

# Discovering your Future in the Meta Dimensions of Sustainability



**Mark Coleman**, president  
*Convergence Mitigation Management*  
author of *"The Dignity Doctrine:  
Rational Relations in an Irrational World"*

# Discovering your Future in the Meta Dimensions of Sustainability

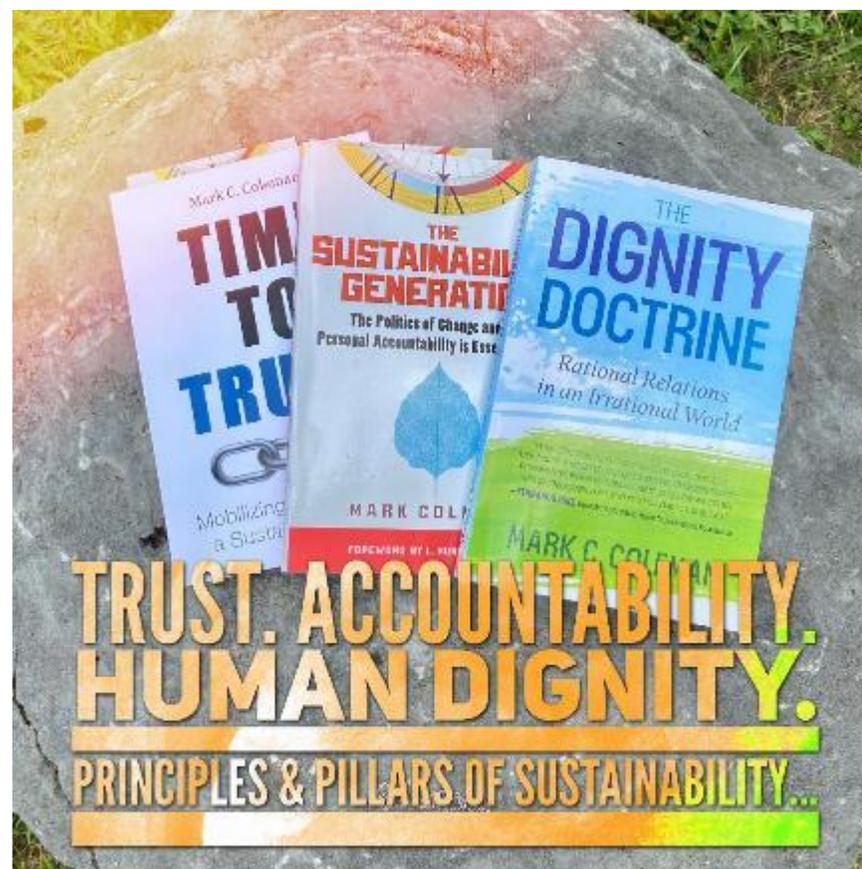
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- Setting the stage (grab your snacks)
- How do you see the world, your World?
- What's with this amazing thing we call sustainability?
- Exploring the 6D Meta Dimensions of Sustainability
- Let's take an Energy Sector Deeper Dive
- Your Present, Your Future, Your Why



# Background & Experience

- Husband, Father of 2 boys; Author 3 books:
  - The Dignity Doctrine (2020)
  - Time To Trust (2014)
  - The Sustainability Generation (2012)
- Director Advanced Energy, TRC Companies, Inc.
- Adjunct Instructor, Sustainable Enterprise & Managing Sustainability, Whitman School of Management, Syracuse University
- Member of the Board
  - Cayuga Community College Trustee
  - EcologyPrime
  - IoTRight/IntelAQ
- Consulting/Advisory
  - President, Convergence Mitigation Management (CMM)
  - Managing Director, AHC Group
  - Re:CREATe India Research Foundation
- Multi-sector Career: Have held leadership positions in Government, Manufacturing, Applied Research & Technology, Corporate, & Management Consulting organizations
- Former Member of the Board for the Sustainable Manufacturing Network (SMN); B9 Plastics; Genesee Regional Clean Communities
- Member of Technical Committee #13: Environmental, American Railway Engineering and Maintenance-of-Way Association (AREMA)



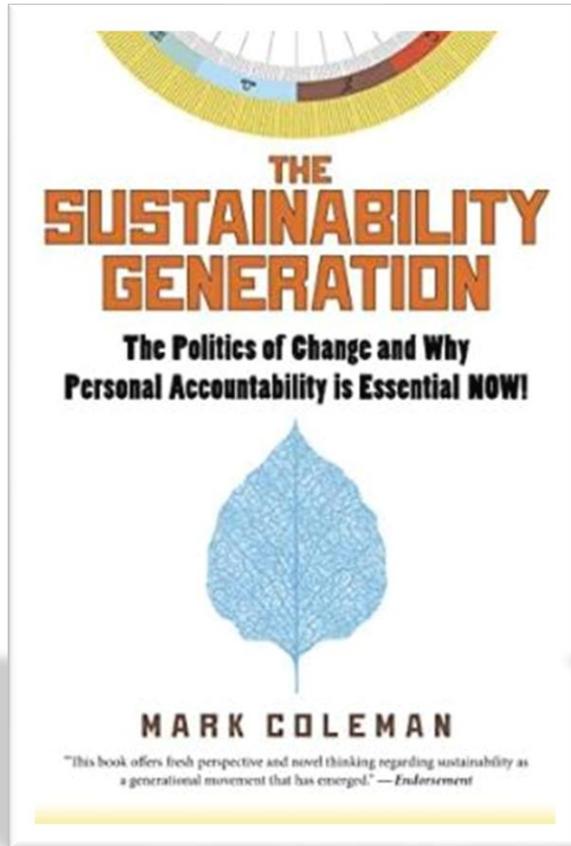
<https://www.markcolemaninsights.com/>



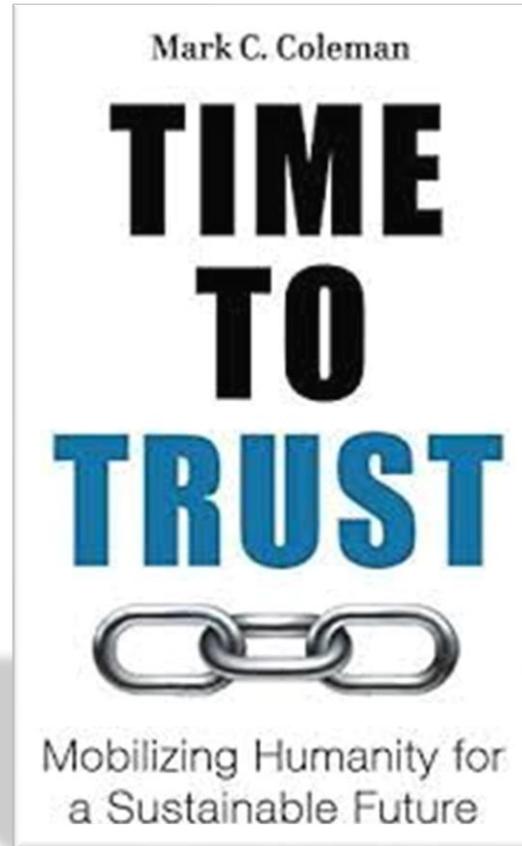
Re:CREATe  
Advancing the  
Remanufacturing Industry  
in India

EcologyPrime™

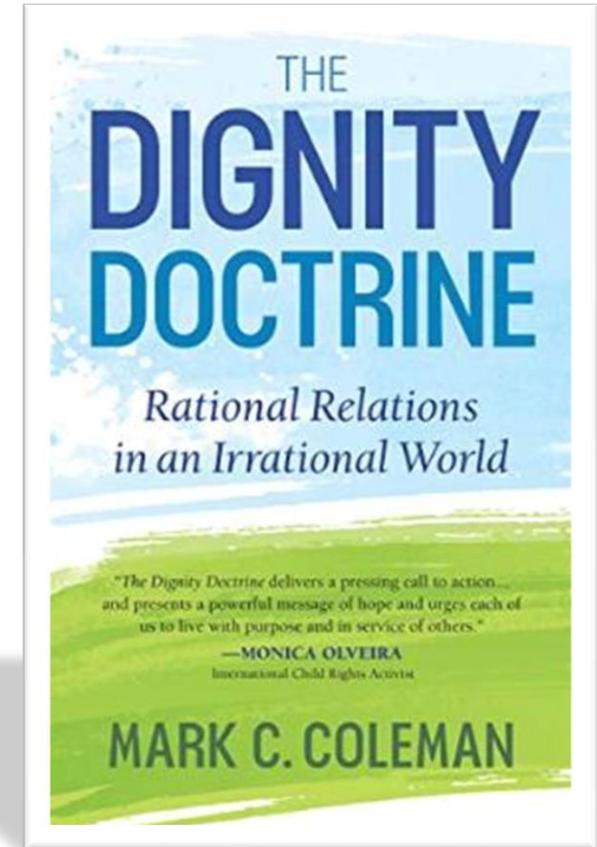
# Background



2012  
Accountability



2014  
Trust



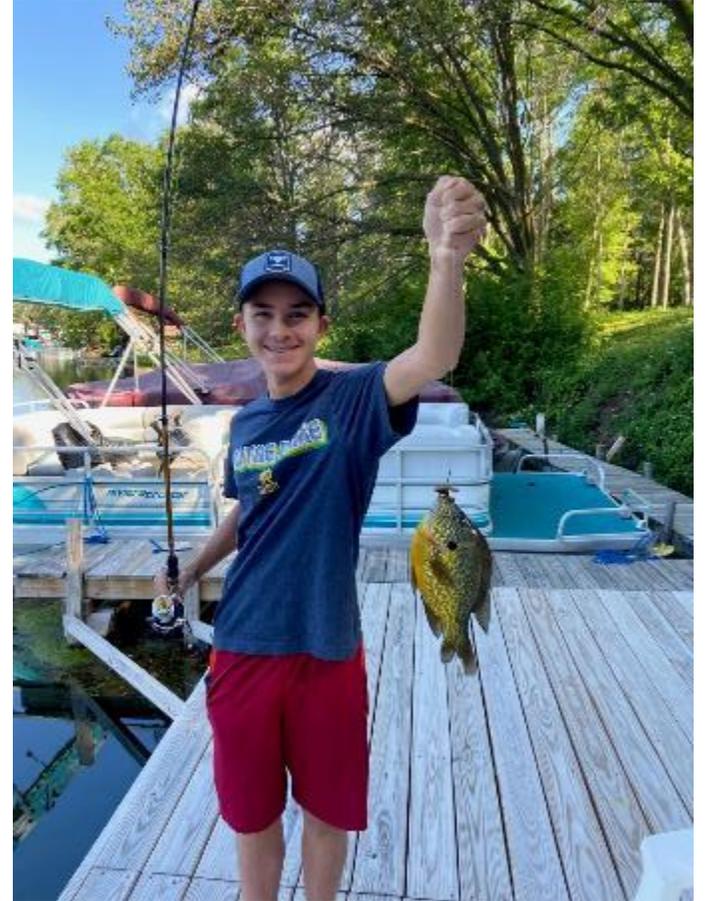
2020  
Dignity



**Why?**

**How?**

**What?**



# Tonight's Expectations

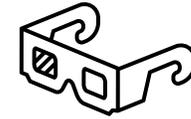
Humility  
Entertaining  
Collaborative  
Conversational

★★★ Now Showing ★★★

*Discovering Your Future in the Meta  
Dimensions of Sustainability*



Starring – You!



