



Harvard Catalytic Climate Initiative

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Our Team



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Overview

What projects will CCI fund?

How will CCI be funded?

What do the mechanics look like?

Need for Urgent Climate Action

4

The world is currently on a trajectory of 3°C to 4°C rise.

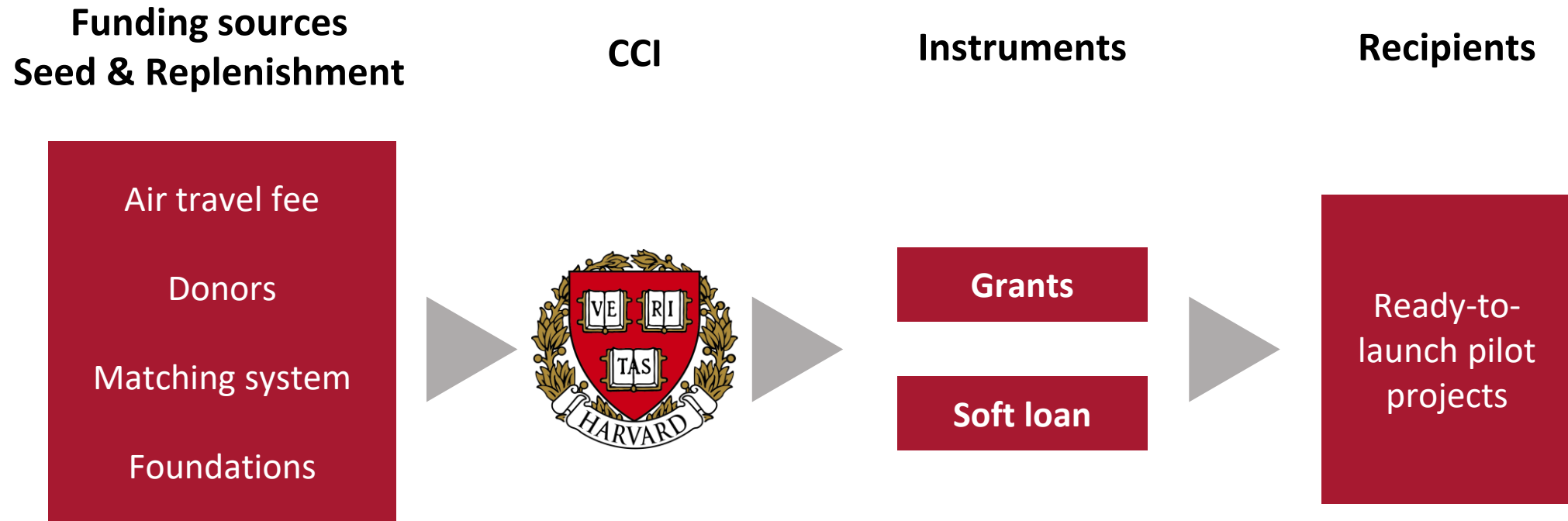
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We need to cut global emissions by about 45% by 2030 compared with 2010 levels.

1.5

Limiting warming to 1.5°C is not impossible but will require unprecedented transitions in all aspects of society.

CCI will fund innovative pilot projects that reduce Scope 1 and 3 emissions at Harvard and beyond



*By 2031, average **100,000 metric tons** of CO_2 reduced per year
& average cost of emissions reduction at **\$15/metric ton***

It is a first-of-its-kind initiative at Harvard

1

Innovation through Experimentation

- No profit requirement
- Anywhere in the U.S.
- Teams can include non-Harvard affiliates
- Up to 5 years

2

Unique Focus

- Scope 3 emissions

3

Integrated Educational Programming

- Hands-on learning

CCI vs Existing Funds at Harvard

	Catalytic Climate Initiative (CCI)	Campus Sustainability Innovation Fund	Green Revolving Fund	Sustainability Grant Program	Climate Change Solutions Fund
No payback required	✓		✗		<i>Limited to sponsoring faculty research</i>
Scope 3 emissions	✓	✗	✗	✗	
Pan-USA scope	✓	✗	✗		
Integrated educational programming	✓	✗	✗	✗	
Non-Harvard affiliates allowed in team	✓	✗	✗	✗	
Up to 5 years	✓	✗		✗	✗

