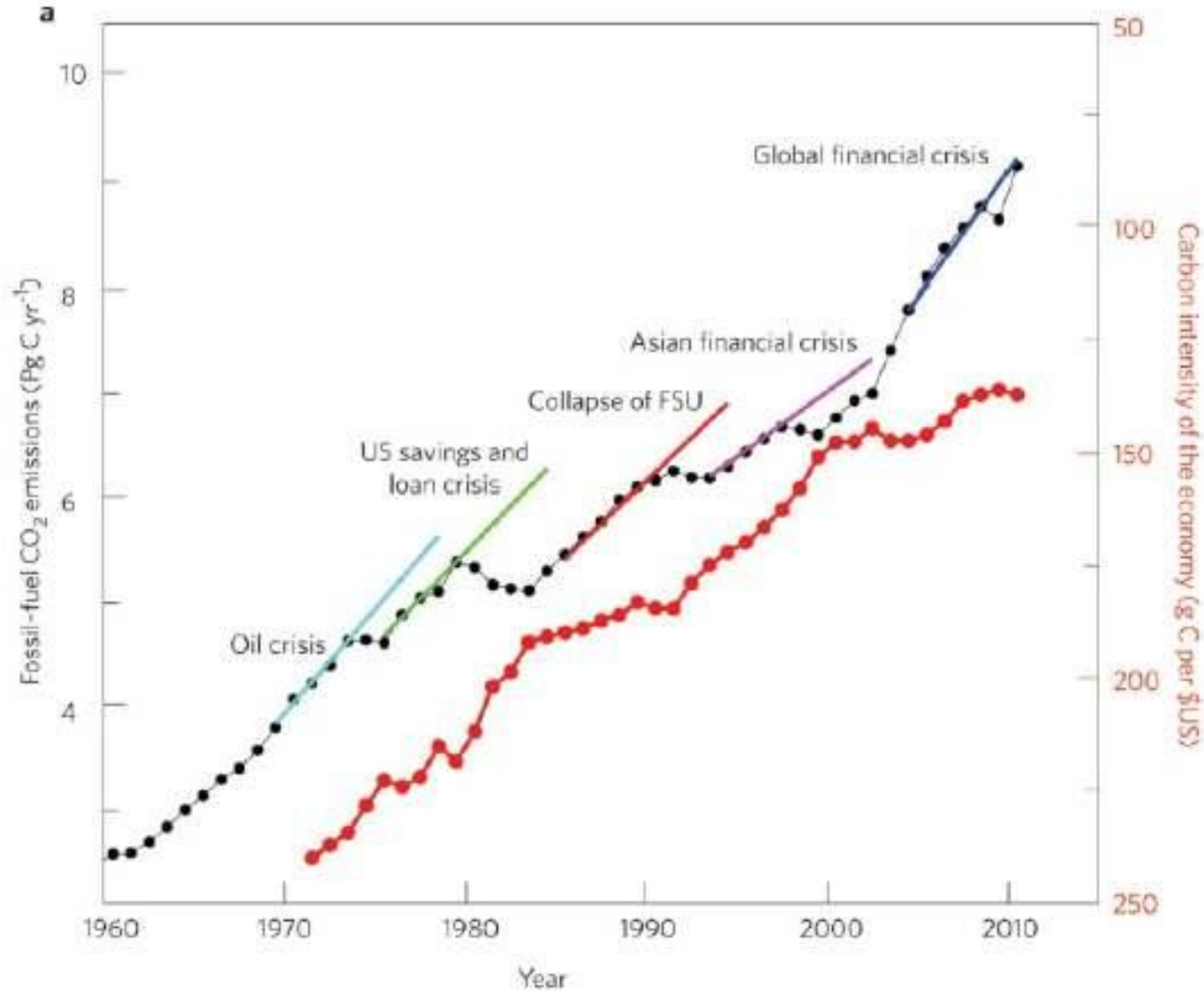


Rockway Garden, Kitchener, Ontario



Balsille School of International Affairs, Waterloo, ON

# Looking past the pandemic



Peters, G. et al.(2012)

Global Sustainability

cambridge.org/sus

Promise of a green economic recovery post-Covid: trojan horse or turning point?

Oliver Taherzadeh

Research Institute for Humanity and Nature, 457-4 Kamigamo Motoyama, Kita Ward, Kyoto, 603-8047, Japan

Intelligence Briefing

Cite this article: Taherzadeh O (2021). Promise of a green economic recovery post-Covid: trojan horse or turning point? *Global Sustainability* 4, e2, 1–6. <https://doi.org/10.1017/sus.2020.33>

Received: 5 August 2020

Social media summary

A green economic recovery from Covid-19 cannot be built in the image of a pre-Covid era. Green growth must be abandoned.

Taherzadeh, O. (2021)



The Observer  
After the Covid-19 crisis, will we get a greener world?

Gala Vince  
Sun 17 May 2020 10:00 BST

Vince,(2020)

EARTH·ORG

PAST · PRESENT · FUTURE

POLLUTION CLIMATE CHANGE OCEANS BIODIVERSITY ENERGY SOLUTIONS CONSER

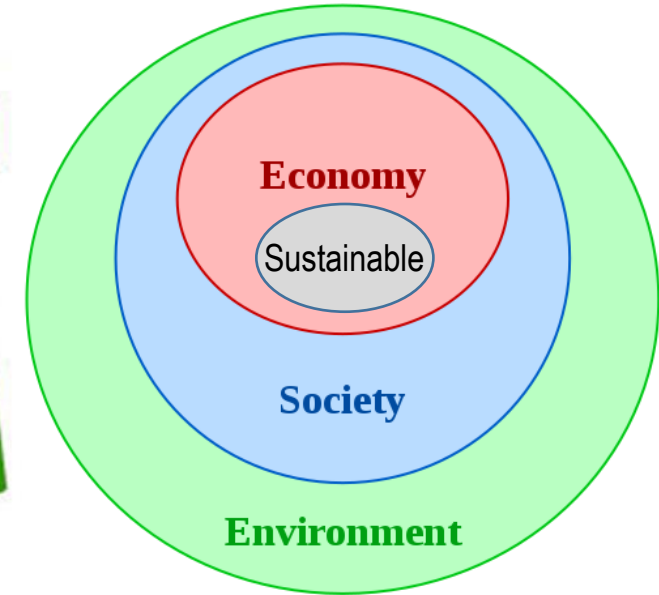
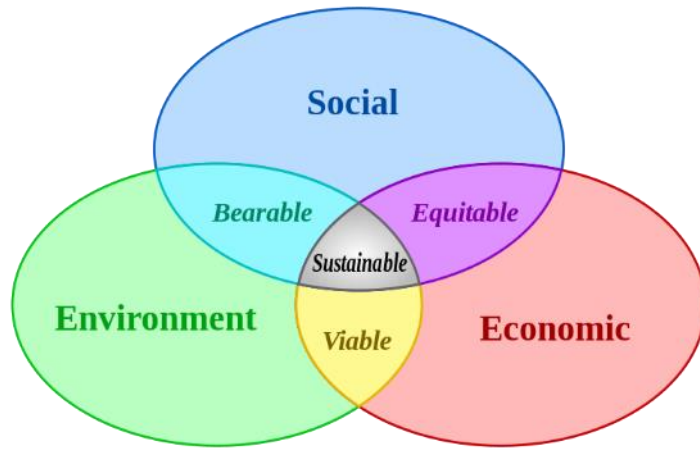
CLIMATE CHANGE, POLICY & ECONOMICS

Reducing Carbon Emissions Will Benefit the Global Economy- Here's How

BY JAMIE SARAO | AFRICA AMERICAS ASIA EUROPE OCEANIA | MAY 22ND 2020 | 4 MINS

Sarao,J.(2020)

# Sustainability and the Economy



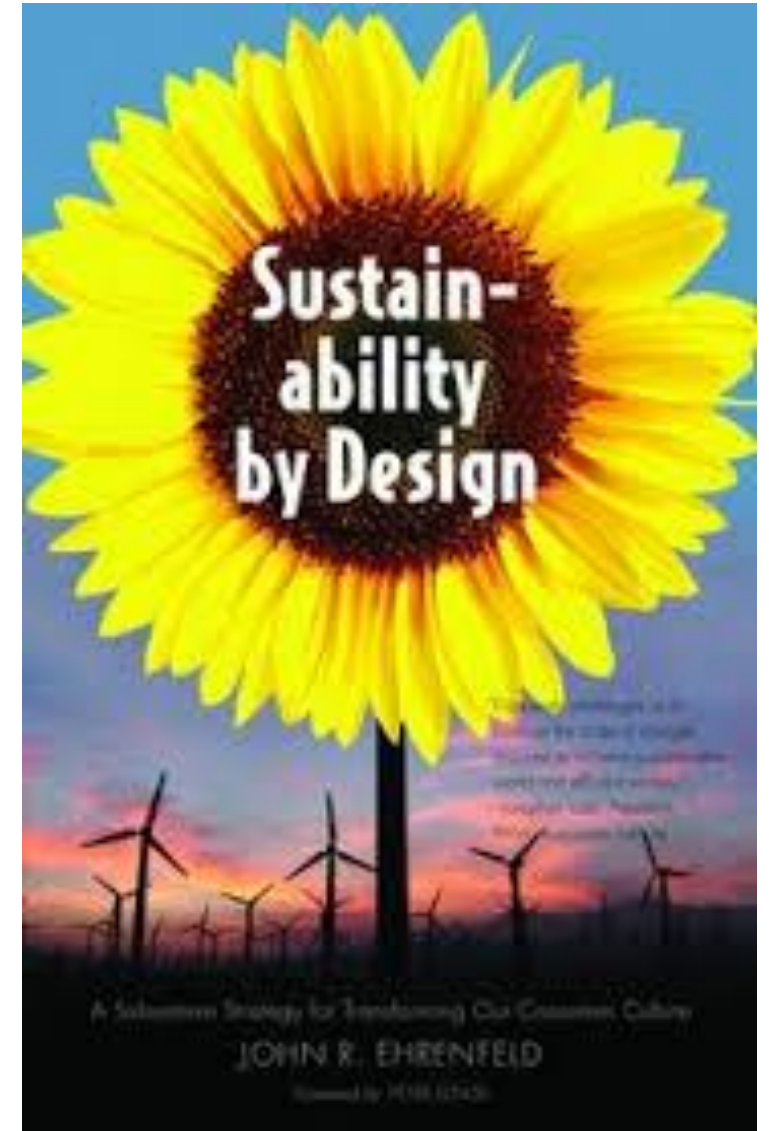
Triple Bottom Line  
Weak Sustainability model