*Please silence your phones*

**You, your future, & Sustainability...**



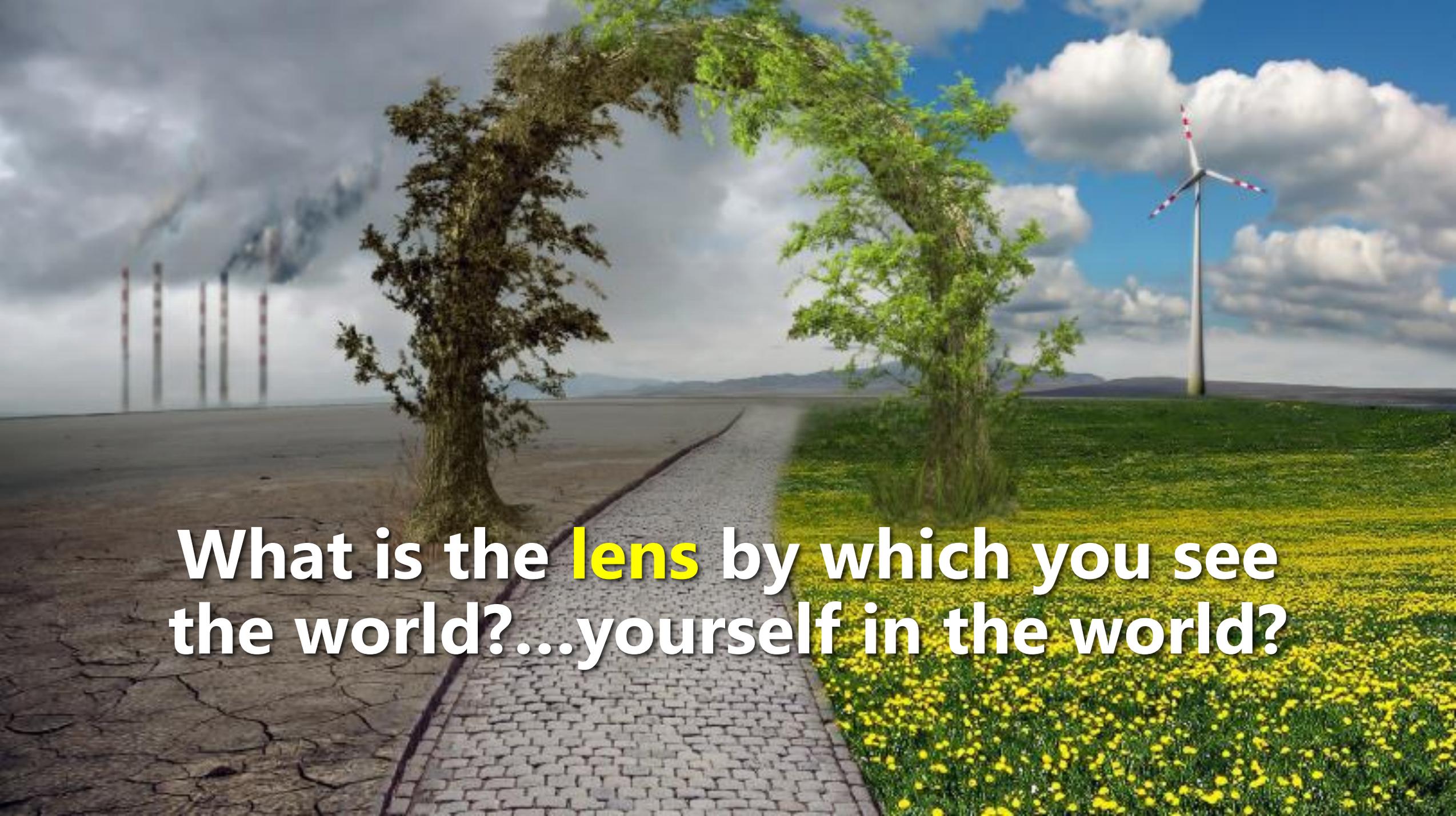
**What's in it for me?**











What is the **lens** by which you see the world?...yourself in the world?



**“In our every  
deliberation, we must  
consider the impact of  
our decisions on the  
next seven  
generations.”**

—Alliance of Six Nations: Mohawk,  
Oneida, Onondaga, Cayuga, Seneca,  
and Tuscarora

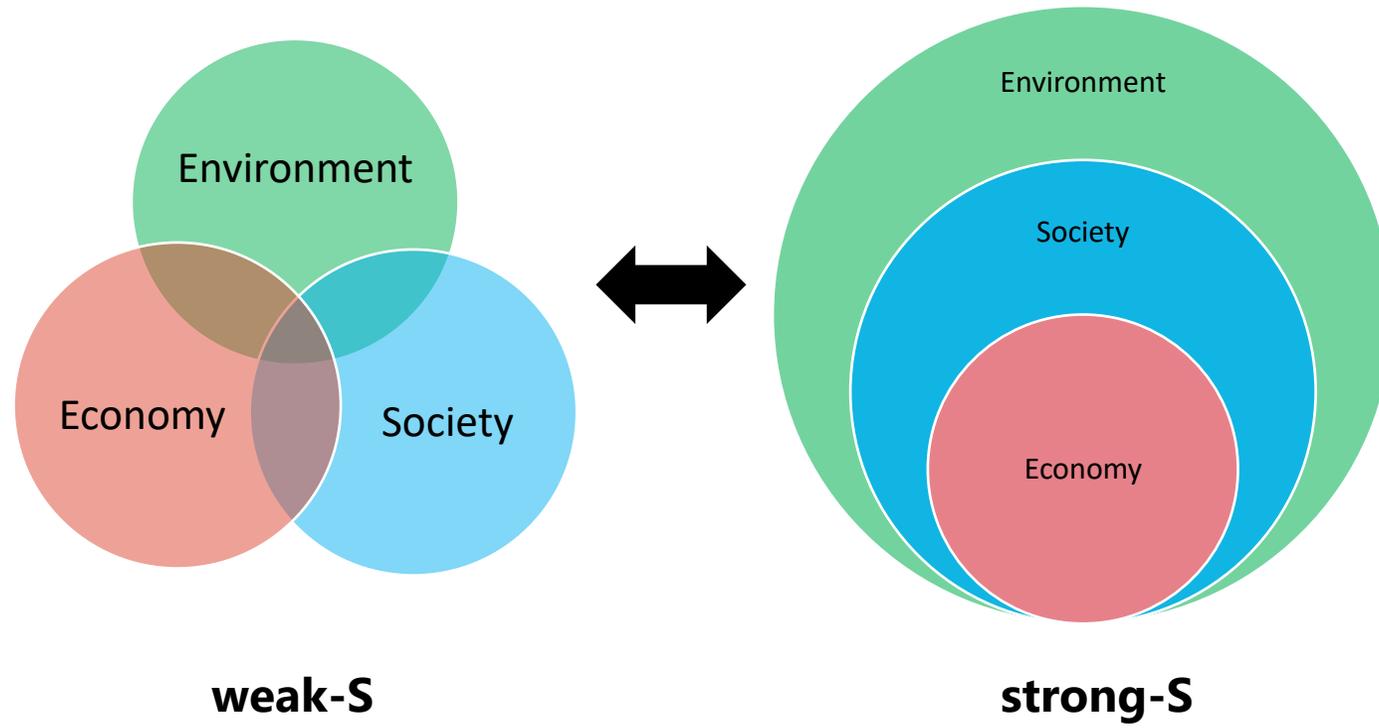




**“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”**

Brundtland Commission, 1987

# Strong vs. Weak "S"



# Remove yourself from the "S" word...

## SUSTAINABILITY

*EcoEconomic*   *Risk Management*   *Green*   *Entrepreneurial*   *Health & Safety*   *Ethics*  
*Circular Economy*   *Resilience*   *Interdisciplinary*   *Trust*  
*Social Responsibility*   *Behavioral*   *Innovation*   *Ecosystem Services*   *Change*  
*Security*   *Restorative*   *Responsible*  
*Transparent*   *Sharing Economy*   *Accountability*  
*Environmental Stewardship*   *Regenerative*  
*Dynamic*   *Restorative*  
*Downcycling*   *Upcycling*   *Social*  
*The Blue Economy*   *Economic*   *Product Stewardship*   *Organizational*  
*Change*   *Environmental*   *Makers Movement*  
*Cradle-to-Cradle*

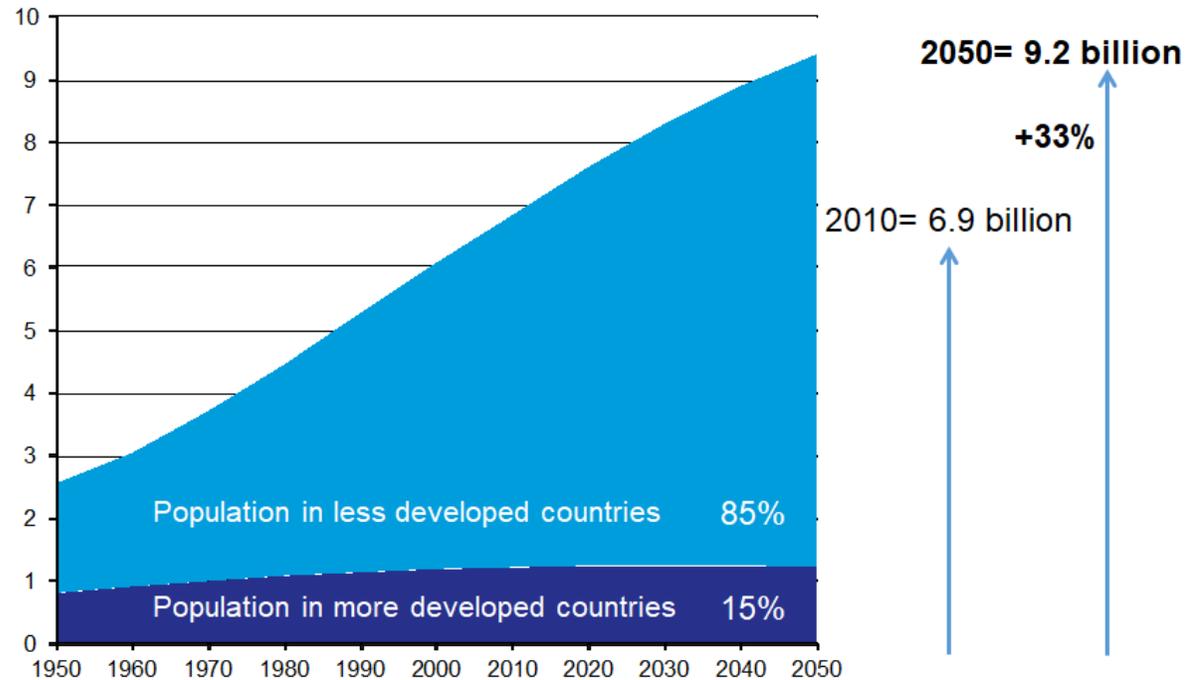
An aerial night view of a city skyline, likely Dubai, featuring numerous skyscrapers illuminated with various colors like blue, purple, and yellow. The city lights are reflected in the dark sky, and the overall scene is vibrant and modern. The text is overlaid on the right side of the image, partially enclosed by a white circular graphic element.

