

GeoServe

Investing in Energy Security from the Ground Up

A capital fund unlocking geothermal heating and cooling for the communities that need it the most



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THE PLANET CRISIS:

THE US EMITS OVER 6 BILLION TONS OF GREENHOUSE GASES EACH YEAR.

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What Trump's IRA rollbacks mean for US net zero strategies

US companies across all sectors should re-examine their net zero strategies in light of the changes to the 2022 Inflation Reduction Act.

GlobalData | GlobalData Energy | May 30, 2025

With a federal tax credit ending early, installing home solar is about to get more expensive

By Rachel Cramer | December 16, 2025



EPA plans more environmental deregulation in 2026

THE PEOPLE CRISIS:

NEARLY 1 IN 3 AMERICANS HAVE DIFFICULTY MEETING THEIR ENERGY BILLS.



THE PEOPLE CRISIS:

NEARLY 1 IN 3 AMERICANS HAVE DIFFICULTY MEETING THEIR ENERGY BILLS.

3x ENERGY BURDEN

in low-income areas

9.6% COST INCREASE

for energy from 2025 - 2026.

“Every degree feels like a decision I have to justify.”

-Katy C, NY Resident

We need solutions that work for **PEOPLE** and the **PLANET**.



We need solutions that work for **PEOPLE** and the **PLANET**.



GEOHERMAL ENERGY NETWORKS

for heating and cooling LMI communities.

We need solutions that work for **PEOPLE** and the **PLANET**.



PEOPLE



PLANET

~\$1,000 in energy cost savings

for LMI households by reducing heating and cooling costs.



POLITICS



PROFIT



GEOSERVE

**GEO THERMAL
ENERGY NETWORKS**

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PLANET

>7 GT of emissions reductions by 2050 if geothermal heat pumps (GHPs) are deployed at scale.

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One of the **only**

decarbonizing technologies that has bipartisan support.



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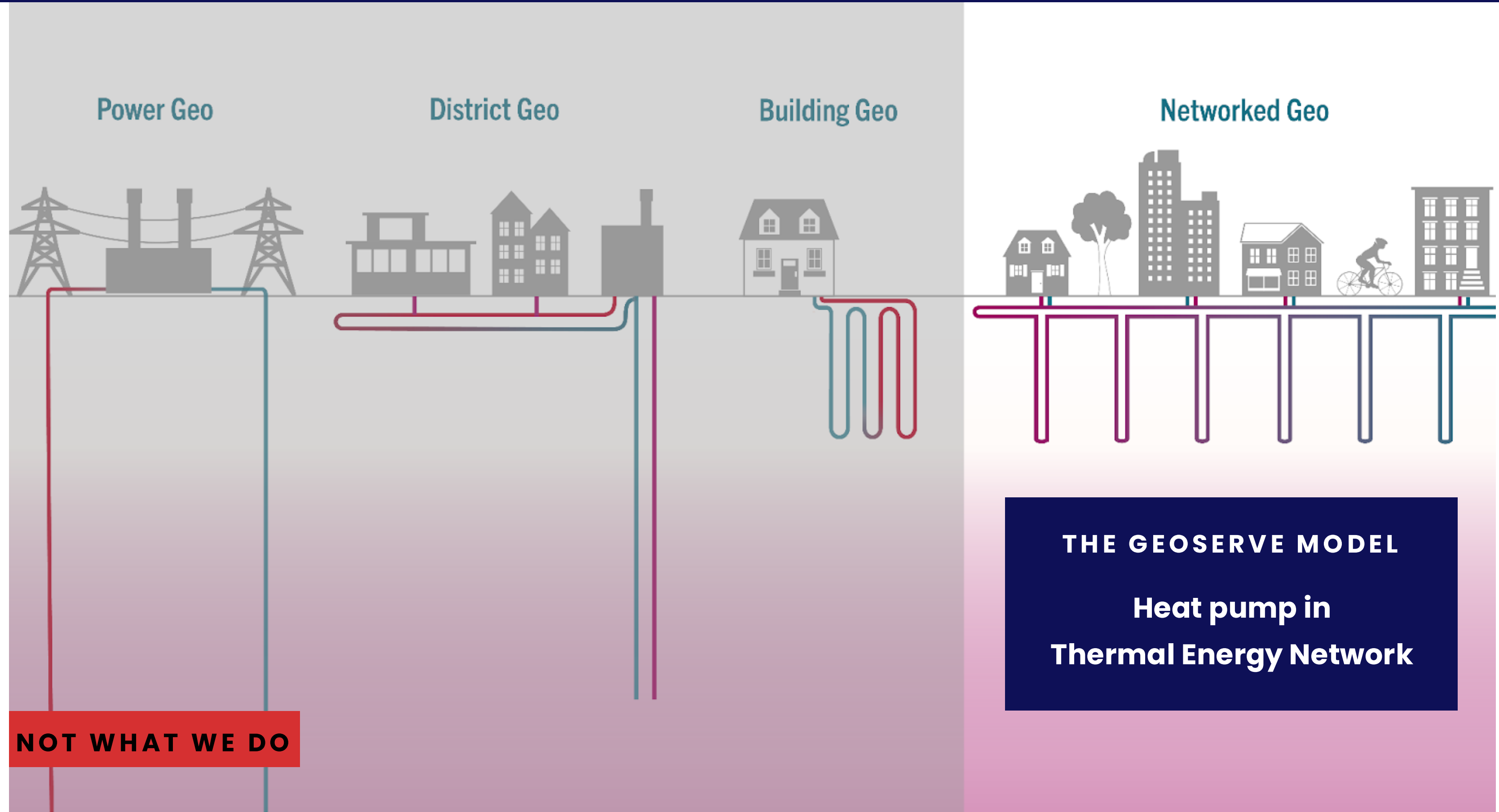


for heating and cooling LMI communities.

PROFIT

Profitable (13+% IRR) if deployed at scale through GeoServe's innovative financing model.

This is **NOT** Geothermal Power Generation.



NOT WHAT WE DO

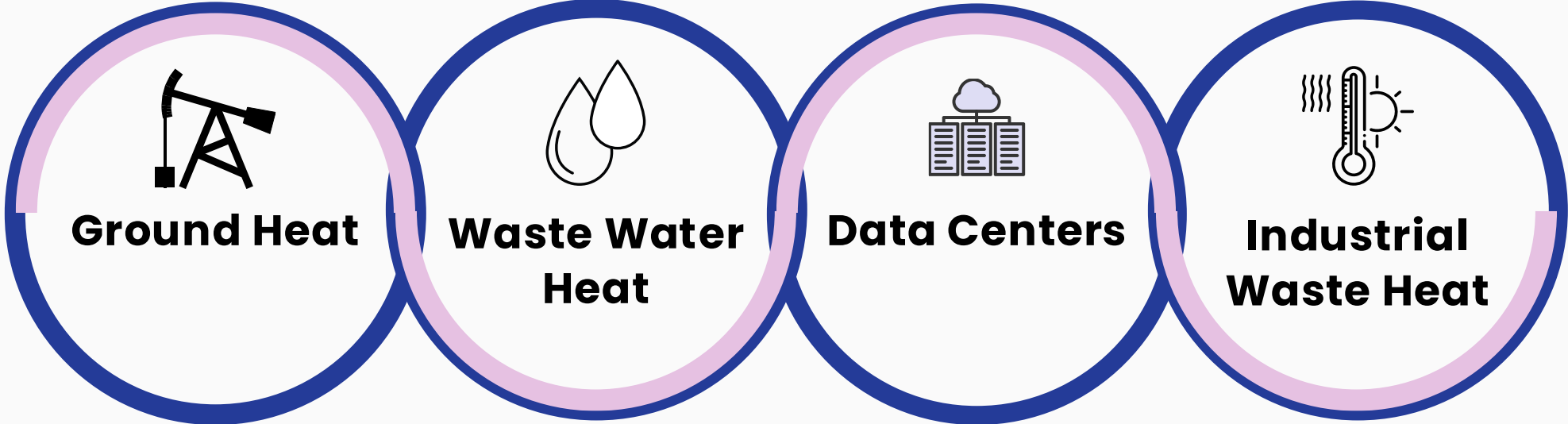
THE GEOSERVE MODEL

**Heat pump in
Thermal Energy Network**

This IS Geothermal as part of a Thermal Energy Network.

Thermal energy networks (TENs) use a shared network of pipes to transfer heat in and out of buildings; allowing buildings to exchange heat with a number of energy sources, such as lakes and rivers, energy-intensive buildings, wastewater systems, or the stable temperature of the earth (geothermal).

Thermal Energy Resources



IMPACT

FIXED ENERGY COSTS	WATER SAVINGS	REDUCED GRID STRAIN	RESILIENT ENERGY INFRASTRUCTURE
100 yrs	40%	50%	50-100yrs

Source: DOE/Building Decarbonization Coalition

The Technology Exists. **Deployment is Lagging.**

✓ TECHNOLOGY IS PROVEN

Numerous subsidized district-scale pilots across the U.S., including:

 Framingham, MA

 Ann Arbor, MI

 Shawnee, KS

 Cornell University

500%+

improvement in drilling performance since 2017 – costs are falling fast

⚠️ SO WHY HASN'T IT SCALED?

High Upfront Capital

Borehole drilling is expensive and front-loaded – hard to finance at scale without proven revenue models.

Subsurface Uncertainty

Soil conductivity and geology vary site by site, making performance guarantees difficult.

Limited Knowledge Sharing

Fragmented data, minimal cross-project learning

Low Community Awareness

Adoption requires education and trust building.

GeoServe is purpose-built to address every one of these gaps.



The GeoServe Model

A multi-stage capital fund to unlock investment in
networked geothermal.


The GeoServe Model

THE GAP:

 High Upfront Capital & Investor Risk

 Subsurface Uncertainty

 Limited Knowledge Sharing

 Low Community Awareness



THE SOLUTION:

