

Implications for Intelligent Efficiency of a Rapidly Transforming Electric Grid

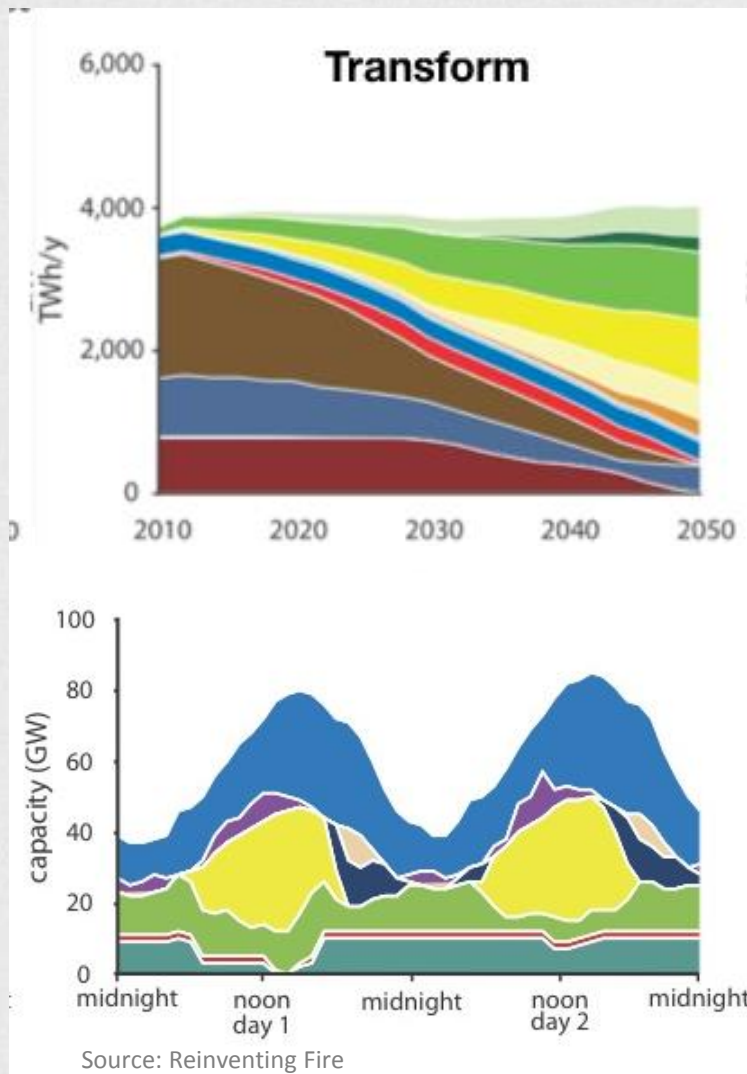
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Technology is creating fundamentally new opportunities for energy optimization; enabling that requires coordinated action



Technology
Integration

- Operate buildings as grid resources
- Integrate mobility

Economic
Value

- Evaluate DER alternatives to capex investments
- Send better value signals

Culture

- Overcome institutional inertia and disincentives to change

Transforming global energy use to create a clean, prosperous, and secure low-carbon future.



1. Operate buildings as grid resources

Grid Purchases

Buy kWh from the grid as and when needed.

Distributed Generation

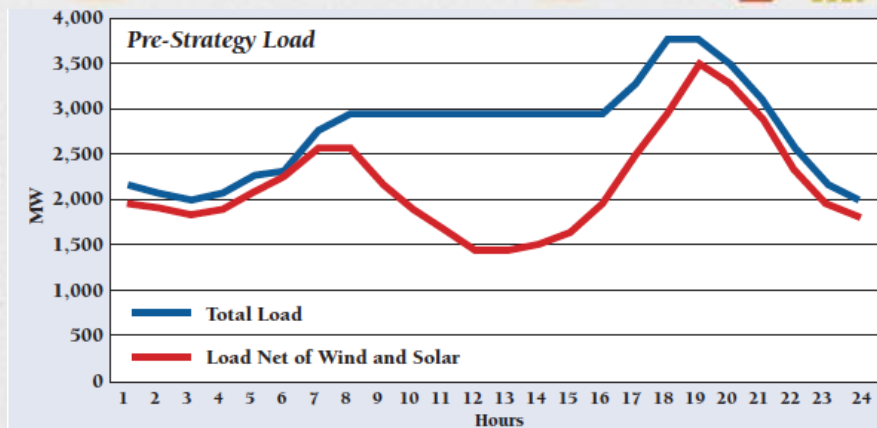
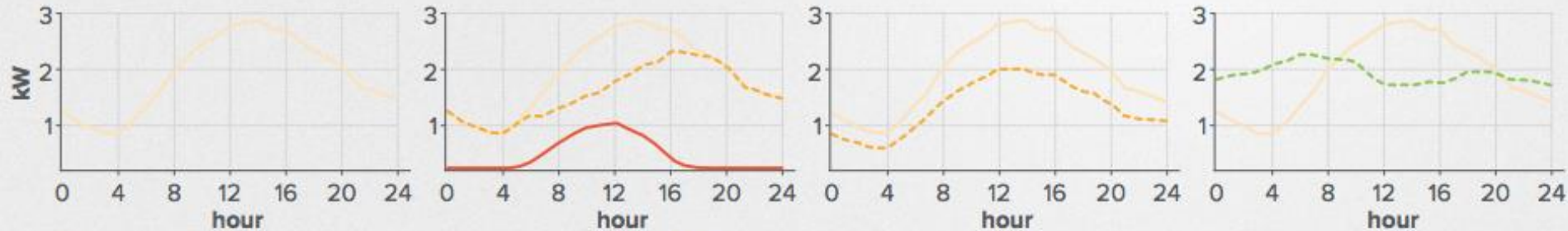
Generate electricity, changing the profile of net grid demand while reducing total grid demand.

