Perspectives from Practitioners

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Rapid System Transitions towards Low GHG Futures Workshop
Snowmass, CO
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WILLIAM + FLORA
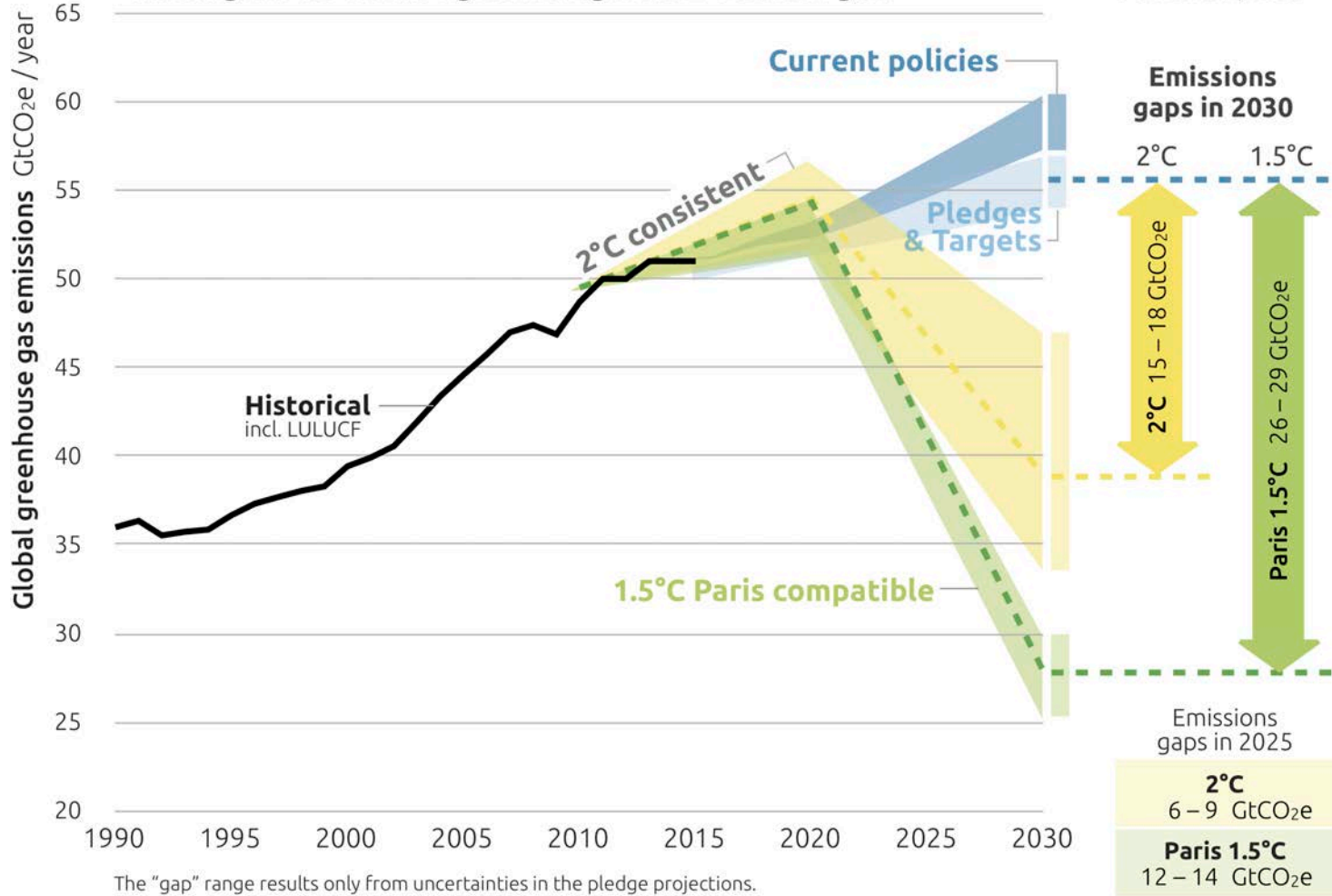Hewlett Foundation

