INNOVATION LANDSCAPE

A MAYOR'S CHALLENGE:

EXTREME WEATHER, A VIBRANT ECONOMY, PUBLIC SAFETY & PUBLICE SERVICES, RACIAL EQUITY & SOCIAL COHESION, AND OVERALL QUALITY OF LIFE

OPPORTUNITY:

- FEDERAL INVESTMENTS – SPENDING BILLS OF OVER 6 TRILLION
- A NATIONAL AGENDA CALLING FOR ACTION ON CLIMATE, RECOVERY, UNION JOBS, EQUITY & INCLUSION

SOLUTIONS:

Transactional Solutions

-- Linear and Intersectional Solutions

Transformative Solutions

--Cultural and Economic Shifts



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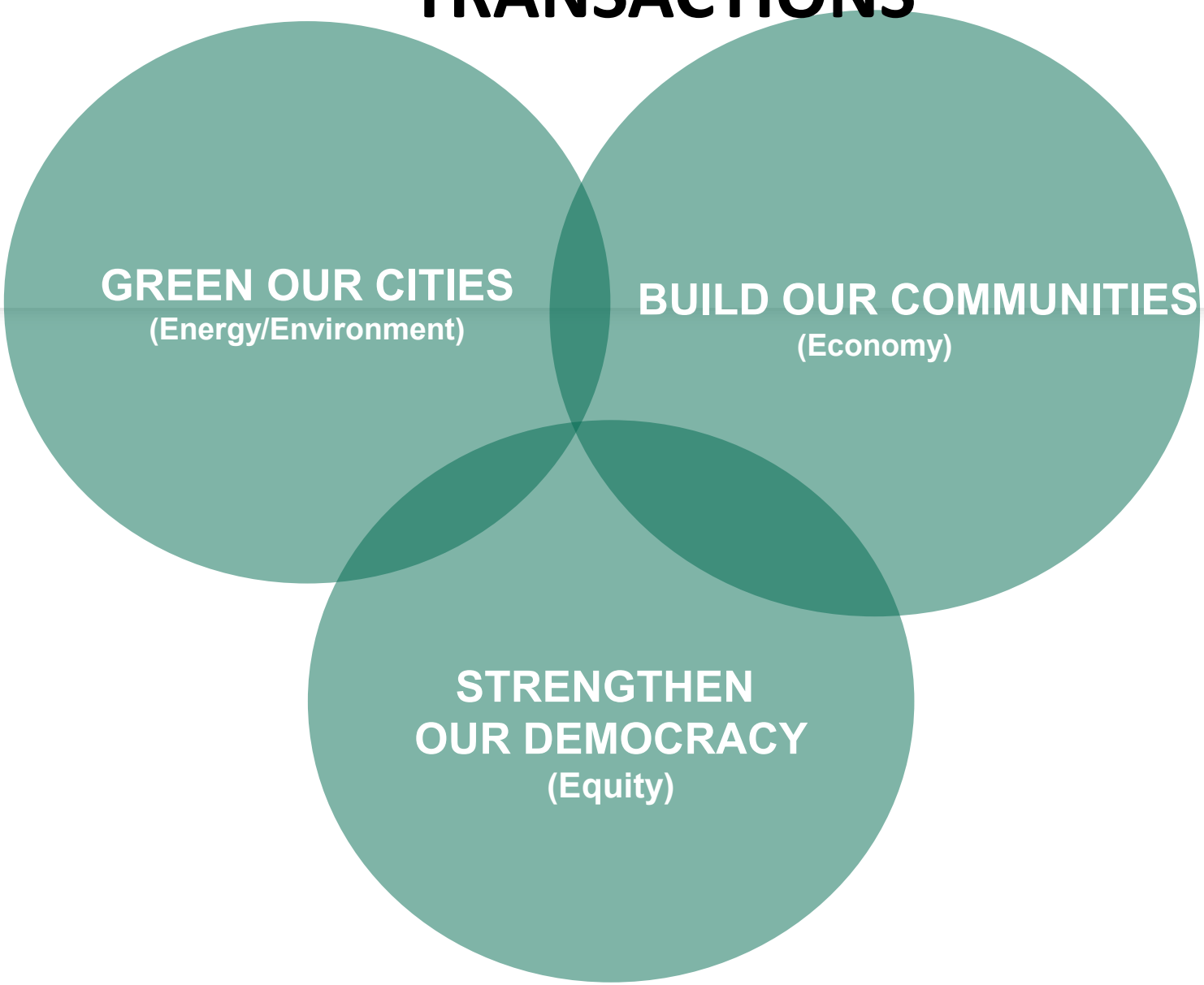
INNOVATION 1.0: LINEAR TRANSACTIONS



