

PROCEEDINGS SRRR Workshop on Climate Resilience October 22, 2020

Introduction to Sustainable & Resilient Resources Roundtable

David Berry Director, Sustainable and Resilient Resources Roundtable Learn more at: <u>https://sustainableroundtable.org</u>

Participants were introduced to SRRR's guidelines for the online format, and encouraged to engage by participating in breakouts and polls and to make comments following the presentations and panels.

Agenda

- 1:30 Introduction to SRRR: David Berry, SRRR Director
- 1:45 **Introduction to ACRE**: Brian Finlay CEO, Stimson Center & Stan Bronson ACRE
- 2:10 Video from Prince Albert II Foundation: Olivier Wenden, CEO
- 2:15 **Panel:** *Turning Resilience into a Compelling Investment*: Moderator: Chris Walker, ACRE Panel: Elise Zoli, Partner, Jones Day & Jesse Keenan, Tulane University, Advisor, Jupiter Intelligence
- 3:00 **Interaction**: Breakout for feedback and poll
- 3:20 **Panel:** *Technology, Data, and AI for Climate Resilience and Achieving the SDGs*: Moderator: Julie Kae. President, Qlik.org Panel: Jacqueline Corbelli, CEO, US Coalition for Sustainability & Joanna Hall, US Coalition on Sustainability
- 4:00 **Interaction**: Breakout for feedback and poll
- 4:15 Wrap-up and Invitation to What's Next: SRRR Director & Co-Chairs
- 4:30 Adjourn



Introduction to The Alliance for a Climate Resilient Earth

Brian Finlay, CEO, Stimson Center & Stan Bronson, Director of Partnerships, ACRE Learn more at: <u>https://www.stimson.org/project/acre/</u>

The Stimson Center promotes international security, shared prosperity, and justice through applied research and independent analysis, deep engagement, and policy innovation. Stimson focus on global security and infrastructure must include resilience. Thirty organizations, including SRRR, met to form ACRE in January, 2020.

The Alliance for a Climate Resilient Earth (ACRE) is a bottom up, member driven alliance of organizations from all sectors that develop partnerships, initiatives, projects and programs to reduce the risk of climate driven events. Two overarching aspirations to accelerate "Pace of Play"

- Defragmentation of space to reduce re-invention of the wheel
- De-siloing of the space to create better collaboration between sectors

ACRE Goals:

- Move to establish Public/Private Partnerships for vulnerable communities
- Move capital markets and public funds into pre-disaster investments
- Move policy, legislation, regulations, and advance public education.
- Move infrastructure projects and cities into the foreground

ACRE Areas of Focus:

- Infrastructure & Supply Chain
- Finance & Institutional Investment
- Insurance & Reinsurance
- Security & Culture of Preparedness
- Ecosystems & Natural Infrastructure
- Energy
- Food & Agriculture
- Water & Sanitation

Sample ACRE Projects



- ACRE-ASCE Partnership
 - Development of a global infrastructure standard by ASCE
 - Global adoption the ASCE standard
- COVID-19 Lessons Learned Matrix
 - Led by Peter Williams (Ex IBM CTO) and a ten-person team
- Sandia National Lab ACRE Team
 - National Grid and Generation Resilience Project
- Argonne National Lab and AT&T
 - 4 X 4 Kilometer North American Flood Risk Tool

STIMS

Sample Projects & Partnerships:





PRINCE ALBERT II OF MONOCO FOUNDATION: Facilitation of initiatives related to oceans, small island

states, developing countries, and the Mediterranean

ACRE's Diplomatic Council for Climate Resilience:

Monthly information sharing among Embassies of their Designates in Washington, D.C. Proceedings delivered to all Ambassadors and United Nations Secretary General.

Artificial Intelligence Platform:

ACRE AI Platform designed by U.S. COALITION FOR SUSTAINABILITY



Implemented Sept. 1, 2020. Contributors/supporters include United Nations Office of Partnerships, Bloomberg Foundation, Verizon, SalesForce.

A Partnership development program that matches organizations with others that can fill gaps and add value.

Turning Resilience into a Compelling Investment: ACRE Panel: Moderator: Chris Walker, ACRE

Chris has been working on climate issues for twenty years. He sees Climate resilience as a kind of "Voldemort" of the climate discussion; it is ever present but dare not be discussed. While heading the US Business Council over the last five years he has seen a lot of companies develop expertise and experience in resilience but there has been no focus on scalability or urgency, or in how to collaborate with other companies. He explains that this is why he is excited to be involved in the development of ACRE, as it is uniquely placed to potentially address climate resilience at the needed pace and scale.

