



Security And Sustainability Forum

Convening Global Experts to Guide Decision Making



Channeling Philanthropic Capital to Climate Solutions

October 31, 2018

Webinar Registration: 750



Elizabeth Cantwell
CEO, ASURE

Prof. of Practice, ASU School
for the Engineering of Matter,
Transport and Energy

Webinar Moderator



Heather Martin
Board Member
Edwards Mother Earth
Foundation



Nick Flores
Client Advisory
Caprock



Matthew Nordan
Managing Director
PRIME Coalition



Catha Groot
Director
Radicle Impact



Edward Saltzberg
Managing Director
Security & Sustainability
Forum

SSF Webinars Address Critical Issues

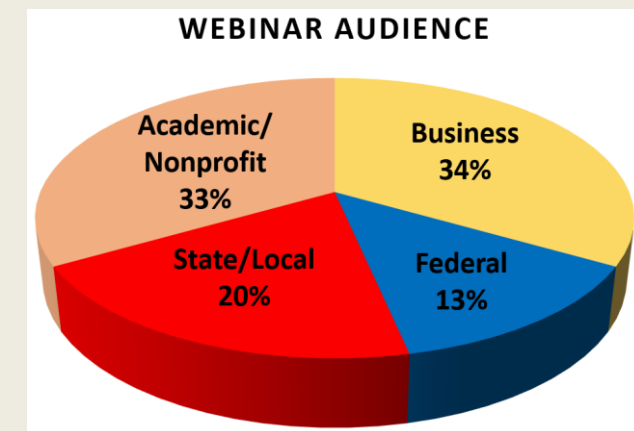
- **Renewable Energy**
- **Resilience & Sustainability**
- **The Circular Economy**
- **Restoring the Carbon Balance**
- **Climate Adaptation**
- **Urbanization and Sustainable Economies**
- **Extreme Weather Events**
- **Others**

"We rely on SSF to help us understand which climate issues to pay attention to."

- Academic Leader

Who Follows Us?

20,000 Global Sustainability Professionals



125 recordings in the SSF Archive

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Include:**



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- November 7 [The Intersection of Financial Risk and Climate Resilience](#) (ASU, NCSE)
- November 15 [Intergalactic Design: Applying Social Design to Sustainability](#) (Island Press)
- December 5 [The Science of Resilience in Decision-Making](#) (ASU, NCSE)

Register at www.ssfonline.org



Agenda

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- 1. Welcome (3 minutes)** Edward Saltzberg, Security and Sustainability Forum
- 2. Framing and introduction (5 minutes)** Dr. Elizabeth Cantwell, ASU
- 3. Panelist presentations (40 minutes)**
 - Heather Martin, Edwards Mother Earth Foundation
 - Nick Flores, Caprock
 - Matthew Nordan, PRIME Coalition
 - Catha Groot, Radicle Impacts
- 4. Panel Discussion (15 minutes)**
- 5. Audience Q&A (25 minutes)** Use the box in the GoToWebinar window
- 6. Panel Summary (2 minutes)**

Download the slides in the GoToWebinar window.

Video will be posted shortly.

(Please Take the Brief Exit Survey.)



Security And Sustainability Forum

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Moderator

5



Dr. Elizabeth Cantwell

CEO, ASURE

Prof. of Practice, ASU School for the
Engineering of Matter, Transport and Energy

*Prior leadership roles at Lawrence Livermore
National Laboratory, Oak Ridge National
Laboratory, Los Alamos National Laboratory,
NASA*



Security And Sustainability Forum

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Panel

6

ASU Julie Ann Wrigley
Global Institute of Sustainability
Arizona State University



Heather Martin
Board Member
Edwards Mother Earth
Foundation



Nick Flores
Client Advisory
Caprock



Security And Sustainability Forum

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ASU Julie Ann Wrigley
Global Institute of Sustainability
Arizona State University



Matthew Nordan
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Catha Groot
Director
Radicle Impact



Learning Objectives

1. How are philanthropies currently aligning their endowments with their climate missions?
2. What resources are available for foundations to support early stage climate investments?
3. How do philanthropies balance their return targets against the need to reduce greenhouse gas emissions reductions globally 45% by 2030?
4. What is the pathway for foundations to invest in transformative, scalable technologies that will accelerate progress towards the 1.5C target?

Impact Investing

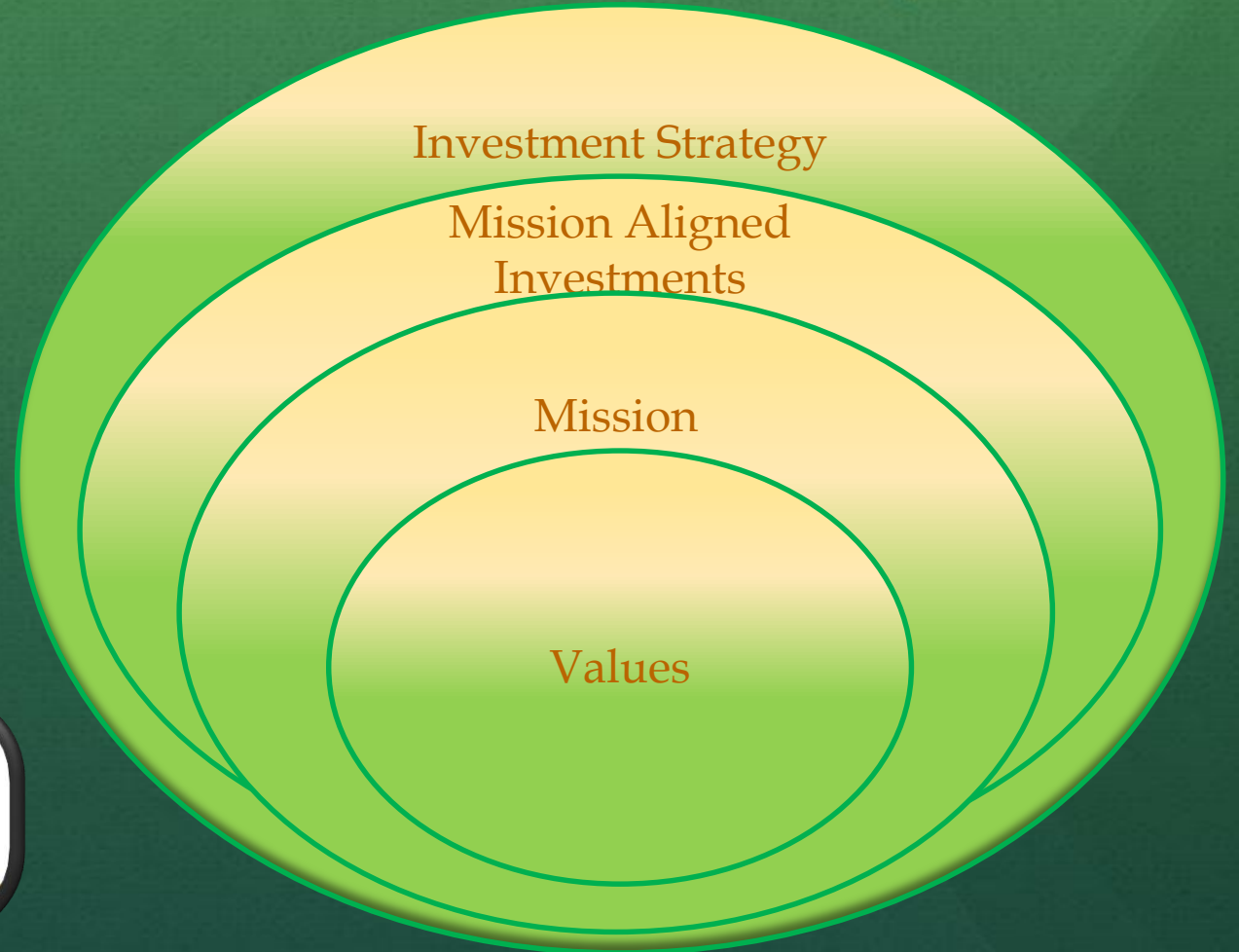
Heather Martin

Oct 20, 2013 Presentation to EMEF Board



Impact Investing

- Aligning a foundation's investments with its mission while sustaining, and even increasing long-term financial return



Board Responsibilities

- Each foundation trustee is a fiduciary and has a legal duty to fulfill this role
- We are steward's of EMEF's assets and need to know
 - How much do we have?
 - Where are they invested?
 - How are they are being reviewed and modified?