	STATUS QUO	TRANSACTIONAL
GOAL	**Energy Monopoly**	**Energy Diversity**
KEY METRICS	• Cost-effectiveness (cost/kWh) • Reliability	• Lower Emissions • Peak Load Reduction • Cost-effectiveness (cost/kwh) • Reliability • Resilience
ENERGY SOURCE	Extreme Extraction • Fracking • Tar Sands • Nuclear • Mountain Top Coal	• EE as Frist Fuel • Renewables • Gas as Bridge Fuel • Appliance Standards • Transportation Standards
OWNERSHIP/ CONTROL	**Private Utilities** Municipals Cooperatives	• **Private Utilities** • Municipals • Cooperatives • Private HH
POLICY INITIATIVES	Dismantle EPA ALEC rollbacks EE/RPS (n=16) Net metering PACE Fair trade lawsuits	• **EPA - CLEAN POWER PLAN (111(d)** • State EE/RPS Standards (33/2020) • Appliance Standards
PROGRAMS	• Nuclear Matters • Beacon Hill Institute • Heartland Institute • American 4 Prosperity • Koch Industries	• EE/Renewable Energy • WAP • Smart Grid • Source Reduction • Disclosure Ordinances

	TRANSITIONAL	TRANSFORMATIVE
GOAL	**Utility Reform**	**Energy Democracy**
KEY METRICS	• Lower Emission Standards • Resilience • Labor/Community Standards • Inclusion Goals • Equity Outcomes	• Zero Emission Standards • Social Equity (Fairly distributed cost & benefits) • Improved health • Community wealth • Democratic participation/ownership/control
ENERGY SOURCE	Utility Scale Renewables	Distributed/Decentralized Renewable Energy
OWNERSHIP/ CONTROL	Private Utilities **Publically owned utilities** Decentralizes	**Community-owned energy** Decentralized/Individual Private HH households
POLICY INITIATIVES	• Cap and /Dividend (SB535) • Community Workforce Agreements • Resource Value Framework Campaign • Community Choice Aggregation • Net metering • Feed-in Tariffs	Community Resilience Policies/Initiatives Infrastructure Investment Policies ACA/Anchor Policies Feed in Tariffs Net metering
PROGRAMS	REV (NY)]	Community-controlled, Community-scaled Energy

INNOVATION 1.0: INTERSECTIONAL TRANSACTIONS



Intersectional Proposition #1: Design a climate economy

Goal: Identify your economic objectives & organize your climate agenda to meet them.

Strategy: Climate economic impact assessment

Challenge: Bold climate actions.. do not equal bold economic or equity actions...
Large scale solar – vs. Community solar/distributive energy





INTERSECTIONAL PROPOSITION #2:

Build Labor-Community Partnerships/CWA/CBAs




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Goal: Union and family wage career opportunities
Local/Small Business Opportunities/
Signatory/Socially Responsible Contracting