» **Catalyzing Public Incentives**

» **Aggregation of Drilling Contracts**

» **Separate SPVs with Offtaker Partnerships**

» **Strategic Location Selection**

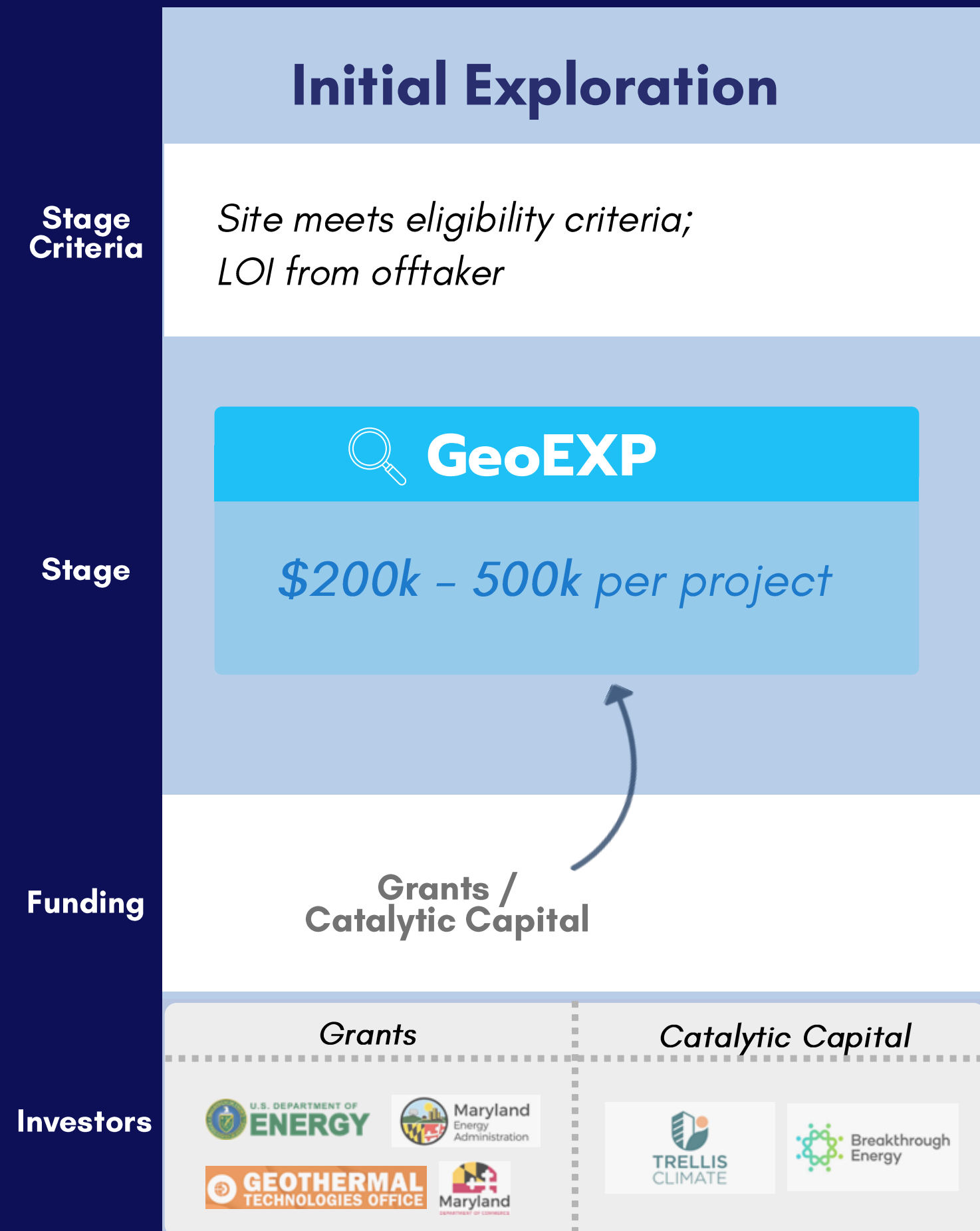
» **Innovative Fund Structure**

» **Open Access to Geothermal Data**

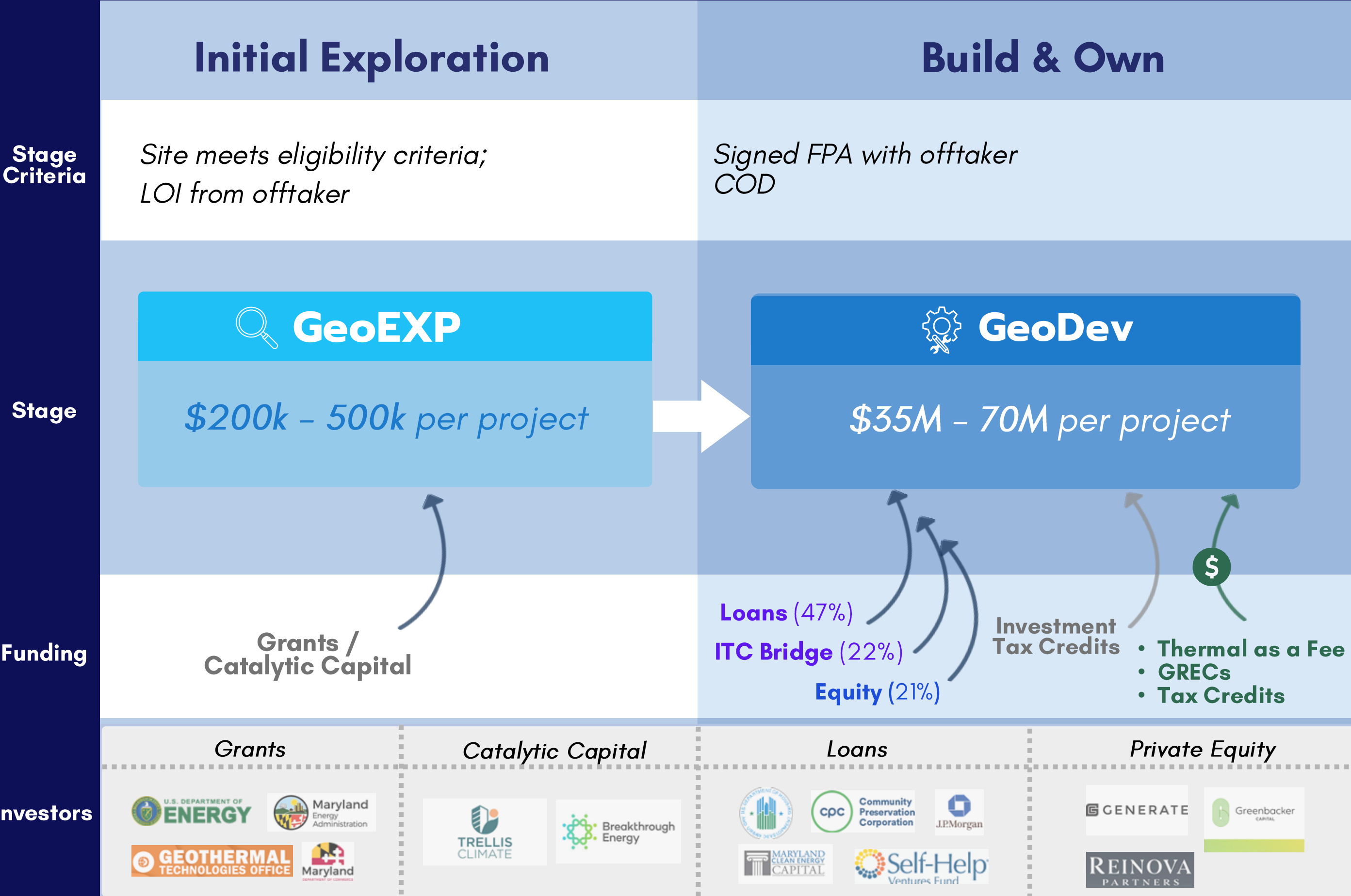
» **Community Engagement Framework**

The GeoServe Model: **Fund Structure**

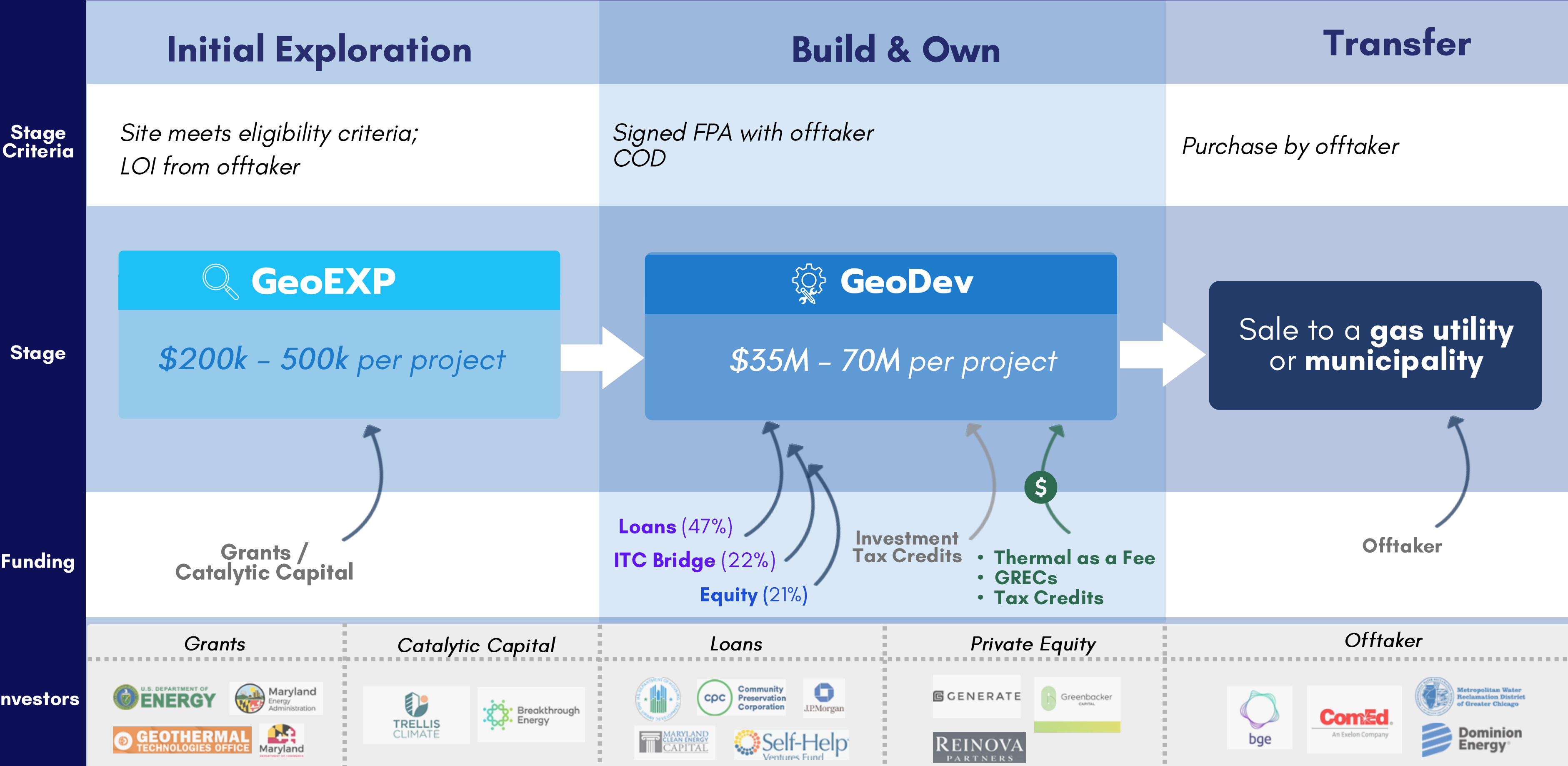
The GeoServe Model: **Fund Structure**



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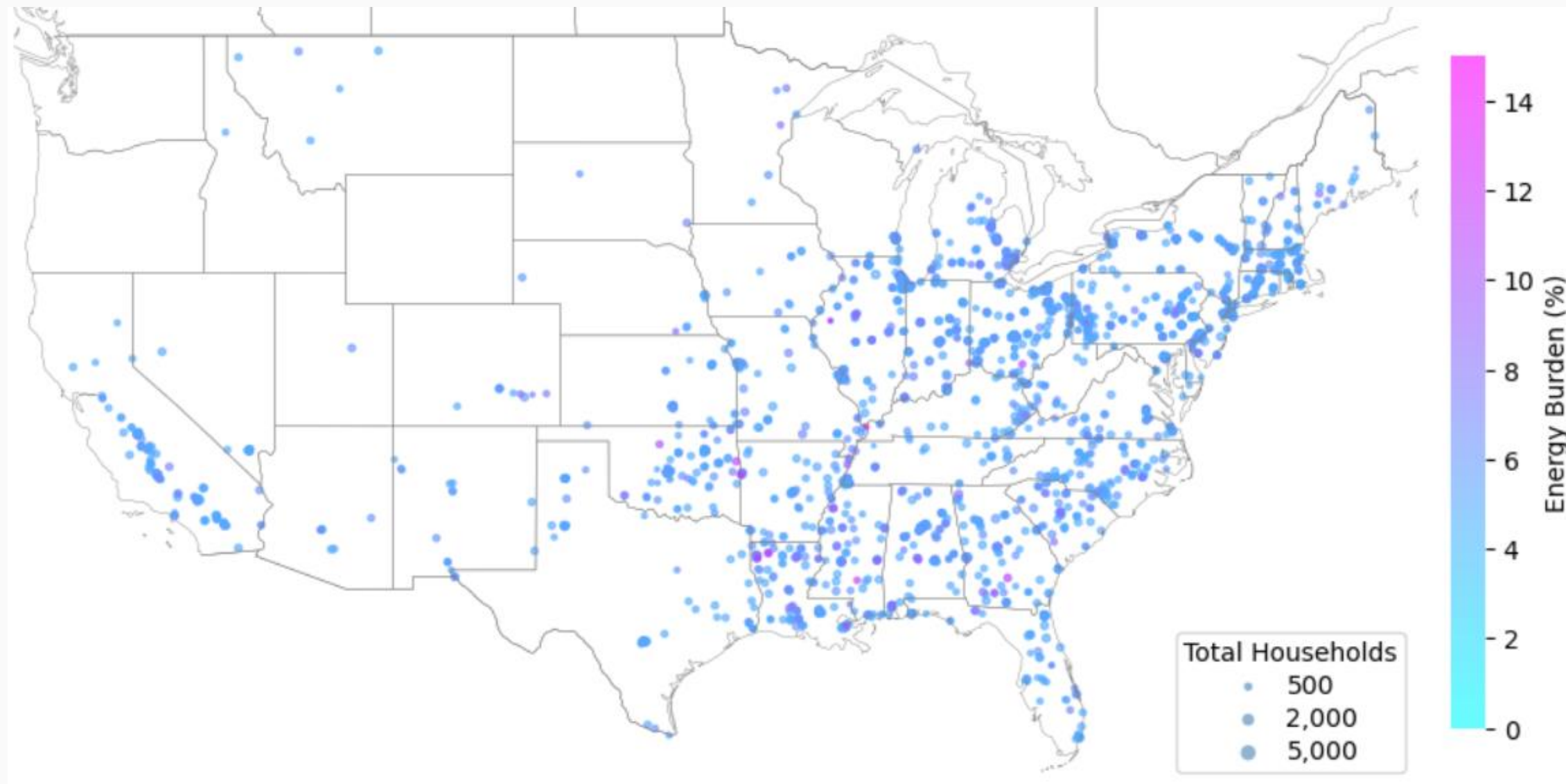


The GeoServe Model: Fund Structure



TENs can be deployed anywhere, but **we are focused on areas that need it most.**

We have identified 3,509 initial target regions that will drive the greatest impact. These regions were selected based on the following characteristics:



High Energy Burden

$\geq 5\%$ energy burden and $\geq 2\%$ heat/cool burden
(source: [DOE](#); [NREL](#))

Low-Income Populations

Regions are identified as Qualified Census Tracts based on income and poverty measures (source: [huduser.gov](#)).

Population-Dense Regions

To maximize impact and revenue, tracts with ≤ 10 households/km² were removed (source: [census](#)).

\$4.2 B is spent on **heating and cooling** by residential & commercial customers in these regions each year.

As the fund grows, geothermal TENS mature, and CapEx decreases, the fund can expand to lower density regions with grid stability and energy affordability challenges.

Our Pilot Region: Maryland

Regional Scaling allows for the **establishment of master service agreements** to reduce drilling costs and construction delays.

Maryland is the pilot region due to need, incentives, strong offtaker and drilling partnerships.



	MARYLAND	VA	NJ	NY	MA	CO	IL
Weather	✓✓ Balanced heating & cooling loads	✓	✓✓	✓✓	✓✓	✓	✓✓
Financial Incentives	✓✓ Strong GREC market, revenue 15-30 times VCM prices*	✓	✓	✓	✓	✓✓	✓
Political Support	✓✓ WARMTH Act	✓	✓	✓✓	✓✓	✓✓	✓✓