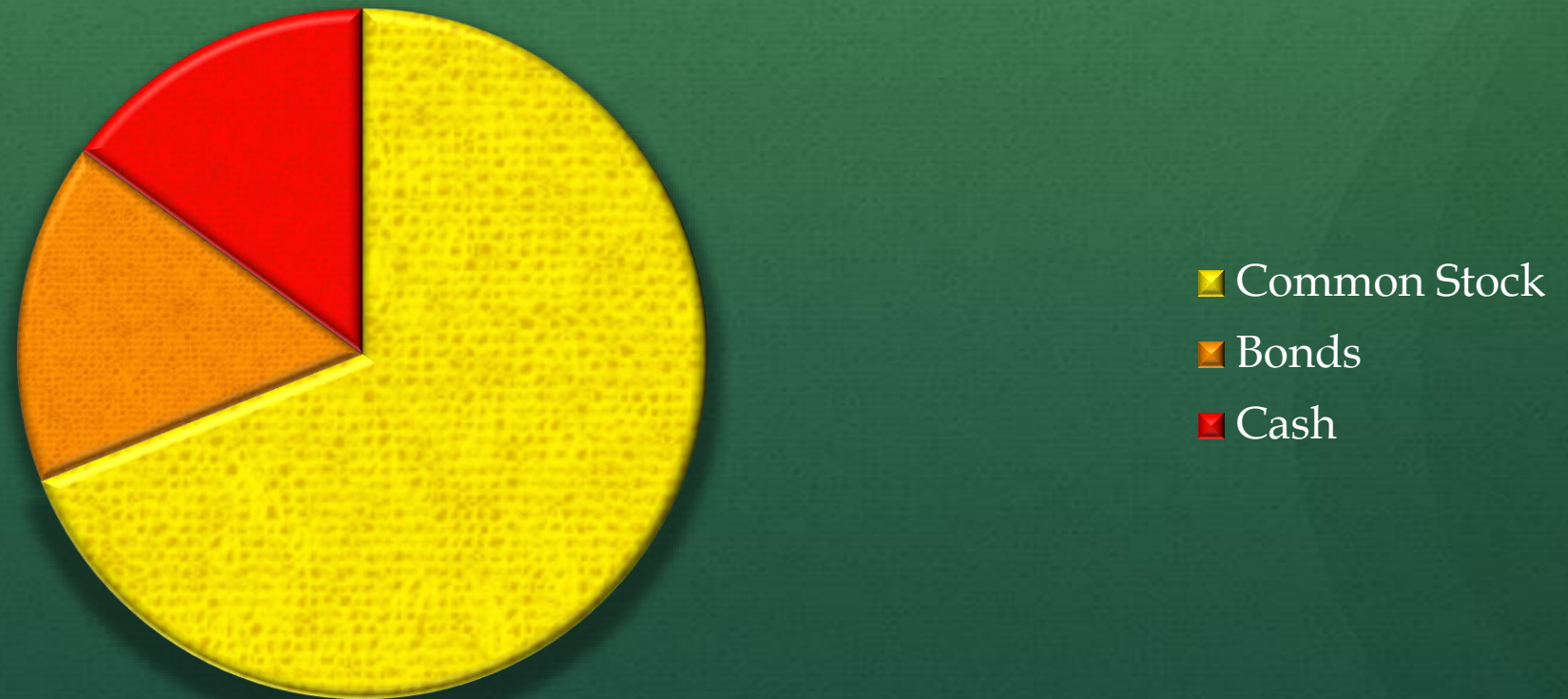
EMEF's Investment Policy

- Goal is to achieve sustainable returns to fund long-term grant-making objectives
- Social or “green” investments are incidental considerations