Strong Sustainability model  
Used in Ecological economics

# Sustainability

“the possibility that humans and other life will flourish on the Earth forever”

(Ehrenfeld, 2008, p. 49)





# How do you value nature?

Intrinsic:

Essential and within itself

Instrumental:

how it can serve you

*We are unlikely to protect what we do not love,  
and cannot love what we do not know. Gould*

Allow humans to see themselves as part of a web of life

# The Economy as an iceberg

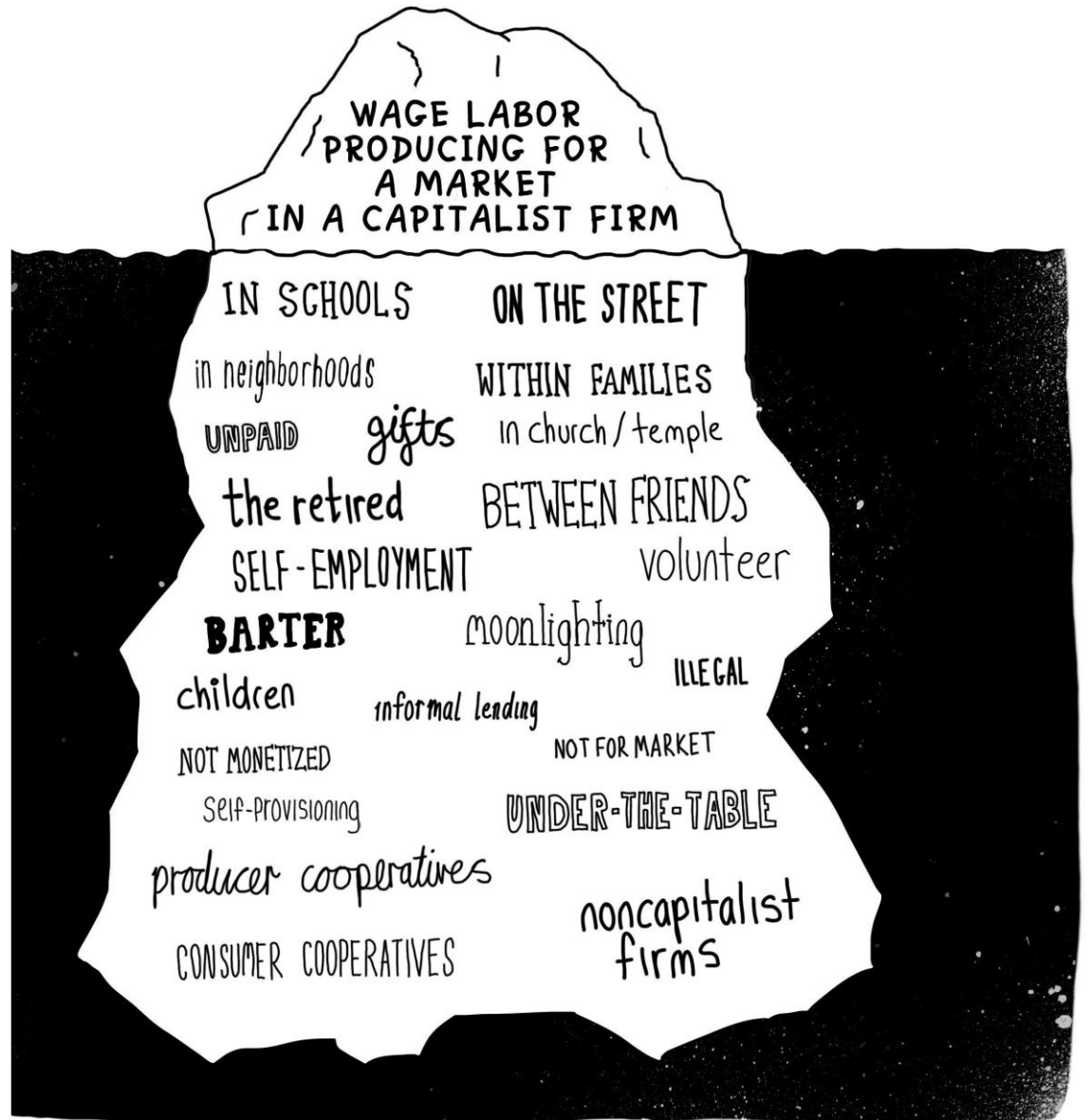
- Envisioned by Gibson-Graham

## Take Back the Economy

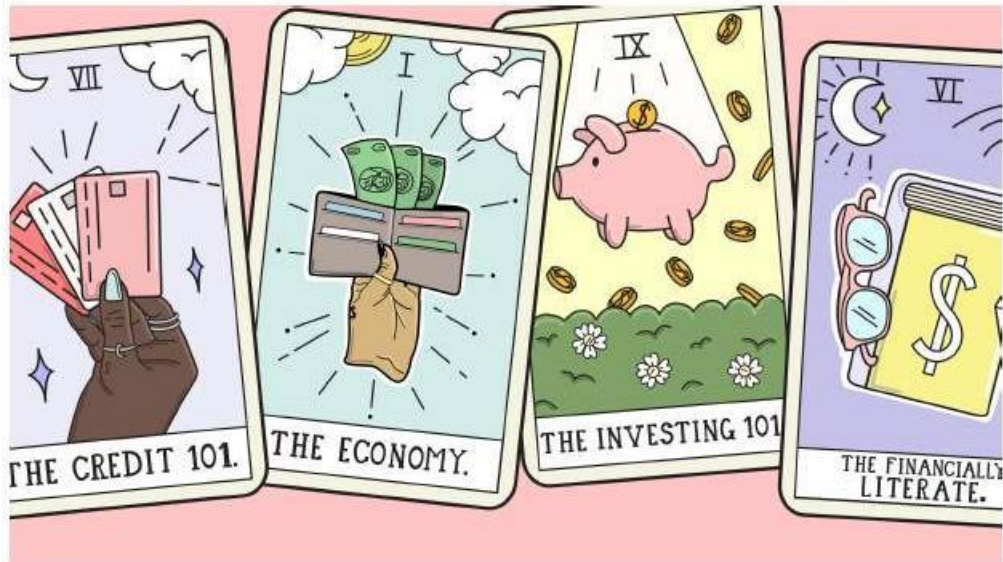
An Ethical Guide for Transforming Our Communities



shutterstock.com - 428931997



Gibson-Graham, et al. (2013)



SAGE AUNE / @SAGEPIZZA

Politics

## What 'Capitalism' Is and How It Affects People

What capitalism is, how it works, and who is for and against it.

BY KIM KELLY

AUGUST 25, 2020

Capitalism is defined as an economic system in which a country's trade, industry, and profits are controlled by private companies, instead of by the people whose time and labor powers those companies. The United States and many other nations around the world are capitalist countries, but capitalism is not the only economic system available.