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Overview

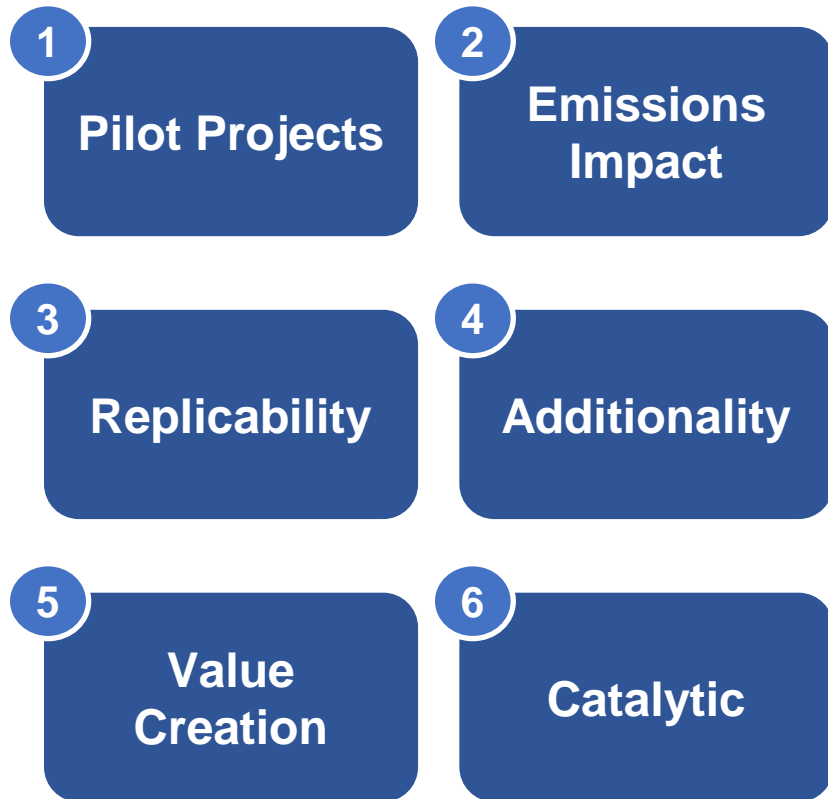
What projects will CCI fund?

How will CCI be funded?

What do the mechanics look like?

CCI-funded projects will meet six key criteria; here we show how they could apply to the Cover Crop Credit project

Criteria



Cover Crop Credit

- Links farmers with investor (CCI) to plant cover crops
- Cover crops (legumes) reduce nitrogen, carbon and methane emissions
- CCI's grant/loan compensates farmers and claims reduced emissions as offsets
- Third-party monitoring of progress

Pilot Projects

- **Ready to launch**
- **Conceptualized within Harvard**
- **One Harvard affiliate within team**
- **Demonstrable GHG impacts**

Cover Crop Credit

Requirements

- Farmer and monitoring organization identified
- Negotiations complete; contracts ready for execution
- Administrative details and implementation planning complete

Emissions Impact

Portfolio-level goal (by 2031)

- 100k CO₂ reduced annually
- \$15/ton avg. cost of CO₂ reduced

Project-level goal

- Long-term route to achieve \$15/ton

Cover Crop Credit

Assessment

- At \$8-9/ton of CO₂ avoided, project is well within CCI goal

Replicability

- Scalable
- Applicable in other contexts

Cover Crop Credit

Requirements

- Ease of adoption by other farmers in Wisconsin
- Potential for adoption by different types of farms across the USA
- Total potential emissions reduction possible over a 10-year horizon

Additionality

- Under-funded area of focus
- CCI funding mission-critical

Cover Crop Credit

Assessment

- Costing suggests external funding unlikely at pilot stage
- CCI funding critical to success

Suggestion

- Further bolster case by demonstrating potential of intervention, and broad lack of attention from climate funders

Value Creation

Co-benefits

- **Costs and/or profitability**
- **Environmental**
- **Health**

Cover Crop Credit

Assessment

- Cost-reduction through an eventual reduced need for fertilizer purchases by farmers
- Potential profit-generation through sale of cover crops by farmers
- Lower nitrous oxide emissions and nitrogen runoff
- Increased soil carbon content leading to greater water retention, and therefore, greater drought resilience

Catalytic

Fundraising potential

- **Other funders**
- **Self-financing**

Cover Crop Credit

Assessment

- Strong potential for farmer self-financing in future due to reduced fertilizer costs and profit from cover crop sales
- Clearly outlined additional funding sources at the federal level (e.g. USDA EQIP) and state level