# **A Societal Shift Right Before Our Eyes**

# Global Drivers

## Population Growth 33%+ in next 40 years....

World population (in Billions): 1950-2050

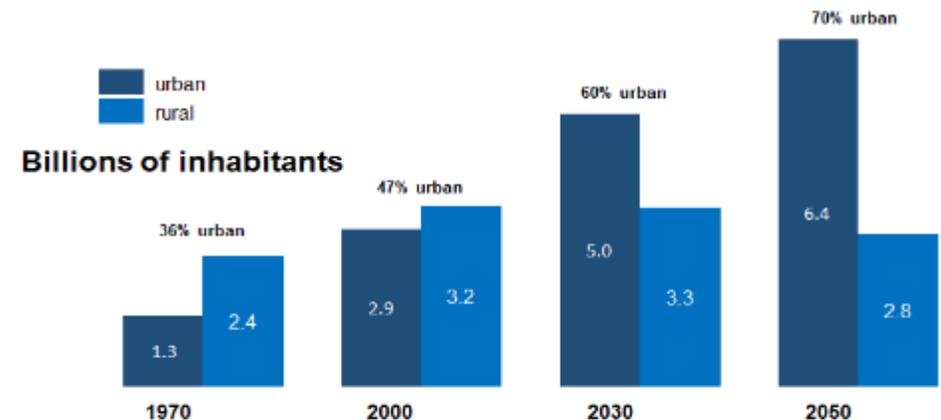


Source: United Nations Population Division, World Population Prospects: The 2006 Revision.

50% urban in 2010: 3 billion



70% urban in 2050: 6 billion  
2010: 3 billion



Source: United Nations, World Urbanization Prospects: The 2007 Revision

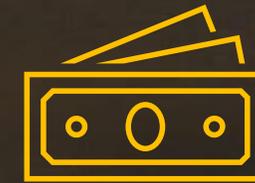
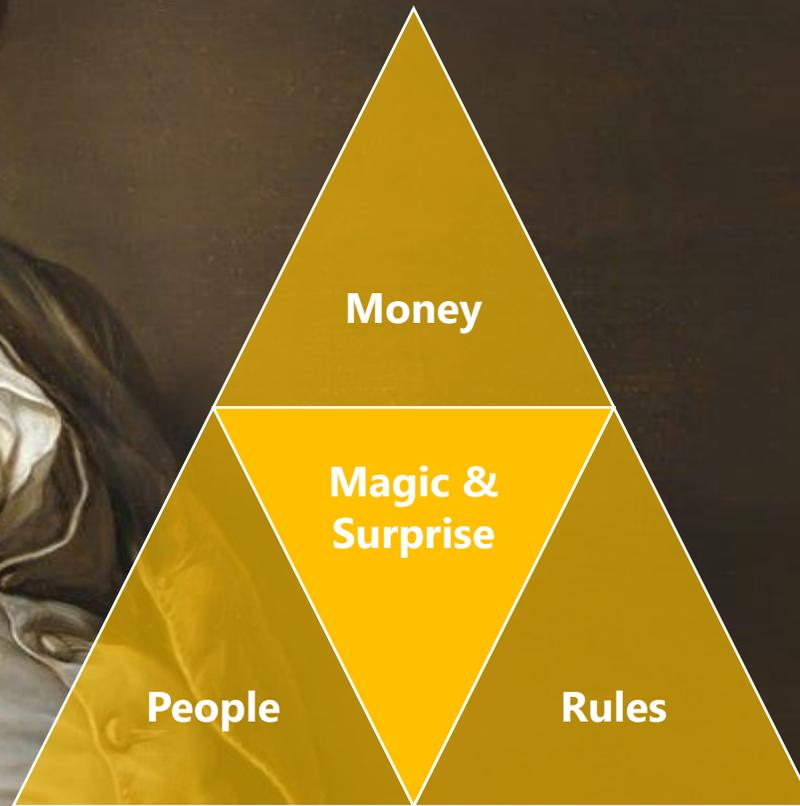
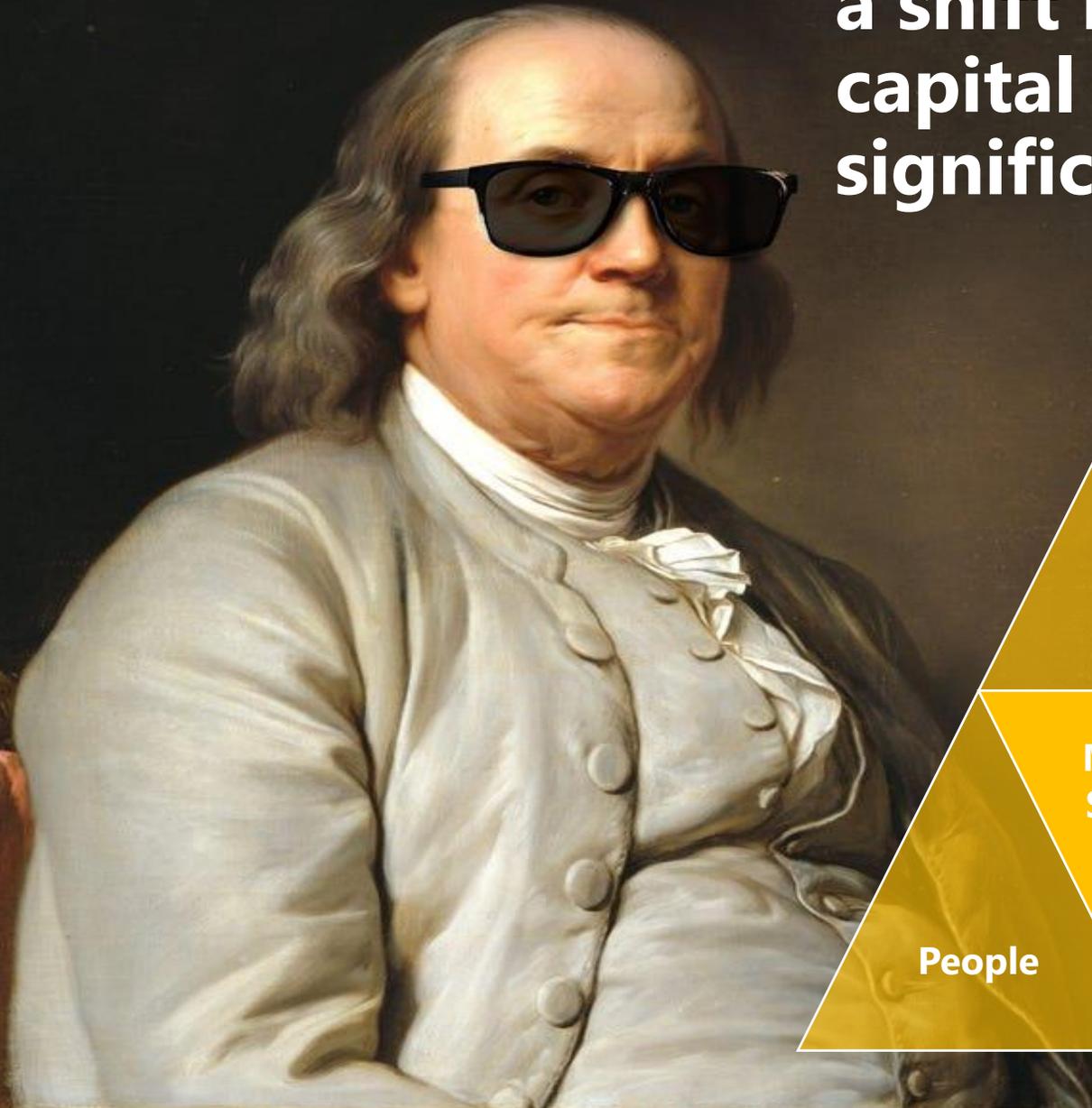
Global Drivers  
Global Context regarding  
our Economy,  
Geopolitics, &  
Innovation...



- ➔ Of the largest 15 companies in the world, more than half are oil & gas. Others in the top 15 are large users of petrochemicals.
- ➔ Some of the largest economies of the world are global corporations, not nation-states.

Ranking	Name	Industry	Revenue (USD billions)	Employees
1	<a href="#">Sinopec Group</a>	Oil and gas	\$486	401,000
2	<a href="#">Wal-Mart Stores, Inc</a>	Retail	\$476	2,200,000
3	<a href="#">China National Petroleum Corporation</a>	Oil and gas	\$455	1,668,072
4	<a href="#">Royal Dutch Shell</a>	Oil and gas	\$451	90,000
5	<a href="#">ExxonMobil</a>	Oil and gas	\$438	76,900
6	<a href="#">BP</a>	Oil and gas	\$379	83,900
7	<a href="#">Saudi Aramco</a>	Oil and gas	\$365	54,041
8	<a href="#">State Grid Corporation of China</a>	Electric utility	\$338	1,564,000
9	<a href="#">Vitol</a>	Commodities	\$307	5,441
10	<a href="#">Volkswagen Group</a>	Automotive	\$263	572,800
11	<a href="#">Total</a>	Oil and gas	\$253	98,799
12	<a href="#">Toyota</a>	Automotive	\$249	326,000
13	<a href="#">Glencore Xstrata</a>	Commodities	\$239	58,000
14	<a href="#">Chevron</a>	Oil and gas	\$220	61,000
15	<a href="#">Samsung Electronics</a>	Electronics	\$216	222,000

In the past 25 years that has been a shift in power, economics, and capital markets reflecting this significant change.



**MONEY**



**PEOPLE**



**RULES**



# Quality of Life vs. Standard of Living

What are some of the assumptions society makes regarding consumption and happiness? How do these assumptions align with the primary influences on quality of life and well-being?