Younger Americans, in particular, are challenging long-held assumptions about the way our economy functions. With climate crisis posing a grave threat to our collective

# Capitalism

- Article by Teen Vogue
- “an economic and political system in which a country's trade and industry are controlled by private owners for profit, rather than by the state.” (Oxford Dictionary)
- Privatize profits, socialize costs

Kelly, K. (2020)

# Gross Domestic Product

- Proposed by Simon Kuznets to the US Congress in 1934
- measure of all goods and services produced in a period
- Has become “the ultimate measure of a country’s welfare”

## **Includes**

- Healthcare costs
- Cleaning up pollution
- Repairs from natural disasters
- Spending on the police

## **Excludes**

- Non-monetary activity
- Unpaid/ voluntary work
- Raising children

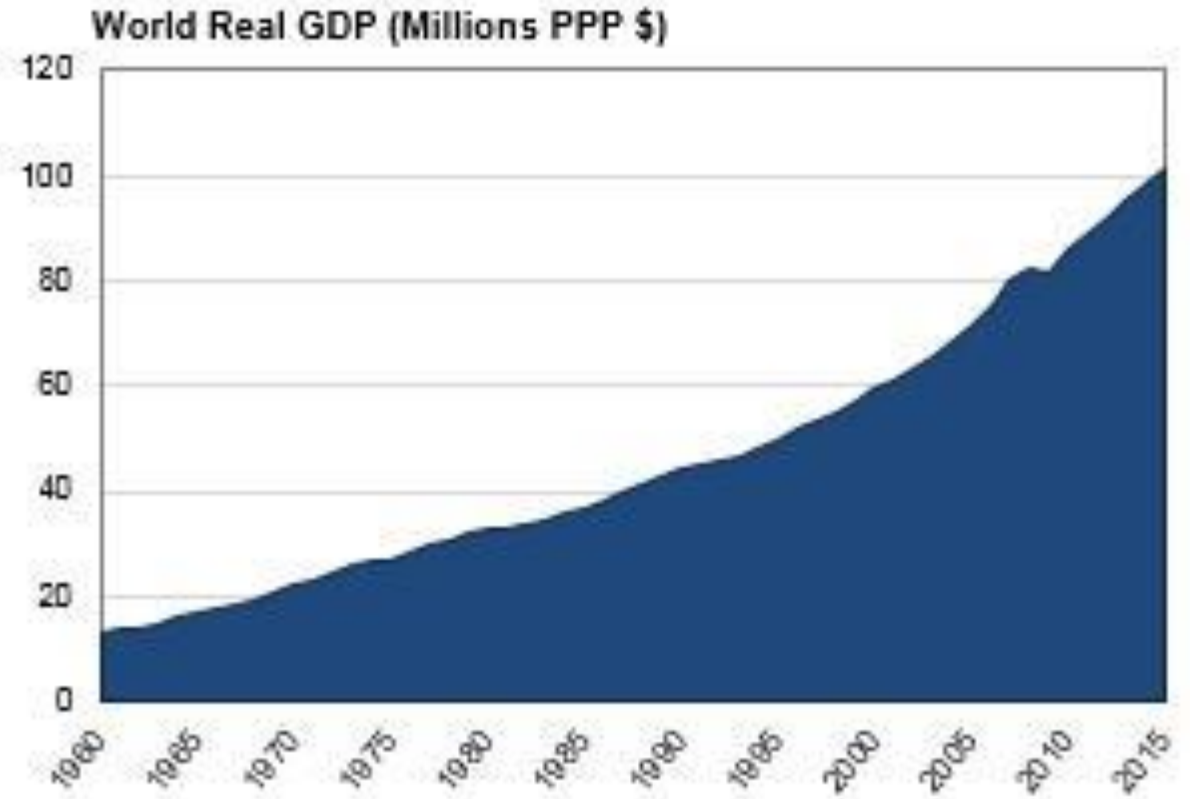
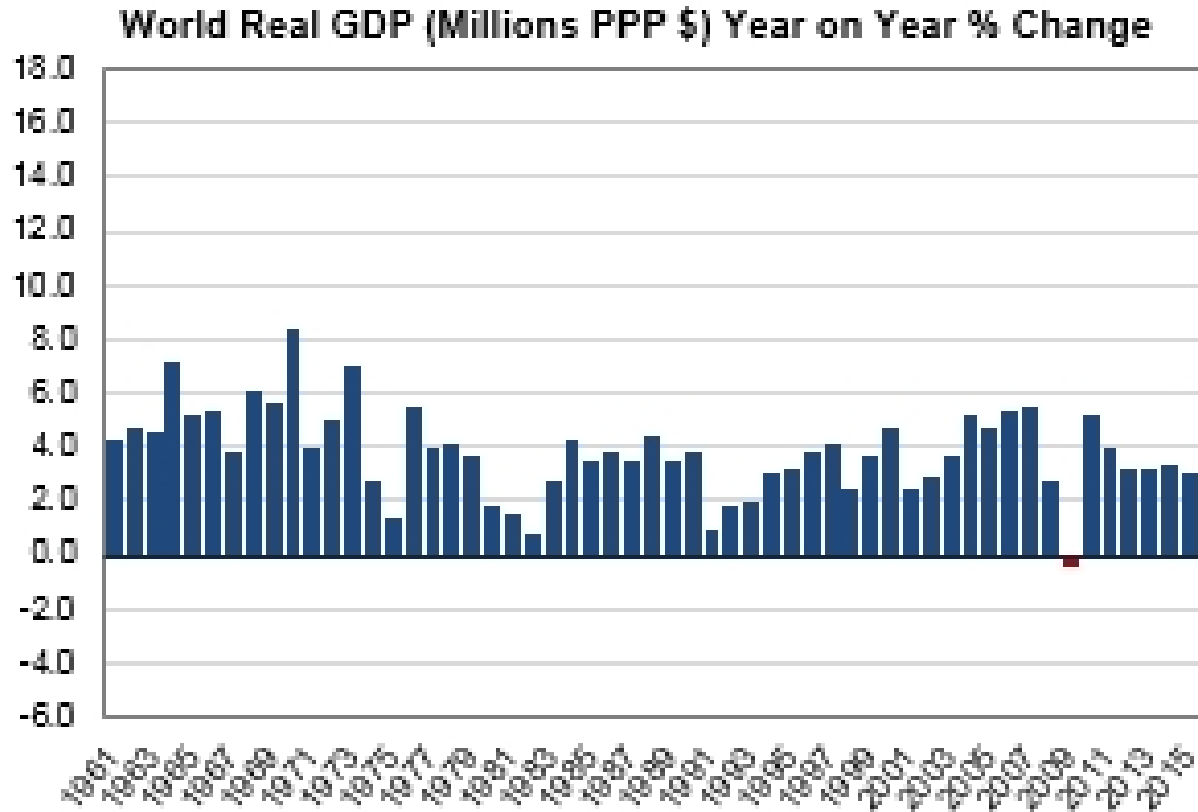
# Best example of GDP measurement system in action

- Illustrated by Joseph Christian Chestnut over 13 years
- 13 times world champion
- **Throughput**



# Global Growth Tracker (past 53 years)

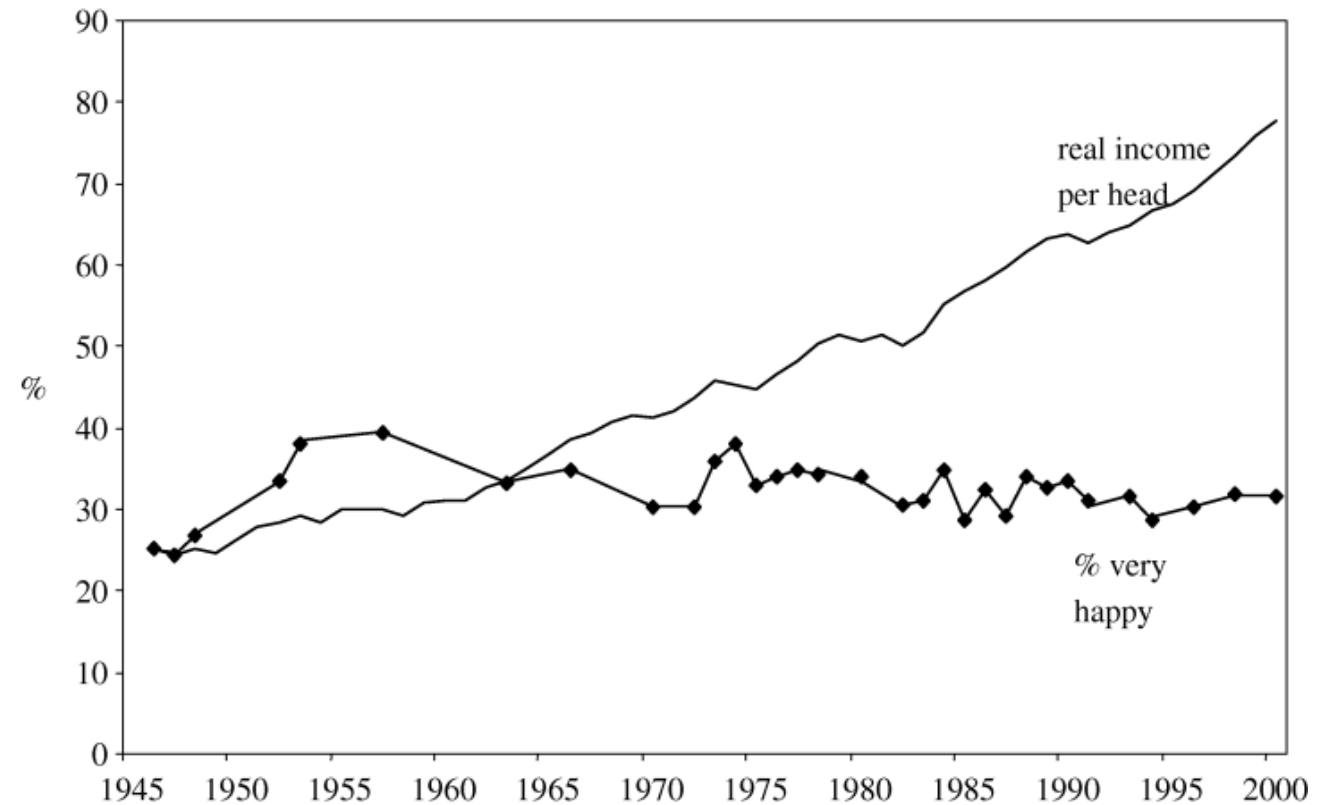
Annual real GDP growth has averaged 3.8%, and 2.2% in per capita terms