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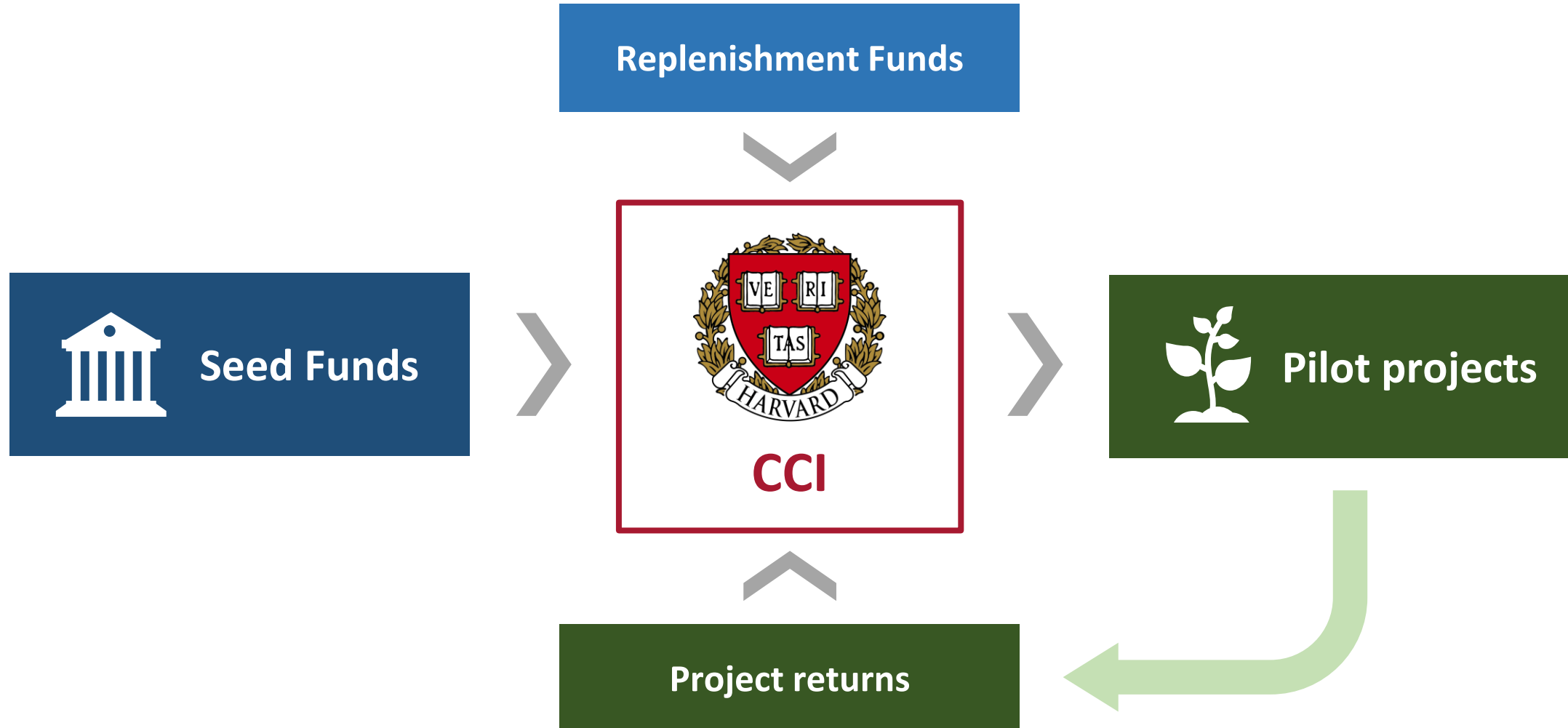
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What projects will CCI fund?

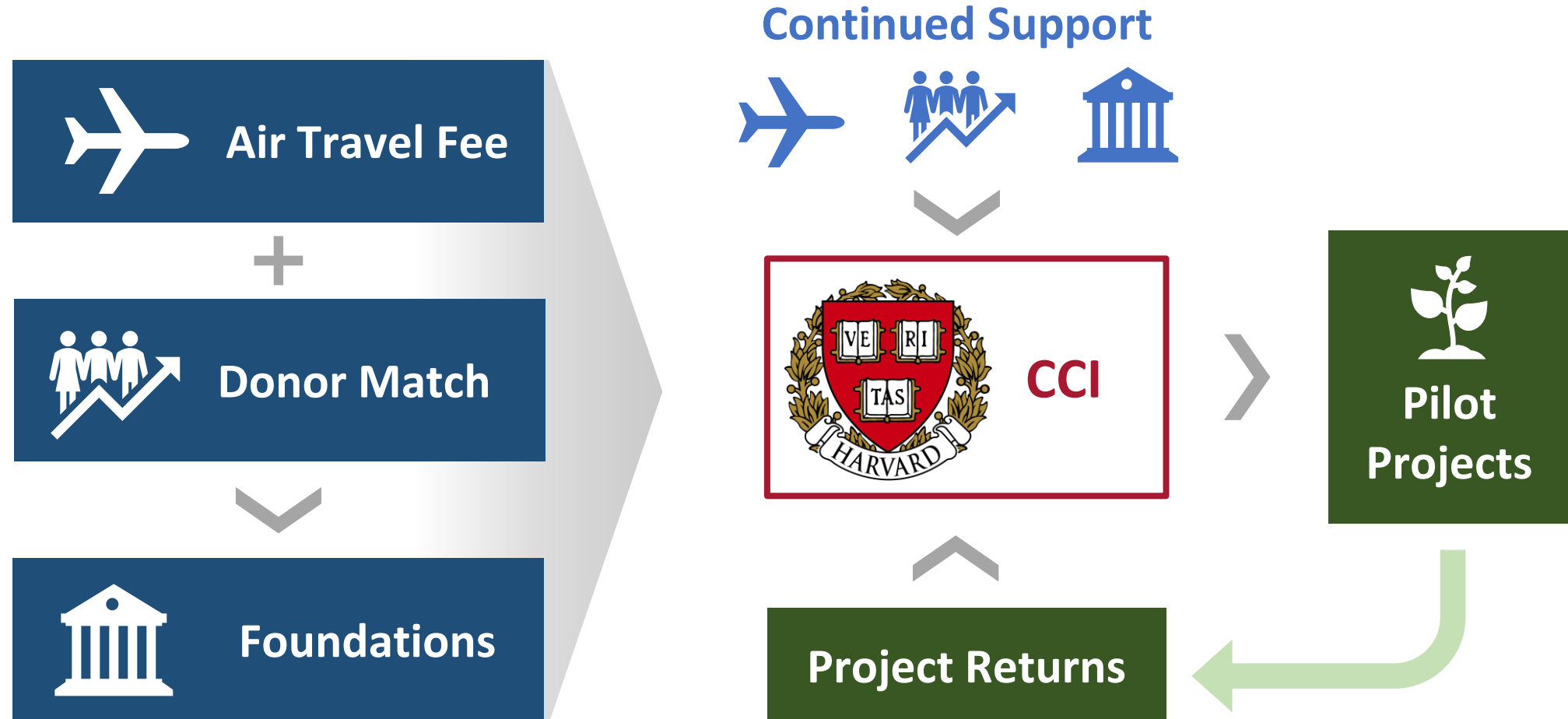
How will CCI be funded?