Chris posed the question of how to turn resilience in to an economically compelling investment. With a 60 trillion dollar projected investment required between 2020 a 2060 it is critical that we build the right project, at the right time.

Public Finance Perspectives on the Limitation of Engineering Resilience Jesse M. Keenan, Tulane U., Advisor, Jupiter Intelligence

Jesse described himself providing both an empirical and practical point of view on resilience. He believes that we need the empirical refined research and the understanding of how to translate it to the real world. He notes that we need to understand where resilience fits in the broader realm of global knowledge specific to adaptation. There is no single type of resilience. It runs along a continuum from a narrower descriptive end to multiple-potential future states.



This is critically important in understanding the real politics and values that are manifested. Also the capacity to describe the benefits derived from all of these different types of investments, particularly engineering resilience which dominates the discourse. Financial institutions need to understand that when making financial decisions they are thinking of tradeoffs. The box below shows an example of what some of these tradeoffs might be.

Actor Orientation	Time Horizon	Adaptation (actor specific)	Maladaptation (actor specific)	Engineering Resilience		Community Resilience	
				Synergy	Conflict	Synergy	Conflict
Community	Infrastructure Lifecycle	Enhanced local infrastructure	Yes, if additional debt burden	Enhanced protection	Limited protection, low probability/high impact failure	Enhanced protection	Yes, if debt burden
Architecture, Engineering & Construction Sector	Infrastructure Lifecycle	Enhanced local infrastructure & economic (enterprise) activity	Short-term gains, long-term uncertainty in capital (enterprise) costs	N/A	N/A	Supports labor force, education & training	Long- term labor uncertainity
Local Government	Annual Tax Assessment & credit rating outlook	Stabilizes tax base	Lifecycle threatened by climate impacts, O&M liabilities, poor investment & opportunity cost	Enhanced protection	Focused limited to certain impacts	Stable community	Yes, if debt burden

Table 3: Example Analysis : Hazard Mitigation Infrastructure Development

Jesse discussed a number of barriers to financial investment as well as the good and bad news of the current state of public finance.

<u>Good News</u>: credit ratings forcing new values for risk reduction.

<u>Bad News</u>: credit rating agency capacity is largely qualitative and based on short-term time horizons.

<u>Good News</u>: states want to tax and spend for resilience investments (e.g., insurance surcharge)

<u>Bad News</u>: "resilience" is code for deferred maintenance and extending useful life, which has negative path dependencies.

<u>Good News</u>: SHMCAP and Congressional allocations moving towards BRIC-type models for hazard mitigation.

<u>Bad News</u>: Resilience metrics lack validation for asset management purposes.

Jesse ended with a list of "Big Picture" take home thoughts.

States need <u>state-wide disclosure</u> (i.e., TCFD) of physical and transition risks for local governments—creates value chain in public accounting.

States need <u>strategic roadmap</u> for prioritizing allocation of adaptation investments.

Resilience is a conservative concept—works well for localized preservation, but not for necessary systematic change (e.g., land use)—reinforces behavioral economics of <u>status quo biasing</u> by communities.

State preemption of local planning and project decisions.

<u>Disinvestment</u> just as critical as investment (e.g., strategic obsolesce)

Get comfortable with <u>negative discount rates</u>.

<u>Identify trade-offs and maladaptation</u> of resilience early-on in project design and planning.

<u>Update engineering standards and design events</u> to create value in project design (*see* Costa Samaras, CMU).

Next frontier is <u>designed adaptive capacity</u> to accommodate change (e.g., material accretion or next technologies) to accommodate future unknowns.

Comments in the Chat

From Jim Davis: Dr. Keenan's last point about adaptive design that considers future risk is critical. Especially with post-COVID "reset", we need to plan resilient critical infrastructure (energy, water, transportation, communications, agriculture) with future climate conditions on mind. Resilience is not limited to protecting/hardening what we already have.

From Steven Smith: All of these elements (and more) comprise "Domestic Resilience" and "Domestic Resilience is National Security"

From Myra Jackson: Yes, Steven Smith, I'd like to hear you and Abigail Robinson say more about Domestic Resilience and Security within National Borders and beyond. I'd like to flag the topic. Dr. Keenan is providing much to integrate.

From Dr. Jesse M. Keenan: Jim that is an important point. ASCE is doing very good work dealing with the problem of resilience investment that sustain unsustainable investments. Bridging resilience and adaptation is now being internalized within lifecycle analysis, for instance, as a means to plan for a broader range of design performance. This also connects to the information flows (i.e., disclosure) that speak to Elise's current commentary.