Potential Offtakers	✓✓ Gas Utilities (mandated pilots)	✓	✓	✓✓	✓✓	✓	✓
Impact	✓✓ Low-income communities with high energy burden.	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓

✓✓ = Very Strong Fit ✓ = Strong Fit ✓ = Moderate Fit ✗ = Poor Fit

*VCM = Voluntary Carbon Market; GREC = Geothermal Renewable Energy Credit

Short Term (0-5 years)

Medium Term (5-10 years)

Long Term (> 10 years)

Deploy in **Pilot Region**
(Maryland)

Expand to other **strong fit regions**
(IL, NJ, NY, MA, VA, and CO)

Expand Nationally

Location Selection: Where **IMPACT** meets **OPPORTUNITY**

FLAGSHIP PROJECT

Baltimore, MD · Pleasant View Gardens

IMPACT:

Begin with the **highest need** community in our pipeline.

8% ENERGY BURDEN
with 4.5% of income spent on heating and cooling.

\$25k MEDIAN INCOME
with 66.5% of residents below the poverty line.

INVESTABILITY:

Demonstrate **strong returns** to fuel growth.



High Revenue



Invested Offtaker



Cost Sharing Strategies

INNOVATION:

Pilot **innovative efficiency strategies**.

1st networked **geothermal system** in the U.S. to use **data center waste heat** to heat residential neighborhoods.

ADDITIONAL PILOT PROJECTS

Baltimore, MD

Greater Rosemont

ENERGY BURDEN

7%

3.9% heat/cool burden



MEDIAN INCOME

\$37k

Urban, High subsidy eligibility

HOMES SERVED

880

Total Energy Costs: \$2.8M

OFF-TAKER

BGE Utility
Private

Waste Heat: WWTP

Sewer upgrade co-build

Federalsburg, MD

Downtown

ENERGY BURDEN

9%

5% heat/cool burden



MEDIAN INCOME

\$35k

Rural, high subsidy eligibility

HOMES SERVED

920

Total Energy Costs: \$2.6M

OFF-TAKER

Chesapeake Utilities
Private

Waste Heat: WWTP + Industry

Flood Mitigation Projects

Crisfield, MD

Downtown

ENERGY BURDEN

5%

2.7% heat/cool burden



MEDIAN INCOME

\$50k

Rural, high subsidy eligibility

HOMES SERVED

900

Total Energy Costs: \$2.2M

OFF-TAKER

Crisfield PU
Public

Waste Heat: WWTP + Industry

Funded Sewage Projects

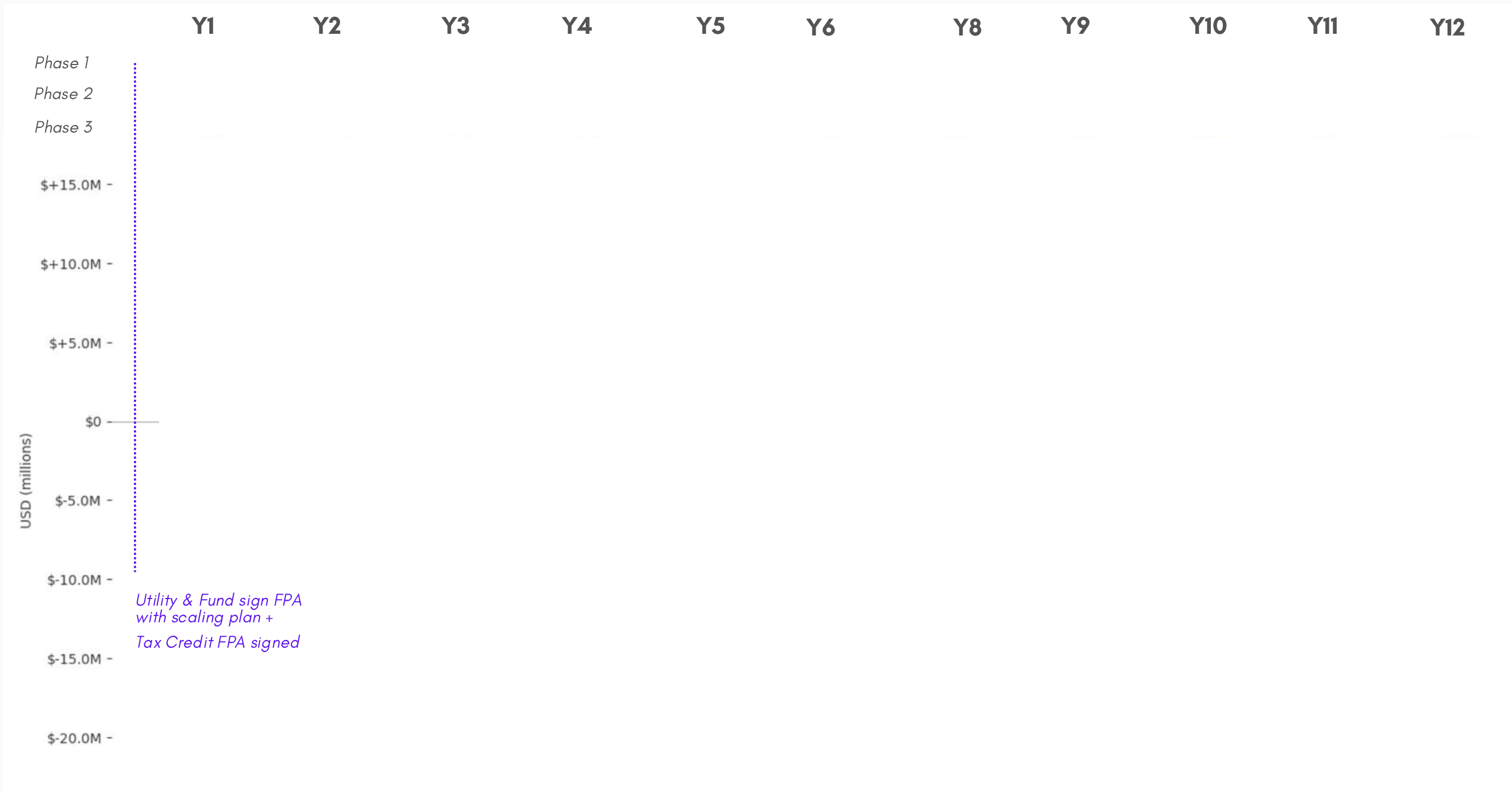
Cost-Cutting Strategies:

Waste heat strategy

Piping Cost Sharing Strategy

Our **Flagship** Project: Cashflow

Project-Level Cashflow for Flagship Project

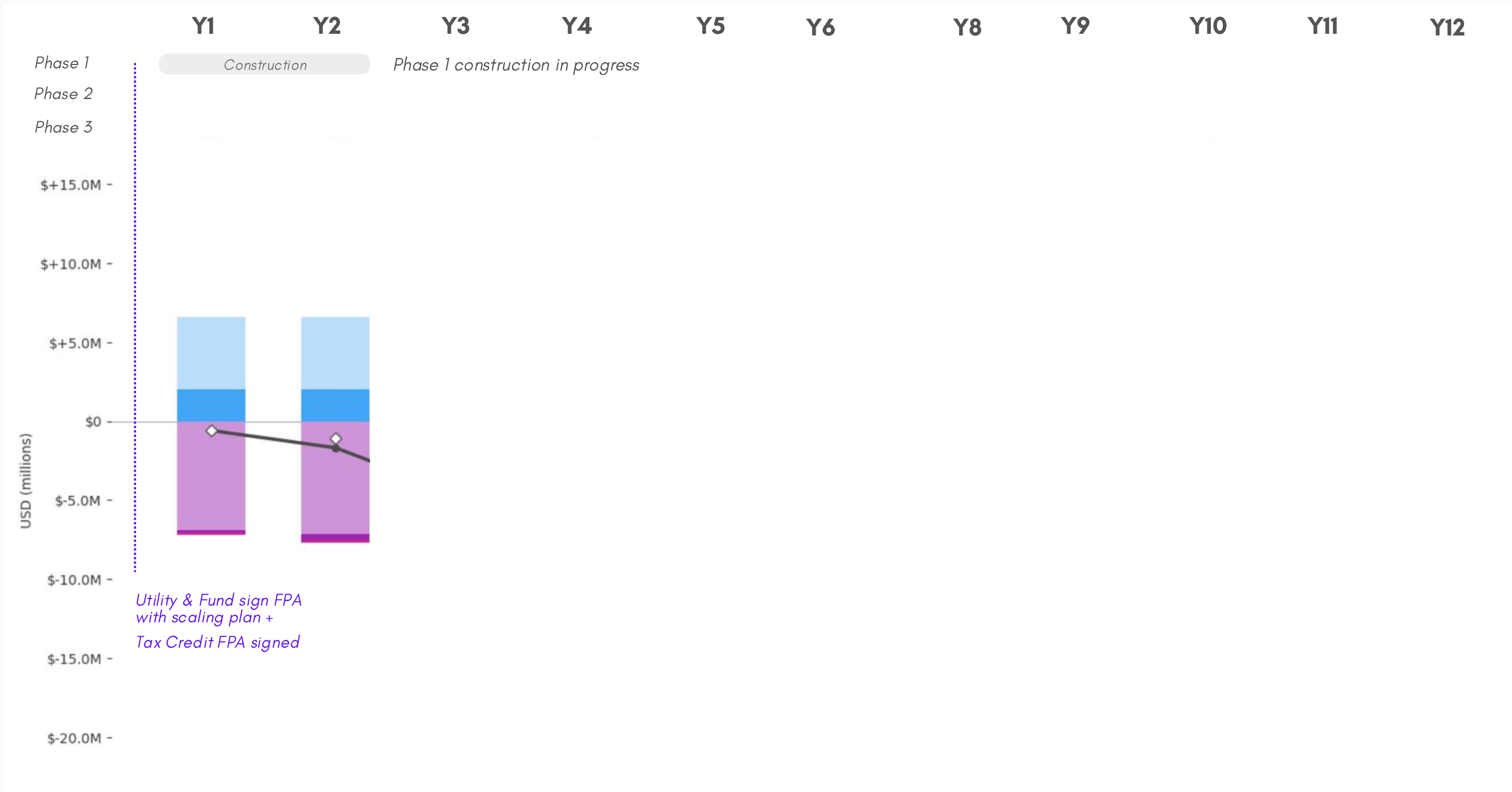


De-Risking Investor Capital

- ◆ **Signed FPA** from both offtaker and tax credit purchaser to reduce risk

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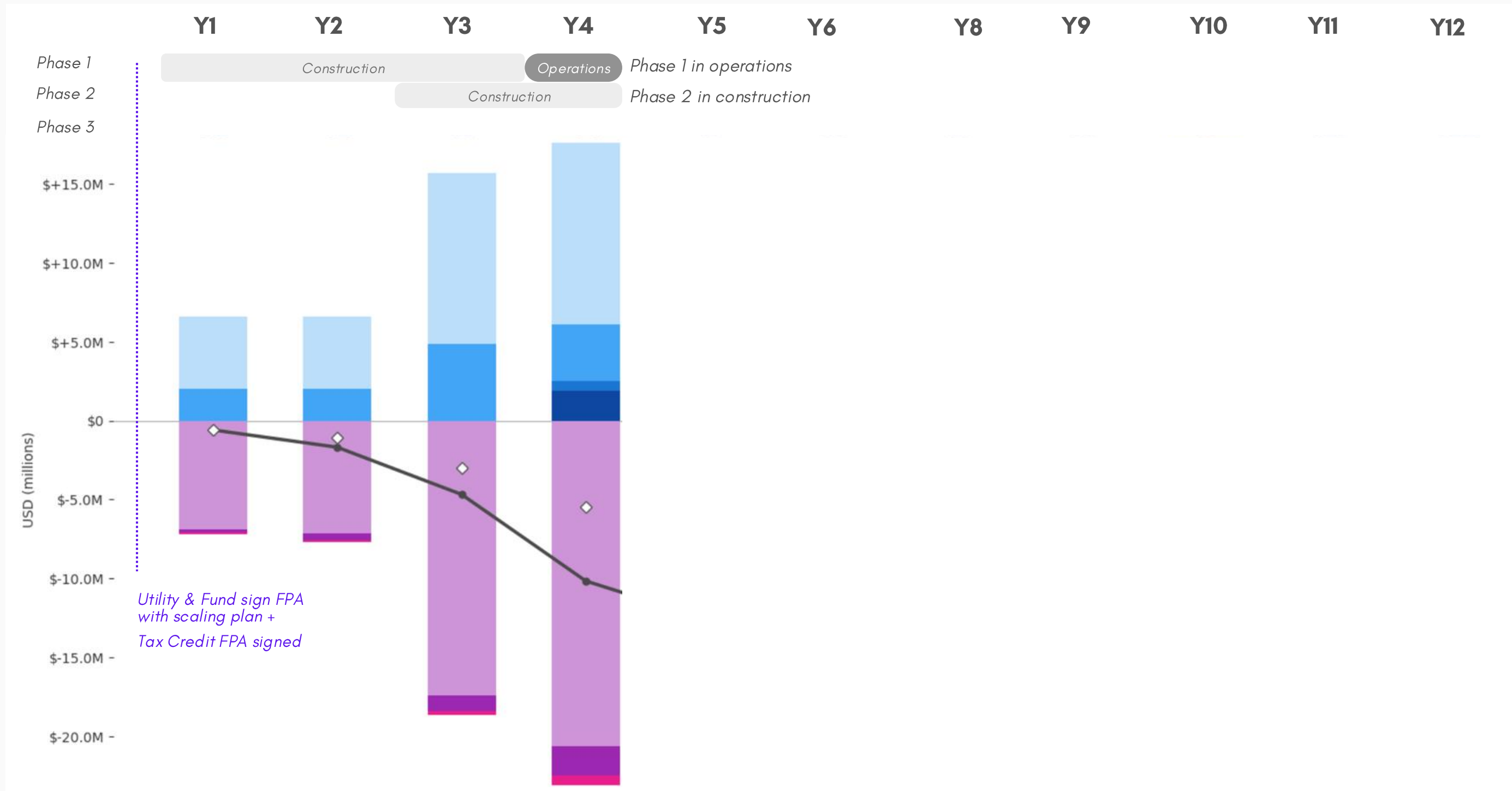


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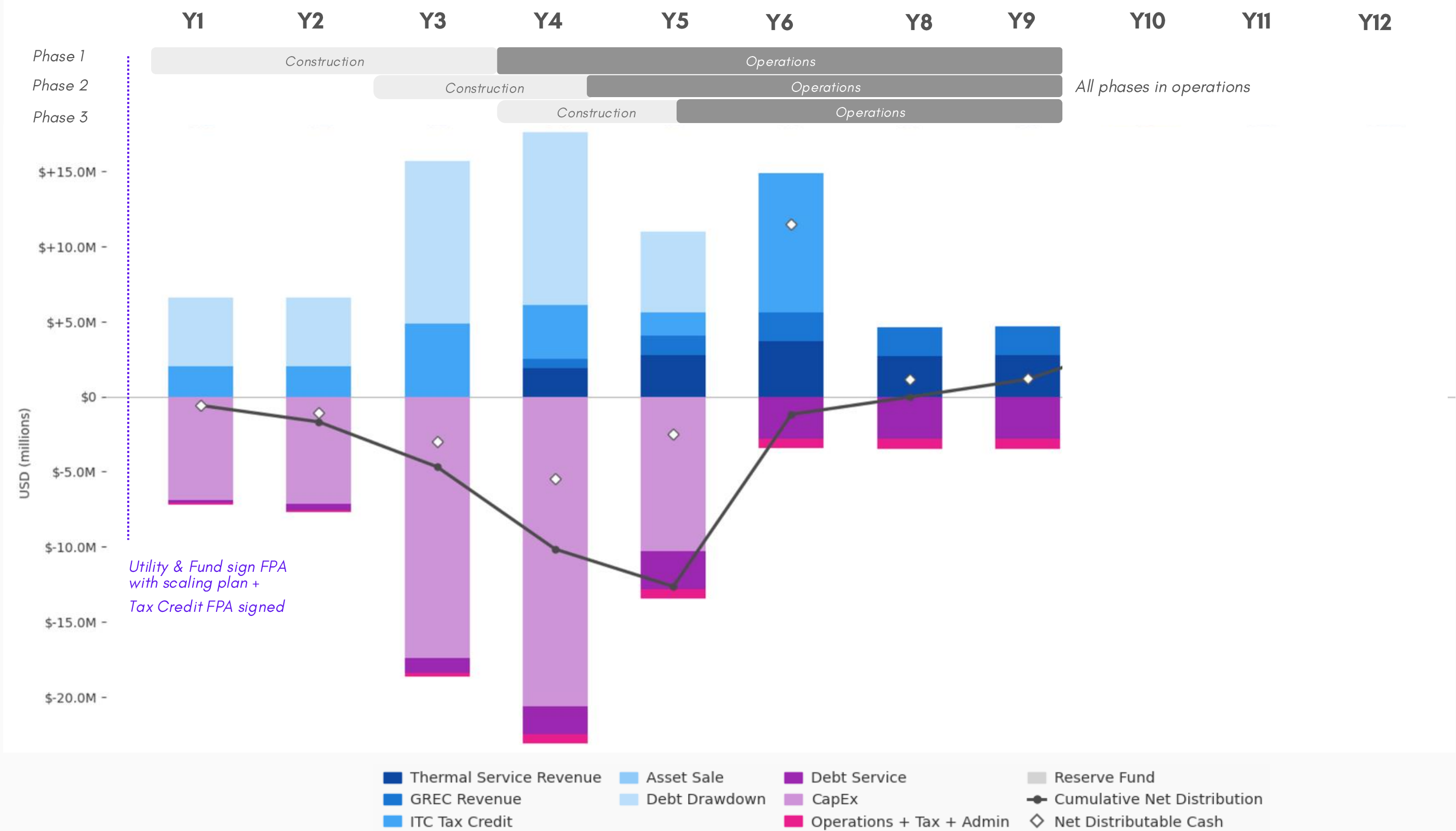


