



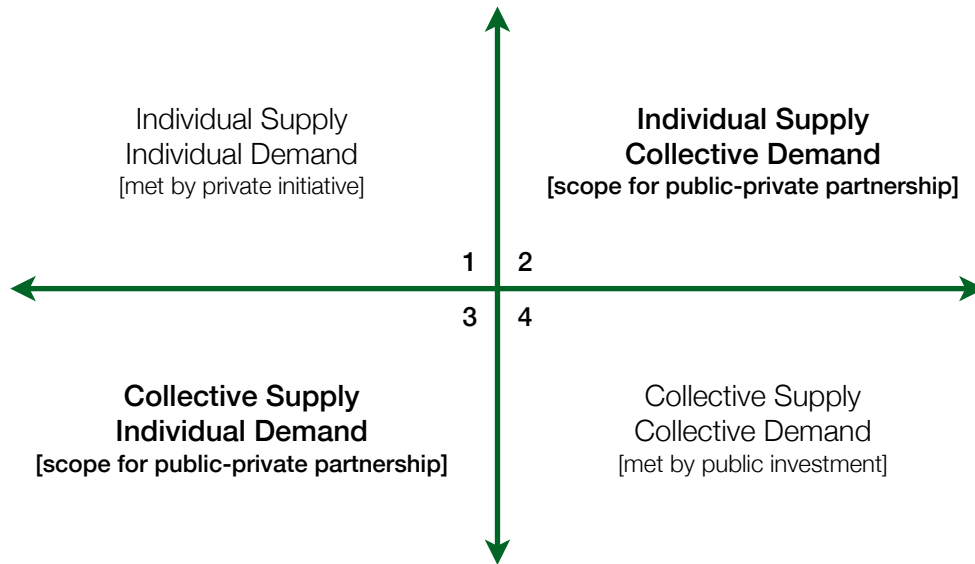
# The Role of Regulation in Public and Private Infrastructure Investment

Although infrastructure can be expensive to build and maintain, it serves the entire community over decades. This makes it the foundation for both collective and individual prosperity. This very long useful life, however, makes it particularly vulnerable to climate change.

The changing climate makes the question of how to approach infrastructure both increasingly important and increasingly challenging. Communities have always implemented their own specific combination of infrastructure solutions to suit their circumstances and preferences, depending on the technologies and resources available. Unfortunately, as the changing weather strains existing systems and disrupts established supply chains, the choice of solutions must evolve, as must the regulations which make these investments possible, timely, and effective.

### Climate-focused investment targets

At Treehouse Investments, we focus on infrastructure investment across all scales in three core sectors: energy, water, and waste. To identify markets and business models where private investment can have the most catalytic impact, we map interactions between individual and collective involvement in infrastructure against supply and demand, as shown in Figure 1.



		Example Projects	Strengths	Weaknesses
1	Individual Supply Individual Demand	Pit latrines	Most flexible	Small, unstandardized
2	<b>Individual Supply Collective Demand</b>	<b>Municipal recycling Wastewater treatment plant</b>	<b>Local input, Replicable design</b>	<b>Slow</b>
3	<b>Collective Supply Individual Demand</b>	<b>Community-scale mini-grid Water treatment plant</b>		
4	Collective Supply Collective Demand	Electric Transmission Hydroelectric generation	Lowest unit cost	Difficult to optimize for individual user experience



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## Adaptable, local solutions lead to resilient infrastructure

We believe **Quadrants 2 and 3** are of particular interest, as they are traditionally underfunded yet allow for flexibility of design to meet specific local needs. This provides optimal interaction between investors, the public sector, and the communities that will use the infrastructure, to implement the most appropriate infrastructure solution. While this can be a slow process, the outcomes are more targeted, and as a result, over the long term are often also the most cost-effective.

## Suitable regulation is critical

We have found the right regulatory framework to be crucial to encouraging investment in infrastructure that is able to adapt to the environmental changes ahead. Regulation that incentivizes speed and size of development will continue to prioritize large scale, inflexible solutions. We believe regulators should encourage investment that will support more modular, decentralized, adaptable systems, and we target our investments to regulatory frameworks that implement this approach. More investment into obsolete approaches will not meet our current challenges; nor will they prepare us to meet the challenges we cannot yet see, but know are coming.

## References and Further Reading

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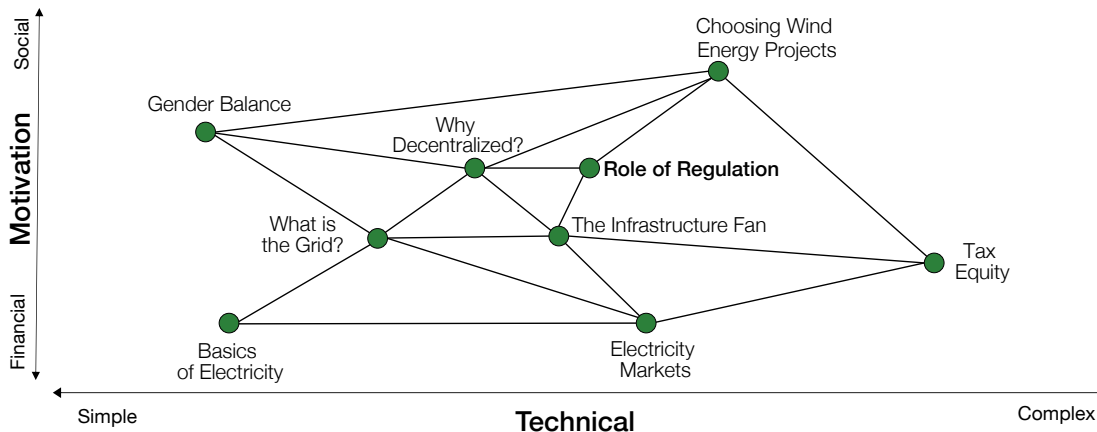
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Treehouse Investments White Paper, "Why Invest in Decentralized Infrastructure?" (2021): <https://www.treehouseinvestments.com/s/Decentralized-Infrastructure.pdf>.

Treehouse Investments White Paper, "The Infrastructure Fan" (2021): <https://www.treehouseinvestments.com/s/Infrastructure-Fan.pdf>.

## Where this White Paper Fits In



**About Treehouse Investments:** Treehouse Investments is a minority-owned firm dedicated to addressing climate change. We are a family business, founded by a family from Puerto Rico. We target direct investments in both publicly traded and private entities. Our focus areas fall under the broad description of decentralized infrastructure: companies and projects that contribute to building sustainable and resilient energy, water, and waste systems.

