The Path to 100% Climate-Smart Finance

Report-back from the 11th Working Session of the Acceleration Dialogues series — a focused discussion of Economy-wide Resilience Intelligence.

BACKGROUND

On Wednesday, April 18, at the UN Foundation, halfway between the White House and the headquarters of the World Bank, we hosted the 11th working session of the Acceleration Dialogues, with a focus on economy-wide resilience intelligence. Participants explored technical challenges and collaborative pathways to achieving 100% climate-smart finance by 2038, through the building of the Resilience Intel climate-smart finance information service.

The two core aims of the project are:

1. to aggregate all forms of climate-smart spending and investment and...
2. to empower non-expert decision-makers to make high-confidence climate-smart decisions, without having to first become experts.

Five technical aims drove discussion:

1. **Aggregate** climate-smart spending across the whole economy.
2. **Differentiate** between negative, neutral, and positive climate-related investments.
3. **Translate** that differentiation into a multi-level grading system.
4. **Connect** climate-smart finance ratings to networked Earth-systems science data.
5. **Deploy** a directional ratings system that can apply to any entity, in any sector.

CLIMATE 'XROI'

Externalizing inconvenient costs has long been a standard of modern commercial investment. The limited liability company was created to allow investors to avoid risk, with support from the state, to make entrepreneurial investment more attractive. Taking investment risks gets easier, if there are guarantees against risk. The corporate entity is, to some extent, an externalization device, so our economy is built around this logic.

The urgent task of shifting all investment, finance, and spending to climate-smart priorities requires more than a transformation in thinking about energy and pollution; it requires a transformation in how we think about risks and guarantees in the structuring of commercial enterprise. This feels threatening to many who have succeeded by leveraging the externalization paradigm, but continuing without structural change is much more perilous than smart innovation.

At today's level of connectedness, interactivity, consumption, and resource depletion, our collective externalities are putting vital natural systems at risk, stressing public budgets, and insinuating into nearly every kind of investment hidden opportunity costs and structural risks. External return on investment (XROI) is now a vital indicator of inherent and future value, a measure of complex interactions, for which we need to develop high-confidence metrics and decisional insight.

In this Dialogue, participants discussed the need to align the value, intention, and action of financial capital with the sustainable expansion of natural capital and human capital. The resilience of national economies requires open access to quality education, sustainable relationships to natural resources, and a reliable understanding of the real day-to-day value of hidden (non-monetized, non-market) critical influences.

THE SOIL ECOLOGY OPPORTUNITY

Well-designed land value policies can reward the building of carbon-rich soil ecology, creating an incentive for sustainable farming practices. If farmland property valuations account for soil carbon content and ecological resilience, and the higher-value equity is coupled with tax incentives for carbon-rich farming practices, the resulting value differential will make its way to market.

As the difference in value between unsustainably farmed and sustainably farmed food becomes evident, commodities markets will capitalize on the value differential and enhance the reward for better practices. A new market for organic and sustainable produce will emerge within existing commodities markets, mainstreaming healthier food, because the value differential makes it attractive.

Resilience intelligence is the uncovering of such hidden threads of expanding value. A central design element for ensuring that such innovations take root and become reliable drivers of sustainable value is to ground financial and economic data in Earth systems observations.

We now have the ability to produce reliable high-resolution distributed sensor-based data about soil moisture and soil carbon richness. Distributed ledger technologies (DLT) create the opportunity to store that data in a transparent, shared registry of information that cannot be corrupted. Local authorities, or non-federal state-level authorities, or national governments can adjust land value and tax policies to incentivize the leveraging of this opportunity, to enable markets to get closer to real-world ecological resilience value.

Resilient soil ecology can allow for vastly different season-to-season farmland management practices, making organic and sustainable farming, and agricultural carbon uptake a market imperative.

AN OPERATIONAL FRAMEWORK

It was recommended that a Resilience Intel framework operate across three major areas of action, as distinct but mutually reinforcing:

1. **Policy** — the policy environment and its impact on climate-smart investment and ground-level actions
2. **Behavior** — including agricultural practices, consumer preference, science reporting, and informed civics
3. **Finance** — removing perverse incentives, identifying climate-smart wedge markets, leveraging the carbon delta

What connects these three areas of action is the question of where and how durable value comes into being. One of the critical problems that need to be addressed, as we move deeper into the unsustainability crisis, is the widening gap between *projected returns* from polluting practices, and the returns that can be expected, given emerging and compounding trends. This widening gap is another expression of the carbon delta, on the other side of which sustainable investments promise higher future yields.

HIGH FINANCE & THE LAST MILE

Smart design of this “resilience intelligence engine” will provide an evolving synaptic map of interacting value-building influences. This combined information exchange and visual-relational map will effectively make visible the invisible drivers of macro-critical resilience and provide an increasingly reliable source of information about the XROI of a given investment.

Smart, distributed interactivity makes it possible to quantitatively compare these “non-market” values, and better assess competitive advantage or

disadvantage. There is a wide market gap in serving "the last mile" in marginalized communities in both developed and developing countries, and especially where people are left out of the banking system (unbanked), or effectively denied access to the majority of its services (underbanked).

Central control of energy production, or financial data, reinforces the externalization-dependent business model that does not see or value the unbanked last mile. Decentralization of power generation and financial data, linked to a wide variety of other meaningful datasets, makes it easier to perceive structural inefficiencies, nonlinear threats, and the generative benefits (catalyzing wider XROI) of reaching the last mile.

To not only reach, but to value, empower and reward, entrepreneurial action among the unbanked and the underbanked — to deliver clean energy, smart sharing of data, and economic empowerment — would constitute one of the biggest investment opportunities in world history. To unlock that value, finance institutions need to see, understand, and empower, at the micro-scale, people they have never before directly served.