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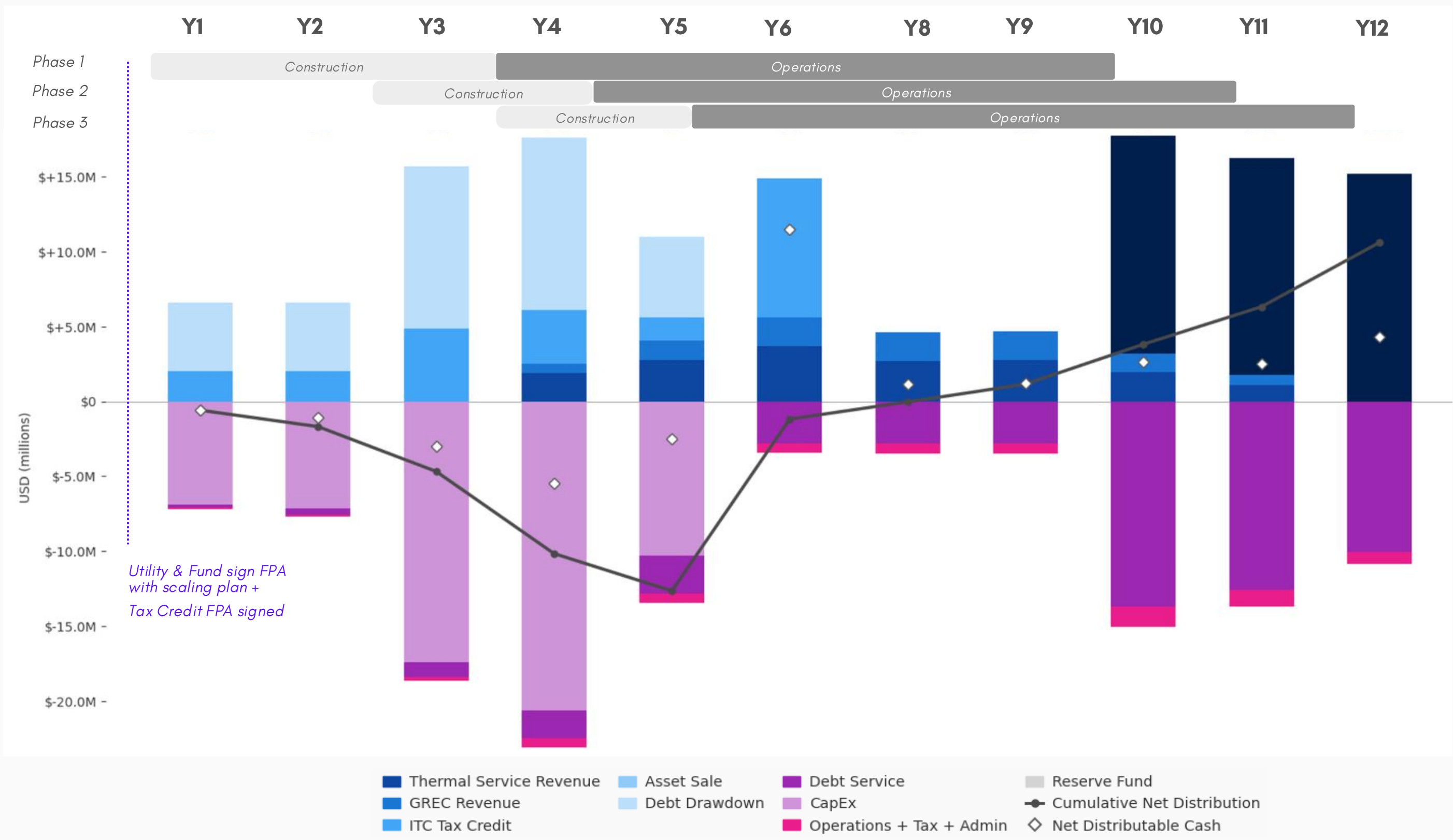


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- ◆ **Staggered sale** to reduce capital and operational burden to offtakers and eliminate tax credit recapture risk

Our **Flagship** Project

INVESTABILITY:

16.5% *After-Tax Levered IRR*
12-Year Horizon

1.27x *Min. DSCR**

IMPACT:

\$2.2 M in energy cost savings per yr

6,127 tons CO₂e Emissions Reduction

SITE & SCALE		REVENUE	
Households Served	891	GREC Price	\$80/MWh
Area	0.82 km ²	Residential Fee	45% of heat/cool costs
Commercial Use	0.035657 tbtu	Commercial Fee	55% of heat/cool costs
Residential Use	0.04455 tbtu	Fee Escalator	1.5%
TAX & INCENTIVES		CAPITAL STRUCTURE	
Effective Tax Rate	21%	Total CapEx	\$60.6 M
ITC Monetization	90c per \$	Total Investor \$	\$12.8 M
Bonus depreciation	100%	Base Loan Rate	6.5%
Federal ITC	30% base + 10% low income + 10% domestic content	% GeoExp Convertible Capital	50%
ITC Bridge Loan	10% insurance, 10.5% interest rate, 70% ITC	Loan Term	Construction to Term Loan; 3-yr const; 5-year balloon

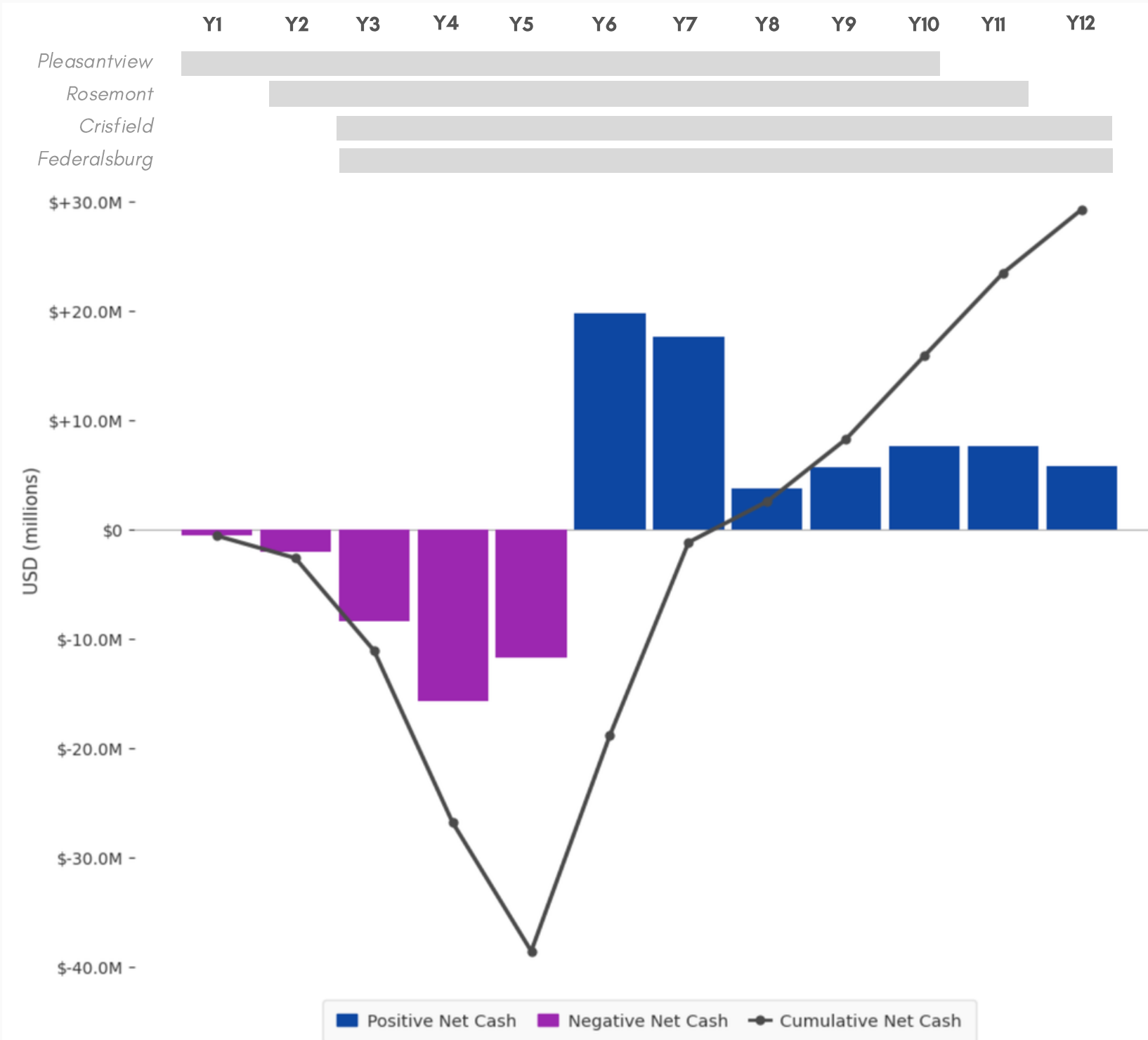
**DSCR during construction phase (Y1-3) not included*

RESILIENCE:

	Base Case	Best Case	Worst Case
Interest Rate (Base Loan)	6.5%	5.5%	7%
GREC Credit Price	\$82	\$87	\$78
Piping Cost Sharing	10%	20%	0%
CapEx Multiplier	100%	90%	110%
Residential/Commercial Fee	45%/55%	35%/45%	50%/60%
IRR	16.5%	21.3%	8.0%

Fund-Level Returns

FUND-LEVEL CASHFLOW (4 pilot projects)



INVESTABILITY:

14.9% After-Tax Levered IRR
12-Year Horizon

4 Unique SPVs

Equity Required: **\$40.0 M**

MOIC: **1.75 x**

IMPACT:

\$6.7 M in energy cost savings per yr

60k tons CO₂e Emissions Reduction

RESILIENCE:

The multi-SPV structure increases resilience to project failure.

	Pleasantview Fails	Rosemont Fails	Crisfield Fails	Federalsburg Fails
Fund-Level IRR	10.7%	14.1%	14.4%	14.2%

* Assumes failure after 1,00,000 CapEx deployed

We deliver measurable **IMPACT**

SDG 7 
Clean and Affordable Energy

\$6.7M

energy savings/yr

KPI

Dollars/month saved per household

HOW WE TRACK

Quarterly utility bill audits vs. pre-deployment baseline

SDG 13 
Climate Action

60k

tons CO₂e reduced

KPI

CO₂e avoided (tons/yr)

HOW WE TRACK

Annual GHG modeling via smart meter data + energy use

SDG 1 
No Poverty

3591

LMI households served

KPI

\$ saved/month; jobs created

HOW WE TRACK

Utility bill comparisons; community employment surveys

SDG 3 
Good Health & Well Being

↓ Risk

heat/cold illness

KPI

Deaths/illnesses prevented (est.)

HOW WE TRACK

Public health dept. data correlated with HVAC uptime

SDG 9 
Industry, Innovation & Infrastructure

↓ Peak

grid demand

KPI

Peak demand reduction (%)

HOW WE TRACK

Smart meter reporting by grid operators per installation

VALUE CHAIN IMPACT



DUKE PRATT SCHOOL OF ENGINEERING

GeoServe

We are raising

\$40M

Across 4 SPVs

Maryland pilot ready to deploy

Join us →



“ *Novel. Providing an opportunity to deploy thermal energy networks in a cost-effective way for the communities that need it the most.*

— Developer, Framingham MA Thermal Energy Network Project

Three things we **know**.

01

The technology works.

Framingham, MA · Ann Arbor, MI · Shawnee, KS · Cornell University

02

The need is urgent.

3591 families · \$6.7M in annual savings · 3× energy burden in LMI communities

03




The returns are real.

14.9% After-Tax IRR · 1.75× MOIC · \$6.7M annual community savings



Appendix

Risk Register

Risk Category	Risk	Impact	Mitigation
 <p>Financial & Policy Risk</p>	ITC Credits at Risk	<p>low medium high</p> <p>○ ● ○</p>	ITC locked in at financial close via transfer agreement; Maryland GREC revenue provides parallel income stream.
	GREC Market Decline	<p>● ○ ○</p>	Maryland's WARMTH ACT mandates utility purchase of GREC
 <p>Technical & Construction Risk</p>	Construction Timeline Delays	<p>○ ● ○</p>	Phased deployment & master service agreements lock in driller availability & timelines
	System Efficiency Under-performance	<p>● ○ ○</p>	Geo-Explore validates subsurface & thermal balance before construction capital
 <p>Regulatory & Community Risk</p>	Residential area Approval	<p>○ ○ ●</p>	Early community engagement in partnership with HEET. Reduced burden creates natural alignment with LMI residents
	Utility Offtaker Delays	<p>○ ● ○</p>	Forward Purchase Agreement (FPA) signed before Geo-DEV

COMMUNITY ENGAGEMENT FRAMEWORK

Ladder of Engagement by HEET (to be adopted by GeoServe)



ADDRESSING COMMON CONCERNS



Water Usage

↓ **LOW**

water usage after initial installation

CLOSED-LOOP SYSTEM

Our proposed system is a closed-loop system which seals the circulating fluid (water or water-glycol mix), resulting in negligible day-to-day evaporation.