PPP = purchasing parity power

- As GDP increases, material consumption (EF) also increases.
- The material consumption of the World's richest (EF) is ten times that of the world's poorest. IRP, 2016

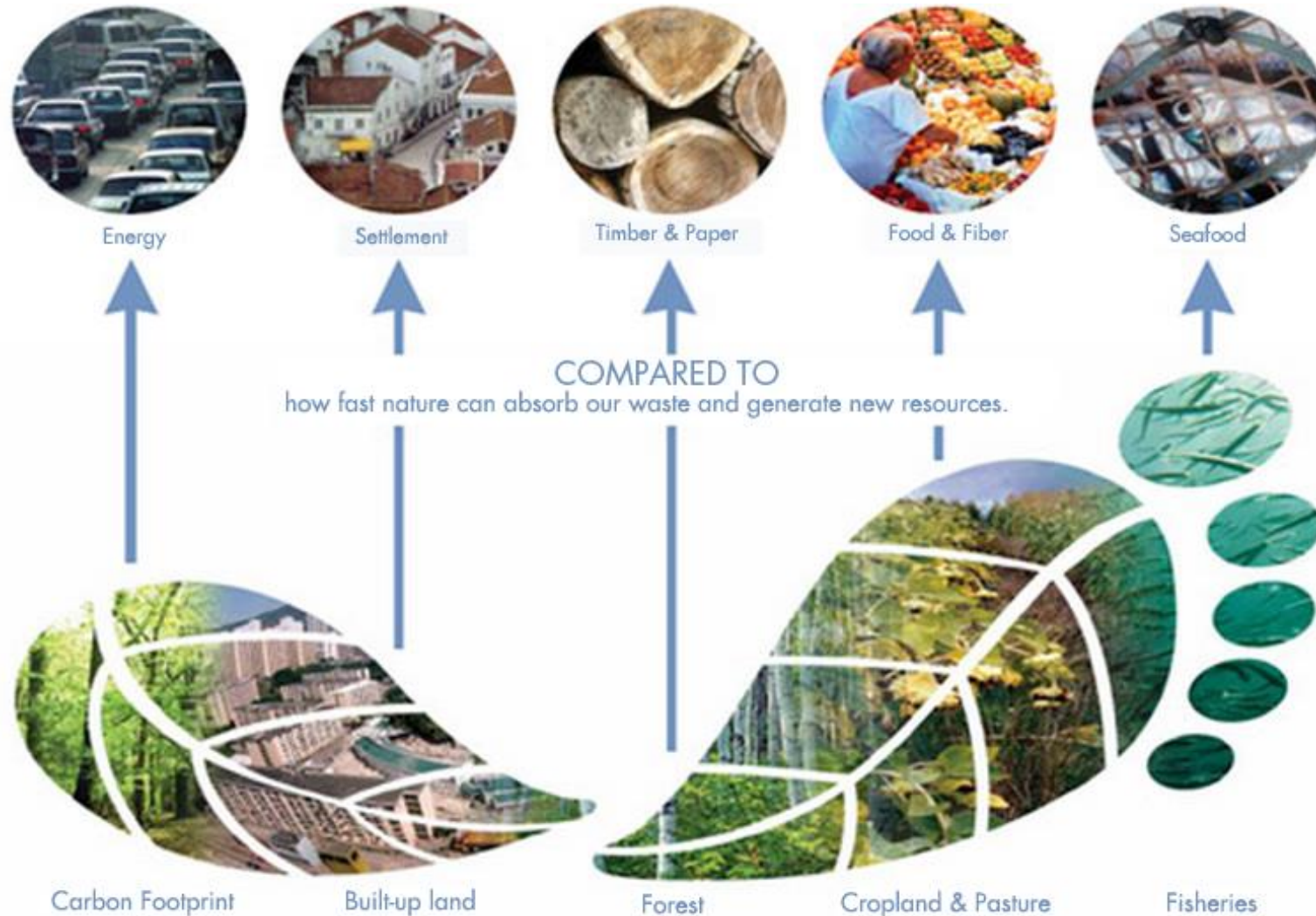
- Past a point, Easterlin has shown that increased consumption does not increase happiness or well-being (Binswanger, 2006).



*Income and Happiness in the United States, Source Layard (2006)*

# The Ecological Footprint

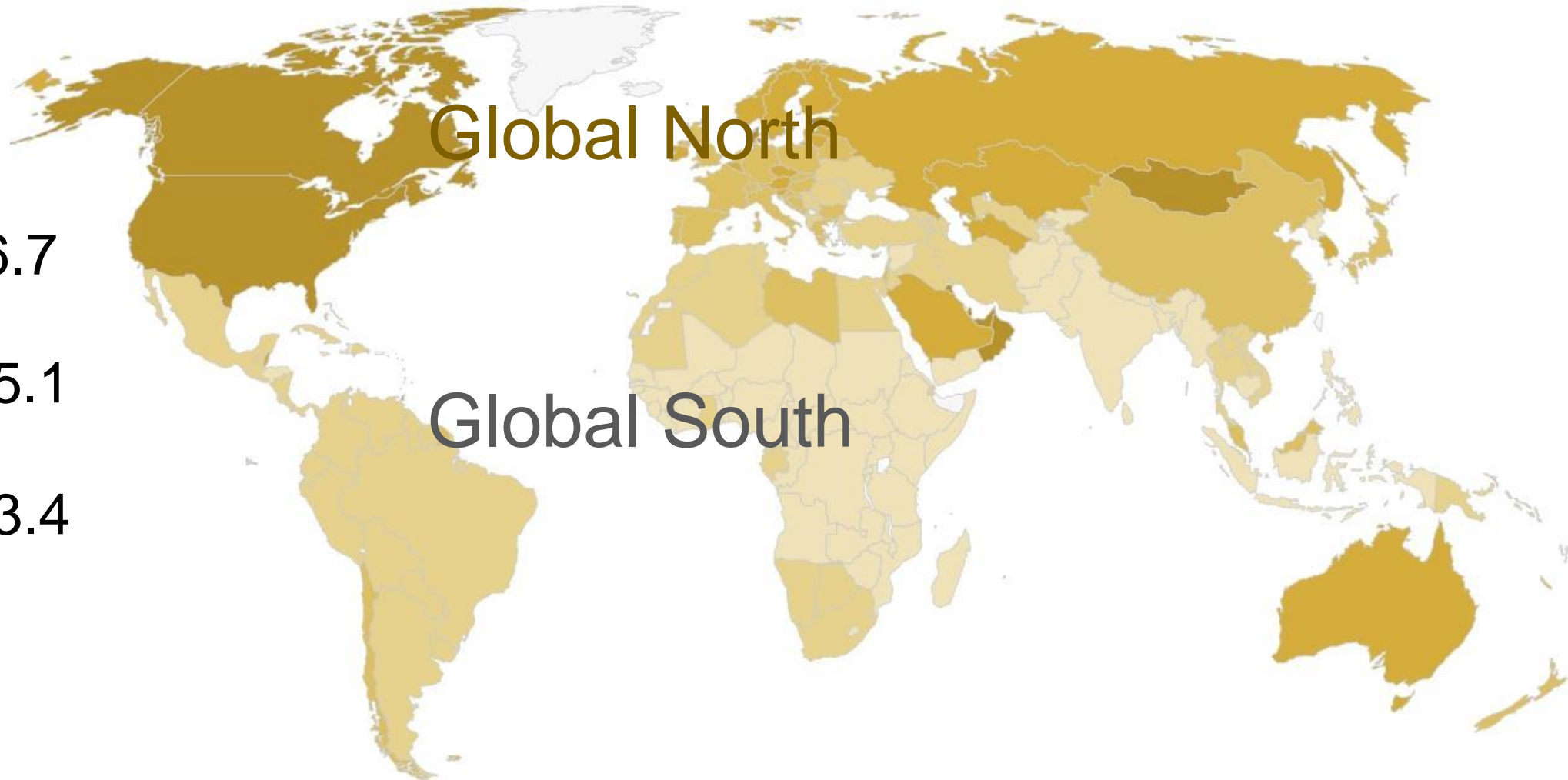
- Measures how fast we consume resources and generate waste.





