

Financing Home Electrification

Sept 2024



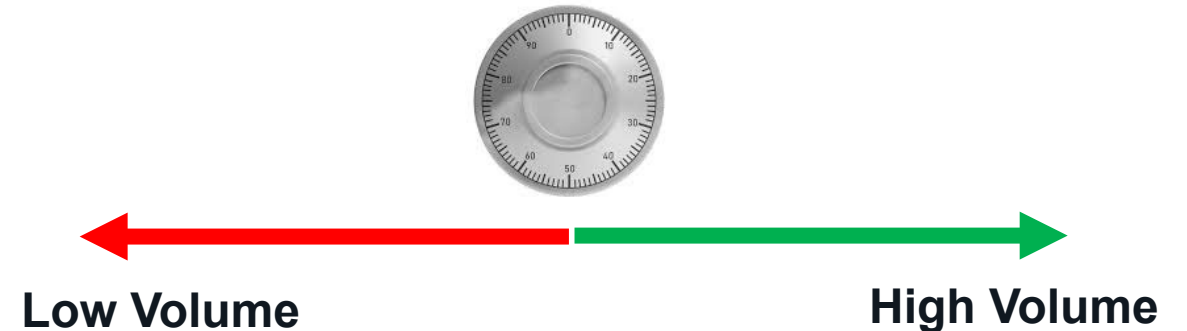
1,195

upgrades per hour from
today to Jan 1, 2050

Volume of Capital in Market

The **characteristics of the transaction** determines the volume of capital in a market.

Take a close-up view of a transaction to see if the conditions are met for a market with a high volume of liquidity.



Characteristics of a Transaction

- > Project economics
- > Upfront capital requirement
- > Risk profile
- > Transaction costs and frictions (price visibility, origination fees, uncertainty of subsidy, effort to find lender, unfamiliarity of lender with technology)
- > Customer access to capital
- > Strength of secondary market

Evaluating A Product

- **Collection mechanism**
- **Method of origination**
- **Handling of construction, performance and nonpayment risk**
- **Ability to underwrite value streams**
- **Secondary market**
- **Upfront capital requirement**
- **Strong technical understanding by the underwriters**

Building Value

NOI

Operating Income

External Entity

Grid Services

Carbon

Improved Occupancy

Increased Rent

Reduced Tenant Turnover

Operating Expense

Energy Savings

Lower Insurance

Mold

Resiliency

Fire Resilience

Flood Resistance

Carbon Monoxide Risk

Occupant Value

Tenant Preferences

Thermal Comfort

IAQ

Noise

Tenant Cost Burden

Tenant Health Burden

IAQ

Unit Energy Savings

Many occupant benefits improve tenant ability and willingness to pay, thereby accruing to building economics, especially in market-rate projects.

Risk Transfer & Strength of Market

		Trust	
		Low	High
Situational Risk	Low	Dominated	Low transaction costs/ high amount of liquidity in market
	High	Extremely high transaction costs/ low liquidity	Dominated

Examples

		Trust	
		Low	High
Situational Risk	Low		Buying running shoes on Amazon
	High	Construction project	

Handling Of Risk

Viewing risk along three different dimensions:

1. Concentration
2. Expertise
3. Agency

Distributed risk is better than concentrated risk. Risk held by entity with high expertise in managing risk is better than it being held by entity with low expertise. Risk carried by entity with high influence over quality control is better than it being carried by entity with low influence over quality control

Gaps in the Market

- > Data platforms for financial decision making for high performance buildings
- > Programs to develop pipelines for insurers and insurance products to transfer performance risk away from building owner
- > Vehicles to pool risk (special purpose vehicles, warehouse facilities, state revolving funds)
- > Loss reserves to further lower risk on the portfolio level and drive in private capital
- > Disclosure to secondary market buyers
- > Asset based risk pricing for lower insurance costs

Product Examples

Fee-based product

- > Building owners pay a monthly fee
- > All fees are paid into an SPV
- > An insurance wrap exists on all contracts in the SPV
- > Building owners get a payout for any performance shortfall
- > No upfront capital is required