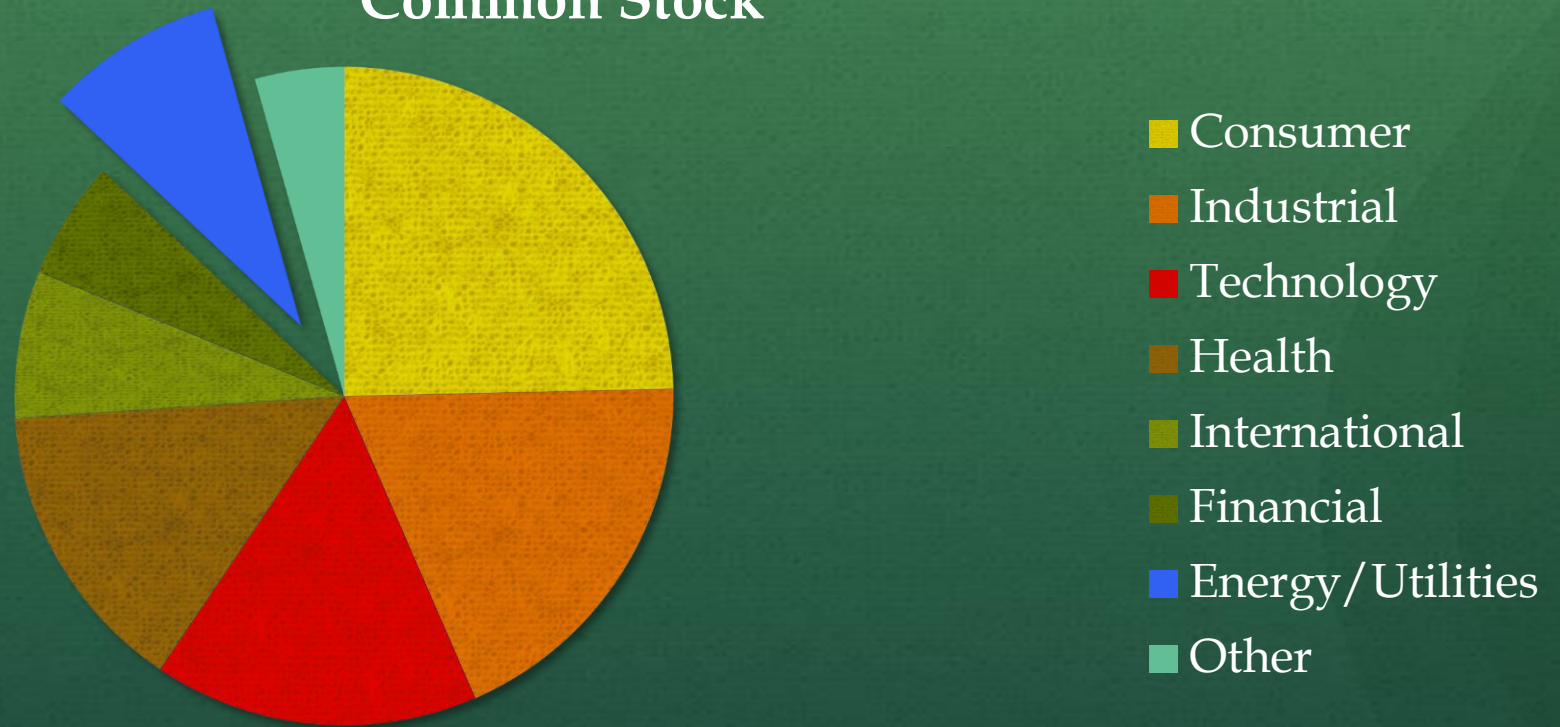
EMEF Portfolio

Asset Allocation of \$33 Million Portfolio



Stock Portfolio

Common Stock



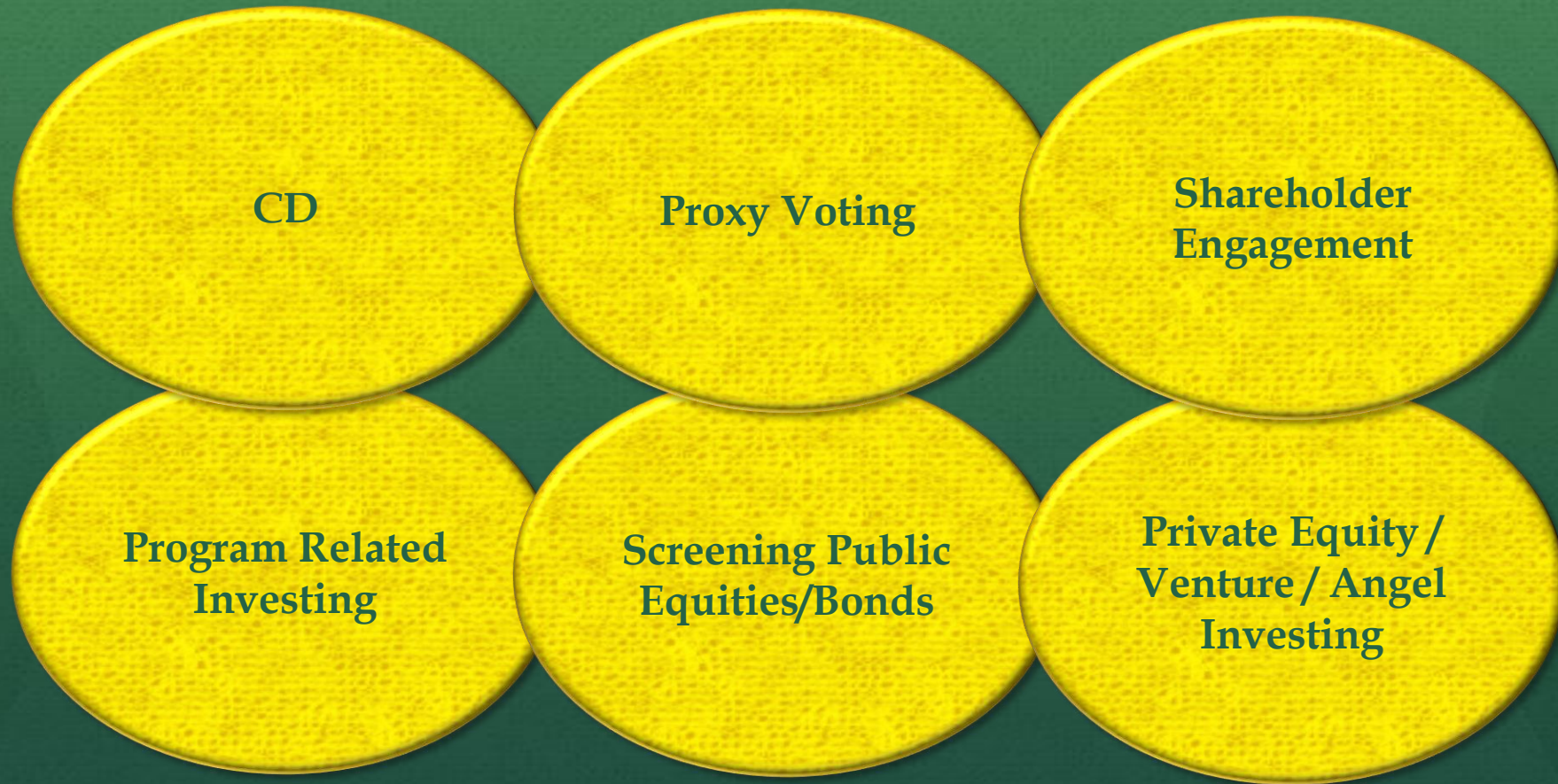
Investigation Process

- Reviewed our investment positions
- Reviewed resource materials
- Researched variety of firms
- Made connections

Foundation Assets



Mission Related Investments



CDFI & S/H Advocacy

- Community Development Financial Institution (CDFI)
 - CD investment at banks that get involved in community projects that support our mission.
- Shareholder Advocacy
 - filing resolutions with company management to influence their business practices



Program Related Investments



- Qualifies as part of 5% asset distribution requirement
 - Primary intent must be to align investment with mission, not to obtain yield
 - Returns are recycled back into endowment

Screening Investments

- Socially Responsible Investments (SRIs) using environmental, social and governance screening (ESG)



Venture Capital

Investing in start-up companies that are actively pursuing a green energy mission



Are MRIs more Risky?



The Answer is.....



Who We Contacted

Private Sector

- Core Capital Management
- RBC Wealth Management
- Solar Mosaic

Non-Profits

- As You Sow
- Impact Finance Collaborative
- Confluence Philanthropy

Recommendations

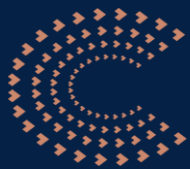


- Network with funders and philanthropic affinity groups
- Utilize As You Sow campaigns to vote our current positions in line with our mission
- Invest in Solar Mosaic's 1-yr working capital option
- Invite presentations to the board in the spring such as:
 - RBC Wealth Management, Solar Mosaic, Impact Collaborative Finance
- Consider becoming members of Confluence Philanthropy?

Security & Sustainability Forum:

Edwards Mother Earth Foundation

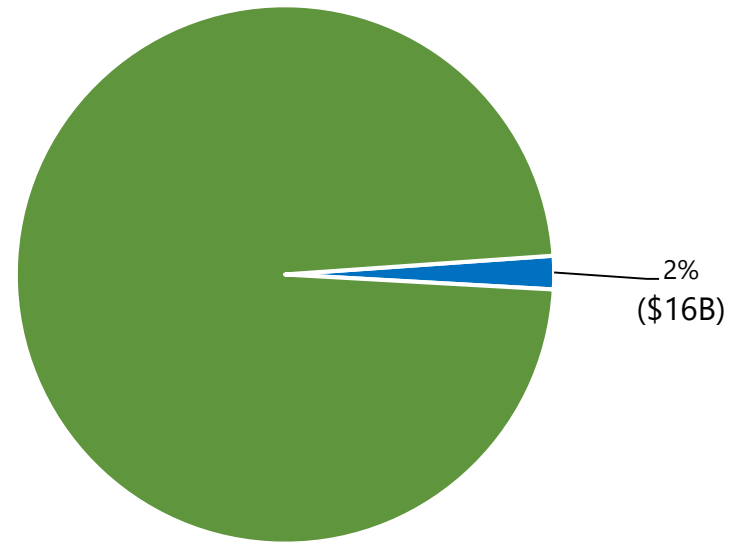
OCTOBER 31, 2018



CAPROCK

Foundations' Grant Focus

Endowment Assets ~ \$800 Billion



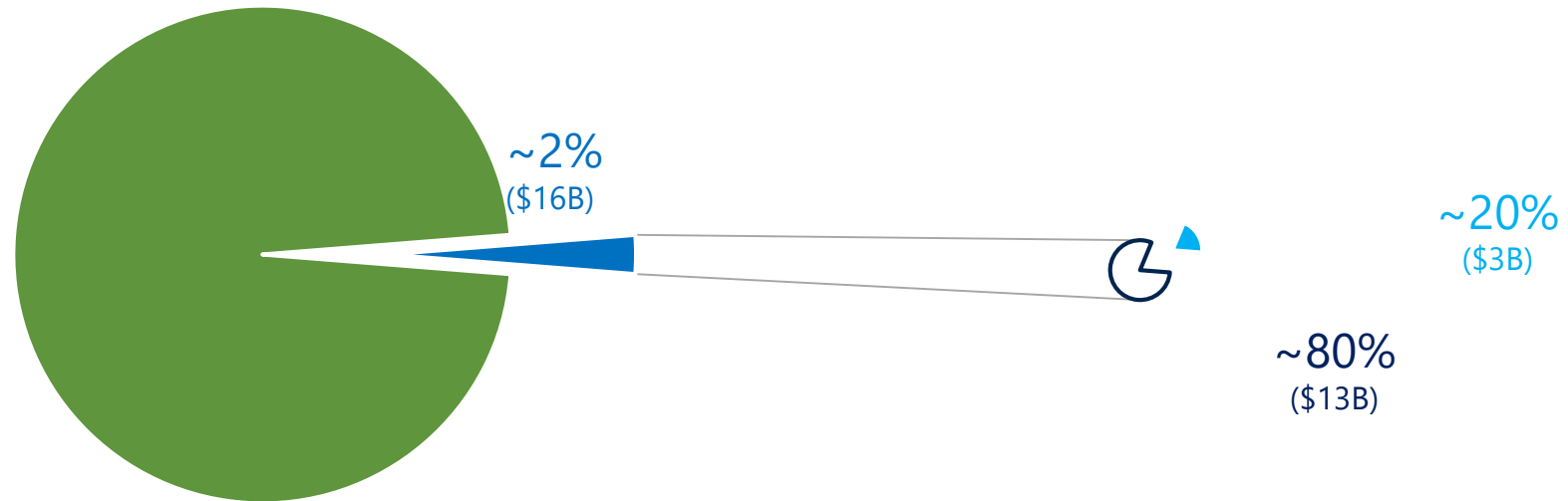
■ Climate Change ■ Other

Source: "Where the Hell Is All the Climate Funding?" - Inside Philanthropy

Insufficient philanthropic capital combatting climate change

Foundations' Investment Focus

Endowment Assets ~ \$800 Billion



■ Traditional Investments ■ Impact Investments □ Public Securities ■ Private Investments