What do the mechanics look like?

CCI will need to be seeded as well as replenished



Our proposal: Use air travel fees and donor matches to catalyze foundation giving, then support ongoing operations



Funding Avenues

Institutional

- **Air Travel Fee**
- **Internal Carbon Tax**
- **Project Returns**

Donor

- **Donor Group**
- **Individual Donor**

Foundation

- **Traditional Foundation**
- **Corporate Foundation**

Funding Avenues

Institutional

- **Air Travel Fee**
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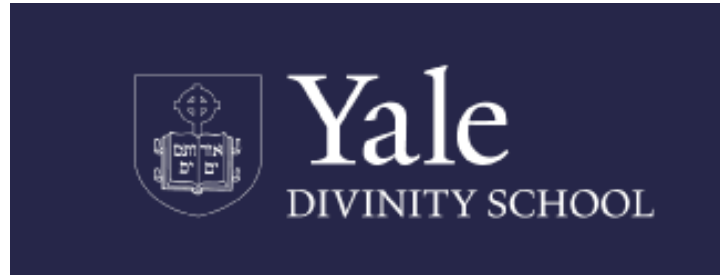
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Air travel fees have been imposed by leading institutions...



\$50 domestic, \$100 international

Funds support on-campus sustainability efforts



\$9 domestic, \$25 international

Funds support on-campus renewables & efficiency

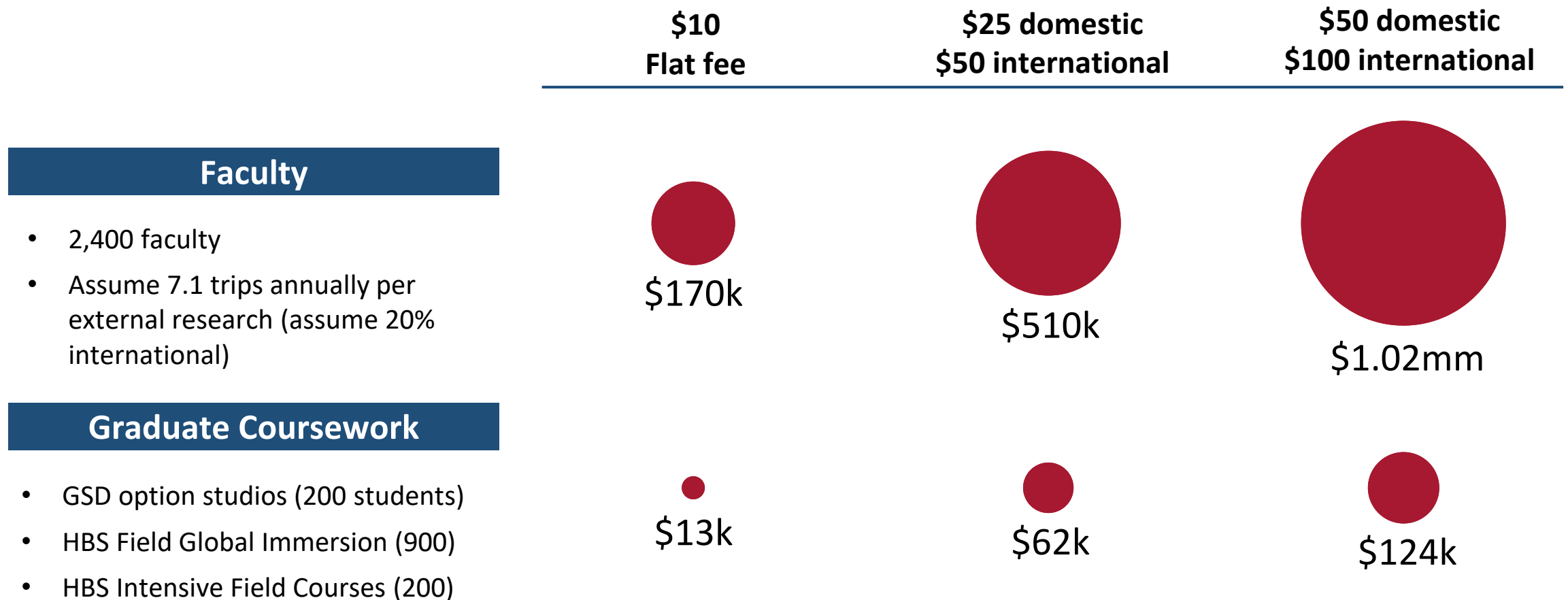


\$10 for all trips

Funds support local/community-based sustainability

*Imposing an air travel fee **tangibly demonstrates Harvard's commitment to sustainability** – both within Harvard and to **potential donors***

...and could be a significant revenue stream at Harvard



Internal carbon tax revenues and project returns could help fund CCI in the future



Internal carbon tax

- Schools/departments **pay a tax based on their carbon emissions, funds go to CCI** and other sustainability initiatives
- Pricing carbon and studying behavior change, markets, etc. a **research opportunity for Harvard** faculty and students



Project returns

- **Projects repay** the fund
- “Soft loans” with flexible terms, low interest rates
- Limited source of replenishment initially due to **loan structure and inherent risk of pilot projects**

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Key Financial Assumptions



Seed Funds



**Operational
Expenses**



**Replenishing
Funds**



**Soft Loan
Potential**



**Fund
Disbursement**

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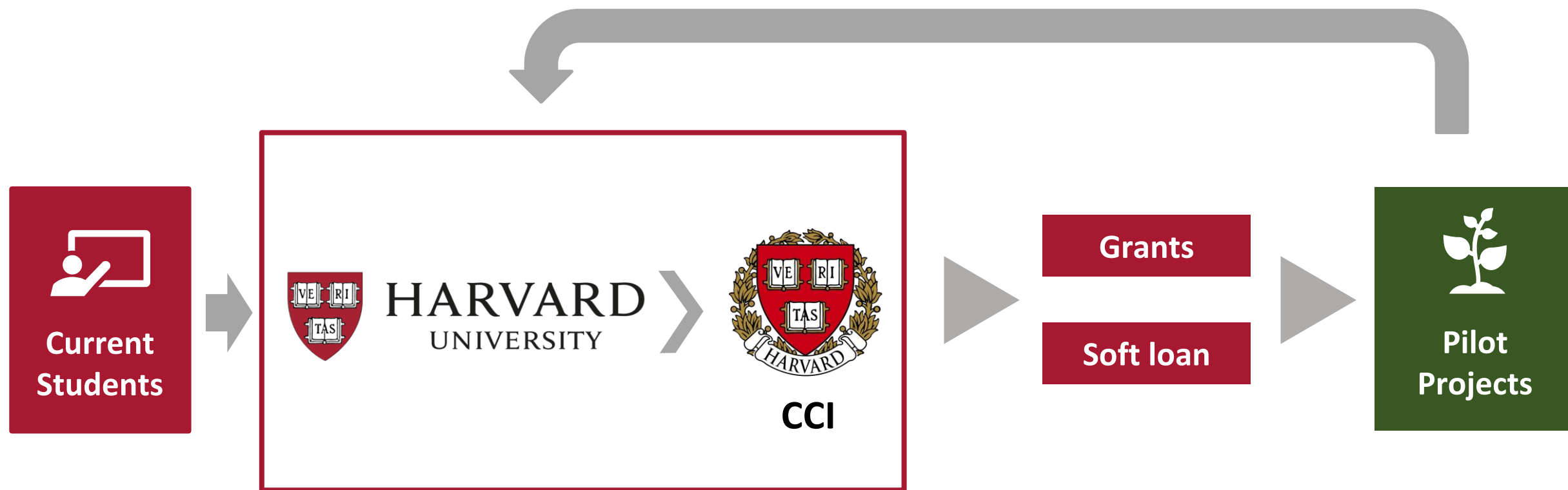
Overview

What projects will CCI fund?

How will CCI be funded?

What do the mechanics look like?