Manufacturer consumer credit program

- > For single measures only (roof, hot water, heat pump)
- > Manufacturer use an installer network to offer the embedded financing product
- > Building owners pay a monthly fee
- > All fees are paid into an SPV
- > Manufacturer owns the SPV and therefore assumes nonpayment risk
- > A loss reserve limits manufacturer loss due to nonpayment



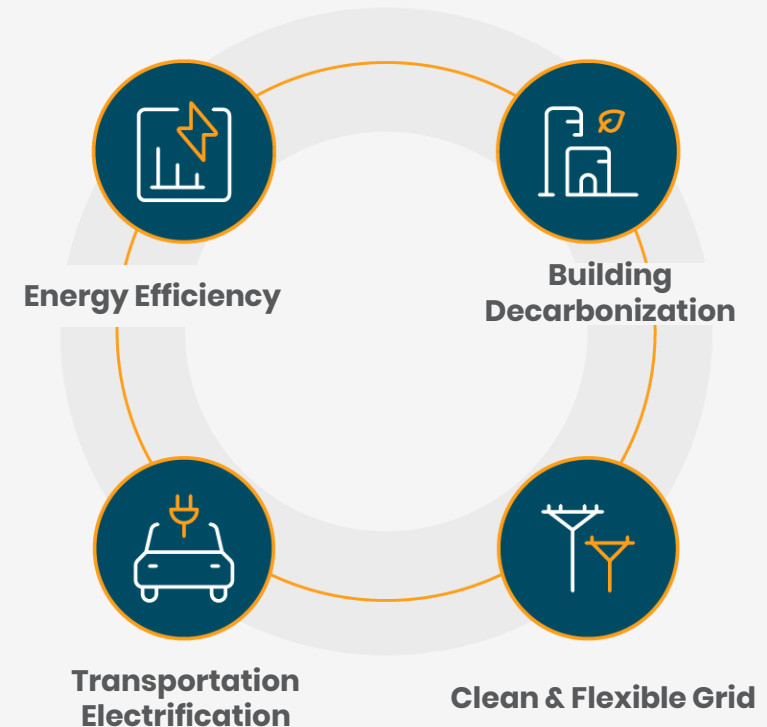
Financing Decarbonization in Multifamily Affordable Housing: Growing Opportunities in the IRA Era

Becky Schaaf, September 2024

VEIC offers high-impact energy solutions that decarbonize buildings, transportation, and utility grids, today.

- **Nonprofit founded in 1986** with a mission to generate the energy solutions the world needs
- **National consulting practice working across over 75% of the country** advising states, utilities, Federal agencies, nonprofit organizations, and businesses
- **Program design & implementation for award winning energy efficiency and clean energy programs** including program administrator for Efficiency Vermont & the DC Sustainable Energy Utility; on administration team for TECH Clean California (statewide building decarb), CalNEXT (statewide electric emerging tech), Hawaii Energy, and Focus on Energy (WI)