# EF per person

Current capacity of planet: 1.7 Global Hectares / person

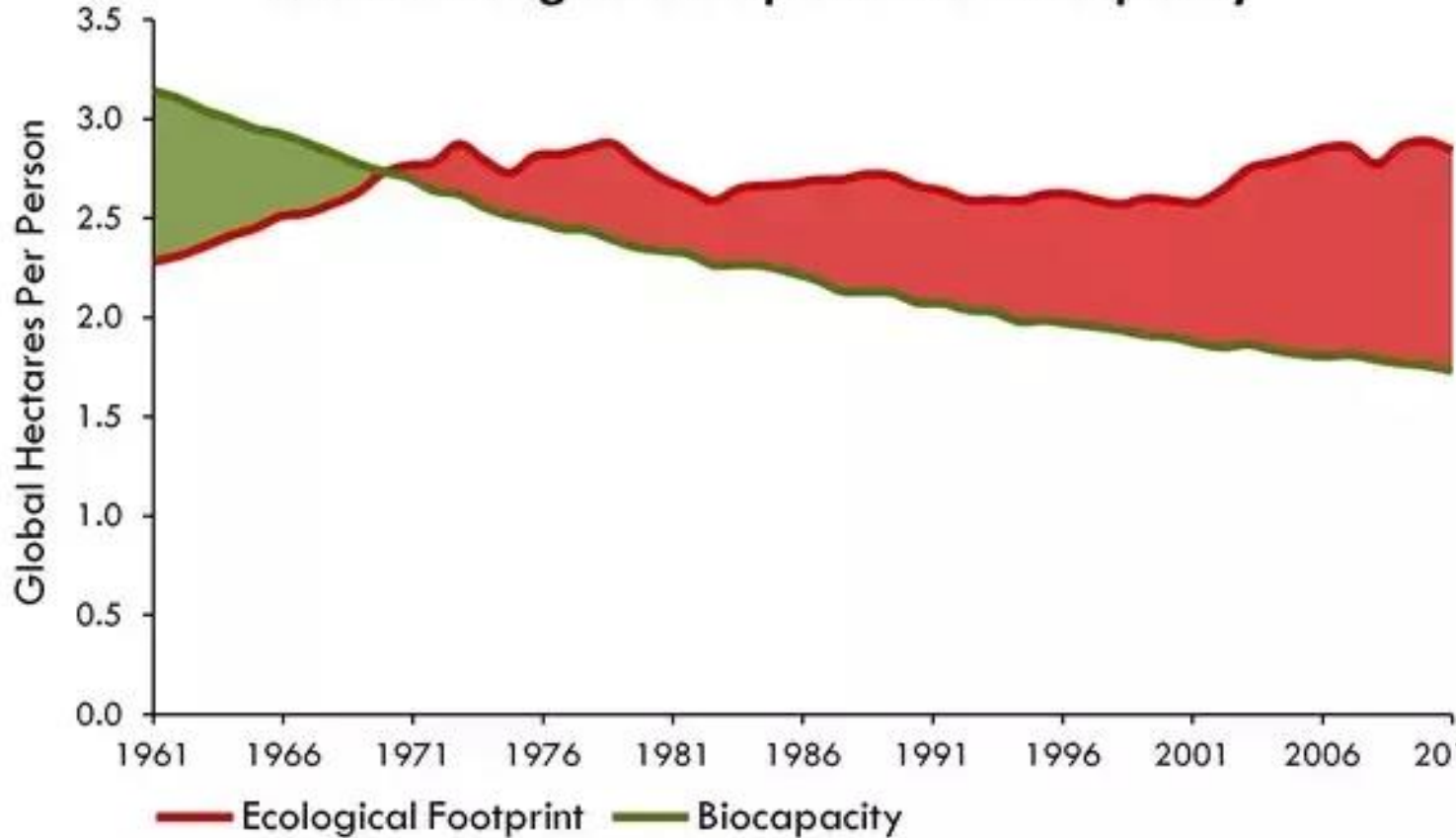


# 1970: lived within our means

Footprint Network (2019)

August 22, 2020: Earth Overshoot Day marks the date when humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year.

### World Ecological Footprint and Biocapacity



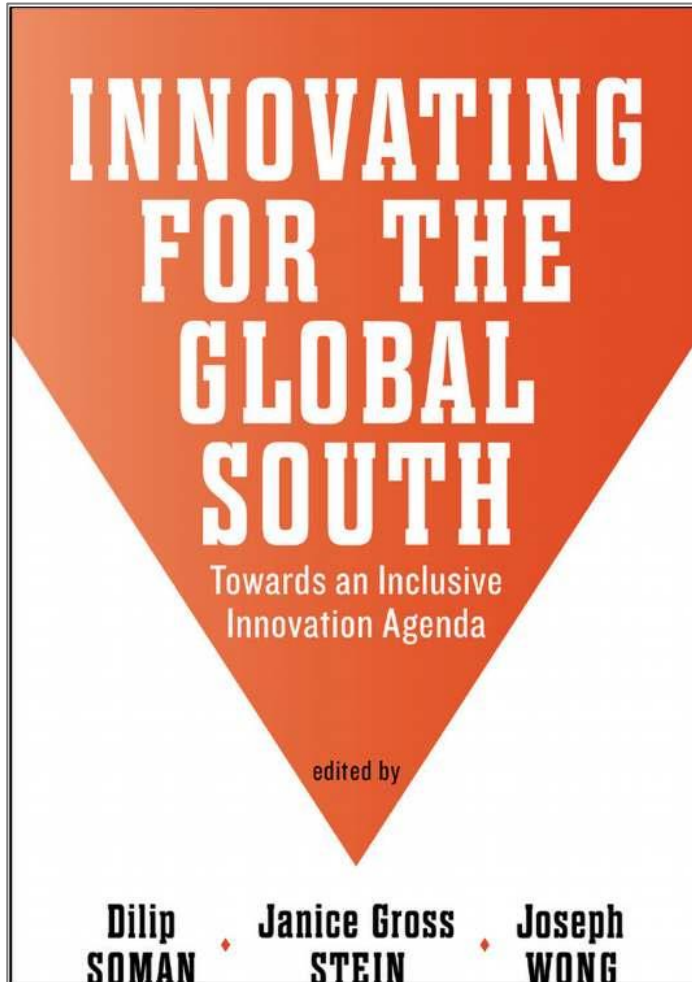
## Forty percent of Nigerians live below the poverty line: Report

*More than 82 million Nigerians live on less than \$1 a day, according to the National Bureau of Statistics.*



Al-Jazeera, (2020)

# Is Infinite growth possible on a finite planet?



Soman, D., et al. (2014)



The Impossible Hamster, NEF, (2010)

Reduce consumption in Global North

So people in Global South can  
have some resources too.

# Is there an alternative to GDP?



Andester. N. (2019)

## Is Gross National Happiness more important than the GDP?

BY [JOSH CLARK](#)



The Great Depression: not a lot of happiness going around.

MPI/[GETTY IMAGES](#)

The Great Depression forced many economists to find new and better ways to keep an eye on national economies. One of the most notable of all of the Depression-era advances in economic theory was the refinement of what we call the **gross domestic product** (GDP).

This economic indicator had been around in some form before the Depression, but it functioned as little more than a guesstimate of the value of a nation's economy. Economist Simon Kuznets improved it dramatically by applying real data to measure the total value of all of the goods and services produced in a nation within a given year. Since then, GDP has become a valuable tool for evaluating how well or poorly an economy's doing at a certain point in time.

Clark. J. (2019)

# What role can design play in this degrowth future?

- Studies show that **75% of the final decisions** on production processes and materials are made during the design stage. (Sobel & Groeger, 2012)
- **90% of the waste** that can be attributed to many of the products that we meet in our daily lives has been created before the end-user even gets their hands on the products: design & manufacturing.
- **80% of a products environmental impact** is determined at design.  
(McAloone & Bey, 2009)

# Product Design through a Systemic Lens of Ecological Economics

Review of 8 Design Solution Methodologies

Methodology	Resource
Cross	Book: Design Thinking
Schindholzer	Toolkit: Design Thinking Coaching
Koberg & Bagnall	Toolkit: The Universal Traveler: A soft system methodology
Kelley & Kelley	Book: Creative Confidence
IDEO	Toolkit: Fieldguide for Human-centered design
Stanford University	Toolkit: "Bootleg bootcamp methods cards"
Martin	Book: Design of Business
Ogilvie & Liedtka	Toolkit: Designing for Growth

Dastgheib-Beheshti, S. (2017)

- Nature (planetary boundaries)
- Justice (the good life of society)
- Time (irreversibility)