Strategy: Community Workforce/Community Benefit Agreements

Challenge: The absence of community workforce agreements –

Or,

Community workforce agreements constructed without labor-community partnerships

INTERSECTIONAL PROPOSTION #3

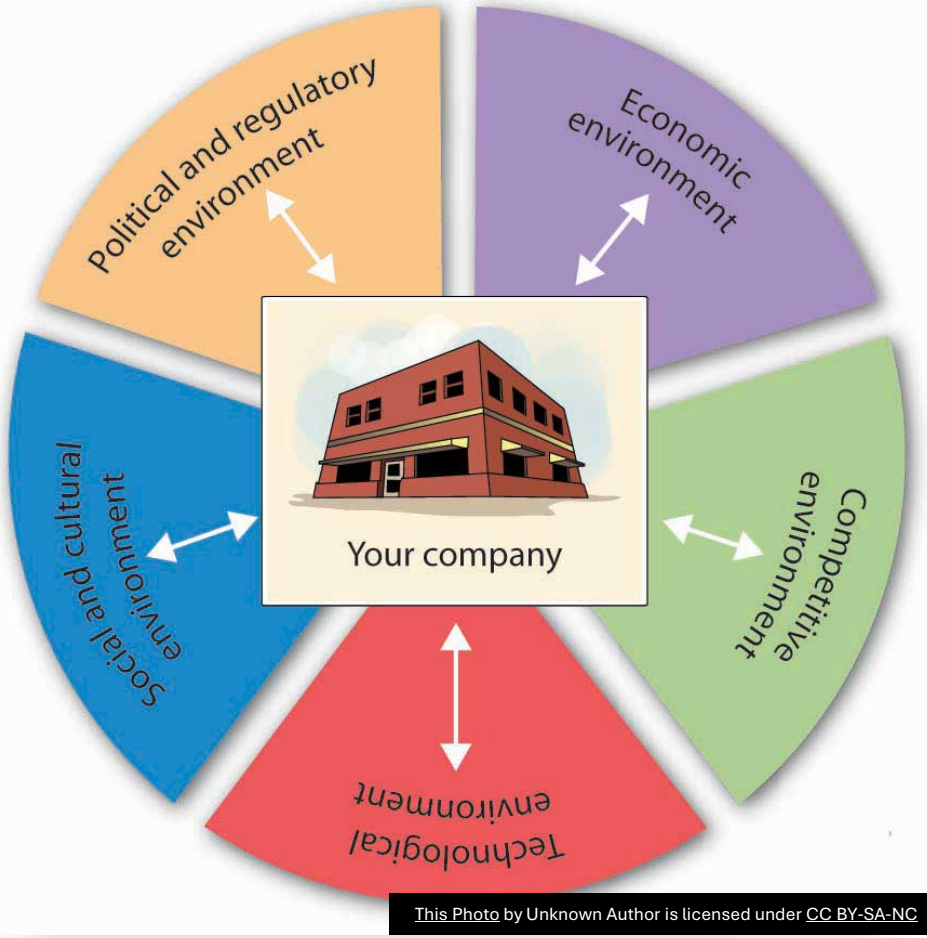


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Dismantle the systemic barriers that lead to low road outcomes – where economy and equity are absent

- Changing project delivery methods –
  - -- Low-bid contracting vs. high value contracting
  - -- Indefinite Quality Contracts
- Local/Targeted Hire & Contracting policies. City policies that do not promote economic inclusion of communities that have been left out
- Bid/solicitation documents that do not specify local hire/local procurement
- Monitoring/compliance systems that do not track your results

Proposition 4- stitching together fragmented eco-system



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Goal: **Inter-agency Alignment/Coordination**

Challenge: **Departmental silos**

- Environment, Business Dev, Workforce Development, Compliance Office, Diversity Office

Strategy: **Inter-agency Collaboration**

Breakthrough Goal

Culture & Carbon Emissions (CCE) Initiative: Advancing Cultural Solutions to De-Carbonization