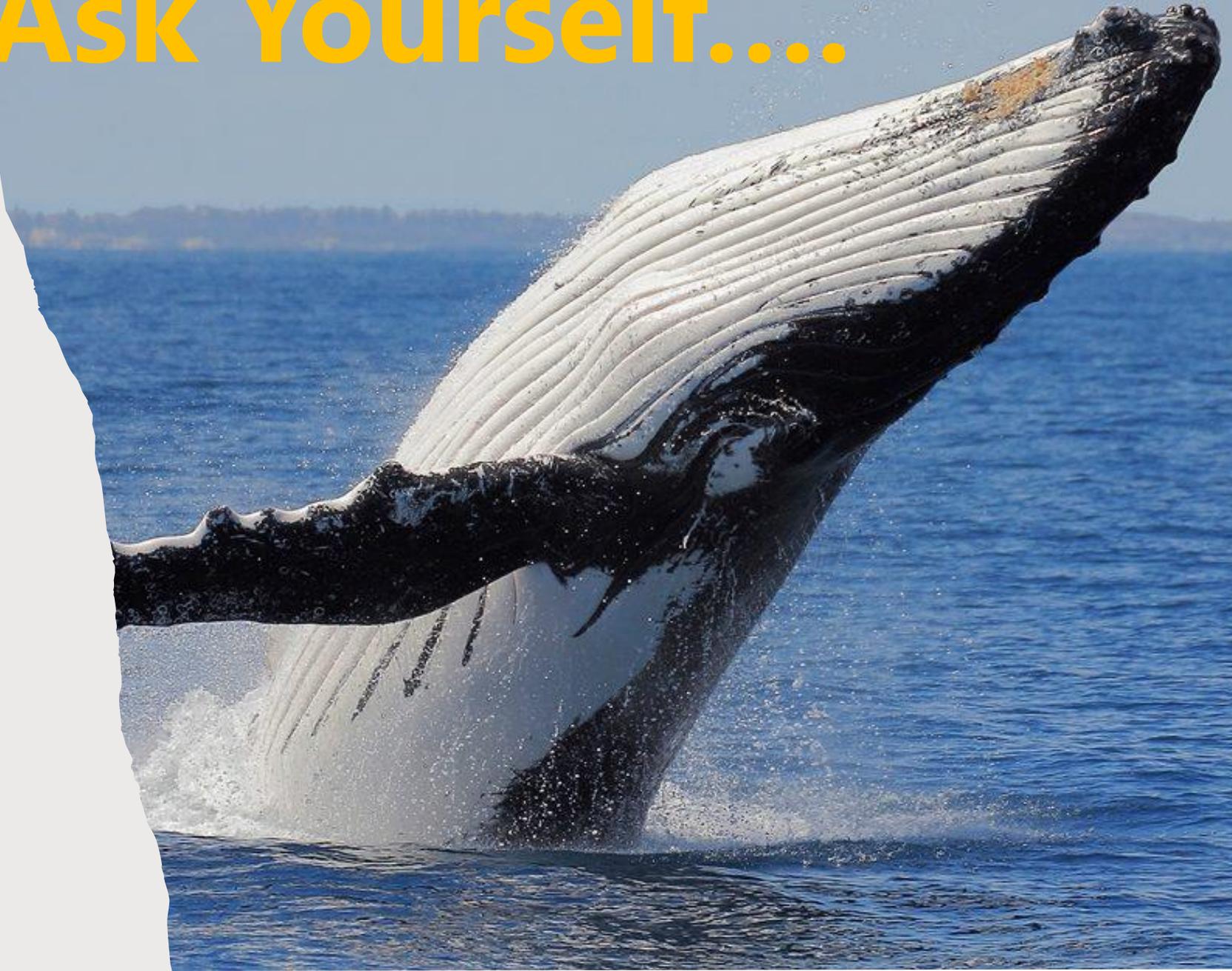


**What "needs" does your lifestyle require?**

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# Ask Yourself....

**What is “my personal, individual responsibility” as a Student, as an Employee, as an Entrepreneur, as a Consumer, as an Investor, as a Glocal (Global and Local) Citizen?**



# Perspective...

## We are an ecosystem...

Human and ecologic diversity are strongly valued – as they make humanity (and the earth) strong.

Have human endeavors become too destructive within this ecosystem?

**1%**  
*Economic Growth*

**vs.**

**99%**  
*Human (Social) & Ecologic (Environmental) Protection, Restoration, & Rights*

### The Question is:

- how efficient?
- how wasteful?
- how sustainable?
- how resilient?
- how restorative?

The notion that the economy is #1 is misleading, if not a false narrative and reality. Are we living life within a flawed logic?

Few want to contest this fallacy.

# Perspective...

The perception of a life well spent has been shaped, far too long, by economic principles that focus primarily on human needs for survival and placate into our fears and desires.

The most sophisticated sustainability & economic models are renditions of efficiency. They allow the dream of unfettered and logarithmic economic growth to perpetuate.

The economy, however, is "man" (human) made; "man" is nature and universe made.



# Where do you put your personal accounts on Time, Energy, Accountability?



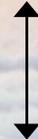
# Where do you put your personal accounts on Time, Energy, Accountability?

This is where Creativity, Innovation, Happiness, & Self Discovery Thrive



• Rights/Independence **10%**  
**Living**

- Beliefs
- Time



**Spiritual/  
Consciousness**

• Freedom to Explore **10%**  
**Learning**

- Sense of Purpose
- Love/Nurturing
- Compassion
- Mindfulness
- Health



**Emotional/  
Psychological**

This is a deficit driven lifestyle!



• Unconscious Living  
• Work to Live  
• Fight or Flight  
**Surviving**

**80%**

- Food
- Water
- Shelter
- Clothing



**Physical/  
Material**

# Where do you put your personal accounts on Time, Energy, Accountability?

So how do we realign our thinking, behaviors, actions, etc. to achieve a different outcome?



Happiness

**80%**

Spiritual/  
Consciousness

Emotional/  
Psychological

Means to an End

20%

- Food
- Water
- Shelter
- Clothing

Physical/  
Material

A Value and Values Driven Lifestyle...

An aerial photograph showing a wide, winding river or canal system cutting through a vast, dense mangrove forest. The water is a deep blue-grey color, contrasting with the vibrant green of the mangrove vegetation. The landscape is flat, and the river meanders across the frame, creating several large, irregular islands of forest. The sky is a pale, clear blue, suggesting a bright day.

# From Triple Bottom Line (TBL) to Innovation & Value Creation

# Purpose vs. Profits ? !

In 2019, BRT redefined its definition of the purpose of a corporation, putting the interests of employees, customers, suppliers and communities on par with shareholders. BRT members include [Jeffrey Bezos](#) of [Amazon](#), [Tim Cook](#) of [Apple](#), and [Mary Barra](#) of [General Motors](#)

The **Business Roundtable (BRT)** is a non-profit association based in Washington, D.C. whose members are chief executive officers of major U.S. companies.

Unlike the U.S. Chamber of Commerce, whose members are entire businesses, BRT members are exclusively CEOs.

BRT promotes public policy favorable to business interests such as NAFTA, while also promoting broader public policy initiatives such as No Child Left Behind and opposing others such as the Trump administration's family separation policy.



A photograph of Larry Fink, CEO of Blackrock, speaking at a conference. He is wearing a dark suit, a white shirt, and a patterned tie. He is gesturing with his hands as he speaks. The background is a blue wall with white text, including "M&A", "INTERNATIONAL", "MAR. Nasdaq", and "PACCA".

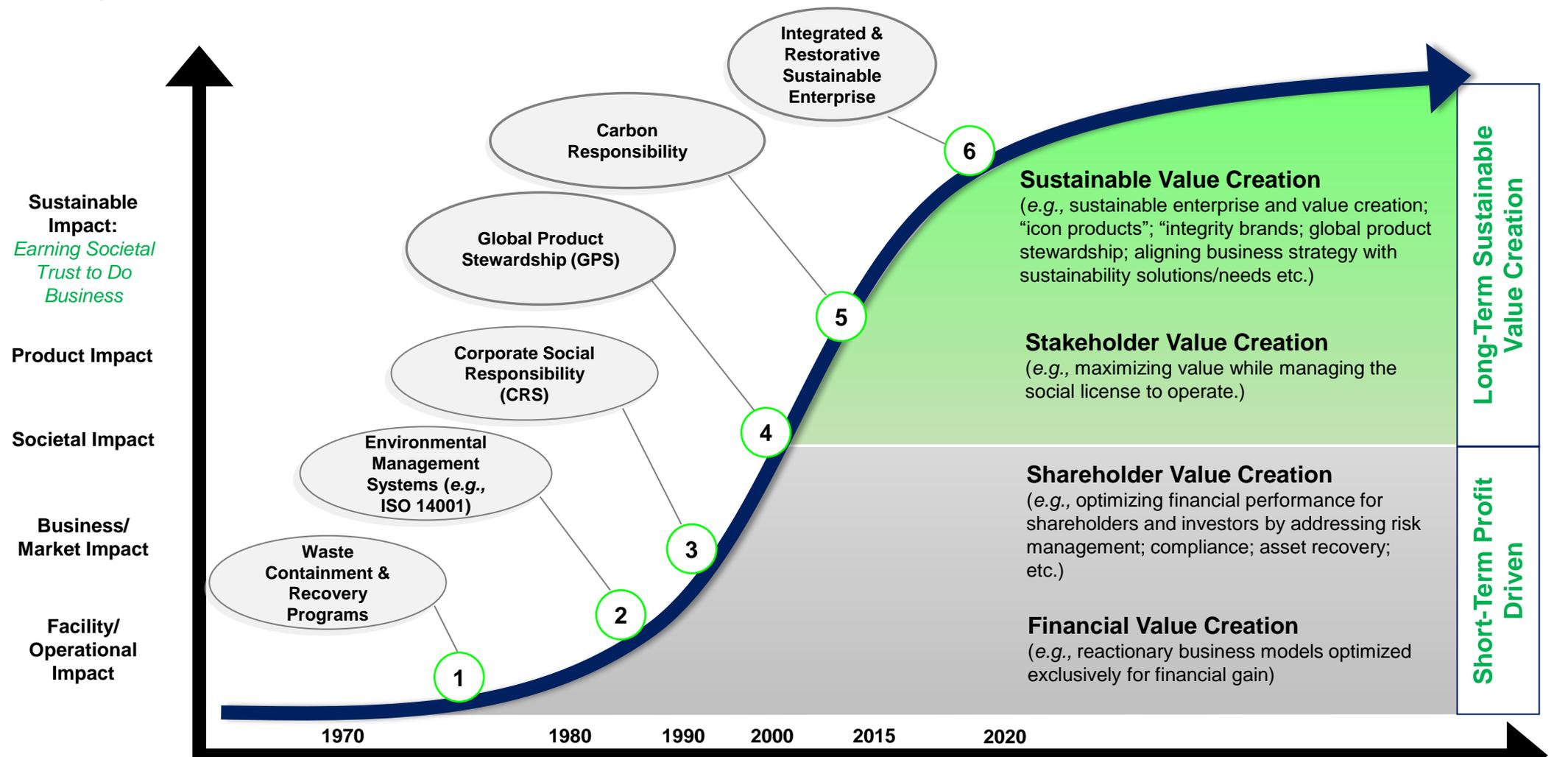
**“Purpose is not the sole pursuit of profits but the animating force for achieving them”**

*2019 annual letter to shareholders,  
Larry Fink, CEO, Blackrock*

*“As divisions continue to deepen, companies must demonstrate their commitment to the countries, regions, and communities where they operate, particularly on issues central to the world’s future prosperity.”*

# The Sustainable Enterprise Evolution:

Global Perspective on How the Social Contract of Business Continues to Evolve



## Where we have been...

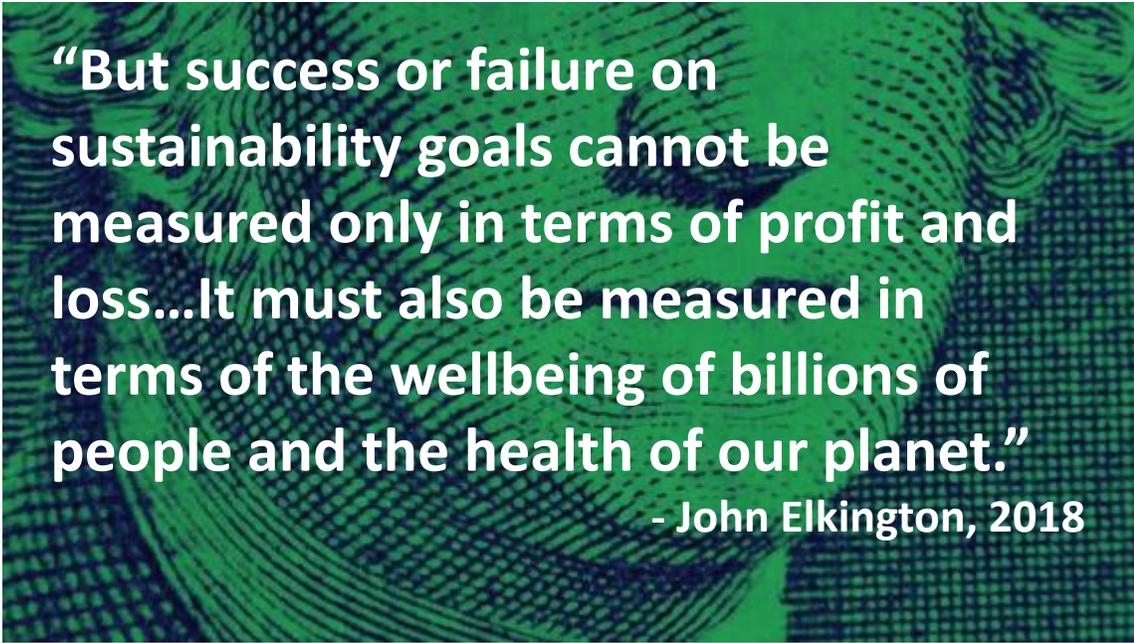
- |   |   |                               |  |
|---|---|-------------------------------|--|
| Early Regulatory Drivers (1970-80s, RCRA, CAA, CWA) | Technology Development & Management Systems | Corporate Governance & Change | Marketplace (Consumer & Societal) Trends & Changes |
|---|---|-------------------------------|--|