CCI will be housed within Harvard, provide grants and loans to projects, allow Harvard to claim the reductions, and offer educational opportunities for students



There are three potential homes for the initiative, with the Office for Sustainability (OFS) being the strongest choice



HARVARD
UNIVERSITY
Sustainability

- Manages existing sustainability funds
- Oversees off-site emissions reductions options
- Has the expertise & is already hub for sustainability at Harvard



HARVARD
Office of the Provost

- Funds activities of academic nature



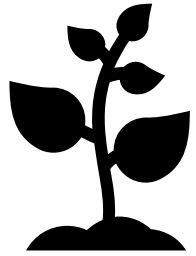
HARVARD
Office of the President

- Manages campus-wide funds, prizes, and challenges that defy mission of single administrative office

There will be a mix of grants and loans



Harvard can claim emissions reductions from CCI projects to support its climate commitments



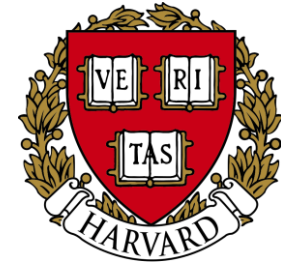
Pilot Projects

- Emissions reductions in the field
- Rigorous monitoring and data collection



CCI

- Data verification and consolidation
- Quarterly emissions reduction report



- Apply offsite emissions reductions to offset campus emissions, support long-term climate goals

Funding agreement with CCI will require that Harvard receive all emissions credits during the pilot period