Making an impact within each dimension of energy

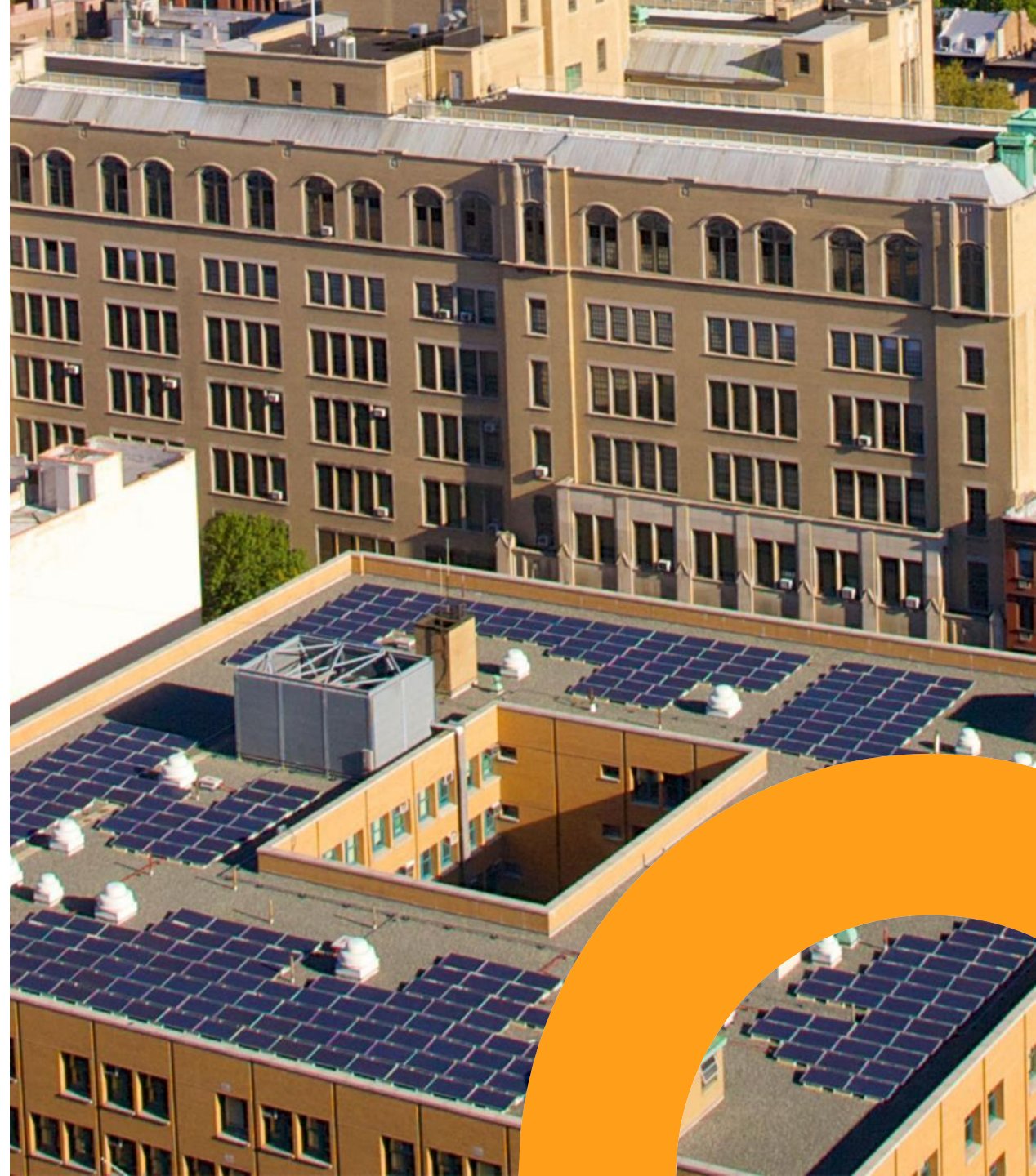


Services

Building Decarbonization

Decarbonization strategies must support a sustainable energy system and benefit the grid, not strain it.

We develop effective solutions to meet your economic and environmental goals, through a combination of electrification, renewable energy, enhanced building materials and new approaches to refrigerant management.



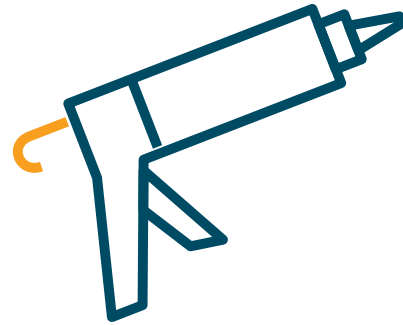
Green Lending Opportunities



At Capital Events

Favorable terms or local requirements lead owners to integrate green upgrades into larger rehabilitation scopes of work.

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Stand Alone Retrofits

Owners undertake proactive upgrades possibly paired with state or utility incentive programs.



Financing Stand Alone Energy Efficiency Retrofits in Multifamily Affordable Housing



- Energy Performance Contracts
- Boutique CDFI Loan Products
- On-Bill Repayment
- Property Assessed Clean Energy

What's new in green lending?