Insufficient capital going toward impact investments – particularly those with the highest likelihood for change

Perceived Barriers

- Impact investing as a nascent discipline
- Limited investment opportunities
- Fiduciaries must focus on financial returns
- Fear of the unfamiliar

No More Excuses

- Impact investing as a nascent discipline
- Limited investment opportunities
- Fiduciaries must focus on financial returns
- Fear of the unfamiliar
- >10 years investing in similar structures
- 445 funds in ImpactBase, many with an emphasis on climate change
- IRS permits pursuit of environmental goals consistent with charitable purpose
- Increased data, success stories, & case studies together demystify the discipline

Case Study

Edwards Mother Earth Foundation opens the books on its impact investments



2018 Annual Conference
October 2-4 • Boise, Idaho

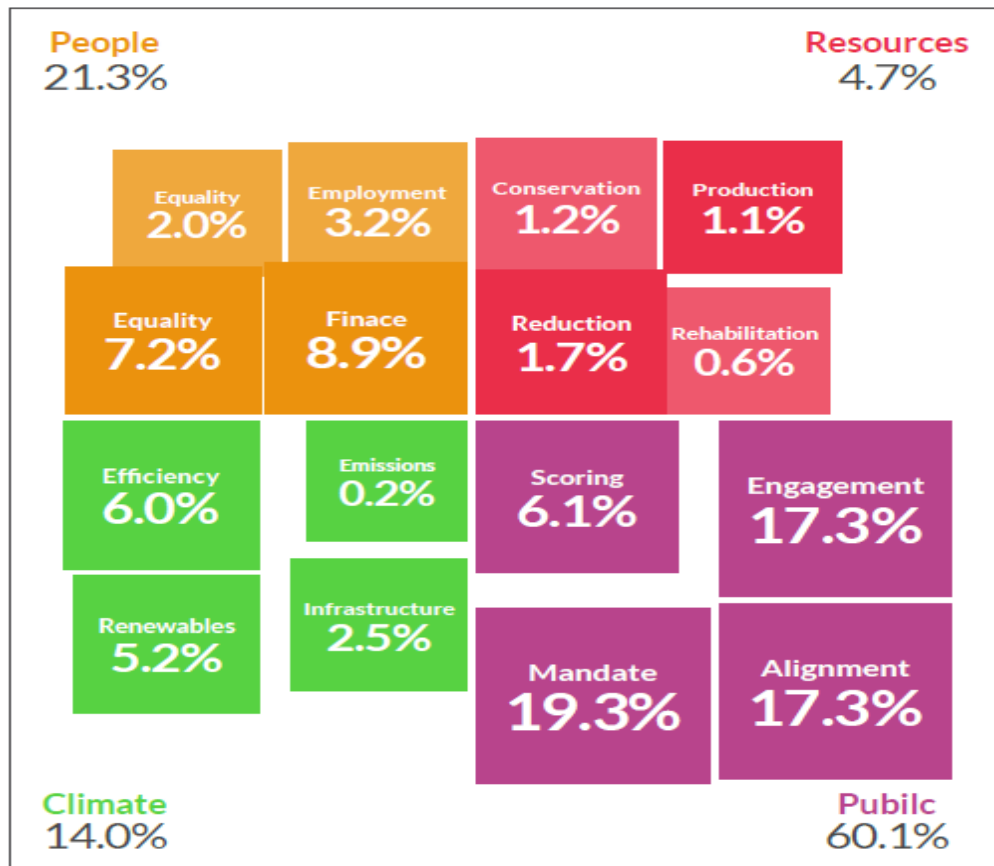


Edwards Mother Earth Foundation

- ~\$35 million endowment
- “Dedicated to enhancing the sustainability and diverse quality of life by addressing global climate disruption”
- Long-term target return: **8.0% annualized**
- Before: public securities, including positions such as Chevron, Royal Dutch Shell, Statoil
- Now: 100% invested for impact
 - Mission-aligned public equities, with full divestiture
 - Investment-grade bonds with environmental focus
 - Energy efficient & net zero housing (single- and multi-family)
 - Renewable energy: debt + equity, development + operating assets
 - Sustainable timberland & aquaculture
 - VC & growth equity: EV networks, battery control systems, green chemistry...
 - Cleantech secondaries
 - Program-related investments (PRIs)

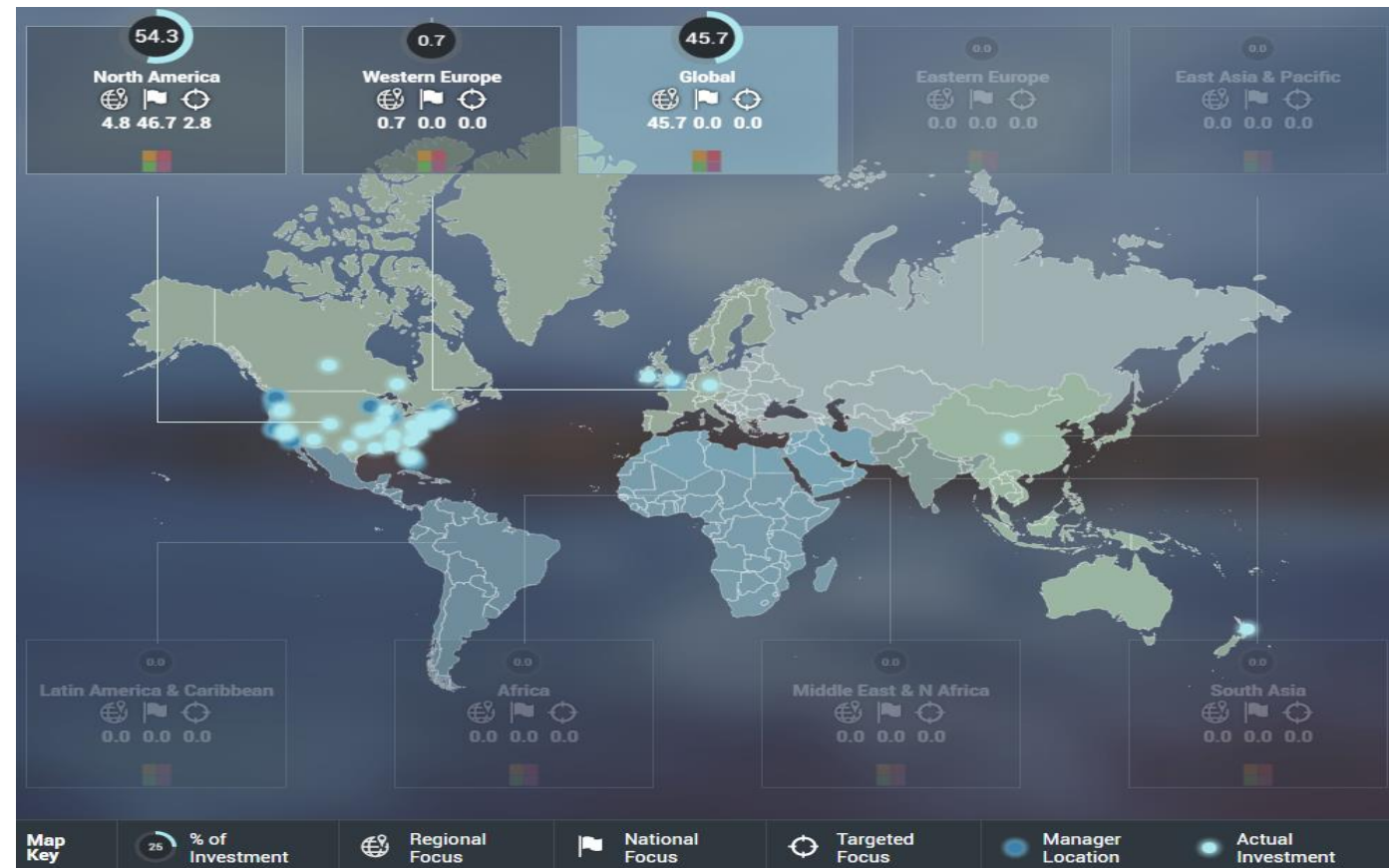
EMEF Impact Portfolio

Theme



Source: Impact Portfolio Assessment & Reporting (iPAR)