## Converging Drivers

- Regulatory environment
- Terrorism
- Energy diversity & security
- Natural resource constraints
- Consumer expectations
- Technological Change & innovation
- Emerging capital markets (i.e., China, Brazil, Indonesia)
- Societal expectations
- Climate change
- Environmental & natural resource protection
- Investor requirements

# Rethinking the Triple Bottom Line (TBL) Framework

- After 25 years of promoting TBL as a Sustainability Management Framework (evaluates a company's social, environmental, and economic impact), Elkington, the 'Godfather' of TBL is recalling it...
- B-Corps, "best in the world," but "best for the world." [Elkington, HBR]
- "New Wave of TBL Innovation & Deployment needed to shift the needle"
- **"None of the existing "sustainability frameworks" will be enough, as long as they lack suitable PACE and SCALE – the necessary radical intent – needed to stop us all overshooting our planetary boundaries."**
- "Triple Helix for Value Creation"
  - A genetic code for tomorrow's capitalism, spurring the regeneration of our economies, societies, and biosphere.



**"But success or failure on sustainability goals cannot be measured only in terms of profit and loss...It must also be measured in terms of the wellbeing of billions of people and the health of our planet."**  
- John Elkington, 2018

HBR, John Elkington, 6/25/18

<https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it>

<http://johnelkington.com/>

<http://sustainability.com/who-we-are/our-people/john-elkington/>

<https://www.bloomberg.com/research/stocks/private/person.asp?personId=30517945&privcapId=262233944>



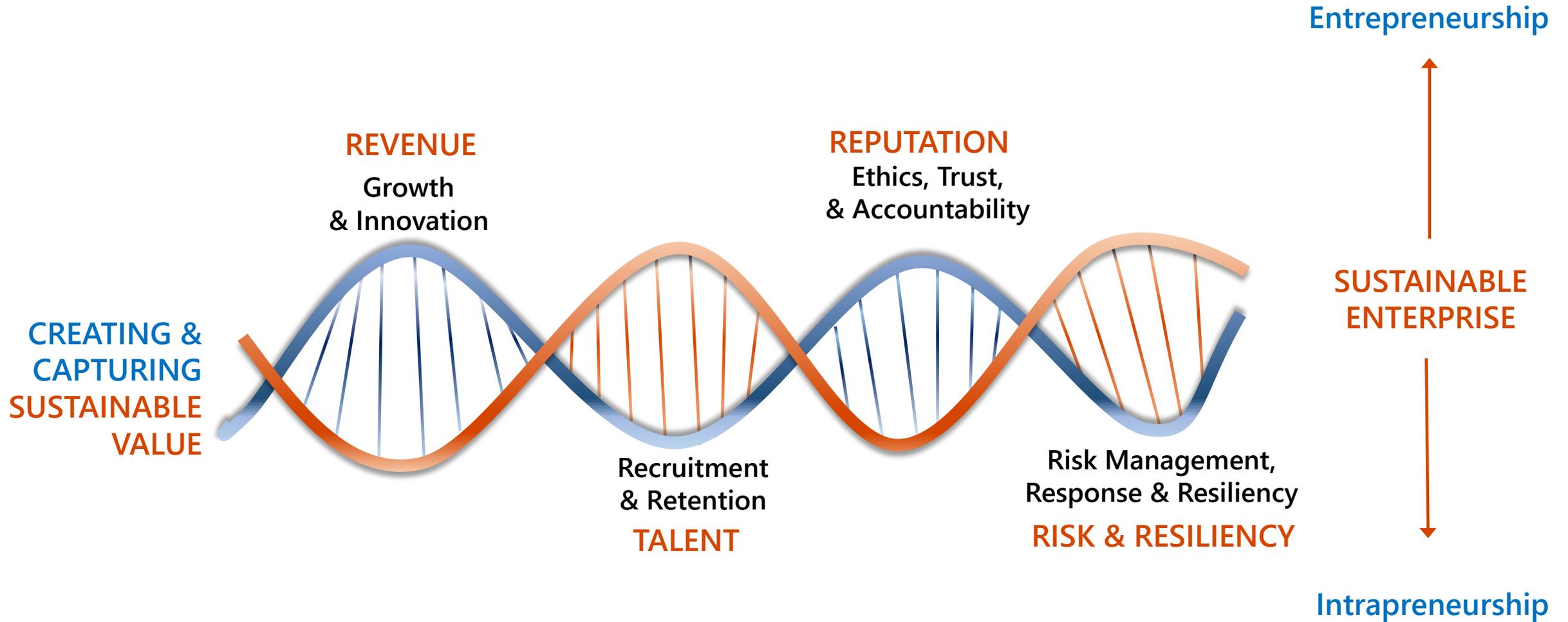
*Sustainable Enterprise* like **entrepreneurship**, is a complex dynamic ecosystem of relationships that need to be cultivated, navigated, managed, and supported.

To be successful, *Sustainable Enterprise* requires the highest degree of critical thinking, business strategy, entrepreneurial spirit, resourcefulness, agility, and personal vigor.



# The Building Blocks of Sustainable Enterprise

Is it in the DNA?



**Is this a Sustainable Enterprise???**

A large, solid orange arrow pointing to the right, centered horizontally on the page. The arrow has a thick shaft and a triangular head. Inside the shaft of the arrow, the text "Is this a Sustainable Enterprise???" is written in a bold, white, sans-serif font. The word "this" is underlined.

# DUPONT™



- **>218 years old**
- **Reinvented itself > 10 times**
- **Gunpowder, automotive, materials science, space, chemicals, oil and gas, life sciences, agriculture**



Is this a Sustainable Enterprise???



TESLA



Is this a Sustainable Enterprise???



## Profitable and Sustainable Enterprise?

...The \$1 trillion market capitalization company as of 8/2/18



Is this a Sustainable Enterprise???





Is this a Sustainable Enterprise???





Is this a Sustainable Enterprise???



**amazon**



Is this a Sustainable Enterprise???





Is this a Sustainable Enterprise???



**ExxonMobil**



Is this a Sustainable Enterprise???

# H&M

SALE SALE

SALE

SALE SALE SA

YRS  
TY WEAR



# Exploring the 6D Meta Dimensions of Sustainability



# Current Affairs

Climate, ESG, Talent

## Climate

**Pakistan's deadly floods have created a massive 100km-wide inland lake, satellite images show**  
By Brandon Miller, Judson Jones, Sophia Saifi and Kathleen Magrino, CNN  
Updated 8:10 AM ET, Wed August 31, 2022

More from CNN

- Take Home Remedies: How to protect your health
- A Kentucky man's children and 2 of his brothers from the
- Support the Wh... You

An image of Sindh province, taken on August 28 from NASA's MODIS satellite sensor.

(CNN) — Striking new satellite images that reveal the extent of Pakistan's record flooding show how an overflowing Indus River has turned part of Sindh Province into a 100-kilometer-wide

## ESG

**Coca-Cola Helps S&P 500 Boards That Are Half Women Reach Record**  
Aug. 31, 2022, 6:10 AM

A Coca-Cola sign in downtown Atlanta on Friday, Dec. 3, 2021. Photographer: Eijeh Nouragel/Bloomberg

- Women now hold 50% or more of the seats on 21 boards in index
- Boards with 30% women or better also hit a new high in July

Jeff Green  
@BloombergNews

## Where's the next generation of sustainability talent? Consulting

Consultancies, large and small, are a superb training ground for your next hire — or maybe your future boss.

By [Dylan Siegler](#)

August 29, 2022



## Talent

- <https://www.greenbiz.com/article/wheres-next-generation-sustainability-talent-consulting>
- <https://www.cnn.com/2022/08/31/asia/pakistan-floods-forms-inland-lake-satellite-intl-hnk/index.html>
- <https://news.bloomberglaw.com/esg/coca-cola-helps-s-p-500-boards-that-are-half-women-reach-record>

... “There is a real awareness of the social justice dimensions and the sort of systems change thinking around climate change. The new generation doesn’t think of this as just something that we need to go into science to fix or technology to fix or engineering to fix or even politics or law. There’s a sense of this being a systemic thing that we need all hands on-deck to address. We need all the talents, we need all the skills we from the artists, to the creative types, to the imagination people, to the children’s book writers, to the teachers to the parents — in addition to all of the usual suspects that used to be in sort of thinking about the major leverage points of affecting climate change.”