Permitting & Jurisdiction

28

days or less

EXPEDITED PERMITTING

Gas utilities can leverage existing land rights, right of way etc.

U.S. Department of the Interior (DOI) has implemented emergency procedures to fast-track geothermal permitting



Political Risk

↓ **LOW**

6+ bipartisan geothermal bills

BIPARTISAN SUPPORT

DOE Hydrocarbons & Geothermal Office

The HEATS Act

A path for workforce retention to enable a just energy transition for fossil fuel/gas workers



Seismic Risk

↓ **LOW**

No hydraulic or chemical stimulation of the rock

SHALLOW DRILLING

Closed-loop thermal energy networks for heating and cooling have a very low risk of inducing seismic activity, as they typically do not involve high-pressure fluid injection into rock formations.



Resource Management

STABLE

Earth's core as a thermal battery

THERMAL LOAD DIVERSITY

TEN's cannot "run out of heat" as it doesn't create heat but moves it. The earth's core continuously produces heat. Well-designed TEN's with mixed used buildings ensure thermal balance over time.

A FRAMEWORK FOR STRATEGIC LOCATION SELECTION

Our approach creates a location selection framework to enable prudent, cost-effective and equitable deployment.



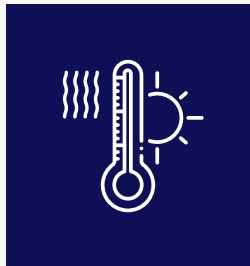
Regional Prioritization

Begin deployment in regions with favorable geology, statewide incentives, motivated offtakers.



Density-First Scaling

Begin scaling in regions with higher building density to maximize profits in early phases.



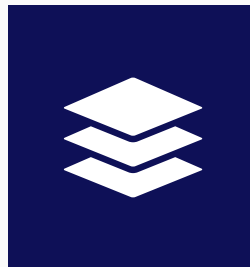
Thermal Load Diversity

When possible, colocate projects with waste heat sources like water treatment



Need-First Deployment

Prioritizing low-income communities maximizes impact and unlocks additional public funding.



Stacking Infrastructure Upgrades

When possible, colocate projects with waste heat sources like water treatment

FRAMINGHAM, MASSACHUSETTS (THERMAL ENERGY NETWORK)

✓ **1st Utility Scale TEN in the US**



The 2024 pilot is set to run for **24months**. Eversource paid for covered all behind-the-meter construction costs for the pilot, including purchasing, installing and connecting geothermal heat pumps for customers.



135 customers

single-family homes, apartment buildings, gas station, two schools, and the Framingham Fire Department.



22 M

Funded by Utility Investment, Federal and State Grants. Expansion plans on track to cost approximately 60% of the first phase



\$8-10/month

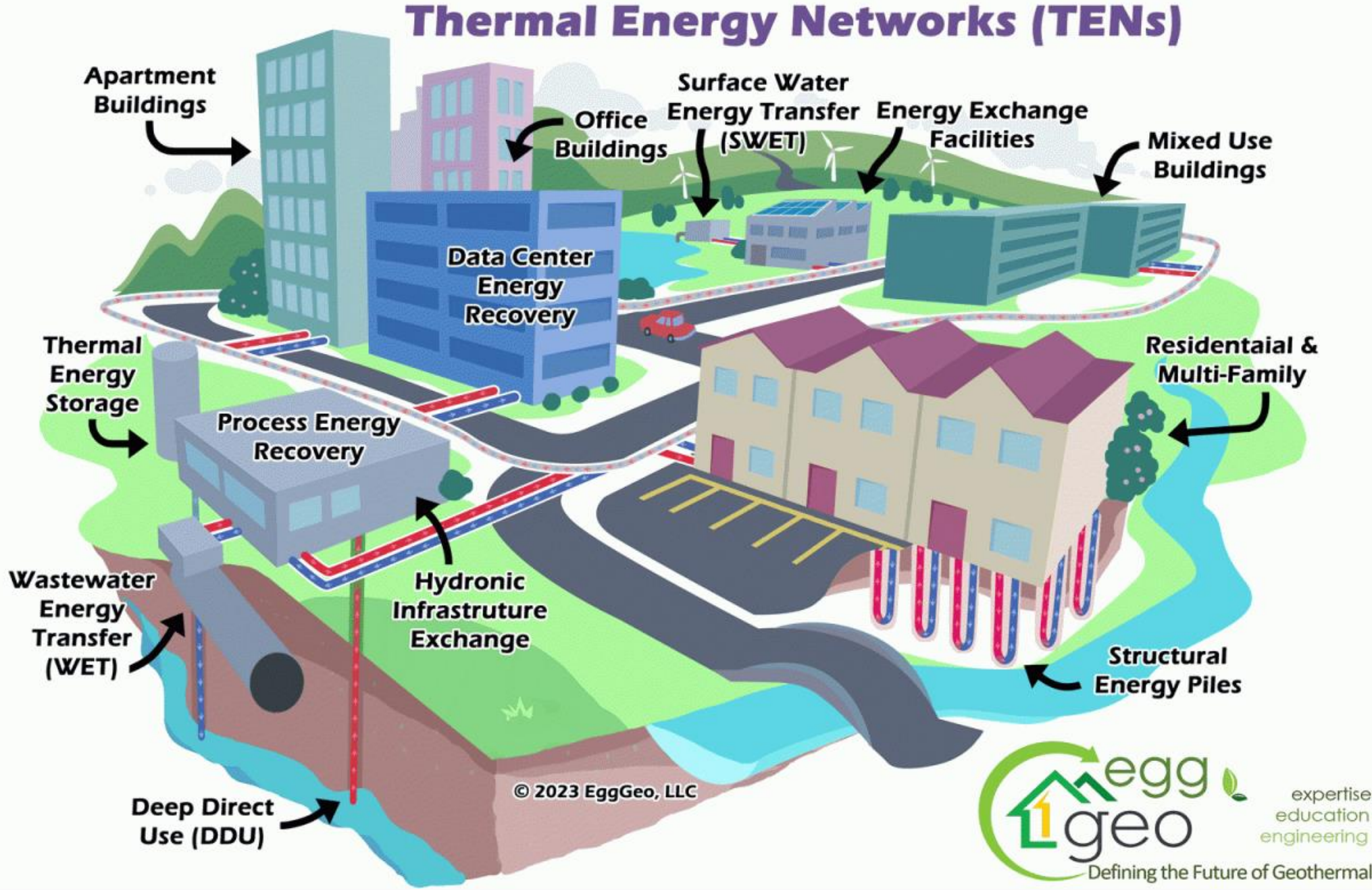
Residential customers will pay a monthly service fee based on a budget billing model. For commercial customers it will be approximately \$20 per month



Pilot to be evaluated on the following Criteria

- **Cost to install and operate**
- **Benefits to customers**
- **Customer feedback**
- **Emissions reductions**
- **Possible billing structures**

HOW DOES A THERMAL ENERGY NETWORK WORK?



1

A System of vertical & horizontal underground pipes filled with liquid connect buildings in a community

2

Liquid inside the pipes under the ground is warmed by the earth or other energy resource.

3

The earth warmed liquid is carried throughout the neighborhood and distributed to individual buildings

4

The building's heat pump concentrates thermal energy and converts into hot air that is pumped through the duct work to warm buildings warm

5

In the summer, the process is reversed. Heat is removed by the building, cooled by the earth, and converted into cold air to cool buildings

Stakeholders

Brock Yordy, Co-founder, Geothermal Driller's Association

Eric Bosworth, Principal, Thermal Energy Insights

Morgan Hood, Director of Product Management, Vermont Gas Systems

Maritza Liaw, Partner NGP Energy

Greg Lyons, Partner, NGP Energy

Doug Stiegler, VP Investments, Arclight Portfolio Company

Steve Burgos, Public Works Director, City of Boise

Kareem Mirza, Cofounder, Ecothermus

Peter Malin, Geoscientist, Emeritus Professor, Duke University

Brian McAdoo, Associate Professor, Duke University

Pete Curtice, SVP, Business Development, Dandelion

Jeff Hughes, Former North Carolina Public Utilities Commissioner

Brij, Co-founder & CTO, Power Planet

Daniel Merino-Garcia, VP Research, Project Innerspace

Stephen Libertore, Impact Investor, Nuveen

Rachel Enright, VP of Partnerships, Power Plant, and former Senior Advisor at the DOE

Laura Chiaramonte, Geothermal Lead, EPRI

Jay Egg, President EggGeo

Aeowyn Kendall, Staff Hydrologist & GHX Design Specialist Aztech Geothermal, LLC

Kevin Teng, Co-Founder Terrasys Capital

Mike Matson, Partner Low Carbon Solutions, Global Lead of Geothermal, BCG

Jason Wilieford, Senior Mechanical Engineer, Jacobs

Jason Braden, Geothermal Technical Project Monitor, Boston Government Services

Aaron Miller, Eastern Regional Manager, SHARC Energy

Rachel Beaudoin, Associate, Buro Happold

Amanda Galton, Partner, Orrick

Joseph Craven (JP) Associate Director, Eurasia Group

+ more



Valuation for Utility Sale

45-yr asset life | WACC 5.57% | Ke 8% | Kd 5% | Debt 60% | Tax 21% | Rev ↑ 2%/yr | OpEx ↑ 2.5%/yr | 3-Phase Acquisition

Portfolio Seller Ask
\$144.5M

Portfolio DCF Value
\$149.7M

Combined Buyer NPV
+\$5.2M

Fund Investor IRR
14.8%

Site	Seller Ask (3 Phases)	DCF Value (50-yr)	Buyer NPV	Revenue / Phase / Yr	Stab. EBITDA	Phase Pricing
Pleasant View Baltimore, MD 891 homes	\$44.1M	\$46.0M	+\$1.9M <i>comfortable</i>	\$1.49M	\$3.86M	P1: \$15.2M · P2: \$14.5M · P3: \$14.5M
Greater Rosemont Baltimore, MD 1,000 homes	\$44.1M	\$46.0M	+\$1.9M <i>comfortable</i>	\$1.45M	\$3.85M	P1: \$14.7M · P2: \$14.1M · P3: \$14.1M
Crisfield Somerset County, MD 950 homes	\$23.4M	\$23.7M	+\$0.3M <i>tight — watch ask</i>	\$0.78M	\$2.03M	P1: \$8.0M · P2: \$7.4M · P3: \$7.4M
Federalburg Caroline County, MD 900 homes	\$32.9M	\$34.0M	+\$1.1M <i>comfortable</i>	\$1.05M	\$2.85M	P1: \$11.1M · P2: \$10.4M · P3: \$10.4M