Reviewing Actions Against the Paris Goal

2030 EMISSIONS GAPS

CAT projections and resulting emissions gaps in meeting the 1.5°C Paris Agreement goal vs 2°C Cancún goal

Climate Action Tracker

Dec 2018 update

Global greenhouse gas emissions GtCO₂e / year

Current policies

Emissions gaps in 2030

2°C   1.5°C

Pledges & Targets

2°C consistent

2°C 15 – 18 GtCO₂e

Paris 1.5°C 26 – 29 GtCO₂e

Historical incl. LULUCF

1.5°C Paris compatible

Emissions gaps in 2025

2°C 6 – 9 GtCO₂e

Paris 1.5°C 12 – 14 GtCO₂e

The "gap" range results only from uncertainties in the pledge projections.
Gaps are calculated against the mean of the benchmark emissions for 1.5°C and 2°C.
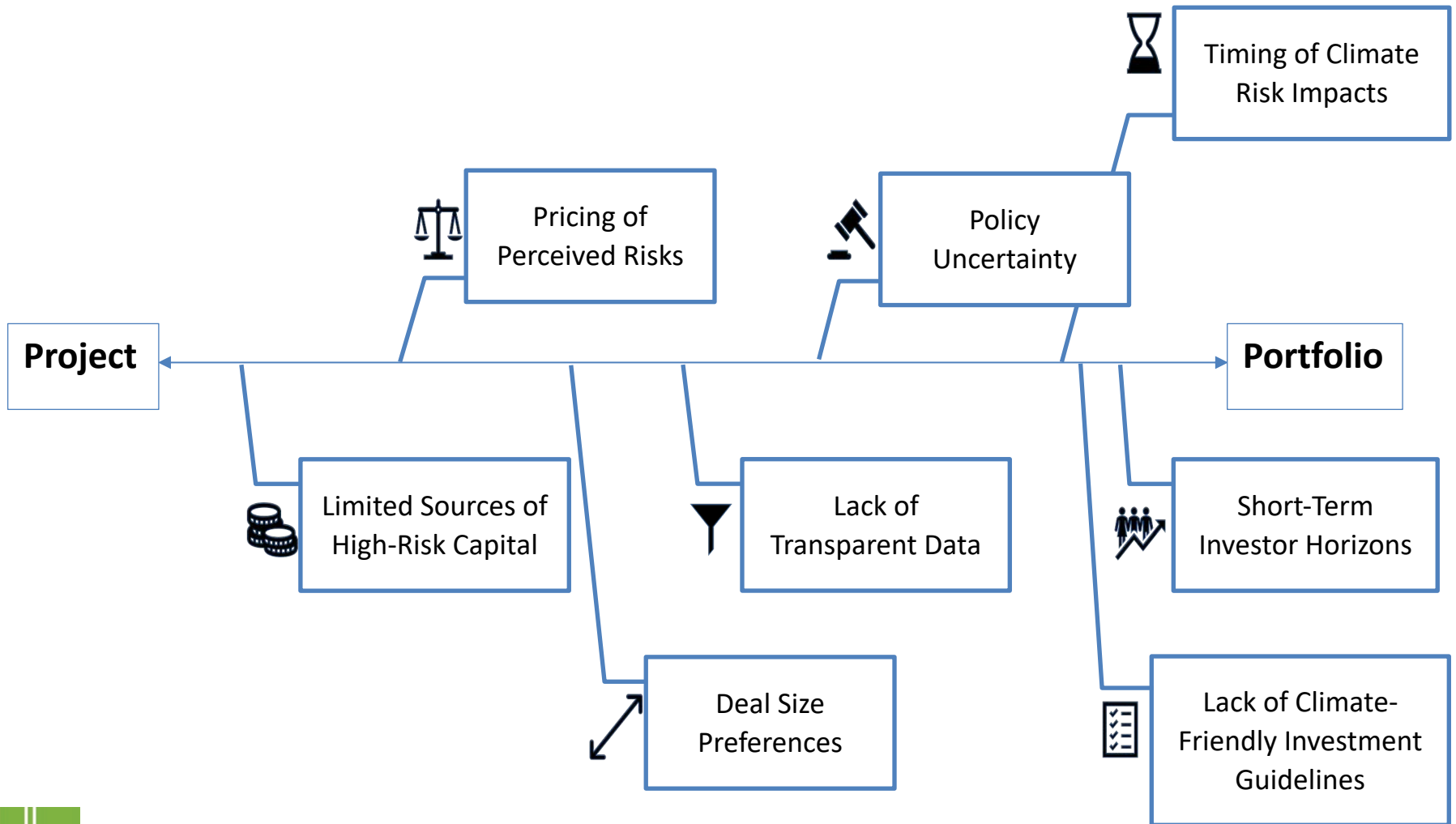
Global Annual Climate Investments
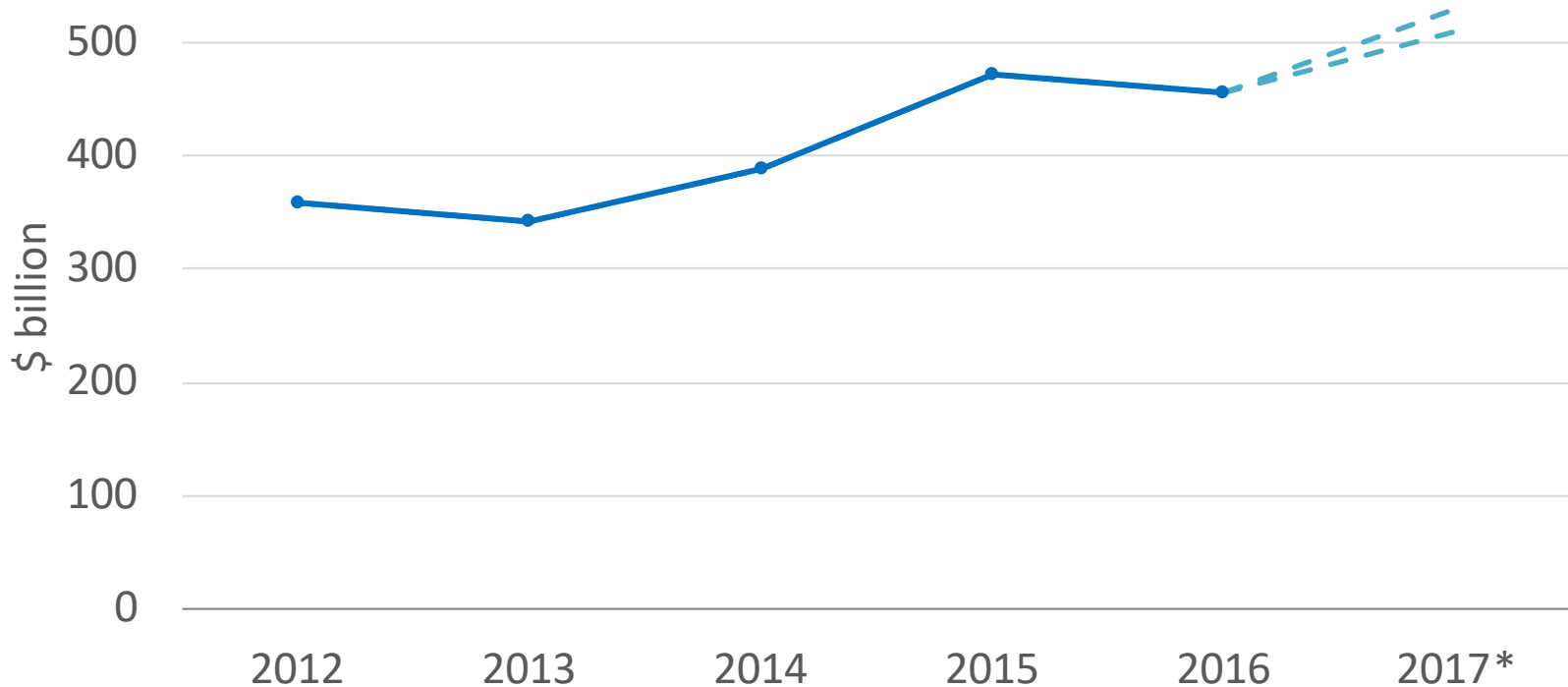
*2017 Estimated investments
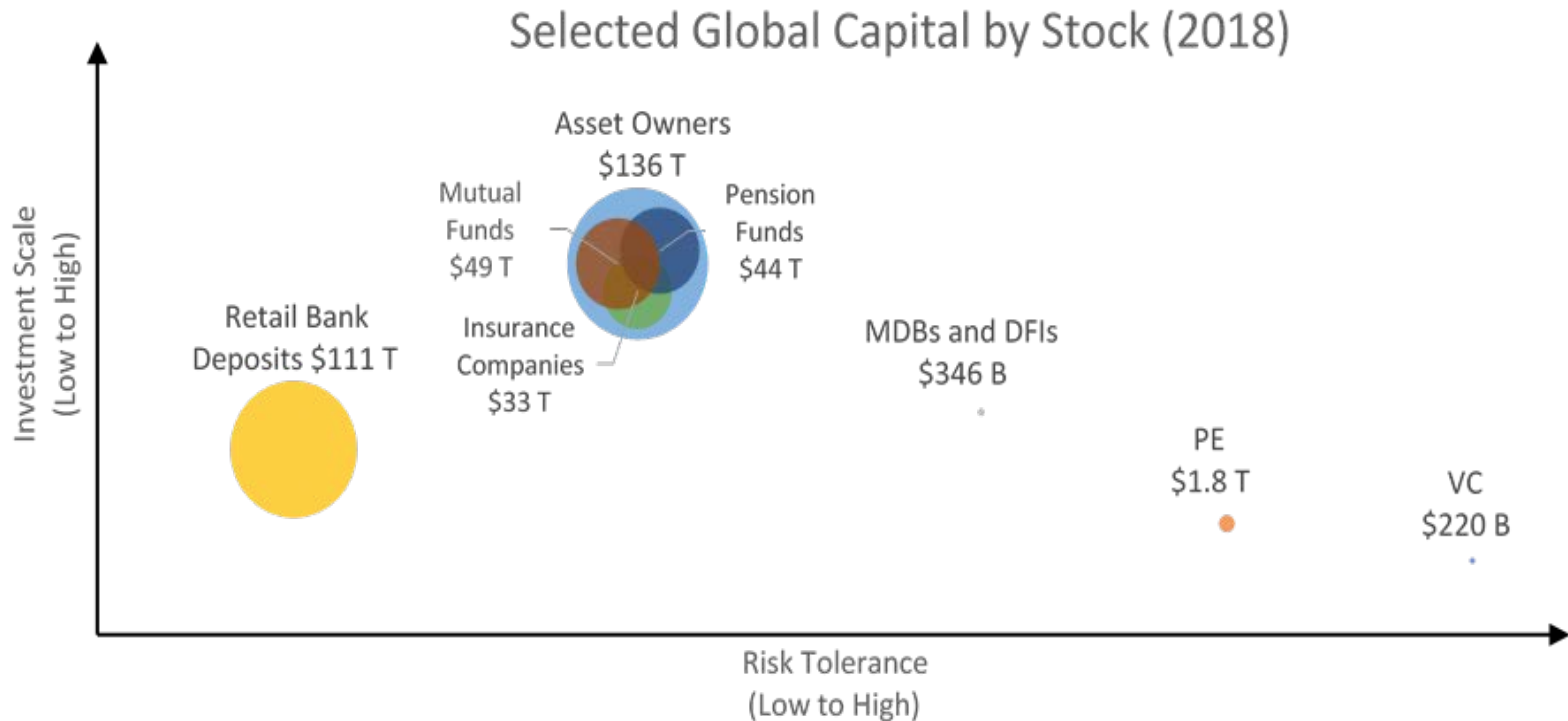Source: Data from Climate Policy Initiative (2018)