CLIMATE

# Climate change is radicalizing young people — here’s what that means and how to combat despair

PUBLISHED MON, AUG 30 2021 7:43 AM EDT | UPDATED 3 HOURS AGO



Catherine Clifford  
@IN/CATCLIFFORD/  
@CATCLIFFORD

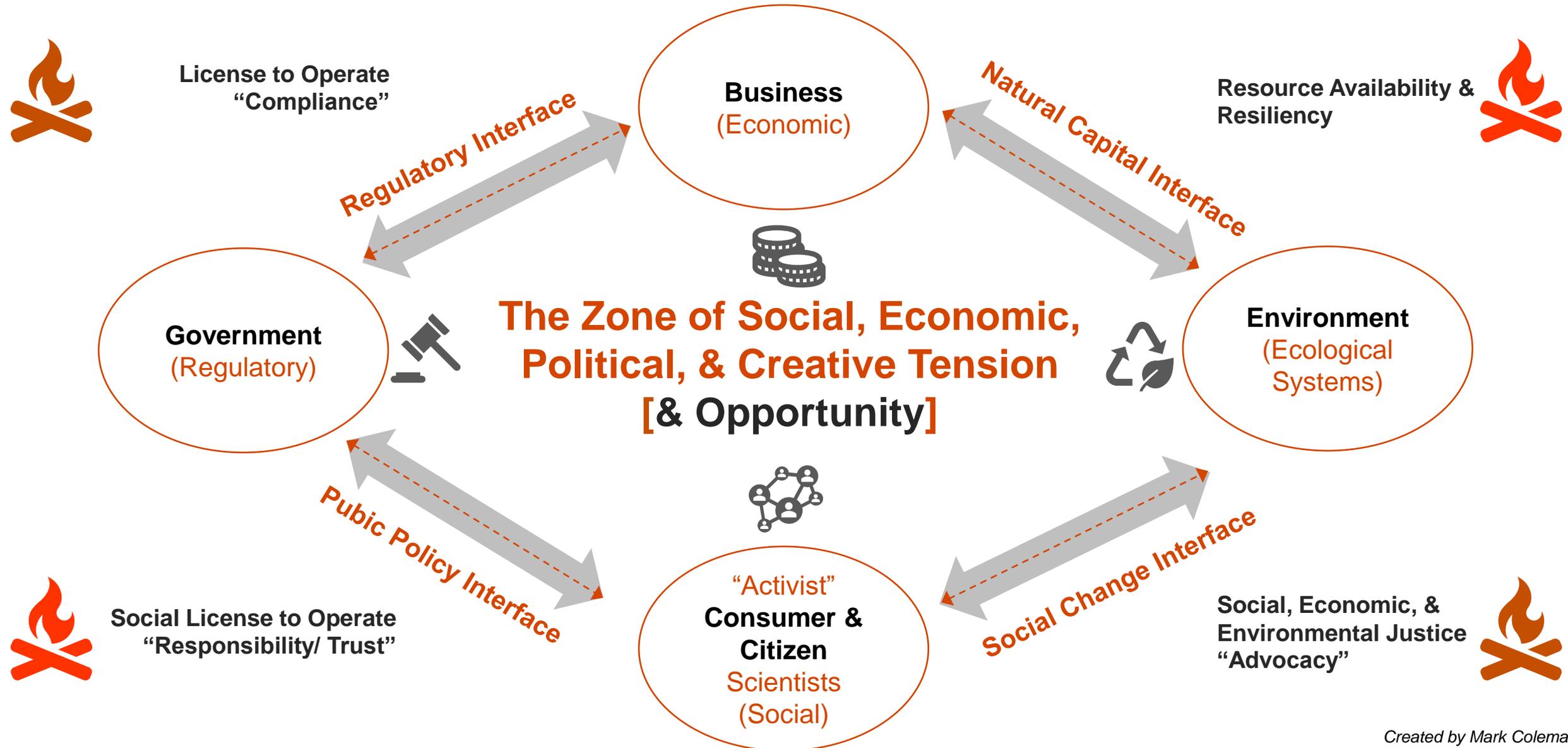
SHARE    

<https://www.cnbc.com/2021/08/30/how-to-stop-climate-change-despair-according-to-professor.html>



# The Playing Field is Evolving...Rapidly!

Example: The Business of Understanding the Current 'Climate' on Climate Change vs. Action...*from 'critical [material] review' to 'critical requirement' of business operations*



# Exploring the 6D Meta Dimensions of Sustainability

Diplomatic & Democratized

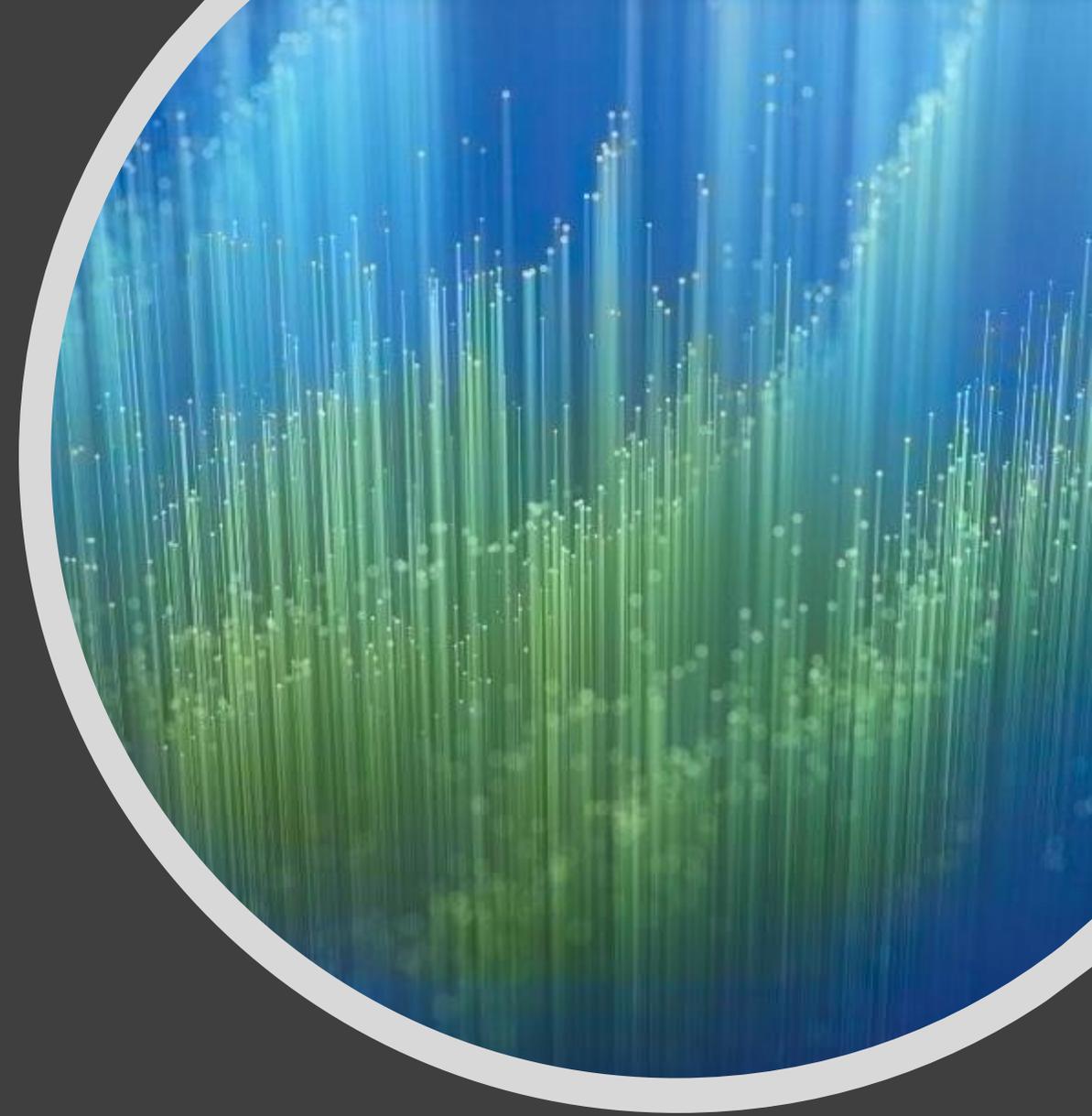
Decentralized

Decarbonized

Digitized

Dignified

De-risked





| Diplomatic & Democratized



**THE ONLY FASHION APP**  
*You'll ever need*

**RESELL**

**SWAP**

**DONATE**

**UPCYCLE**

**RETURN**

**LOOP**  
DIGITAL WARDROBE

A smartphone displaying the Loop Digital Wardrobe app interface. The screen shows a user profile for 'katejones' from London, UK, with 120 reviews. Below the profile are statistics: 354 Wards, 37 Items, 283 Followers, and 23 Following. There are five circular icons for 'Swap', 'Upcycle', 'Coupons', and 'Returns'. A section titled 'ded Here To Your Wardrobe' shows a grid of clothing items including a dress, a t-shirt, jeans, a black t-shirt, a tan bag, and a green sweater with a red 'M'.

Decentralized



Decarbonization



| Digitized



Dignified



28 Sep 2022 17:20Z NOAA/NESDIS/STAR GOES-Fast GEOCOLOR



De-risked



# Energy Use & Policy: The Future of Now





# NYS Climate Act

- In 2019, NY passed the nation-leading Climate Leadership and Community Protection Act (Climate Act) to empower every New Yorker to fight climate change at home, at work, and in their communities.
- New York's Climate Act is based on the latest climate science, and its targets are among the most rigorous of any major economy in the world.
  - “Every New Yorker will play a key role in protecting our communities and ensuring a sustainable future. Together, we will transform New York's economy, create new jobs, and stimulate industry and innovation, while building more resilient communities to benefit, and protect, all New Yorkers.”
- The [New York State Climate Action Council](#) (Council) is a 22-member committee that will prepare a Scoping Plan to achieve the State's bold clean energy and climate agenda. The Council will also oversee the establishment of sector-specific advisory panels and working groups and will work in consultation with the [Climate Justice Working Group](#) and the Environmental Justice Advisory Group.
- Advisory panels will hold sector-specific discussions that will provide recommendations to the Council for consideration as it develops a Scoping Plan to achieve New York's ambitious greenhouse gas reduction targets. The [Just Transition Working Group](#) will help ensure an equitable transition for New York's workforce in the State's renewable energy economy.

## New York's Nation-Leading Climate Targets

- 85% Reduction in GHG Emissions by 2050
- 100% Zero-emission Electricity by 2040
- 70% Renewable Energy by 2030
- 9,000 MW of Offshore Wind by 2035
- 3,000 MW of Energy Storage by 2030
- 6,000 MW of Solar by 2025
- 22 Million Tons of Carbon Reduction through Energy Efficiency and Electrification

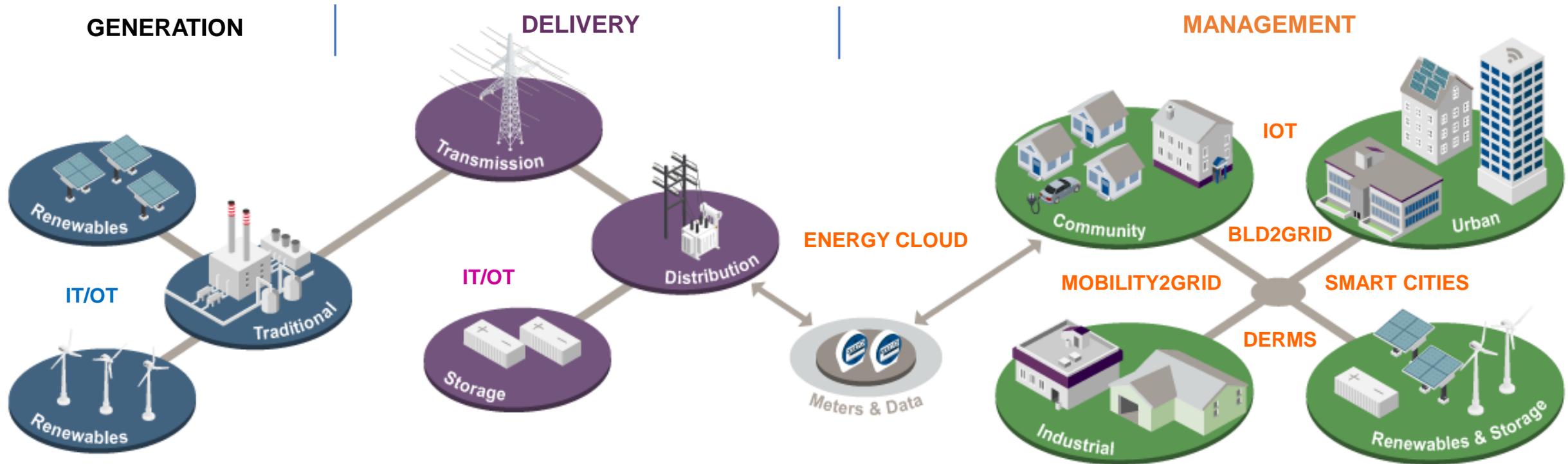
### Advisory Panels

- [Agriculture and Forestry Advisory Panel](#)
- [Energy Efficiency & Housing Advisory Panel](#)
- [Energy-Intensive and Trade-Exposed Industries Advisory Panel](#)
- [Land Use & Local Government Advisory Panel](#)
- [Power Generation Advisory Panel](#)
- [Transportation Advisory Panel](#)
- [Waste Advisory Panel](#)

### Just Transition Working Group

- [Just Transition Working Group](#)

# The Evolving Energy Landscape



Looking  
At “NOW”