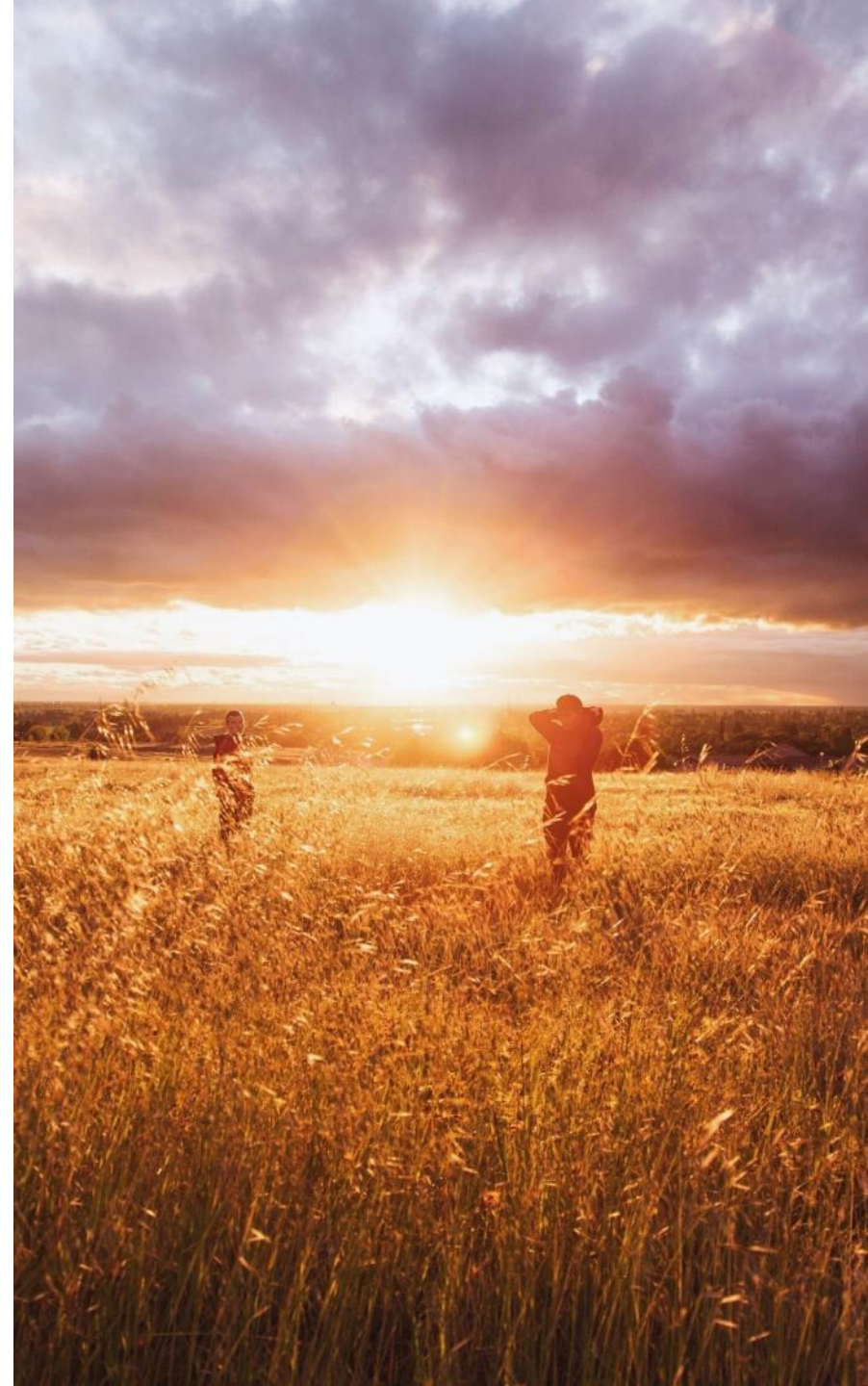
Greenhouse Gas Reduction Fund

National Clean Investment Fund

- \$14 billion
- 3 awardees
- Justice40 commitment

Clean Communities Investment Accelerator