Pleasant View – Cashflow Summary

Baltimore, MD · 891 homes · 13-year horizon

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13
Thermal Service Revenue	–	–	–	\$1.9M	\$2.7M	\$3.7M	\$2.7M	\$2.7M	\$1.9M	\$1.1M	–	–	–
GREC Revenue	–	–	–	\$643K	\$1.3M	\$1.9M	\$1.9M	\$1.9M	\$1.3M	\$643K	–	–	–
ITC Tax Credit	\$2.0M	\$2.0M	\$4.9M	\$3.6M	\$1.6M	\$9.3M	–	–	–	–	–	–	–
Asset Sale	–	–	–	–	–	–	–	–	\$14.5M	\$14.5M	\$15.2M	–	–
Debt Drawdown	\$4.6M	\$4.6M	\$10.8M	\$11.5M	\$5.4M	–	–	–	–	–	–	–	–
CapEx	(\$6.9M)	(\$7.1M)	(\$17.4M)	(\$20.6M)	(\$10.3M)	–	–	–	–	–	–	–	–
Operations + Tax + Admin	(\$104K)	(\$107K)	(\$261K)	(\$647K)	(\$615K)	(\$584K)	(\$648K)	(\$644K)	(\$1.3M)	(\$1.1M)	(\$825K)	–	–
Debt Service	(\$149K)	(\$447K)	(\$946K)	(\$1.8M)	(\$2.5M)	(\$2.8M)	(\$2.8M)	(\$2.8M)	(\$13.7M)	(\$12.6M)	(\$10.0M)	–	–
Net Cash to Fund	(\$595K)	(\$1.1M)	(\$3.0M)	(\$5.5M)	(\$2.5M)	\$11.5M	\$1.1M	\$1.2M	\$2.7M	\$2.5M	\$4.3M	–	–
Cumulative Net Cash	(\$595K)	(\$1.7M)	(\$4.7M)	(\$10.2M)	(\$12.6M)	(\$1.2M)	(\$40K)	\$1.1M	\$3.8M	\$6.3M	\$10.6M	–	–
Combined DSCR	–	–	–	1.38x	1.97x	5.06x	1.43x	1.45x	1.40x	1.27x	–	–	–

SPV IRR

16.5%

Total Equity In

\$15.0M

Total Net Return

\$10.6M

Peak Draw

(\$12.6M)

Breakeven

Year 8

Min DSCR (ops)

1.27x

Greater Rosemont – Cashflow Summary

Baltimore, MD · 880 homes · 10-year horizon

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Thermal Service Revenue	–	–	\$1.7M	\$2.5M	\$3.4M	\$2.4M	\$2.4M	\$1.7M	\$1.0M	–
GREC Revenue	–	–	\$770K	\$1.5M	\$2.3M	\$2.3M	\$2.3M	\$1.5M	\$770K	–
ITC Tax Credit	\$3.7M	\$7.2M	\$3.8M	\$1.0M	\$10.0M	–	–	–	–	–
Asset Sale	–	–	–	–	–	–	–	\$14.9M	\$14.9M	\$15.6M
Debt Drawdown	\$7.0M	\$12.4M	\$11.2M	\$5.9M	–	–	–	–	–	–
CapEx	(\$11.3M)	(\$22.5M)	(\$22.2M)	(\$11.1M)	–	–	–	–	–	–
Operations + Tax + Admin	(\$169K)	(\$338K)	(\$673K)	(\$627K)	(\$535K)	(\$521K)	(\$608K)	(\$1.3M)	(\$1.2M)	(\$816K)
Debt Service	(\$229K)	(\$860K)	(\$1.8M)	(\$2.5M)	(\$2.8M)	(\$2.8M)	(\$2.8M)	(\$14.9M)	(\$11.0M)	(\$11.0M)
Net Cash to Fund	(\$947K)	(\$4.2M)	(\$7.1M)	(\$3.2M)	\$12.3M	\$1.4M	\$1.4M	\$1.9M	\$4.5M	\$3.7M
Cumulative Net Cash	(\$947K)	(\$5.1M)	(\$12.2M)	(\$15.4M)	(\$3.1M)	(\$1.7M)	(\$339K)	\$1.6M	\$6.0M	\$9.8M
Combined DSCR	–	–	1.21x	1.81x	5.41x	1.51x	1.52x	1.48x	1.19x	–

SPV IRR

13.7%

Total Equity In

\$14.8M

Total Net Return

\$9.8M

Peak Draw

(\$15.4M)

Breakeven

Year 8

Min DSCR (ops)

1.19x

Crisfield – Cashflow Summary

Somerset County, MD · 950 homes · 10-year horizon

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Thermal Service Revenue	–	–	\$954K	\$1.4M	\$1.9M	\$1.4M	\$1.5M	\$1.0M	\$585K	–
GREC Revenue	–	–	\$357K	\$713K	\$1.1M	\$1.1M	\$1.1M	\$713K	\$357K	–
ITC Tax Credit	\$1.7M	\$3.4M	\$2.4M	\$1.1M	\$5.2M	–	–	–	–	–
Asset Sale	–	–	–	–	–	–	–	\$7.7M	\$7.7M	\$8.4M
Debt Drawdown	\$4.0M	\$7.7M	\$6.7M	\$2.9M	–	–	–	–	–	–
CapEx	(\$6.0M)	(\$12.0M)	(\$11.6M)	(\$5.8M)	–	–	–	–	–	–
Operations + Tax + Admin	(\$90K)	(\$180K)	(\$392K)	(\$369K)	(\$345K)	(\$338K)	(\$376K)	(\$734K)	(\$642K)	(\$436K)
Debt Service	(\$129K)	(\$509K)	(\$1.1M)	(\$1.5M)	(\$1.6M)	(\$1.6M)	(\$1.6M)	(\$8.5M)	(\$7.6M)	(\$5.5M)
Net Cash to Fund	(\$517K)	(\$1.6M)	(\$2.7M)	(\$1.6M)	\$6.2M	\$534K	\$515K	\$245K	\$353K	\$2.5M
Cumulative Net Cash	(\$517K)	(\$2.1M)	(\$4.8M)	(\$6.4M)	(\$134K)	\$400K	\$915K	\$1.2M	\$1.5M	\$4.0M
Combined DSCR	–	–	1.58x	1.92x	4.83x	1.33x	1.34x	1.28x	1.19x	–

SPV IRR

15.0%

Total Equity In

\$7.6M

Total Net Return

\$4.0M

Peak Draw

(\$6.4M)

Breakeven

Year 5

Min DSCR (ops)

1.19x

Federalsburg - Cashflow Summary

Caroline County, MD · 900 homes · 10-year horizon

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Thermal Service Revenue	—	—	\$1.1M	\$1.6M	\$2.2M	\$1.6M	\$1.6M	\$1.2M	\$672K	—
GREC Revenue	—	—	\$629K	\$1.3M	\$1.9M	\$1.9M	\$1.9M	\$1.3M	\$629K	—
ITC Tax Credit	\$2.5M	\$4.8M	\$3.4M	\$1.5M	\$7.6M	—	—	—	—	—
Asset Sale	—	—	—	—	—	—	—	\$11.2M	\$11.2M	\$11.9M
Debt Drawdown	\$5.7M	\$11.2M	\$9.7M	\$4.2M	—	—	—	—	—	—
CapEx	(\$8.6M)	(\$17.3M)	(\$16.9M)	(\$8.5M)	—	—	—	—	—	—
Operations + Tax + Admin	(\$129K)	(\$259K)	(\$477K)	(\$420K)	(\$361K)	(\$352K)	(\$407K)	(\$954K)	(\$844K)	(\$617K)
Debt Service	(\$184K)	(\$732K)	(\$1.5M)	(\$2.1M)	(\$2.4M)	(\$2.4M)	(\$2.4M)	(\$12.1M)	(\$11.1M)	(\$7.9M)
Net Cash to Fund	(\$797K)	(\$2.3M)	(\$4.0M)	(\$2.3M)	\$9.0M	\$768K	\$735K	\$539K	\$572K	\$3.3M
Cumulative Net Cash	(\$797K)	(\$3.1M)	(\$7.1M)	(\$9.4M)	(\$445K)	\$323K	\$1.1M	\$1.6M	\$2.2M	\$5.5M
Combined DSCR	—	—	1.54x	1.89x	4.80x	1.33x	1.33x	1.28x	1.24x	—

SPV IRR

14.0%

Total Equity In

\$10.4M

Total Net Return

\$5.5M

Peak Draw

(\$9.4M)

Breakeven

Year 6

Min DSCR (ops)

1.24x

Fund Cashflow: Project Failure

Fund IRR 14.9%	Equity \$40.0M	Debt \$110.5M	ITC Bridge \$42.6M	MOIC 1.75x	Fund Size \$193.0M
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	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12
BASE CASE (IRR 14.9%)												
PleasantView	(\$595K)	(\$1.1M)	(\$3.0M)	(\$5.5M)	(\$2.5M)	\$11.5M	\$1.1M	\$1.2M	\$2.7M	\$2.5M	\$4.3M	—
Rosemont	—	(\$947K)	(\$4.2M)	(\$7.1M)	(\$3.2M)	\$12.3M	\$1.4M	\$1.4M	\$1.9M	\$4.5M	\$3.7M	—
Crisfield	—	—	(\$517K)	(\$1.6M)	(\$2.7M)	(\$1.6M)	\$6.2M	\$534K	\$515K	\$245K	\$353K	\$2.5M
Federalburg	—	—	(\$797K)	(\$2.3M)	(\$4.0M)	(\$2.3M)	\$9.0M	\$768K	\$735K	\$539K	\$572K	\$3.3M
Combined Net	(\$595K)	(\$2.0M)	(\$8.5M)	(\$16.4M)	(\$12.4M)	\$19.9M	\$17.8M	\$3.8M	\$5.8M	\$7.8M	\$8.9M	\$5.8M
Cumulative	(\$595K)	(\$2.6M)	(\$11.1M)	(\$27.5M)	(\$40.0M)	(\$20.1M)	(\$2.3M)	\$1.5M	\$7.3M	\$15.1M	\$24.0M	\$29.8M
STRESS — Single SPV Failure												
PV Fails (IRR 10.7%)	(\$595K)	(\$947K)	(\$5.5M)	(\$11.0M)	(\$9.9M)	\$8.4M	\$16.6M	\$2.7M	\$3.1M	\$5.3M	\$4.6M	\$5.8M
RM Fails (IRR 14.1%)	(\$595K)	(\$2.0M)	(\$4.3M)	(\$9.3M)	(\$9.2M)	\$7.6M	\$16.4M	\$2.5M	\$3.9M	\$3.3M	\$5.2M	\$5.8M
CR Fails (IRR 14.4%)	(\$595K)	(\$2.0M)	(\$8.5M)	(\$14.8M)	(\$9.7M)	\$21.4M	\$11.5M	\$3.3M	\$5.3M	\$7.5M	\$8.6M	\$3.3M
FD Fails (IRR 14.2%)	(\$595K)	(\$2.0M)	(\$8.5M)	(\$14.2M)	(\$8.4M)	\$22.2M	\$8.8M	\$3.1M	\$5.1M	\$7.2M	\$8.4M	\$2.5M

Key Takeaways

- Peak equity draw \$40.0M in Year 5; cumulative turns positive Year 8
- Fund delivers 14.9% IRR and 1.75x MOIC over 12-year horizon
- Worst-case single failure (PleasantView) still returns 10.7% IRR
- No single SPV failure drops fund IRR below 10%

Fund Cashflow – Pleasant View Fails Scenario

Stress test: Pleasant View fails after \$595K deployed · Remaining 3 SPVs continue