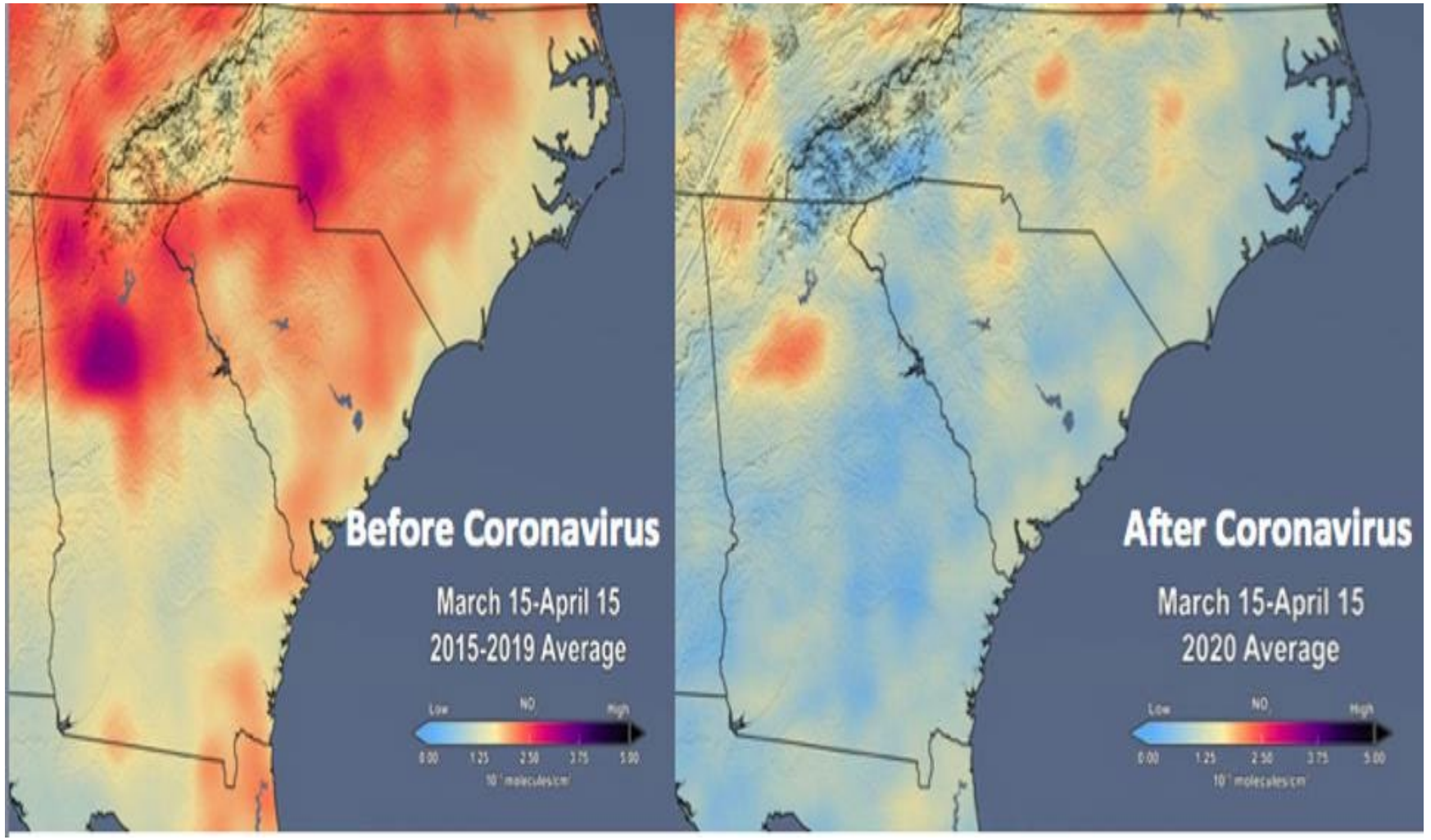
A new level of awareness, commitment, investment and innovation dedicated to not just switching fuel sources and retrofitting our built environment, but also reducing our energy needs and usage.



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The COVID Evidence

Global emissions dropped 18%in April… (and in some areas in US as much as 30%)





Why it matters?

West having 15% of the global population but 50% of commercial fossil fuel consumption. The US has 5% of the population and 25% of the carbon emissions.

- Production
  - Scope 3 emission = largest portion of firm' overall carbon footprint
  - 28 percent for scopes 1 and 2, and
  - 72 percent for scope 3
  - 54% of Scope 3 = is the purchase of goods and services, and includes all upstream (i.e., cradle-to-gate) emissions from the development of products

Consumption:

2/3 of energy consumption is now considered discretionary consumption

The percentage of consumption for private (discretionary) use of energy is increasing… energy use per capita increased 7x in a century, including:

- Increase of variety of goods
- Countless services
- Transportation
- Leisure services

- Every new energy transition produces a cultural shift.. in family and community structures and institutions among other cultural factors.

Carbon Solutions



Scope 1 & 2 Emissions – greening our production infrastructure changing the energy that we use for production

Focus on How we Produce: The bulk of the messaging, policies, investments and innovations, however, focuses on ‘greening our economy” with new fuel sources and technologies Transportation infrastructure