- \$6 billion
- 5 awardees
- 100% LIDAC focused



Additional Funds

DOE Home Energy Rebates

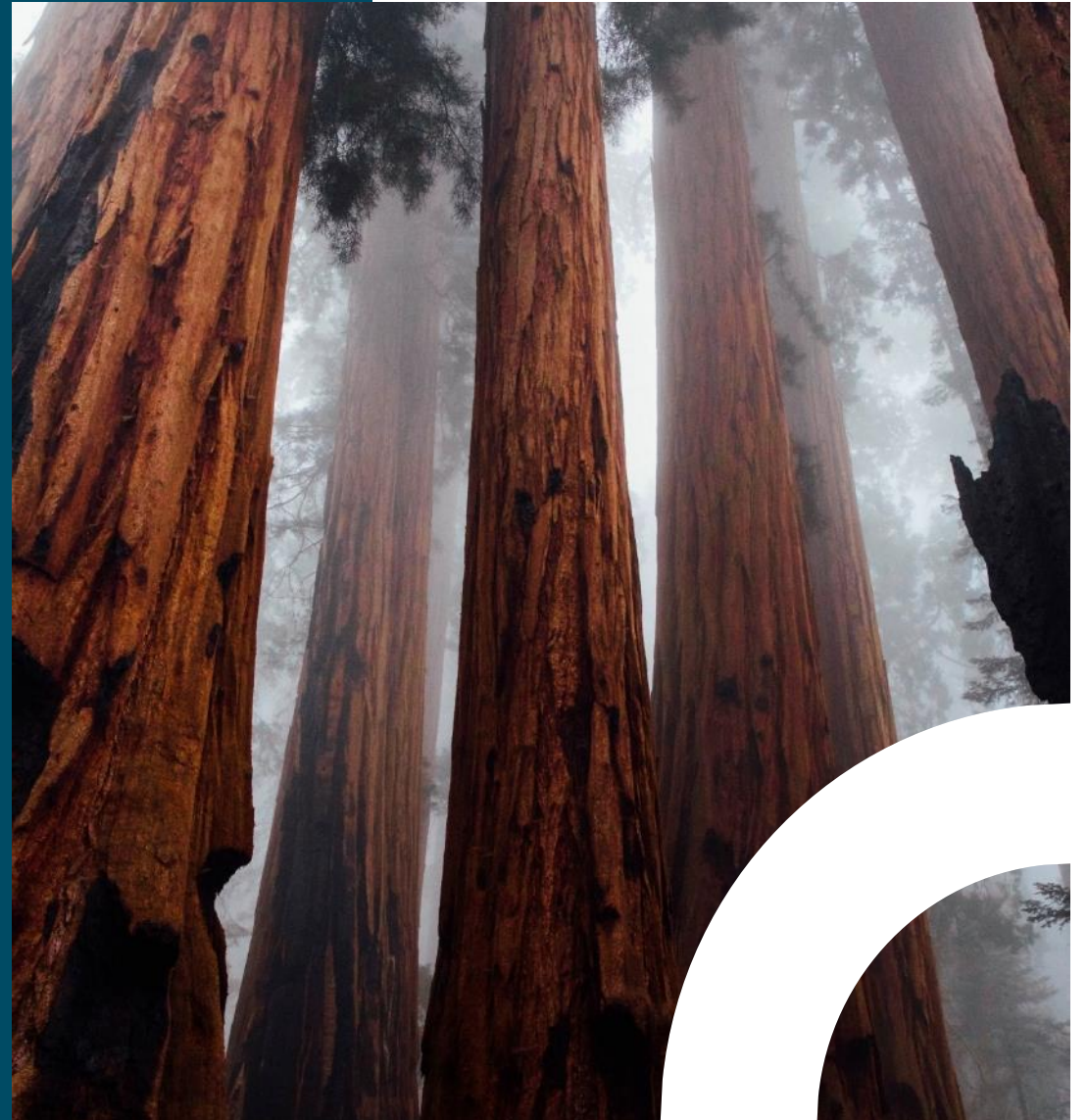
- Home Efficiency Rebates
- Home Electrification and Appliance Rebates