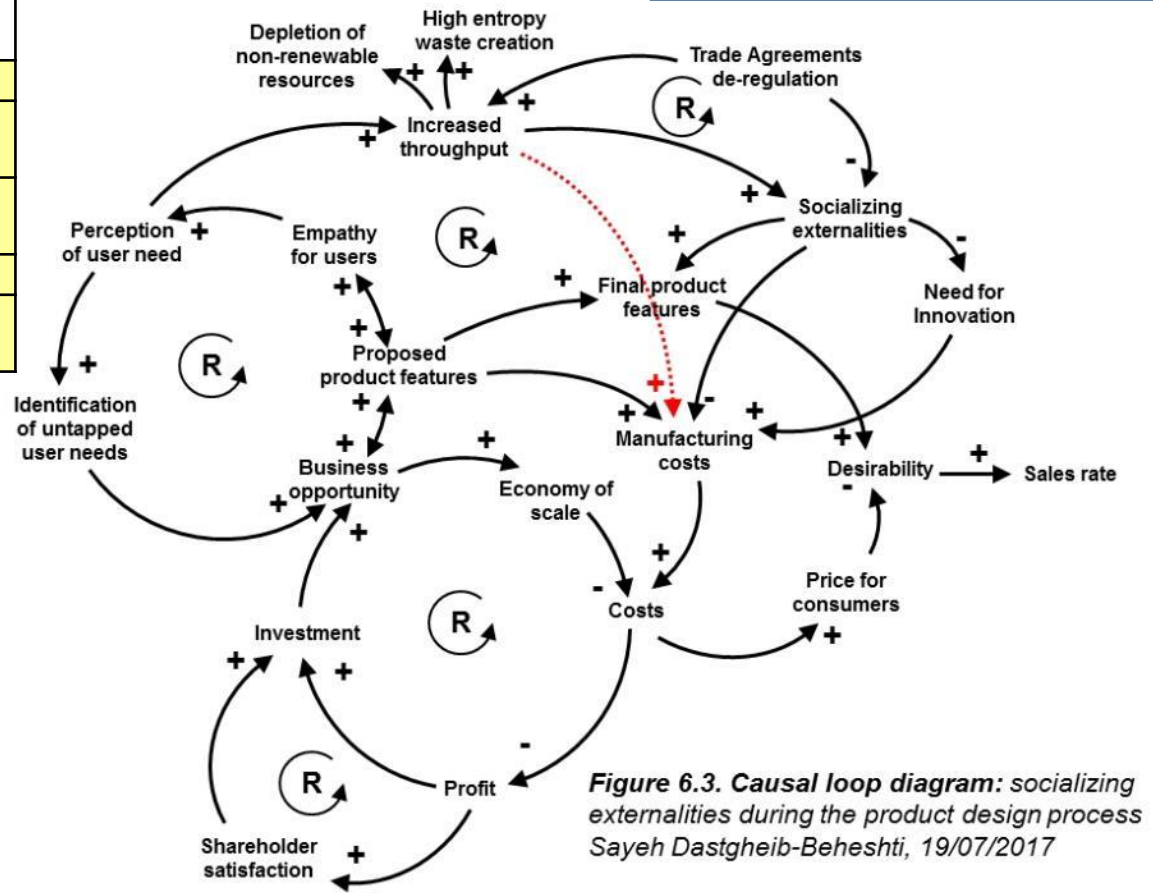


Figure 6.3. Causal loop diagram: socializing externalities during the product design process  
Sayeh Dastgheib-Beheshti, 19/07/2017

**Table 6.1: Identification of gaps within 8 design solution methodologies – Sayeh Dastgheib-Beheshti, 2017**

Legend: • Always ○ Sometimes (blank) Never/ Not applicable

Methodology

		Koberg & Bagnall	Cross	Kelley & Kelley	IDEO	Stanford University	Martin	Ogilvie & Liedtka	Schindholzer
Methodology	1. Includes flexible tools & methods	•	○	•	•	•	○	•	•
	2. Offers clear process	•	•	•	•	•	○	•	•
	3. Places importance on personal experience / embodied knowledge	•	•	•	•	•	•	○	•
	4. Provides a multi-disciplinary approach	•			•	•		○	•
	5. Uses participatory action research method (includes stakeholders)				•	•			•
	6. Team-based (collaborative) method		○		•	•			•
	7. Evidence provided through rigorous academic study	○	•						•
	8. Evidence provided through anecdotal evidence	○		•	•	•	•	•	
	9. Multi-level approaches (large systemic and smaller details)	○	•		•	•	•	○	○
	10. Fosters critical thinking	○	•	•	•	•	•	•	•
Conceptual Framework	11. Grounded in needs defined by community				•	•		•	•
	12. Desirability of product important	○	•	•	•	•	•	•	•
	13. Technical feasibility important	○	•	•	•	•	•	•	•
	14. Business factors (production and distribution should be feasible)		•	•	•	•	•	•	•
	15. Fosters empathy for users	○	○	○	•	•	•	•	•
	16. Constant re-framing (making personal) of evolving problem /solution	•	•	○	•	•	○	•	•
	17. Establishes provenance of product creator to user	○							○
	18. Looking at wider context of problem (structural reasons)	○	○		○	○	○	○	○
Economic Aspect	19. Sees problem as business opportunity	○	○	•	•	•	•	•	•
	20. Promotes need for innovation to speed up business cycle		○	•	•	•	•	•	•
	21. Creativity is applied throughout process	○	•	○	○	○	○	○	○
	22. Product keeps money circulating in the community								
	23. Product internalizes all externalities								
Lifecycle	24. Takes a broad systemic approach to process	○	•	○	•	•	○	○	○
	25. Considers throughput of new product								
	26. Considers sustainability of product				○	○			
	27. Considers environmental impacts in value chain								
Moral Dilemmas	28. Ethical judgement about whether there is a need for innovation								
	29. Ethical judgment over possible cultural impact				○	○			
	30. Consideration: Long-term consequences (precautionary principle)		○		○	○			
	31. Consideration: Will it change behavior in society				○	○			
	32. Consideration: Will it result in promote flourishing within society?								
	33. Consideration: Will it result in human dignity for user?			•	•	•	○	○	○
	34. Consideration: Will it result in human dignity (manufacturing labor)?								
	35. Consideration: Will it result in human dignity (resource acquisition)?								
	36. Considers environmental impact from product lifecycle								

## 36 criteria in 5 categories:

- methodology
- conceptual framework of problems
- economic aspects
- product lifecycle
- moral dilemmas designers face

## Moral Dilemmas: 9

Legend: • Always ○ Sometimes (blank) Never/ Not applicable

Methodology

		Koberg & Bagnall	Cross	Kelley & Kelley	IDEO	Stanford University	Martin	Ogilvie & Liedtka	Schindholzer
Moral Dilemmas	28. Ethical judgement about whether there is a need for innovation								
	29. Ethical judgment over possible cultural impact				○	○			
	30. Consideration: Long-term consequences (precautionary principle)		○		○	○			
	31. Consideration: Will it change behavior in society				○	○			
	32. Consideration: Will it result in promote flourishing within society?								
	33. Consideration: Will it result in human dignity for user?			•	•	•	○	○	○
	34. Consideration: Will it result in human dignity (manufacturing labor)?								
	35. Consideration: Will it result in human dignity (resource acquisition)?								
	36. Considers environmental impact from product lifecycle								

Dastgheib-Beheshti, S. (2017)

# Systems thinking

Boehnert (2014) Design vs. the Design Industry

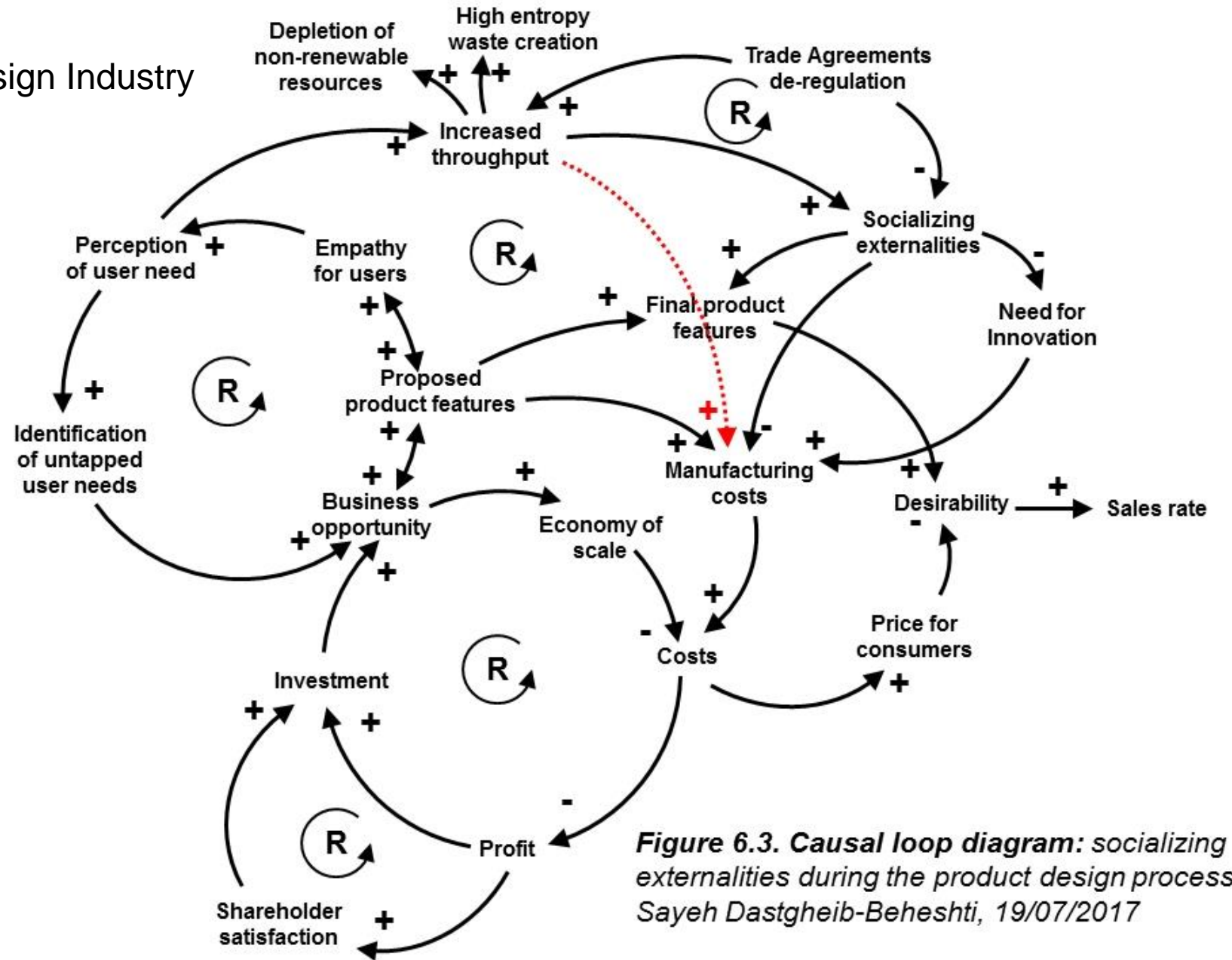
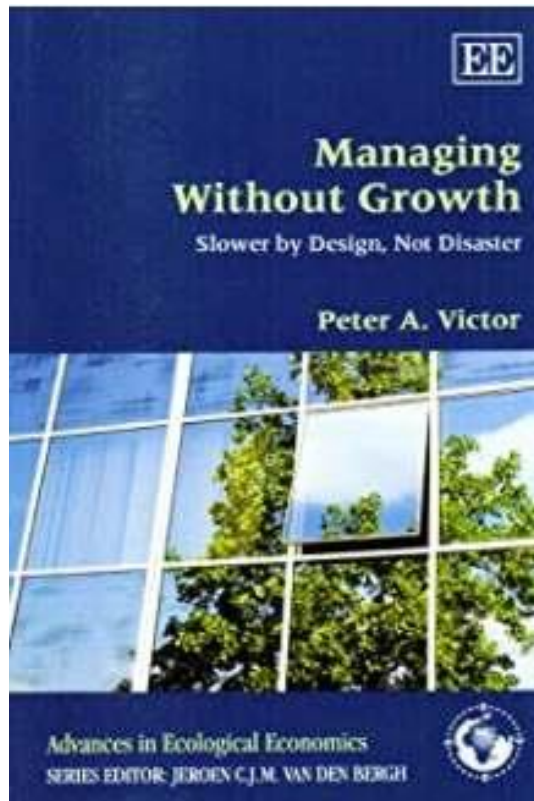