Geography



EMEF Environmental Impact to Date

CLIMATE

Efficiency

3,509

MWh of energy saved

Emissions

2,303,739

Metric tons of greenhouse gas (CO2 equivalent) abated

Infrastructure

88

Certified green homes built

Renewables

3,314,560

MWh of renewable energy generated

RESOURCES

Conservation

7,404

Hectares of land protected

Production

389,926

Hectares of land managed sustainably

Reduction

15,840

Tons of waste diverted from landfills

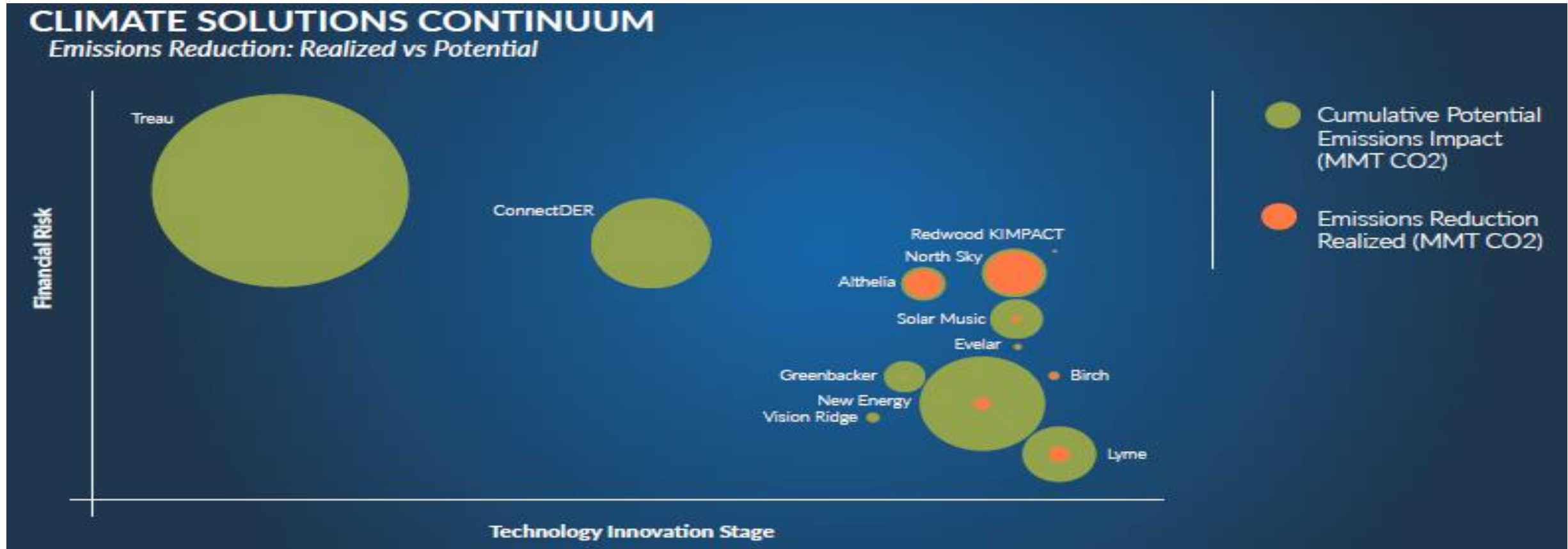
Rehabilitation

5,104

Hectares of land restored

Source: Impact Portfolio Assessment & Reporting (iPAR)

EMEF Emissions Reduction Potential



Source: PRIME Coalition



Newport Beach / San Jose / Seattle / Boise / Park City

thecaprockgroup.com

This report is prepared for *informational purposes only*. Investment in securities involves the risk of loss. Past performance is no guarantee of future returns. Other methods of analysis may produce different results. Results for individual portfolios and for different periods of time may vary depending on market conditions and the composition of the portfolio.

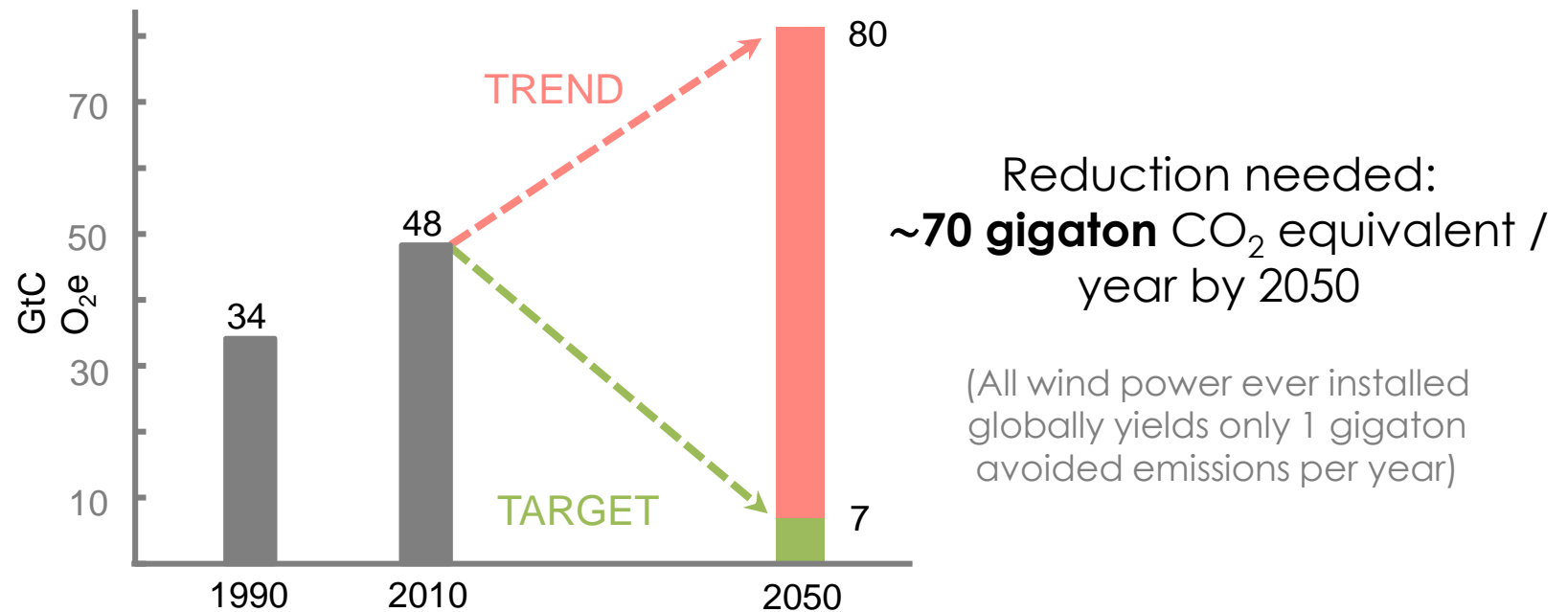
PRIME Impact Fund

Matthew M. Nordan
Managing Director
PRIME Impact Fund



Climate change is a complex, urgent global problem

We must emit *massively less greenhouse gas* alongside *growing global energy consumption* to avoid the worst effects of climate change



Breakthroughs are not being developed into products at the pace we need

We must innovate in heavy infrastructure sectors to drastically reduce carbon emissions by 2050.