Turning Resilience in to a Compelling Investment

Elise Zoli, Partner, Jones Day, Global Head, Future of Energy, Renewables & Sustainability https://www.jonesday.com/en/lawyers/z/elise-zoli?tab=overview

Elise began by informing the participants that her objective in this presentation is to show how to succeed in the current chaos, particularly to be sure that we understand capital, know where and what to invest, and how we are going to drive differences in capital. She explained that she is a lawyer and heads a large group of lawyers globally that deal with 300-600 projects per year.

She focused on four points:

- 1. We have more than enough capital. It is sitting on the side lines waiting for us.
- 2. We have more than enough ideas. Extraordinary ventures are waiting for us.
- 3. We have more than enough forms of financial innovation to meet them.
- 4. This is a leadership question. And we are it. No one else is coming.

We have more than enough capital. It is sitting on the side lines waiting for us. Elise wants to demystify the idea of a sum such as a trillion dollars by putting it in context. Not only is there a surplus of money, it is moving in extraordinarily ways, degrees, and amounts to novel ESG (Environmental, Social and Governance) initiatives and efforts.

A fraction of the assets under management (AUM) of each of 4 of the top 5 U.S. commercial banks, i.e., JP Morgan Chase (\$2.8T), Bank of America (\$2.2T), Wells Fargo (\$1.8T), Citigroup (\$1.6T), none in the top 5 globally.

- 1% (1/100th) of the capital of institutional investors in OECD countries, alone.
- $1\% (1/100^{\text{th}})$ of the global economy.
- 1/25th of the AUM at the Farm Animal Investment Risk & Return (FAIRR) investor network putting factory farming on the environmental, social and governance (ESG) agenda. Formed 2015.
- 161x the flagship U.N. Global Climate fund (\$6.2B).

Elise explained that she does not want to trivialize the amount of money it would cost for Climate Success.

- An annual global investment of \$2.4T (in energy) through 2035 to limit temperature rise to 1.5 degrees C (IPCC).
 - \$530B to \$681B, estimated total climate financing to date (CPI & UNFCC), with substantial gaps.
 - About half public finance and about half private finance.
 - Dominated by mitigation (\$427B).
 - Within mitigation, dominated by renewable energy generation (\$267B).
 - Adaptation was about \$22B.
- Most \$ per capita moved by Switzerland, Luxembourg, Germany, Finland and Japan (UNFCC). Japan tips the scales in total capital.

We have more than enough ideas. Extraordinary ventures are waiting for us. So why are we lagging so much in the US when there is available, often mission-driven capital available?

- Is this an urgency problem? Is this a target problem?
- Do we lack good ideas?
- Do we know how to advance better-engineered infrastructure, i.e., known, replicable, engineering solutions to meet resilience (security and sustainability) standards?
- Do we lack great, innovative companies?

Is this a financial model problem? Do we lack reasonable expectations for capital?

- Financing resilience whose opportunity is it?
- Can we afford the current systems for moving capital?
- Do we have a model for affordable, results-based debt finance?
 - ROI's premised on feasible cost reductions, e.g., reduced leakage, energy, and chemical usage, as well as consolidated purchases and shared resources.
 - Transparent, open, accurate rates and incentives.
 - Concessionary public funds to jumpstart the process.
 - Impact investors, on the private side.

Comments in the Chat

From Alice Sung: How do we first re-evaluate all current investments, to stop the bleeding in "bad" investments--like fossil fuels and other government subsidized investments?

We have more than enough forms of financial innovation to meet them.

She contends that it is a financial problem. There is an understanding of the urgency of the problem and we do not lack good ideas. Every day she sees 10-12 new ventures worth investing in. The money is moving in the right direction but there is a need to move capital differently and for better expectations.

- Resilient infrastructure and avoided GHG emissions as bankable "bang for the buck."
 - Micro-grids, the most affordable solution around.
 - Renewable electricity, shifting toward *contracts for difference or "open book" transactions*.
 - Water as the tipping point for *pricing scarcity*.
 - Fuels and the *optimization of waste*, particularly bio-methanols.
- Agriculture and shifting from avoided emissions to carbon sinks and drawdowns. Have we crossed the Rubicon in what we expect from ourselves?
- The frontiers:
 - Extreme events and the future of FEMA, insurance and reallocating risk, e.g., fires, floods, famine and other forces of nature.
 - Biodiversity and non-use values? Will we pay the existence value for what we are unwilling to lose?
 - Petrochemicals, plastics and the recent history of fur.

This is a leadership question. And we are it. No one else is coming.

Elise left us with a quote that resonates for her and exhorts us all to speak up:

As Leo McGarry said to Toby Ziegler in the fictional world of the West Wing (Drought Conditions): "You are no longer the guy who picks losing candidates and ushers them to their principled end. You're the guy who takes good men and makes them great. You and Josh, you still think you are terriers barking at the heels of the party. You are the party ... don't pretend you're still an outsider with a ponytail and a dream, you work in the White House."