CCI will offer on-hands learning opportunities to students



**Project
Selection**

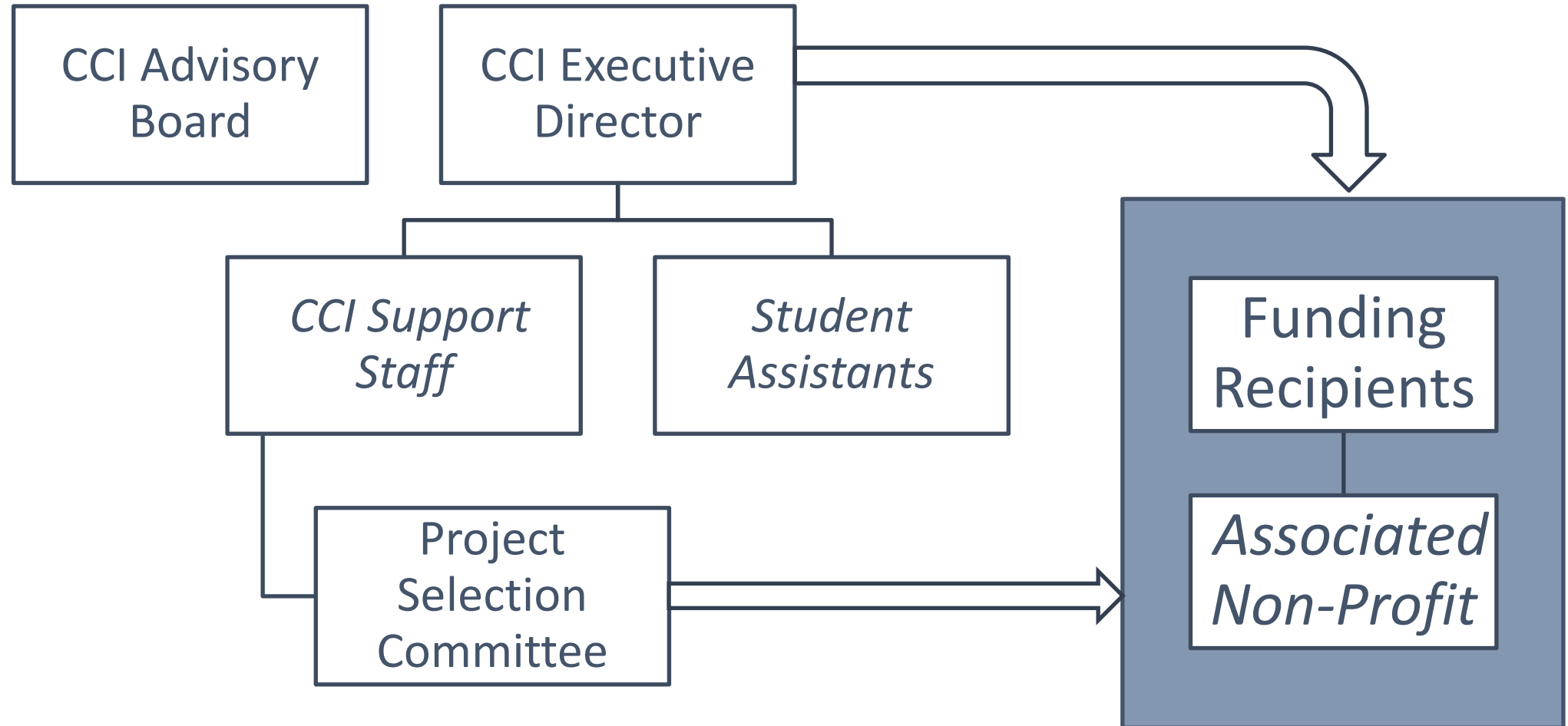


**Fund
Management**

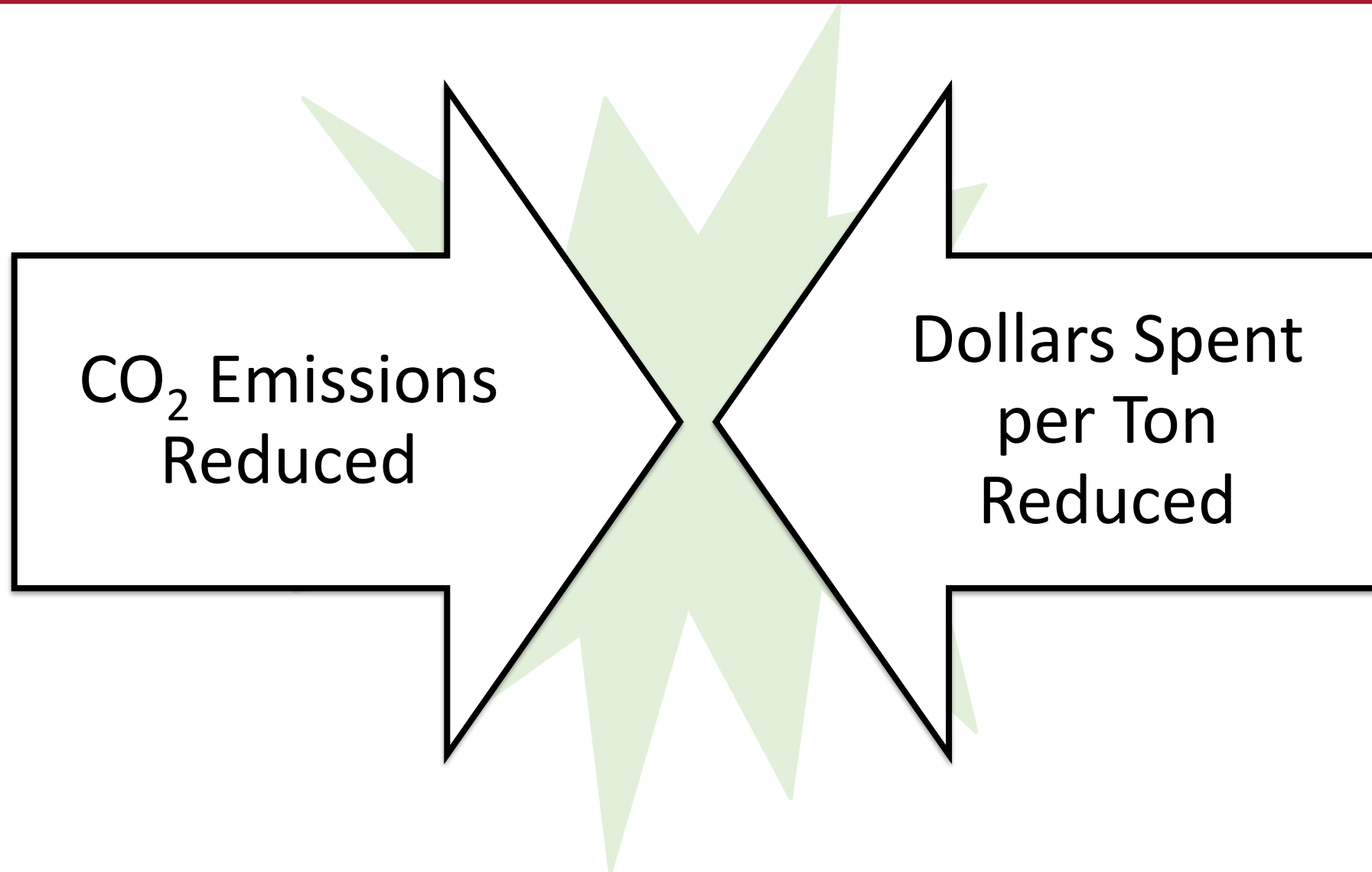


**Day-to-day
management**

CCI will have full-time staff and be governed by an Advisory Board



CCI's impact will be measured along two key metrics

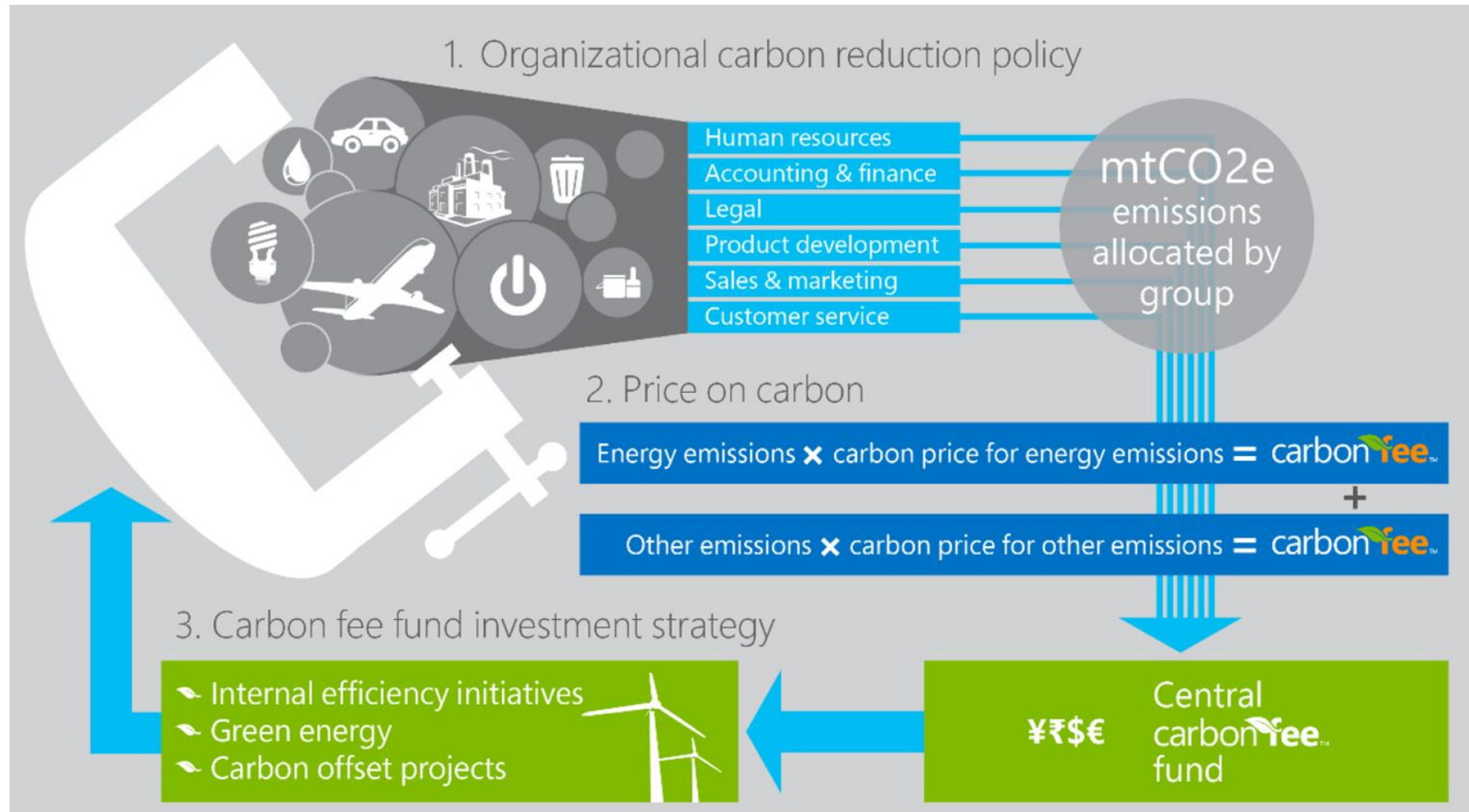




Thank You!

Appendix

Case study: Microsoft's approach to carbon pricing provides an institutional template for Harvard to adopt



Case study: Microsoft's approach to carbon pricing provides an institutional template for Harvard to adopt

1

Track and analyze internal emissions

2

Identify **total cost to achieve carbon neutrality**, add to departmental **operating budget**













3