- Grid modernization
- Resiliency
- Reliability & safety
- Operational efficacy
- Regulatory compliance
- Wholesale market participation
- Customer choice & engagement
- Advancements in technology

# Energy Use & Policy: Key Considerations for Business

Primary Use/ Consumption	Production/ Utilization	Waste/ Efficiency	Climate Adaptation/ Mitigation	Regulatory/ Policy	Reputation/ Stakeholder Engagement
<ul style="list-style-type: none"> <li>• Costs</li> <li>• GHG Emissions</li> <li>• Ecologic Impacts</li> <li>• Community Impacts (economic, environmental, social)</li> </ul>	<ul style="list-style-type: none"> <li>• Costs</li> <li>• GHG Emissions</li> <li>• Ecologic Impacts</li> <li>• Community Impacts (economic, environmental, social)</li> </ul>	<ul style="list-style-type: none"> <li>• Waste Production</li> <li>• Waste Utilization</li> <li>• Waste Reduction</li> <li>• Energy Efficiency</li> <li>• Energy Management</li> </ul>	<ul style="list-style-type: none"> <li>• GHG and CO2 Reductions</li> <li>• Proactive decarbonization of operations and enterprise</li> <li>• Proactive support of carbon sequestration</li> <li>• Advancement of lower carbon products/services or solutions across the value chain</li> </ul>	<ul style="list-style-type: none"> <li>• Impact on regulatory compliance, costs, and actions</li> <li>• Proactive influence and support for policy and policy-reform that actively shapes the enterprise future / solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Diversity, Equity &amp; Inclusion (DEI)</li> <li>• Just Transition</li> <li>• Top influencers</li> <li>• Proactive (non-passive) reputation awareness, management</li> </ul>

← **Accounting – Accountability – Transparency – Reporting** →



# A Sustainable Energy Future? “Conflict Minerals” and Human Rights

- Human rights abuses are ubiquitous around the mining of rare metals. Indigenous communities are missing out on **Bolivia’s** abundant [lithium reserves](#).
- Mining [lithium and copper](#) in **Chile** is largely ruining the nation’s ecosystem.
- **Australia** has some of the highest [lithium reserves](#) in the world and yet its industry has largely stalled (not helped by uncritical media coverage) and too little attention is paid to the metal being processed in **China** and the associated human rights issues.



ARGUMENT

# Clean Energy Can't Have Dirty Roots

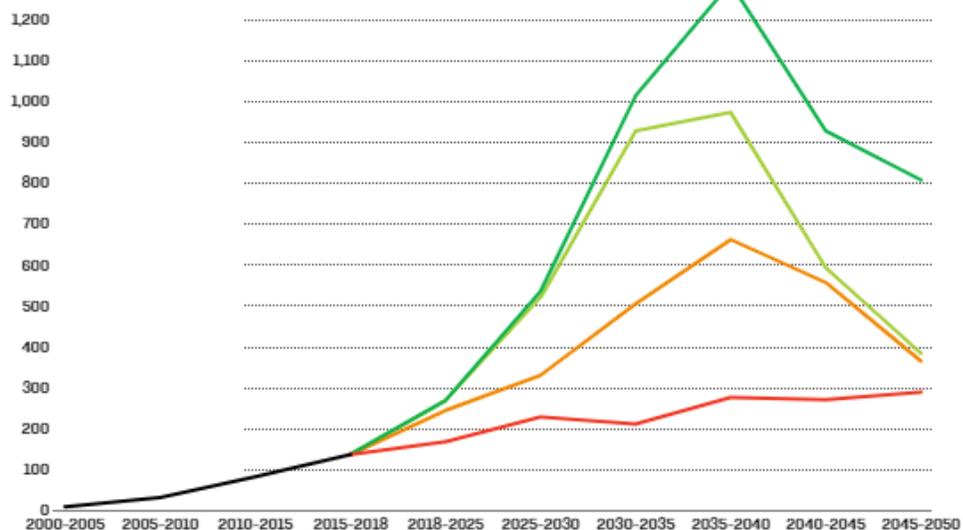
Securing human rights in the supply chain of critical minerals is vital for a green future.

BY KETAN JOSHI, ANTONY LOEWENSTEIN | OCTOBER 15, 2020, 3:17 PM

Annual Average Increase in Wind and Solar Capacity

Expected exajoules of consumption under the following scenarios:

Business as usual Rapid Net zero Net zero with 100% green hydrogen Historical



SOURCE: BP ENERGY OUTLOOK 2020

- 2019 – The Institute for Sustainable Futures at the University of Technology in Sydney, Australia released a report that outlined the ways in which the **transition from fossil fuels to sustainable energy sources could be done ethically and without causing unnecessary damage to the planet.**
- It argued that **recycling was one of the best solutions** to the surge in demand for electric car battery metals, such as lithium, cobalt, nickel, and manganese, though responsible sourcing of minerals would be required if supply couldn't be met with recycling.

# Ethical, Moral, Legal Context of 'Sustainable Enterprise'

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- The “Just Transition” to a Clean Energy Economy
  - Who benefits, who and/or what is impacted?
  - Shifting the burden (Senge)
  - Sustainability cannot be achieved by depriving other peoples of their human rights
- 



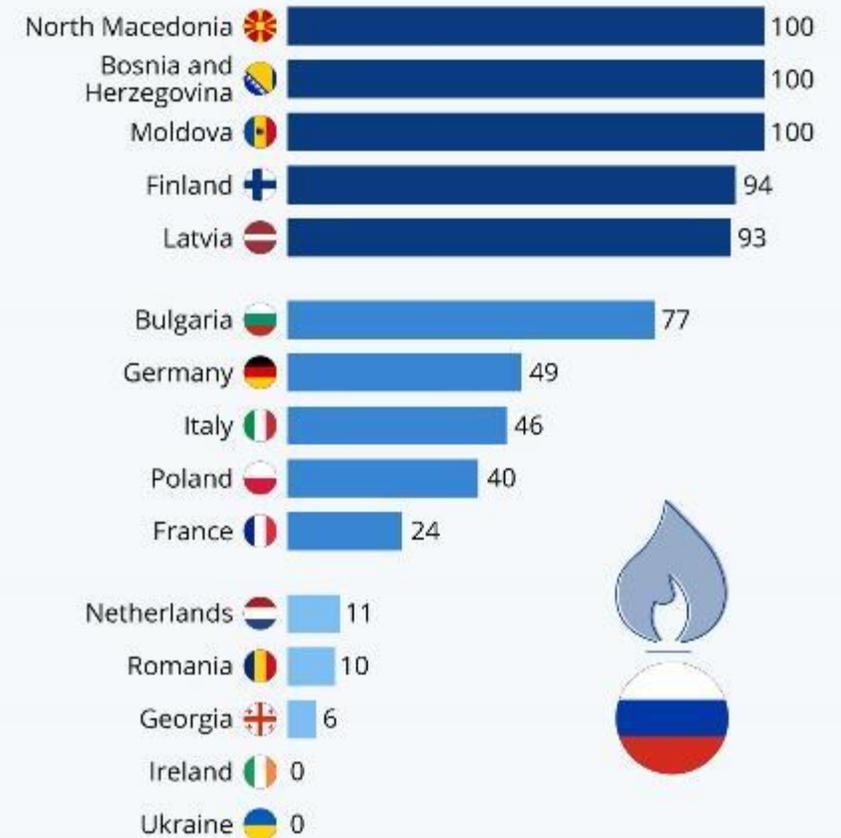
# Managing Risk

- Energy Price Volatility
- Energy Supply Challenges
- Global Energy & Materials Flows
- Global Energy Transition: Resource & Asset Allocation – Refocus & Realign
- Carbon, Climate, Equity & inclusion



## Which European Countries Depend on Russian Gas?

% share of gas supply from Russia in selected European countries (2020 or latest available)



Ukraine buys its gas from the EU since 2015.

Source: European Union Agency for the Cooperation of Energy Regulators.

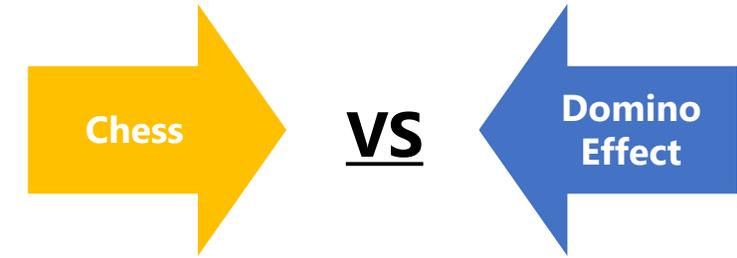




## Russia-Ukraine and Regional Energy Landscape

- The key question is whether EU sanctions will force Russian oil off the market or simply redirect it to other regions?
- The International Energy Agency (IEA) estimated that in the first four months of this year, Russia's oil export revenue rose [by 50 percent](#) over the previous year, with crude oil and products generating about \$20 billion per month.
- So far, the price effect—higher revenue per barrel, even with discounted Urals and ESPO blend—is outweighing the volume effect of lower exports.
- Russia aims to reorient its oil and gas exports from Europe to Asia, principally India and China. So far it has been relatively successful. India may have [imported](#) nearly 800,000 b/d from Russia in May, and could buy even more this month from an extremely low base last year.
- Global crude flows are changing quickly. In the past few months, Europe has started to import more oil from the United States, West Africa, and the Middle East.
- European refiners seeking substitutes for Urals blend could [turn to](#) crude oil streams from [Norway](#), Nigeria, Iraq, and the United States, although spot cargoes of many crude oil streams are limited in a tight market.

# Realigning Global Energy: A Swift Domino Effect Necessitates Chess Strategy

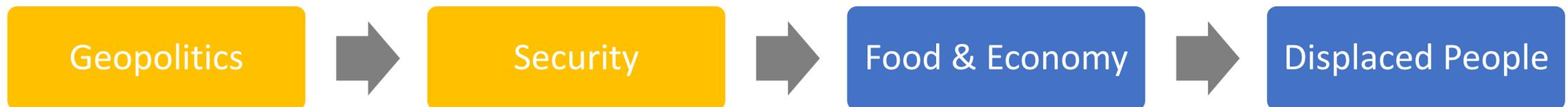


## CHESS

- Russia is the **second-largest producer of natural gas** and the **third-largest producer of oil**.
- A **historic restructuring** is sweeping the global petroleum and gas trade as countries ban or cut Russian energy imports, sanction Russian companies, face Russia's demands for payments in rubles and search for alternative sources.
- Venezuela – In a surprise policy shift toward this heavily sanctioned country, the Biden administration met with its Kremlin-friendly leader Nicolás Maduro, whose presidency the U.S. does not recognize. The meeting, **the first in years**, came as the U.S. seeks oil sources to replace Russian oil.

## DOMINO EFFECT

- Humanitarian Crisis, >5-8m ppl displaced
- Supply Chain Constraints, Disruption: Agriculture, Materials, Energy, Transport
- The EU has depended on Russian energy; it is now preparing to phase in an oil embargo.
- Germany has **decreased its reliance** on Russian gas to 35% of imports from 55%, and Russian oil to 12% from 35%. The government triggered early emergency planning for a potential shortage of natural gas.
- Italian leaders have pursued deals with Algeria, Egypt and other African suppliers of gas to **replace Russian gas**, the main source of Italy's imports.
- Bulgaria – Russia shut off gas supplies over its demand for payment in rubles. Bulgaria imports almost all of its gas from Russia and now is **looking to reserves and alternative sources**.