Figure 6.3. Causal loop diagram: socializing externalities during the product design process  
 Sayeh Dastgheib-Beheshti, 19/07/2017



# Ecological Economics

- Nature (planetary boundaries)
- Justice (the good life of society)
- Time (irreversibility)



Victor, P. (2009)

Ecological Economics 109 (2015) 93–100

Contents lists available at ScienceDirect

Ecological Economics

journal homepage: [www.elsevier.com/locate/ecocon](http://www.elsevier.com/locate/ecocon)

ELSEVIER

Analysis

The Kenneth E. Boulding Memorial Award 2014  
Ecological economics: A personal journey

Peter A. Victor

York University, 4700 Keele Street, Toronto, Ontario, M3J 1P3 Canada

CrossMark

---

**ARTICLE INFO**

*Article history:*  
Received 6 October 2014  
Received in revised form 30 October 2014  
Accepted 2 November 2014  
Available online 20 November 2014

*Keywords:*  
Boulding  
Spaceship earth  
Input–output analysis  
Materials balance  
Throughput

**ABSTRACT**

This speech was delivered at the meeting of the International Society for Ecological Economics at Reykjavik, Iceland on the 13th of August 2014 at the presentation of the 2014 Kenneth E. Boulding Memorial Award. In the speech Peter Victor pays tribute to Kenneth Boulding, one of the pioneers of ecological economics, and then describes his own principal contributions to ecological economics over a period of 45 years. These contributions include environmental applications of input–output analysis, the problematic extension of the concept of capital to nature, the definition and analysis of green growth, and his research on ecological macroeconomics and the challenge to economic growth.

© 2014 Elsevier B.V. All rights reserved.

Victor, P. (2014)

# GDES-3061 SUSTAINABLE PRACTICES

## COURSE DESCRIPTION

This course introduces the knowledge, vocabulary, usage, and critical analysis of sustainable materials and practices related to design.

Research will involve utilizing a holistic approach in **defining sustainability through systemic explorations of concepts of 'flourishing', economic growth, planetary boundaries, social equity**, as well as the impact of basic life-cycle investigations to discover the sourcing, processing, usage and disposal methods of materials and products.

Through concepts of industrial ecology and circular economies, patterns for recycling, reusing and re-designing products will be explored.



Creating products for a sustainable future

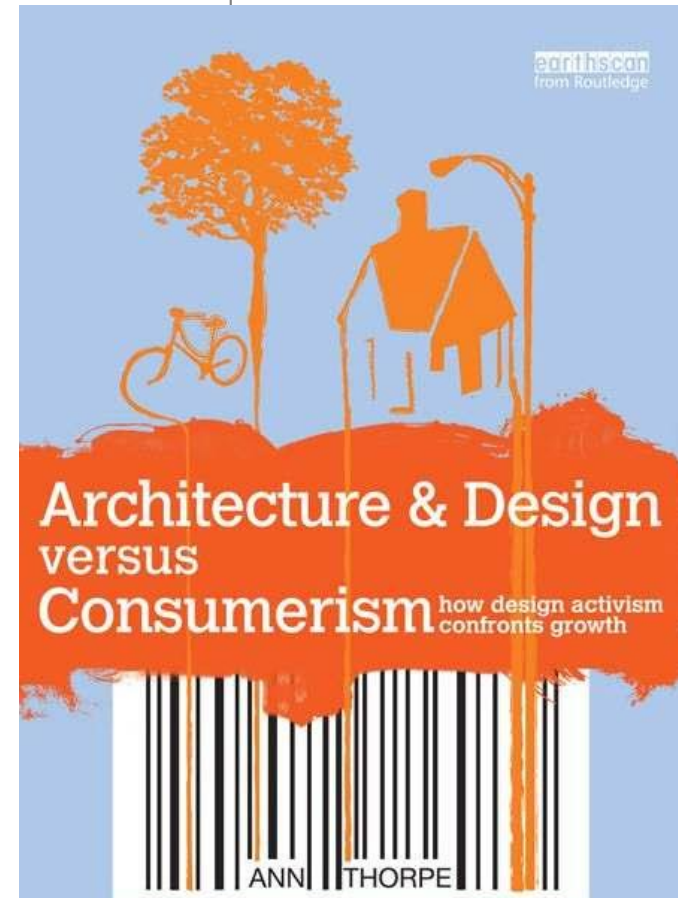
# 1. Reduce consumption

*“The role of the designer in developing a sustainable society is not simply to create “sustainable products,” but rather to envision products, processes, and services that encourage widespread sustainable behavior.”*

*(Stegall, N. 2006)*

Thorpe, A. (2012)

## **Designing for Sustainability: A Philosophy for Ecologically Intentional Design** Nathan Stegall



*...the line between humanity and its habitat, is  
blurred everywhere on earth. It is not only  
an ecological agenda; for all practical purposes, it  
is a political, economic, and public policy will  
to manage resources, population, climate change,  
restoration, ozone depletion, and soil loss,  
and conditions of human survival....<sup>4</sup>*

## 2. Design for the local economy

- Maker communities
- Local Solutions
- Cultural value

**TIME**

Thursday, Jun. 11, 2009

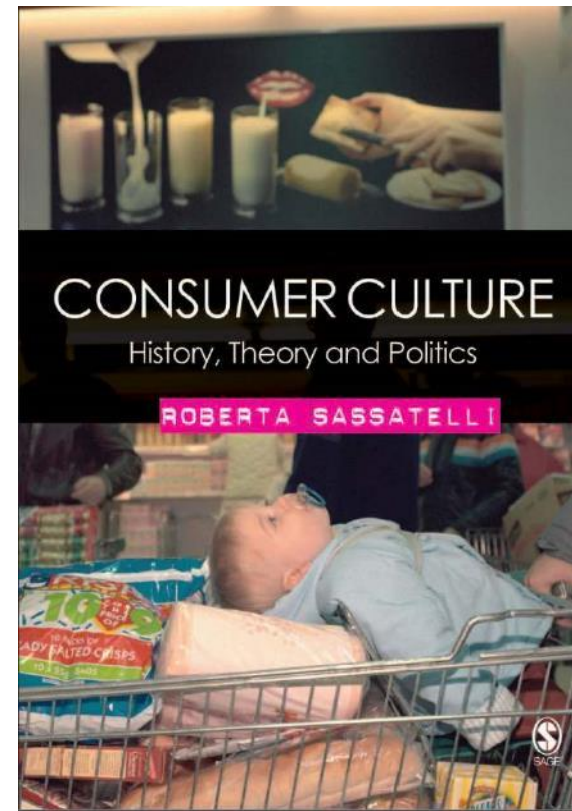
### Buying Local: How It Boosts the Economy

By Judith D. Schwartz

"Buy Local"—you see the decal in the store window, the sign at the farmer's market, the bright, cheerful logos for Local First Arizona, Think Boise First, Our Milwaukee, and homegrown versions across the states. The apparent message is "let's-support-local-business", a kind of community boosterism. But buying close to home may be more than a feel-good, it's-worth-paying-more-for-local matter. A number of researchers and organizations are taking a closer look at how money flows, and what they're finding shows the profound economic impact of keeping money in town—and how the fate of many communities around the nation and the world increasingly depend on it.

At the most basic level, when you buy local more money stays in the community. The New Economics Foundation, an independent economic think tank based in London, compared what happens when people buy produce at a supermarket vs. a local farmer's market or community supported agriculture (CSA) program and found that twice the money stayed in the community when folks bought locally. "That means those purchases are twice as efficient in terms of keeping the local economy alive," says author and NEF researcher David Boyle. ([See the top 10 food trends of 2008.](#))

Schwartz (2009)



Sassatelli, R. (2007).