Stress IRR 10.7%	vs Base IRR 14.9%	IRR Impact -4.2%	Peak Draw (\$20.7M)	Total Return \$18.7M	Fund Still Profitable YES
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	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12
PLEASANTVIEW FAILS SCENARIO (IRR 10.7%)												
PleasantView (FAILED)	(\$595K)	—	—	—	—	—	—	—	—	—	—	—
Rosemont	—	(\$947K)	(\$4.2M)	(\$7.1M)	(\$3.2M)	\$12.3M	\$1.4M	\$1.4M	\$1.9M	\$4.5M	\$3.7M	—
Crisfield	—	—	(\$517K)	(\$1.6M)	(\$2.7M)	(\$1.6M)	\$6.2M	\$534K	\$515K	\$245K	\$353K	\$2.5M
Federalburg	—	—	(\$797K)	(\$2.3M)	(\$4.0M)	(\$2.3M)	\$9.0M	\$768K	\$735K	\$539K	\$572K	\$3.3M
Combined Net	(\$595K)	(\$947K)	(\$5.5M)	(\$11.0M)	(\$9.9M)	\$8.4M	\$16.6M	\$2.7M	\$3.1M	\$5.3M	\$4.6M	\$5.8M
Cumulative	(\$595K)	(\$1.5M)	(\$7.0M)	(\$18.0M)	(\$27.9M)	(\$19.5M)	(\$2.9M)	(\$211K)	\$2.9M	\$8.2M	\$12.8M	\$18.7M
BASE CASE COMPARISON (IRR 14.9%)												
Base Combined Net	(\$595K)	(\$2.0M)	(\$8.5M)	(\$16.4M)	(\$12.4M)	\$19.9M	\$17.8M	\$3.8M	\$5.8M	\$7.8M	\$8.9M	\$5.8M
Base Cumulative	(\$595K)	(\$2.6M)	(\$11.1M)	(\$27.5M)	(\$40.0M)	(\$20.1M)	(\$2.3M)	\$1.5M	\$7.3M	\$15.1M	\$24.0M	\$29.8M

Key Takeaways

- Fund IRR drops from 14.9% to 10.7% — still above 10% threshold
- Peak cumulative draw reduced to (\$20.7M) vs (\$40.0M) base case
- Remaining 3 SPVs generate \$18.7M total return vs \$29.8M base
- Y6–Y7 still deliver strong cash (\$8.4M + \$16.6M) from RM/CR/FD operations
- Multi-SPV structure absorbs the loss of the largest project

Comparable District Energy Projects

Proven deployments validating district-scale thermal networks with waste heat recovery

Data Center Heat Resuse for District Heating Example: Tallaght District Heating Scheme

Operator: **Heat Works** -Ireland's first not-for-profit energy utility, owned by South Dublin County Council, Live since early 2023

100%

Waste heat from Amazon data centre

32,800 m²

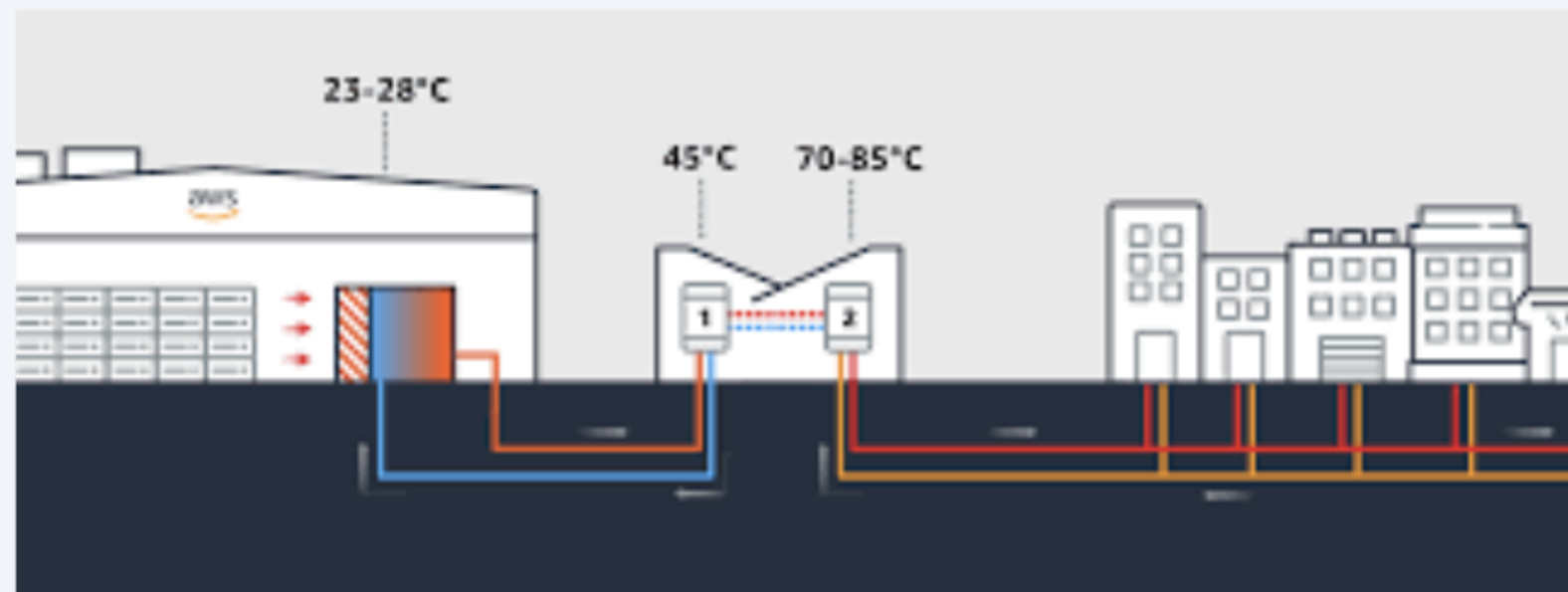
Public buildings served

1,500 t

CO₂ saved per year

Buildings Served

- County Hall, Tallaght Library, Innovation Centre
- TU Dublin — Main Building, Sports-Science & Health Building, Catering College
- 133 affordable apartments (connecting early 2025)



Waste Water Heat reuse for District Heating Example National Western Center

North America's largest District Energy wastewater recovery system. Processes ~3,000 gal/min of untreated wastewater via two SHARC 880 units was commissioned January 2022

3.8 MW

District energy system capacity

1M+ ft²

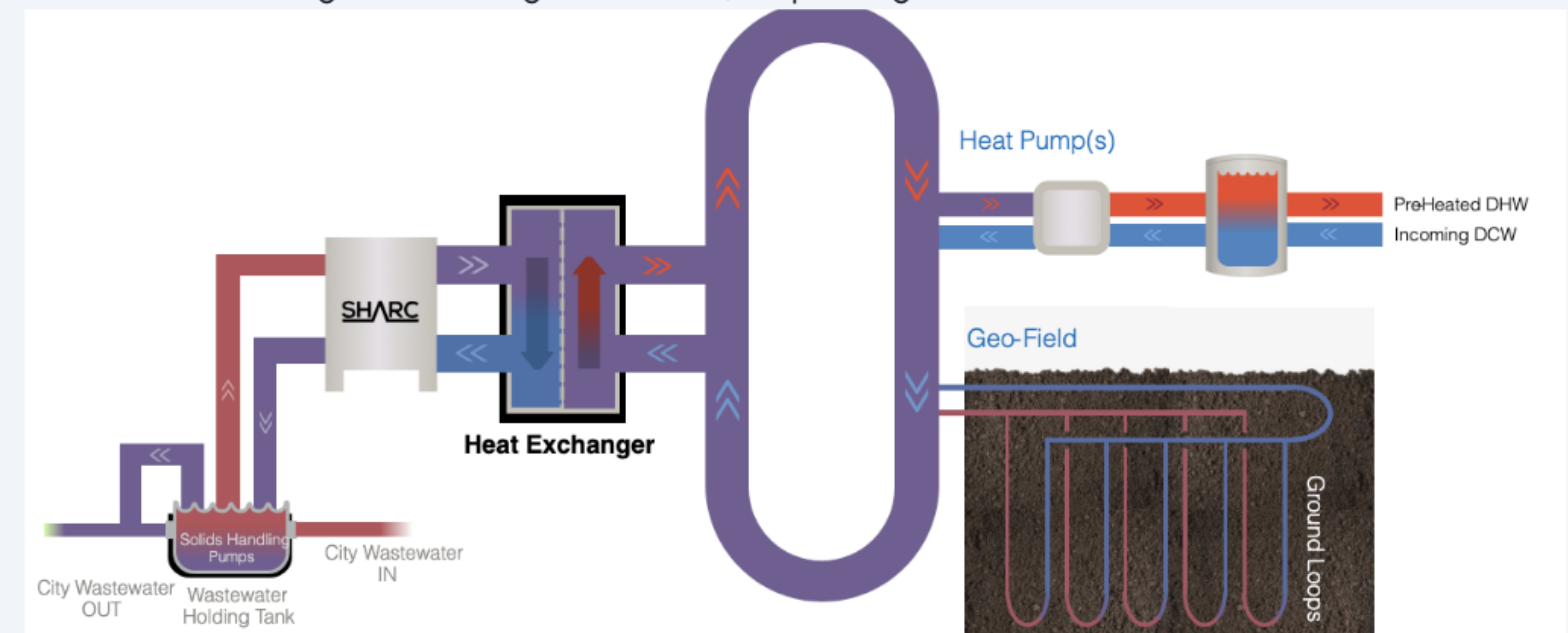
Indoor space 90% H&C covered

2,600 t

CO₂e avoided per year

System Details

- Two SHARC 880 units with design capacity up to 4.6 MW
- Wastewater heat recovery feeds on-site heat pump system
- 90% of heating and cooling needs met, displacing fossil fuels



GeoDEV: Finance construction once geology is validated

State Level

- **State energy office grants** (Example in Maryland: electrifying community buildings grants)
- **State economic development grants:** *Example in Maryland* (up to ~\$10million available)

Federal Level

- **DOE Office of Geothermal grants**
- **ARPA-E** (for novel technical approaches)
- **SBIR/STTR** (for tech-development testing/research eg advanced data collection/subsurface modeling)

Catalytic

- **Trellis Climate** (an impact-first catalytic capital program enabling novel climate infrastructure solutions to achieve commercial scale at speed)
- **Breakthrough Energy Catalyst** (accelerates the global adoption of emerging climate technologies by funding large demonstration projects and invests in first-of-a-kind commercial-scale projects)

Financing Philosophy



We follow the **principle of subsidiarity**; starting with the most **local** funding sources **first**, escalating only when scale demands it. This builds **community trust**, **de-risks the project** at every stage, and **protects development capital** by the time it's needed.

Start local, earn trust, scale up. Each funding tier de-risks the next.

GeoDEV: Finance construction once geology is validated

GeoDEV Capital Stack: Blended finance structure including Catalytic Capital, Private Equity, CDE loans, CDFI loans, Tax Credits etc.

	<i>Investor</i>	<i>Role</i>	<i>Amount</i>	<i>Interest Range</i>	
DEBT	1	Maryland Clean Energy Capital Program (MCAP)	Debt	\$10-18M	2.60% - 3.45% (based of recent large-scale institutional projects)
		HUD Section 108 Loan Guarantee Program	Debt	\$8-12M	~4.75% - 5.25% (Market dependent)
	2	Self-Help Ventures Fund	Debt	\$5-10M	~5.75-14%
		Community Preservation Corporation (CPC)	Debt	\$3-8M	~3%
	3	Jane E. Lawton	Low-cost supplement	\$1-2M	~2%
	NMTC	New Markets Tax Credits (very low-interest loan that is usually forgiven after 7 years) U.S. Bancorp Impact Finance/JP Morgan Chase → Community Development Entity → GeoDEV	Gap Financing	~17-20% of project cost	~1-3% <small>Investor (39% tax credits)</small>
Equity	Generate Capital	Lead Equity	~20-30%		
	Greenbacker	strategic minority equity investment	~10-20%		
	Trellis Climate	Catalytic Capital (minority equity stake)	\$2-10M		
	Breakthrough Energy Catalyst	Catalytic Capital (minority equity stake)	~20M		

Amount & Interest Ranges are estimates based on literature research & similar projects. Actual values depend on market, project specifics, and other requirements