Carbon price: (Total cost of carbon neutrality) / (Projected emissions)

4













Reinvest carbon tax revenues into **internal and external emissions reductions efforts (like CCI)**

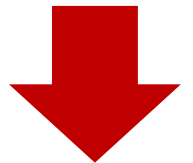
Financial outputs assuming highest air travel fee & one-time donation

Fee	Match	Seed Funding		Fund Max
 Air Travel Fee	 No Match		\$1M	\$3.01M
 Air Travel Fee	 Donor Match		\$2M	\$3.05M
 Air Travel Fee	 +Foundation Match		\$3M	\$3.10M
IF initial funding spurs sustainable development function				
 Air Travel Fee	 +Foundation Match		\$3M	\$5.56M



Financial outputs assuming lowest air travel fee & one-time donation

Fee	Match	Seed Funding	Fund Max
 Air Travel Fee	 No Match	 \$170K	\$249K
 Air Travel Fee	 Donor Match	 \$340K	\$263K
 Air Travel Fee	 +Foundation Match	 \$510K	\$373K
IF initial funding spurs sustainable development function			
 Air Travel Fee	 +Foundation Match	 \$510K	\$684K



Application Process

Sep 30	Letter of Intent Submissions
Oct 31	Grant Applications due
Nov 15	Notification of First-Round Interviews
Dec 15	Notification of Final-Round Interviews
Feb 1	Grant Notification

The Application Form will ask:

- Main Contact Details
- Details of all applicants (CVs attached)
- Project timeframe
- Total support requested
- 2-page project statement
- Full project plan (e.g., proof of 'ready-to-launch' status) & benchmarking
- 2 letters of recommendation
- 1 letter of support
- Receiving other support?
- Submitting other applications?
- Plan to incorporate
- Is the work likely to lead to patentable/commercially exploitable results?
- Signed terms and conditions