It takes *decades* to scale disruptive technologies to widespread deployment.

As a result, we must develop and demonstrate breakthrough climate technologies in the ***next 10-15 years***.

Unfortunately, traditional investment is optimized to support software/data and is not stepping up to support transformational opportunities.





2010: Founded

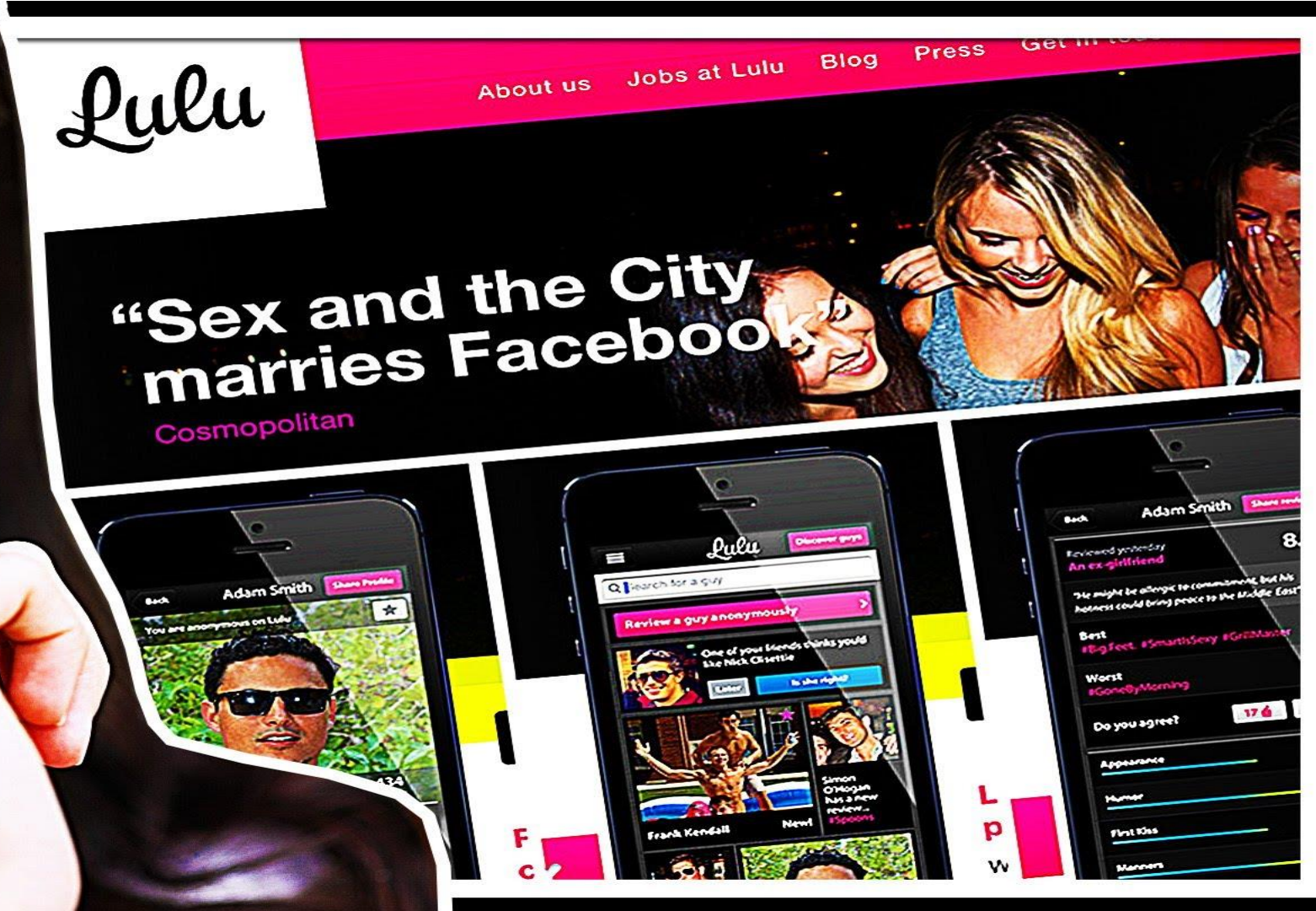
2011: Product

**2013: 1 billion kWh
saved**

2014: Bought by Google , \$3.2B







George Goes Out On A High Note



0:25 / 0:33



\$600B

U.S. family foundation
assets alone

\$50B

Annual grantmaking activity



NOT IN THE GAME



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Empowering philanthropists to place charitable capital
into market-based solutions to climate change.

[Learn More](#) ➔



AS FEATURED BY:

The
Boston
Globe

Caltech

echoing
Green



EmTech

Forbes
MIT
Technology
Review

FORTUNE

gtm.

Inside Philanthropy

PRIME has partnered with philanthropists to back
10 start-ups to date, mobilizing >\$20MM



Wright Electric



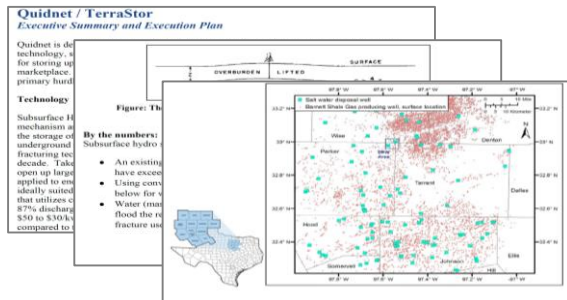
OPUS¹²

MALLINDA

Treau

Case study: Quidnet Energy

2012: Raw concept



Unfundable by VCs
– too early, too risky

2015-17:
PRIME funding &
support



\$1.5MM, levered by
\$800k in-kind services from

HALLIBURTON

Q4 2017: CEO
recruited



Veteran of VC-
backed energy
storage success

May 2018:
\$7.5MM Series A



Early investors sold
secondary at 2-4x
return

Our next step: The PRIME Impact Fund

A \$20MM-\$40MM **impact-first vehicle**, supporting companies:



with transformative climate impact potential



that are unlikely to raise capital without our support (“additionality”)



that can be scaled by returns-driven capital after being de-risked

Thank you

Matthew M. Nordan

(781) 254-2929

matthew@primecoalition.org

@matthewnordan





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VISION

Prove a sustainable model for venture impact investing and migrate \$1 billion to our investment model over time.



radicle

(**'ra-di-kəl**):

The primary root of a seed.

Radicle Impact's Focus Areas



Good Food

Create an equitable and regenerative food system that promotes healthy diets, regenerates soil and ensures access



Good Money

Build a fair and transparent financial services system with fairly priced credit, products that promote savings and greater transparency



Good Energy

Develop a sustainable and just energy system with a resilient grid, efficient energy use and clean generation, supply chains and transportation



Diversity, Equity & Inclusion

Improve gender and racial representation in leadership; share power with marginalized groups and sustain biodiversity