- Energy Infrastructure
- Building stock

Scope 3 Emissions : Changing what/how much we produce

Production:Embodied Carbon

Consumption: Focus on our energy consumption

- Energy Needs vs. Energy Wants

MATERIAL CONSUMPTION & WASTE – OAKLAND – LOCAL & LIFECYCLE

Figure 3: Local Emissions by Sector

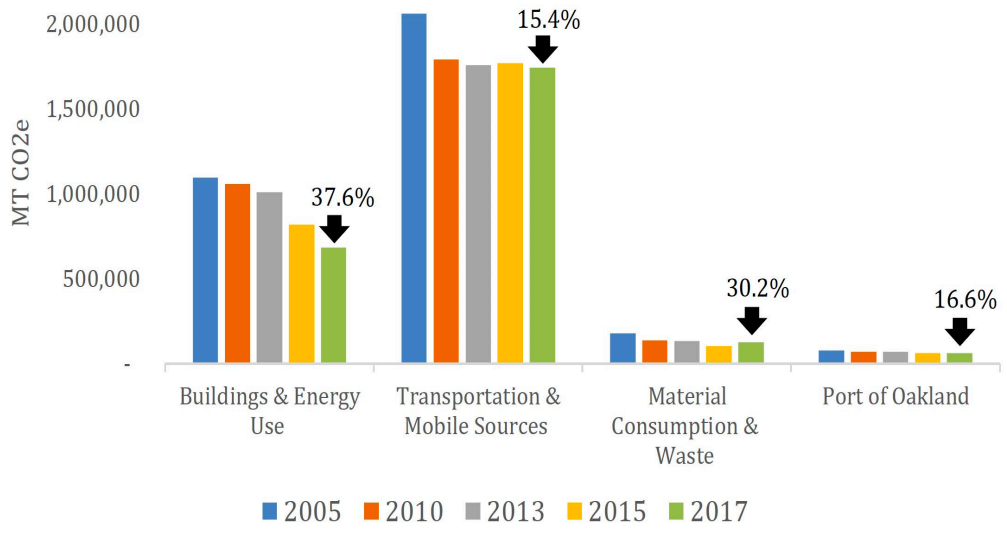
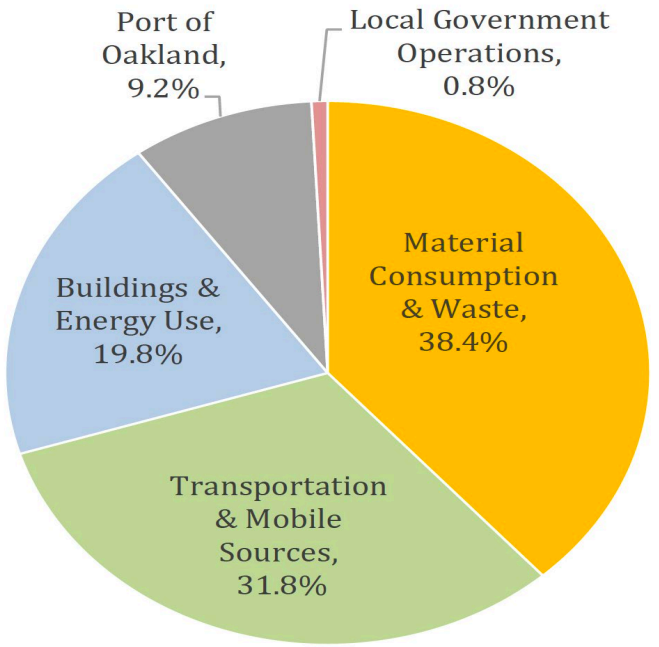


Figure 4: 2017 Lifecycle Emissions





Questions:

1. IS there a logical cultural frame to the widespread deployment/adoption of clean energy? What is that message and how do we diffuse it as part of a broader clean energy paradigm shift?

2. How can renewable energy & clean energy technologies spur a new cultural era?

3. How can renewable energy/decarbonization advance/intersect with goals of climate adaptation/resilience?

4. How can we shift renewable energy to move us towards communal & conservation behaviors in how we work, play, engage in community?

5. How can technology be used to shift our energy culture?

Potential Strategies

Shifting U.S. culture of mass consumption patterns towards a new (reclaimed) culture that values quality of life vs. quantity through new measures of well-being and related policy initiatives that focus on buying less (living large on less): e.g.



Production Solutions:

- Durability Policies
- Marketing Policies

Consumption Solutions:

- Carbon-Free communities/Zero emissions neighborhoods/metrics & tools
- Diffusion & adoption of non-GDP indices of well-being at city, community levels
- Tele-work campaign in alignment with big tech firms (corporate policy/mobile sources)
- Mass communication/media to redefine wealth/well being
- Changing institutions/policies

Why Now? Cultural Shifts are Happening



The Covid Experience

The Great Resignation

Life-work balance

A shared economy

Decentralized economies (food, energy/water)

A Movement to de-materialize our economy

Youth & BIPOC Leadership

New Economy Movement