State and Local Rebates and Incentives

Tax Credits for Efficiency and Solar

Market Development

- HUD Green and Resilient Retrofit Program
- EPA Community Change Grants



Remaining Challenges

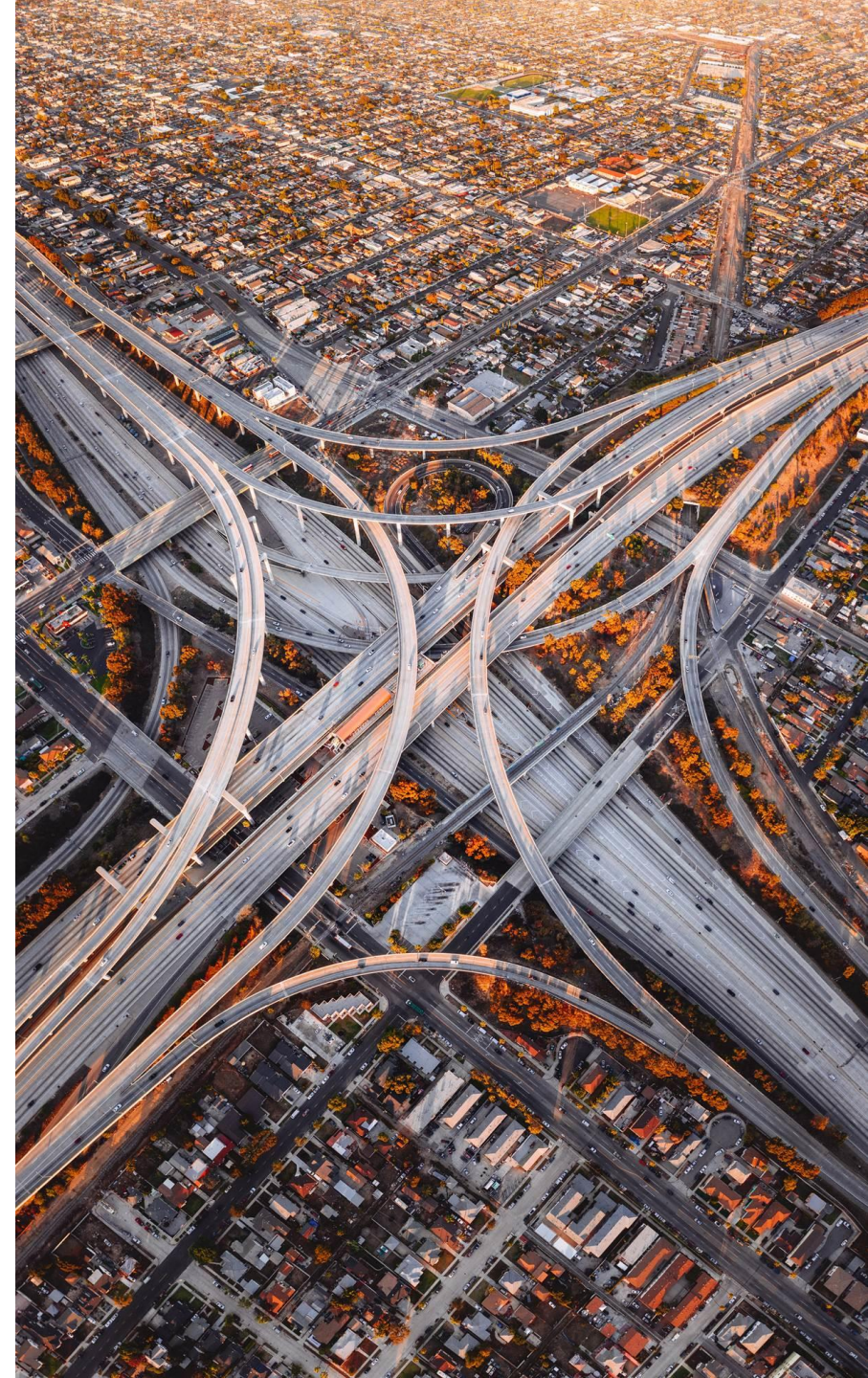
Small loan sizes mean relatively high admin costs

⇒ Need for streamlined lending processes

⇒ Need for streamlined and coordinated project acquisitions and development processes

Form of security and existing lender approvals

Competition for time and attention with other needs in affordable housing



Fuel Switching Considerations

Overall Operating Costs

Depending on relative fuel costs in local markets, the cost of operating a system can go up if it switches from natural gas to electric. Programs should strive for comprehensive retrofits and monitor cost impacts for owners and residents.

Cost Shifting

In the course of electrifying, a system that was previously owner paid may become resident paid or vice versa. Programs should monitor for this and ensure that resident energy burdens do not increase.



Moving Forward

- Historic levels of funding for decarbonization measures and decarbonization finance create the potential for a huge share of financeable projects.
- Making those financeable projects a reality takes streamlined processes and a record level of coordination.
- **Let's invest now** in market development that supports market transformation and ultimately transforms lives.



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Thank you!

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