Empowerment

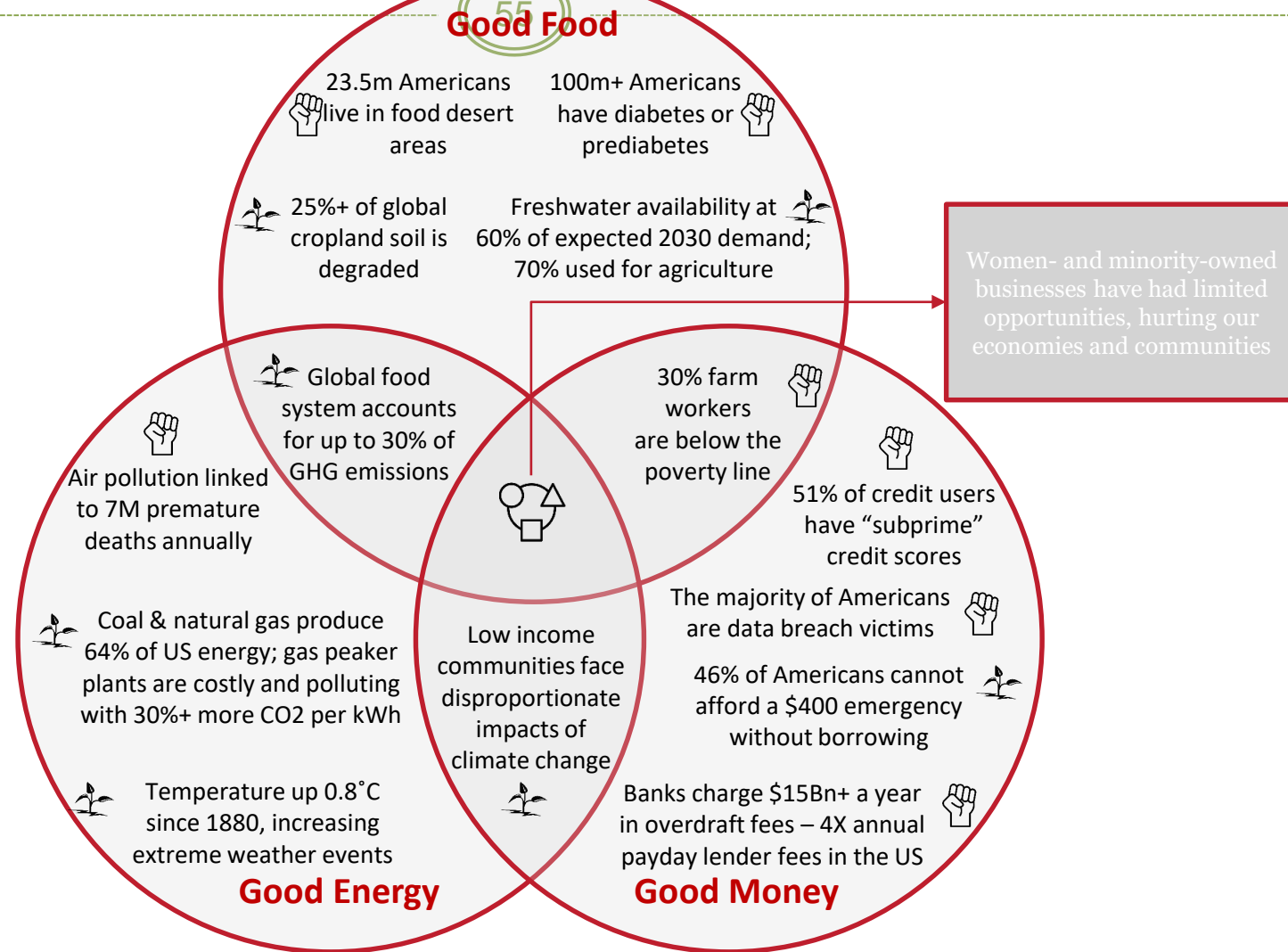
Increase individual and community choices to enable upward mobility, self-determination, and mutualism



Resilience

Build resilient communities and protect naturally resilient ecosystems to respond to and recover from adversity

With Systems Problems, We Seek Systems Solutions



Our Ecosystem Focuses on a Spectrum of Solutions

TOMKAT
FOUNDATION

TomKat Foundation

- Philanthropic foundation focused on good food, good money, good energy
- Provides grants to non-profits



University Research Institutes

- Research institutes at Harvard, Stanford and Yale focused on climate change solutions.
- 25+ fellowships granted



TomKat Ranch Education Foundation

- Learning laboratory for animal agriculture focused on climate stability, nature's benefits, healthy food, biodiversity, and community.
- Soil scientist on staff, partnership with Point Blue



Radicle Impact

- Early stage venture fund focused on good food, good money, good energy
- Invests in companies where financial returns drive measurable social and environmental outcomes



Beneficial State Bank & Foundation

- Triple bottom line bank promoting social justice and environmental resilience.
- 225 employees, \$850mm in assets
- Regulated by Fed, DBO, CFPB

Our Team is Committed to System Change



Kat Taylor

- Beneficial State Founder, Co-CEO & Co-Chair
- TomKat Ranch Educational Foundation, Founding Director
- Harvard University Board of Trustees
- Board member at Agriculture Sustainability Institute, Good Samaritan, Ecotrust and Forager Project
- Grid Alternatives National Advisory Committee
- Crocker Bank
- Stanford MBA, JD; Harvard BA



Dan Skaff

- Beneficial State Co-CEO & Vice Chairman
- Board member at Latino Community Foundation and Bay Area Council
- SF Federal Reserve Bank Advisory Board
- Marin Community Foundation IC Chair
- Glu Mobile Co-Chair; Pon North America Chair
- Sienna Ventures, Bankers Trust, Bank of America
- Wharton MBA; Harvard BA



Catha Groot

- Personal Capital
- Physic Ventures
- Rockefeller Group Investment Management
- UBS Investment Bank
- Stanford MBA; Princeton BA



Ami Naik

- BloomThat
- Fairloan Financial
- Elevar Equity
- Cedarview Capital Management
- J.P. Morgan Investment Bank
- Wharton MBA; Wellesley College BA



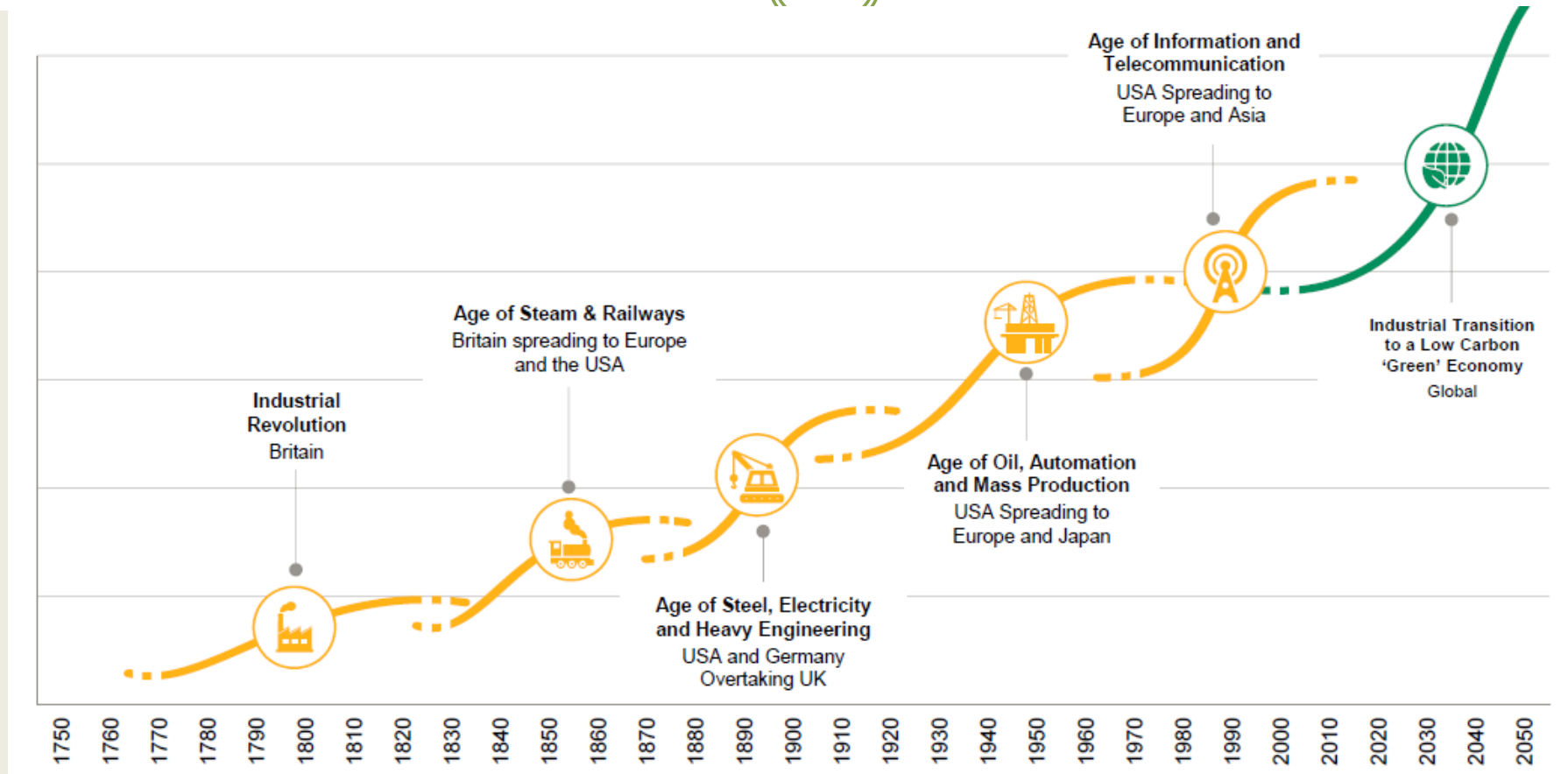
Corey Vernon

- ING Capital
- Appleby Capital
- Openx (digital/mobile ad technology)
- University of Virginia BS