Mazzucato, M. (2018)

MARIANA  
MAZZUCATO  
THE VALUE OF  
EVERYTHING  

---

MAKING & TAKING  
IN THE GLOBAL  
ECONOMY

"Forces us to confront long-held beliefs  
about how economies work and who benefits."  
—MARTIN WOLF, *Financial Times*

# 3. Right to Repair



Photo: Dastgheib-Beheshti, S. (2021)

A screenshot of the iFixit website. The top navigation bar includes the iFixit logo, 'Fix Your Stuff', 'Right to Repair', 'Store', and 'CAD'. A search bar and shopping cart icon are on the right. The main heading is 'Repair Guides' with 'Learn More' and 'Create a Guide' buttons. Below is a search bar 'What do you need to fix?' and a grid of categories: Mac, Tablet, Phone, Car and Truck, Android, and Camera. A central green box contains the text: 'To keep the right to repair in consumers' hands, we need to enact real reform. It's time to establish a consumers' bill of rights.' Below this are two columns: 'WE HAVE THE RIGHT' and 'WE MUST HAVE ACCESS'. At the bottom are 'Learn More' and 'Take Action' sections with bullet points.

**IFIXIT** Fix Your Stuff Right to Repair Store CAD

Search

## Repair Guides

Learn More Create a Guide

What do you need to fix?

Mac Tablet Phone Car and Truck Android Camera

To keep the right to repair in consumers' hands, we need to enact real reform. It's time to establish a consumers' bill of rights.

WE HAVE THE RIGHT	WE MUST HAVE ACCESS
<ul style="list-style-type: none"><li>&gt; to open everything we own</li><li>&gt; to modify and repair our things</li><li>&gt; to unlock and jailbreak the software in our electronics</li></ul>	<ul style="list-style-type: none"><li>&gt; to repair information</li><li>&gt; to products that can be repaired</li><li>&gt; to reasonably-priced, independent repair shops</li></ul>

ides for every thing

**Learn More**

- > Repair.org is working to protect local repair.
- > We won major repair exemptions to the Digital Millenium Copyright Act in 2018.
- > Twenty states introduced Right to Repair laws in 2019, but none have passed yet.

**Take Action**

- > Support repair-friendly manufacturers, and avoid the ones that aren't.
- > Make your voice heard: Tell your congressman to legalize repairing our hardware.
- > Join our newsletter and we'll keep you up to date as the right to repair movement progresses.

Photo courtesy ifixit.com

## 4. Focus on quality of life

Is a Fear of Death at the Heart of Capitalism?

written by James K. Rowe



Illustration by Alicia Brown

Rowe, (2016)

# 5. Advocate for Change



INDUSTRIAL DESIGNERS SOCIETY OF AMERICA





# References

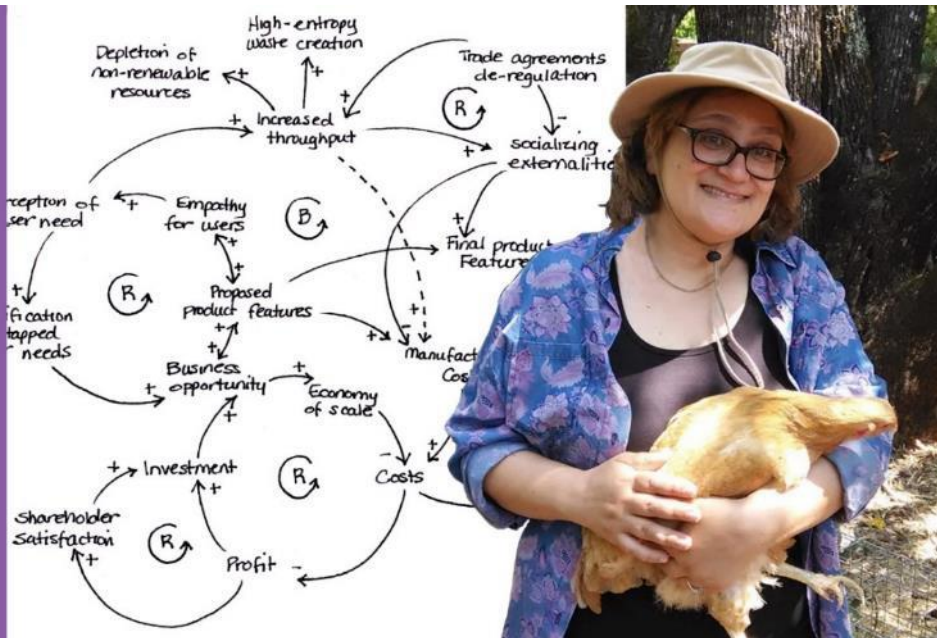
- Aljazeera (2020) Forty Percent of Nigerians Live Below the Poverty Line. Retrieved from: <https://www.aljazeera.com/economy/2020/5/4>
- Andester, N., (2019). GDP Alternatives: 7 ways to measure a country's wealth. Retrieved from [ethical.net/politics](http://ethical.net/politics)
- Berry, W., (1972). *The unforeseen wilderness: an essay on Kentucky's Red River Gorge*.
- Binswanger, M. (2006). Why does income growth fail to make us happier? : Searching for the treadmills.
- Boehnert, J. (2014). Design vs. the design industry. *Design Philosophy Papers*, 12(2), 119-136.
- Clark, J. (2009) "Is Gross National Happiness more important than the GDP?", HowStuffWorks.com. <<https://money.howstuffworks.com/gross-national-happiness.htm>
- Costanza, R. (2010). What is Ecological Economics. Retrieved from: <https://insights.som.yale.edu/insights>
- Dastgheib-Beheshti, S. (2017). Product Design Through a Lens of Ecological Economics. Retrieved: [www.sayeh.ca/research](http://www.sayeh.ca/research)
- Ehrenfeld, J. (2008). *Sustainability by design: A subversive strategy for transforming our consumer culture*. Yale University Press
- Footprint Network (2019) Retrieved from: <http://www.footprintnetwork.org>
- Gibson-Graham, J. K., Cameron, J., & Healy, S. (2013). *Take back the economy: An ethical guide for transforming our communities*. U of Minnesota Press.
- Helliwell, J., Layard, R., & Sachs, J. (2012). World happiness report.
- International Resource Panel Report, 2016. Retrieved from <https://www.resourcepanel.org/reports>
- Kelly, K. (2020, 08,25). What Capitalism is and how it affects people?, *Teen Vogue*, Retrieved: <https://www.teenvogue.com/story/what-capitalism-is>
- McAloone, T. C., & Bey, N. (2009). Environmental improvement through product development: A guide. Copenhagen: Danish Environmental Protection Agency
- Mazzucato, M. (2018) *The Value of Everything* . Public Affairs. Kindle Edition. 43-87-1.

# References - continued

- New Economics Foundation, (2010) The Impossible Hamster. Retrieved from: <https://vimeo.com/8947526>
- Peters, G. P., Marland, G., Le Quéré, C., Boden, T., Canadell, J. G., & Raupach, M. R. (2012). Rapid growth in CO<sub>2</sub> emissions after the 2008–2009 global financial crisis. *Nature climate change*, 2(1), 2-4.
- Roser, M. (2002) based on World Bank and Bourguignon and Morrisson (2002). - <https://ourworldindata.org/extreme-poverty>, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=65979023>
- Sarao, J. (2020, 05 22). Reducing Carbon Emissions Will Benefit the Global Economy. Retrieved from: <https://earth.org/carbon-emissions-economy/>
- Sassatelli, R. (2007). *Consumer culture: History, theory and politics*. Sage.
- Schwartz, J. (2009). Buying Local: How it boosts the economy. *Time Magazine*. Retrieved from: <http://content.time.com/time/business/article/0,8599,1903632,00.html>
- Sobel, L. & Groeger, L. (2012). Design Thinking: Exploring Opportunities for the Design Industry and Business in Australia, SSRN Electronic Journal, 10.2139/ssrn.2194672,
- Soman, D., Stein, J. G., & Wong, J. (2014). *Innovating for the global south: towards an inclusive innovation agenda*. University of Toronto Press.
- Stegall, N. (2006). Designing for Sustainability: A Philosophy for Ecologically Intentional Design. *Design Issues*, 22(2), 56-63. doi:10.1162/desi.2006.22.2.56
- Taherzadeh, O. (2021). Promise of a green economic recovery post-Covid: trojan horse or turning point?. *Global Sustainability*, 4.
- Thorpe, A. (2012). *Architecture and design versus consumerism: how design activism confronts growth*. Routledge.
- Victor, P., (2009). *Managing without Growth: Slower by Design, Not Disaster*.
- Victor, P., (2015). The Kenneth E. Boulding Memorial Award 2014: Ecological economics: A personal journey. *Ecological Economics*, 109, 93-100.
- Vince, G. (2020, 05,17). After the Covid-19 crisis, will we get a greener world?, *The Guardian*, Retrieved: <https://www.theguardian.com/environment>
- Weetmans, C., (2019). Retrieved from: <https://commons.wikimedia.org/w/index.php?curid=67945876>
- WWF et al., (2014). Living Planet Report 2014. WWF, Gland, Switzerland, ISBN 978-2-940443-87-1.

# Designing a post-pandemic, sustainable future

Sayeh Dastgheib-Beheshti, IDSA - 28/01/2021



## Thank-you!

[www.sayeh.ca/research](http://www.sayeh.ca/research)

Email: [beheshti@sayeh.ca](mailto:beheshti@sayeh.ca)

[linkedin.com/in/sayeh-d-beheshti](https://www.linkedin.com/in/sayeh-d-beheshti)