IPCC 1.5 Report: Annual investment of $1.6 to $3.8 trillion for energy systems between now and mid-century needed to keep warming on a roughly well-below 2° C pathway

Barriers to climate friendly investment flows

Financial Asset Pools

Selected Global Capital by Stock (2018)

Investment Scale (Low to High)

Asset Owners $136 T

Mutual Funds $49 T

Pension Funds $44 T

Retail Bank Deposits $111 T

Insurance Companies $33 T

MDBs and DFIs $346 B

PE $1.8 T

VC $220 B

Risk Tolerance (Low to High)

DISCLAIMERS

Asset Owners: Represent assets held in pension funds (~32%), insurance funds (~24%), sovereign wealth funds (~5%), mutual funds (~36%), endowments and foundations (~1%). (2018)
Retail Bank Deposits: Represents deposits of individuals and businesses in retail banks. (2018)
PE: Represents liquid assets. (2018) Average deal size: $157 million

VC: Represents liquid assets. (2018) Average deal size: $1.1 million angel/seed, $5.5 million early stage, $11.5 million late stage
MDBs and DFIs: Represents disbursements from 2017 (commitments when disbursements not available). Includes CDB and C-EXIM.

Needs (1)

- Decision-making needs
  - Objective: develop scenarios for use by policymakers at state, national and international level in order to set goals, determine appropriate policy and assess performance.
  - Sufficient detail to consider individual sector/sub-sector and technology outcomes with geographic specificity adequate to assess performance of key partners (particularly large emitting countries/groups such as the US, China, India, Europe, Brazil, Russia, Japan, Saudi Arabia, South Africa, Indonesia, South Korea, Mexico)
  - Flexible enough to be readily modified as policy changes, and new technology emerges
  - Able to robustly simulate agreed policy goals (eg, 1.5°C; Chinese intensity target)
- Key questions
  - What are the effects of current policy?
  - What are the projections of the effects of proposed, additional policy?
  - How can policymakers best understand sensitivities in the model (and projections)

Needs (2)

- Quantitative information
  - Country specific output for all major economies, including investment requirements
  - Sector and subsector detail (including on costs) in major sectors, with additional specifics in sectors exposed to international trade
  - Sufficient time resolution to assess near-term annual or biennial progress by actors, while preserving robust projections to 2050 and 2100. Consideration of annual capital needs to meet goals
  - Ability to model impacts of more qualitative policy (eg, information campaigns, trade barriers, policy uncertainty, etc), with consideration of impact on financial assets
  - Ability to work from incomplete datasets

Approaches – Past and Present

- USG:
  - multi-model comparisons, primarily drawing on combination of academic and government models.
  - Interagency process for considering model results and policy implications.
  - Supplemented by expert consultations, diplomatic input and domestic and international political assessments
  - Note: limited use of financial models or consideration of financial risk/reward, though considerable attention to costs.
- Philanthropy:
  - No internal modeling capacity, therefore use of models in public domain.   Support for some collaborations (both in the US and internationally to model certain outcomes or policy options.
  - Philanthropy is a market taker; mostly works indirectly through money managers. Also a relatively small asset pool

Challenges and Areas for Improvement

- Needs of developing countries (and recipients of climate finance) vs. capacities and willingness to pay by donors
- Impact of public finance and investment on market decisions
- Impact of government policy on private sector investment in zero emission technology and climate-related infrastructure. Insight into differences in financial impact based on policy choice (price instruments v standards v technology investment v leveraging government lending)
- Concerns of different asset pools: debt markets, insurance, pension funds, VC, SWF, etc
- Potential need for government to backstop private sector in cases of failure (e.g, PG&E with CA wildfires, or FL home-owner flood insurance)
- Specific non-market decisions that may affect financing (eg: Belt and Road commitments by China, Brexit decision that may affect UK's effort to build green financial sector capacity, etc)
- Challenges of developing policy due to limited public information