# Global Energy: Transition & Transformation, Intensity & Equity

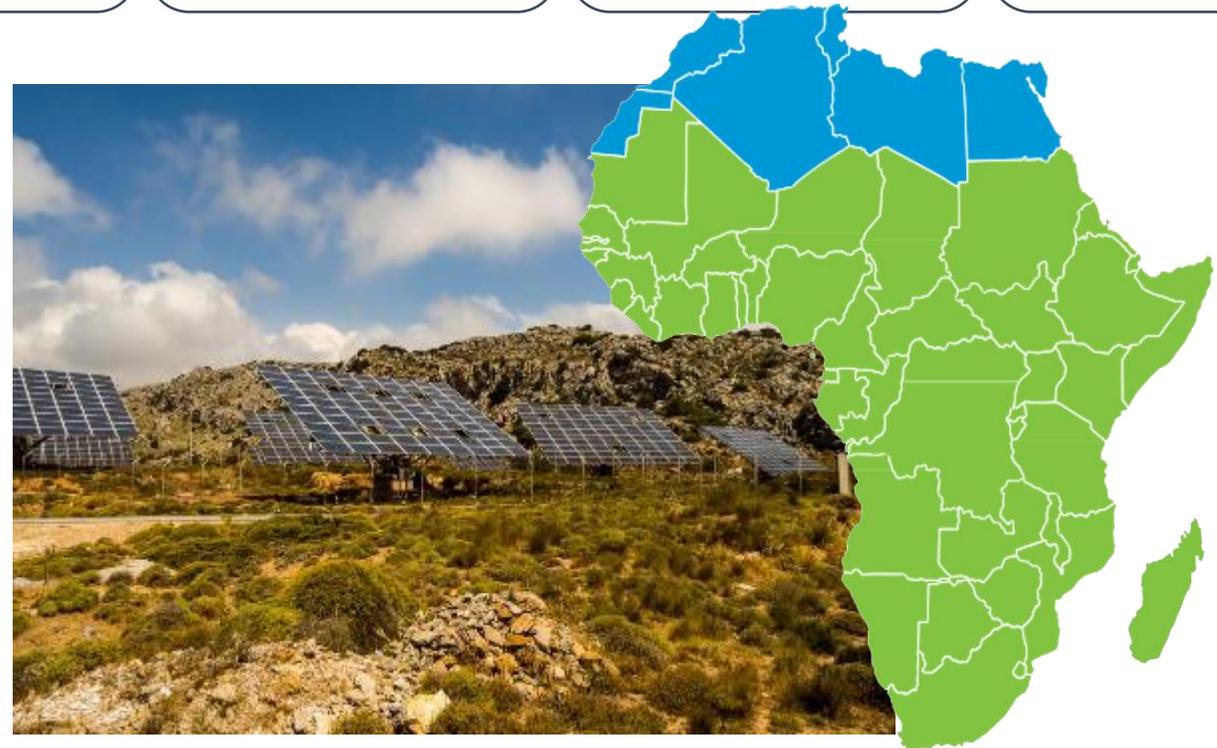
**Demand for Development  
[Infrastructure Resiliency &  
Renewal + Decarb + Future Cast]**

**17% of the world's primary  
energy supply is directed to make  
4 materials, resulting in 25% of all  
global carbon emissions.**



**Dignity [Equity, Inclusion, Forecasted Growth]**

**3.1 billion people, including nearly all of those  
living in sub-Saharan Africa – consumed no  
more energy, per capita, in 2020 than the  
people of France and Germany did in 1860.**



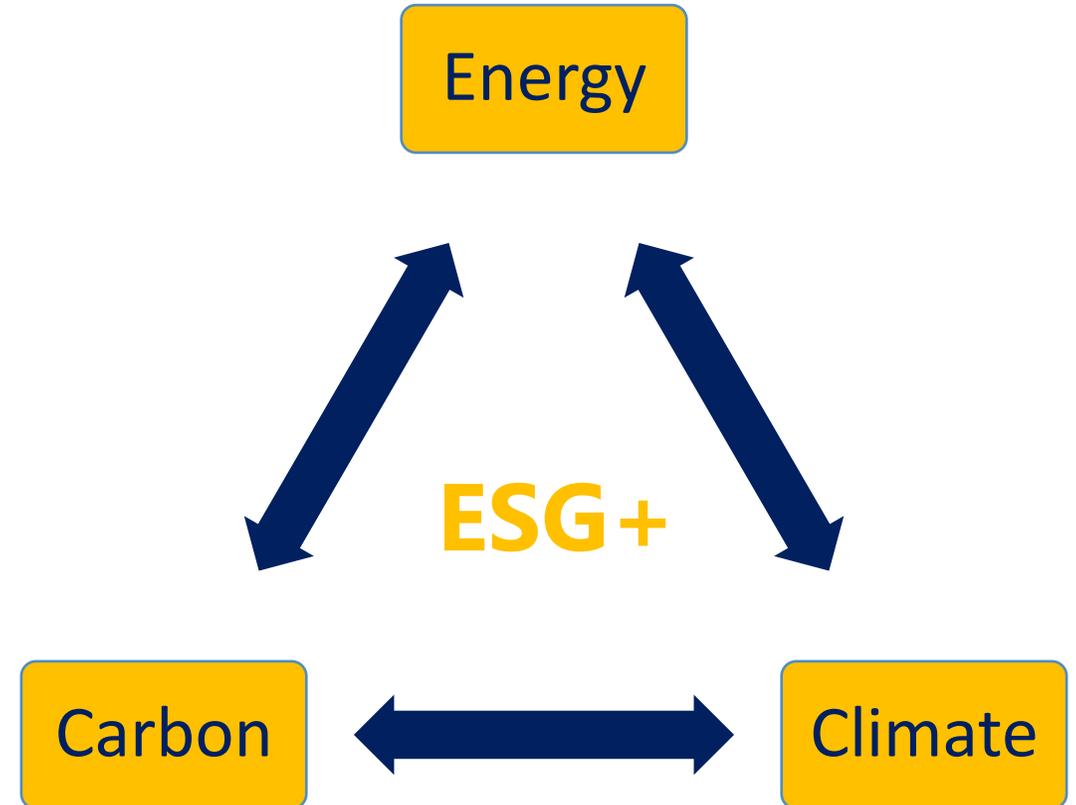


# The Rapidly Unfolding Energy Landscape

## *"It's Not About One Resource"*

- Decentralized
- Digitized
- Democratized
- Decarbonized
- Diplomatic

De-Risked

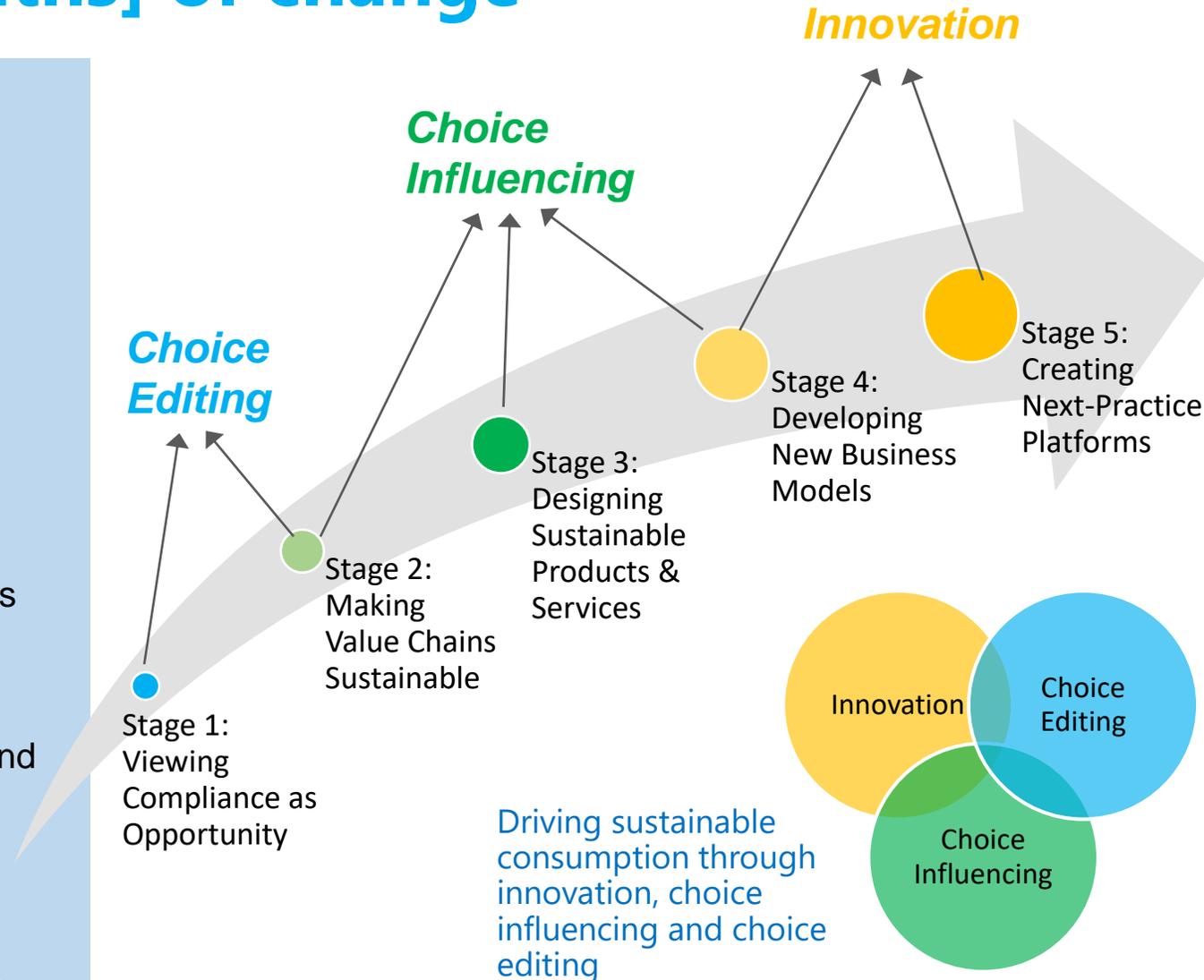


How to position the firm for  
**Social Response Energy Leadership**  
amid shifting seas and rising tides?

# The Sustainable Enterprise Journey:

## Five distinct phases [three paths] of change

- **Stage 1: Viewing Compliance as Opportunity**
  - Reputational Value
  - Competitive Advantage
- **Stage 2: Making Value Chains Sustainable**
  - Supply Chains, Operations, Workplaces, Returns.
  - Energy efficiency, waste reduction, environmental ROI (revenue/top-line/bottom-line)
- **Stage 3: Designing Sustainable Products and Services**
  - Lifestyles of Health and Sustainability (LOHAS) consumers
- **Stage 4: Developing New Business Models**
  - Exploring alternatives to current ways of doing business and delivering upon customer needs' differently
- **Stage 5: Creating Next-Practice Platforms**
  - Changing existing paradigms.
  - Question the implicit assumptions behind current practices.



# Sustainable Enterprise: Driving Expected Outcomes





Relevant  
Ethical  
Accountable  
Legitimized

**BE REAL**

# BE HUMANE



Discover the "Human Centered" value proposition  
that embeds sustainability as core value proposition

# The Courage to Challenge Convention, Change Culture, Create a Better Future with Sustained Value



Wednesday, October 5, 2022



# Thank you!

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- Marian Brown & Kevin Miles
- The Center for Sustainability & the Environment
- Wells College
- And **You!**