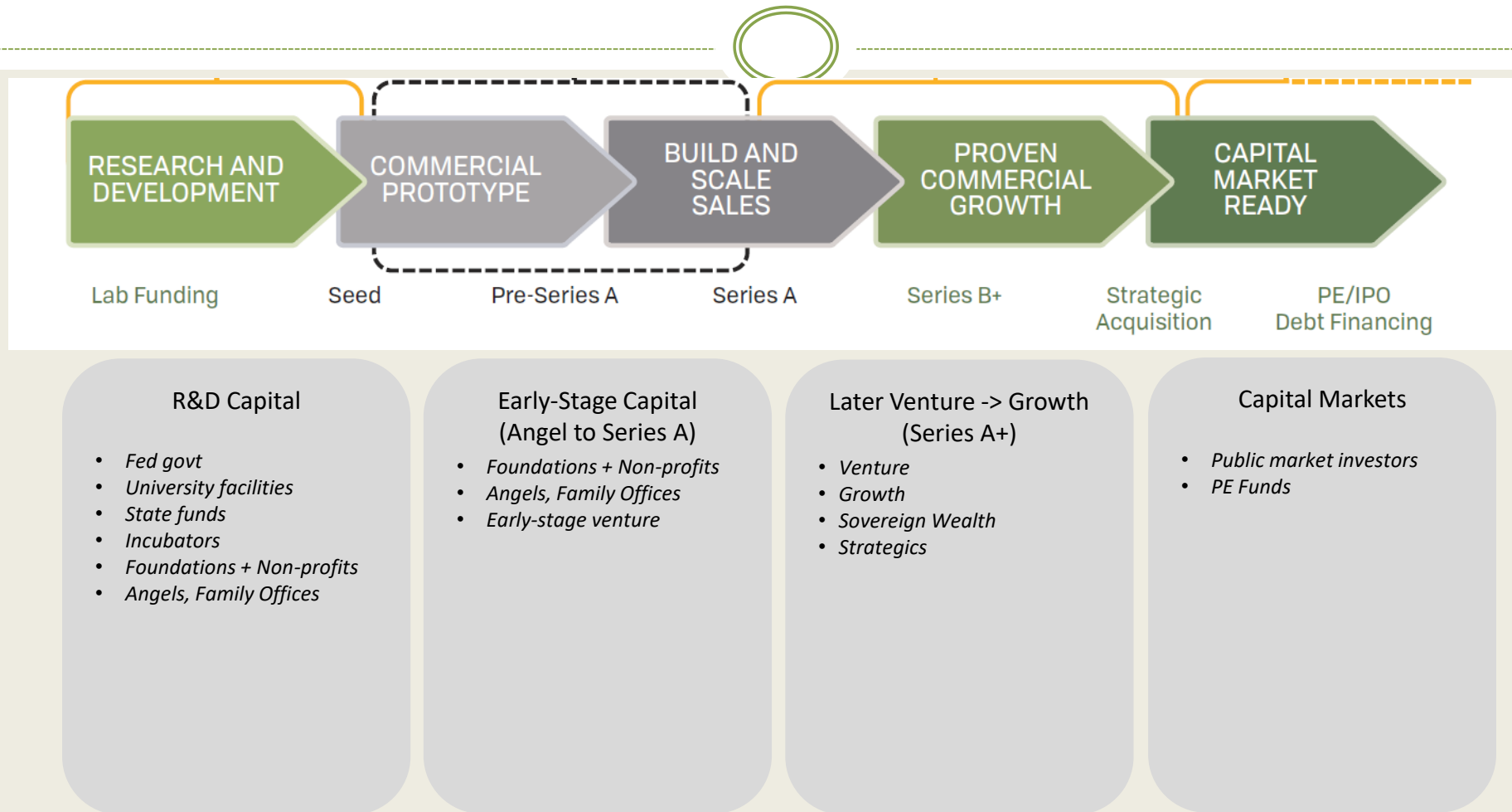
Our team combines 60+ yrs of operating and investment experience in relevant sectors, including 35+ years of venture investing and investment management. We have added strategic value to 40+ growth and impact organizations through Board directorships.

CLEAN ENERGY FOCUS

Low-Carbon Economy Opportunity



In Focus: Clean Energy Capital Gap



Divergent Technologies – The Future of Manufacturing

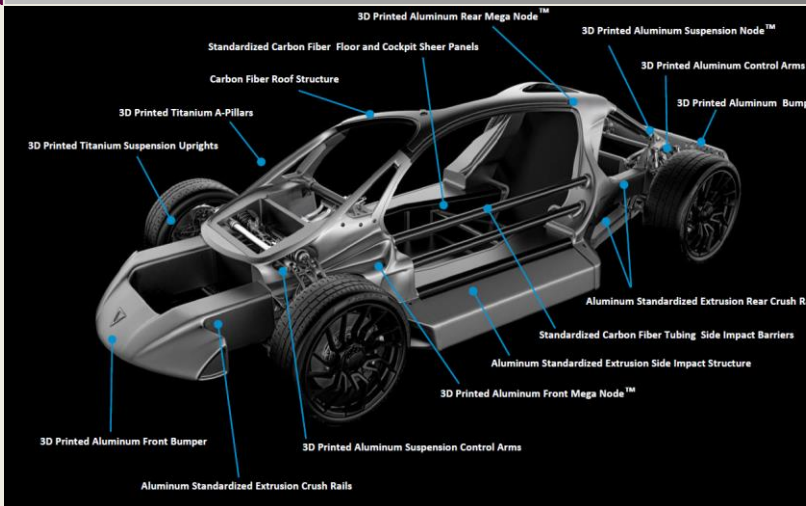


Impact Summary

- Transportation is #1 source of GHG emissions in the US; manufacturing of cars causes 10-30% of lifetime GHG emissions and over 50% of health damages relating to cars
- Divergent's light-weight vehicle structure could improve GHG emissions from operations by up to 10% and PM, NOX, SOX and VOCs of manufacturing by 50%+

Key Highlights

- Divergent has re-imagined the design and manufacturing of cars to reduce the capital needs and negative environmental externalities.
- First company to successfully apply 3D printing technology to mass-manufacturing commercial parts in the auto sector.
- Well-positioned with partners to be key pillar of China's next-gen auto manufacturing infrastructure.
- Invested in Series A and Series B



Ripple Foods – Disruption of Traditional D



Key Highlights

- Founders Adam Lowry and Neil Renninger have strong track records in biotech and CPG brands.
- Invested pre-revenue based on conviction in the plant-based category, strength of dairy alternative market and defensible IP.
- Team's experience and relationships in traditional CPG distribution channels as critical component to accelerated sales growth.
- Invested in Series A, B and C round

Impact Summary

- Dairy is responsible for 4% of GHG emissions and 20% of water use of animal agriculture
- Primary current product is milk and yogurt made with yellow pea protein
 - Ripple produces 86% less GHG emissions than almond milk and 74% less than dairy milk (on a protein per gallon of milk basis)
 - Ripple uses 93X less water than almond milk and 28X less than dairy milk (on a protein per gallon of milk basis)



Thank You



Catha Groot
Principal
catha@radicleimpact.com

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Security And Sustainability Forum

Convening Global Experts to Guide Decision Making

Panel Discussion

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How Do PRI's work?



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- https://www.dropbox.com/s/tmx3awop6srhnji/IFC_Final_9-24.mp4