Comments in the Chat

From Gwendolyn Hallsmith: Great presentation, Elise! What about public, special purpose cryptocurrencies as a tool for the information rich environment you're describing?

From Jim Davis: "ESG Crypto"... interesting concept.

Technology, Data, and AI for Climate Resilience and Achieving the SDGs: Moderator: Julie Kae. Executive Director, Qlik.org,

Qlik is a technology company based outside Philadelphia. It focuses on delivering a platform to help organizations in all industries of all shapes and sizes to leverage data for decision making. It could be a manufacturer company wanting to understand supply change data, a financial institution to understand portfolio management data and the science behind it, or a health care organization looking to calculate bed utilization rates using best in class tools and data availability. Qlik has over 2,000 employees across the globe and around 50,000 customers. <u>https://www.qlik.org/about</u>

Julie leads their philanthropic efforts. Their number one priority is finding solutions to combat climate change. They are happy to be working with ACRE and to lead a program that supports ACRE members with a view for how we can better leverage data to reach the goals we set for ourselves.

"You can't manage what we can't measure." Julie declares that it comes down to data, and sustainability data is everywhere!



Sustainability Data Is Everywhere

Collaboration is the key to success. Qlik leverages data not only for individual organizations, but to use data as a way to break down silos. The platform provides an opportunity for a true collaboration in which companies share data, learn from it, build upon it, and share in the responsibility to develop sustainability practices going forward.



Julie gave several examples of platforms they have developed. Forest in Focus is one project she discussed. The partners in Forests in Focus are <u>GreenBlue.org</u> and the American Forest Foundation. Information on forest management and measurement came from veral sources. It also includes the location of the mills within the forest and the utilization of the products from the mills by the private sector. The multilayer dashboard begins to tell a story to the private sector organizations about the sustainability of the products from the mills from which they then provide products to their customers.

Comments in the Chat

From Jim Davis: Julie and John — During our breakout, we discussed adopting an "ecosystem view" for developing risk-based solutions. It would be great to evaluate data from and "ecosystem perspective".



Jacqueline Corbelli, CEO, US Coalition on Sustainability

Jacqueline is the CEO and Founder of The US Coalition on Sustainability <u>https://www.uscoalitiononsustainability.org/</u>. The Coalition was created by mandate of the UN Secretary General Amina Mohammed, the principle architect of the Sustainable Development Goals. Mohammed asked for a different focus and engagement from the US private sector with respect to SDGs. Jacqueline's work with the Secretary General and others provided the basis for the SustainChain[™] technology. <u>https://sustainchain.net/en_GB</u> From Myra Jackson: Yes, Amina with Ambassadors Kamau and Corosi co-chairs to the Open Working Group of the SDGs. Three-year effort to bring about the 17 goals. The targets and indicators still need to evolve. It was the weak area of our work in those three years.

Joanna Hall, US Coalition on Sustainability

Joanna gave a live online presentation on SustainChain[™]. SustainChain[™] begins with the idea of how sustainability efforts come together to move the needle on the SDGs. SustainChain[™] is an accelerator for collective action across public and private sectors which can quickly connect dots to identify sustainable solutions and move to scale faster. It enables us to bring together collaborations to build bigger, broader, and more unified action with respect to policy and other efforts.

The SustainChain[™] vision was announced a year ago and since then they have designed and built a beta version that was launched a few weeks ago at the UN General Assembly. SustainChain[™] is free and open source. The community is built on a highly vetted basis. "The community builds the community".

More information on SustainChain[™] is available at <u>https://www.sustainchain2030.com/</u>

Marianna Grossman: How do you build a critical mass of participation so that the value of the network can be brought to fruition?

Jacqueline Corbelli: We are experiencing wonderful momentum in use of the system thus far, much of which is driven by the universal acknowledgment that the disparate and fragmented nature of sustainability screams for a visibility and visualization layer, anchored in common data elements

John Wells: It's great when we break down the silos we face across fields and focus, but at least as great a concern is the influence these silos have on the data we collect in the first place throughout society. We've got tons of data, but it is often the wrong or vastly incomplete data for assessing sustainability of an ecosystem or a community.

Julie Kae: You're absolutely right John - the USGS well water data and Columbia paper actually wrote about the lack of good data which also needs to be fixed.

Jacqueline Corbelli: So hard to distill the requirements into a manageable set of goals. All of the sustainability challenges within SustainChain are mapped to both the Goals and the indicators, it's a very flexible system that can evolve with the goals and open sourced to take advantage of APIs that keep the utility seamless and streamlined