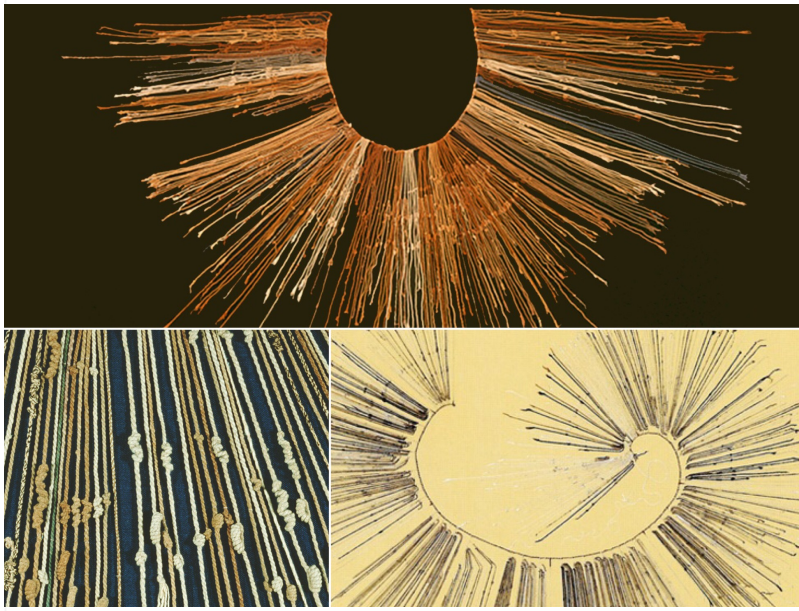
Three insights facilitate this complex new interaction between high-level international financial institutions and people in community:

1. Sustainable investment is not a tax on returns.
2. Ongoing (human-scale) micro-empowerment expands (economy-wide) macro-potential.
3. We all benefit when trust circulates more widely.

These three insights are connected: sustainable investment reinforces micro-scale empowerment, which enhances overall value-building potential, and creates the grounds for regular access to trust-based relationships rooted in ongoing good faith value exchange. Mutual empowerment is the new standard for well-designed high-value future-building investment. Technological innovation to measure active resilience value will reflect this.

THE QUIPU: LEDGER-BASED EMPOWERMENT

The *quipu* was a system of strings and knots, used for both ceremonial and administrative purposes, in the Inca empire. Tax collectors used quipus to track tributes paid to the Inca, along with geographical, political, security, and other data. Each quipu was coded by its creator, so the information that would be delivered to the Inca was effectively encrypted.



The distribution of unique encryption-protected knowledge across the wider circle of record keepers effectively decentralized power, from an absolute ruler to a wider community of trust. DLT/ blockchain technologies can play this role, but would go much further, putting economic and informational power in the hands of millions of people, in a way the Internet only hints at doing.

By sharing storage, data security, and verification rights across thousands or even millions of devices, distributed ledgers mean a record can only be falsified by hacking most of the devices at *exactly* the same time. To do this by the brute force of rapid-fire non-stop trial and error is estimated to

require many times the entire life of our universe, making such a hack mathematically infeasible.

Because it is possible to create digital tokens that register natural capital, climate-related finance can move through new business models that empower local actors, generate high-resolution data for monitoring, reporting and verification, and support high-confidence metrics on the relationship between business activity and Earth systems.

We can now begin to visualize ecological market underpinnings and economy-shaping macro-critical values, in ways that were not previously possible. We can do this by connecting 1) financial projections and returns, 2) macro and micro-economic data, 3) Earth systems science observations, connected to a fourth dimension of relational dynamics information, and a fifth we might call SDG-mapped interactive resilience-enhancement value.

Pulling all of this information into a complex but coherent synaptic map of interacting value, we can achieve a kind of "sixth sense" rating of macro-critical resilience value, applicable to any kind of spending or investment — the "economy wide resilience intelligence" that gives Resilience Intel its name. The goal, then, is to make that rating available for any finance or spending choice.

The Soil Ecology opportunity, Clean Energy generation and revenue-sharing, Blue Economy innovation and Supply Chain management are key areas of action where we can reasonably expect to see rapid upgrades across all of these indicators.

GREENING CAPITAL MARKETS

Capital markets that operate without full knowledge of the interactive macro-critical resilience value of money moving through them will inevitably misallocate vital resources in ways that invite and accumulate structural risks. The accelerating costs of climate disruption mean such capital risk is fast becoming unaffordable.

The cost of anticipating, coping with, mitigating and reversing nonlinear systemic threats is compounding over time. Analysis from the International Monetary Fund shows that direct investment in practices that contribute to these compounding climate-transmitted costs is worse than wasteful; it is "destructive" of future economic value in virtually all areas.

Public budgets are now forced to face this crisis of value projection: there is an emerging mathematical imperative to forego short-term benefits of investment in structurally guaranteed high-risk business models that externalize pervasive climate and health-related costs. Capital directed toward resilient, inclusive future prosperity is better positioned to secure a high rate of long-term return, especially when public good priorities and structural benefits are considered.

This is the guiding logic of the Marrakech Pledge on Greening Capital Markets in Africa and the Green Bond Pledge — both of which point to the higher-value potential of capital directed toward climate-smart future-building. Capital markets now have a clear moment to rapidly move toward the highest-leverage future-building.

RESILIENCE INTELLIGENCE AS POLICY ACTION

This year's 3rd Biennial High-Level Ministerial Dialogue on Climate Finance affords an historic opportunity to pool the economy-shaping insights of finance ministries, outline actionable priorities for shifting toward economy-wide resilience intelligence, and speed the process of investment in a climate-smart future of shared prosperity.