Energy Efficiency

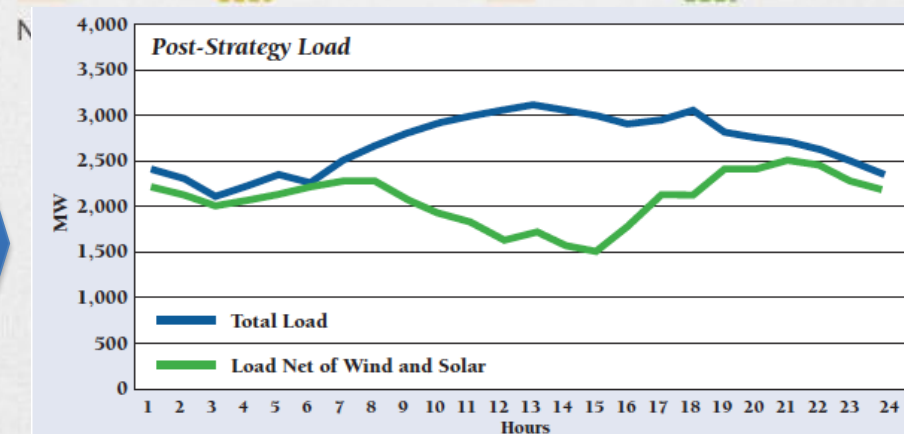
Reduce demand whenever load is operated, thus lowering the daily load curve.

Demand Flexibility

Shift eligible loads across the hours of a day to lower-cost times, reshaping the daily load curve.



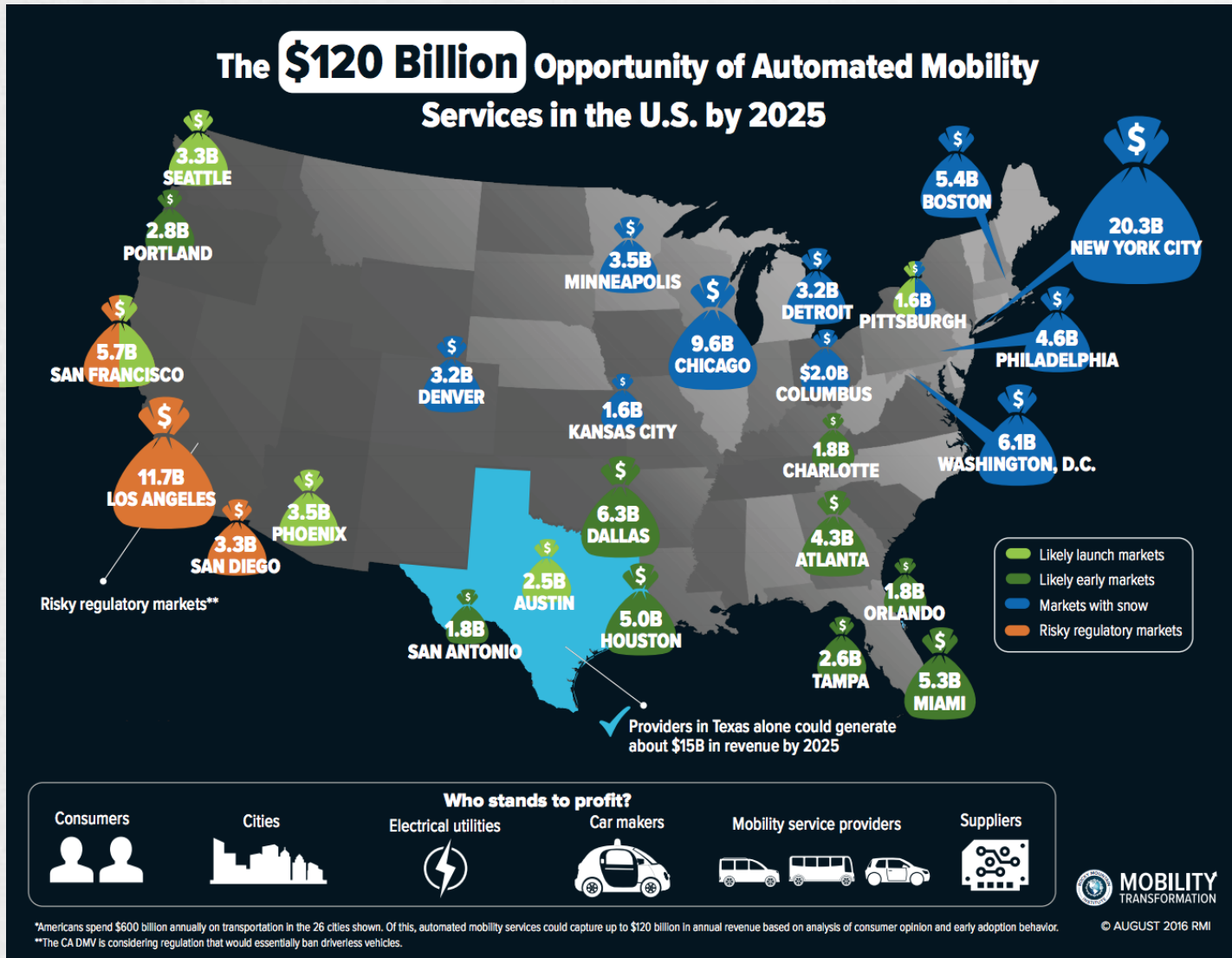
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2. Integrate mobility

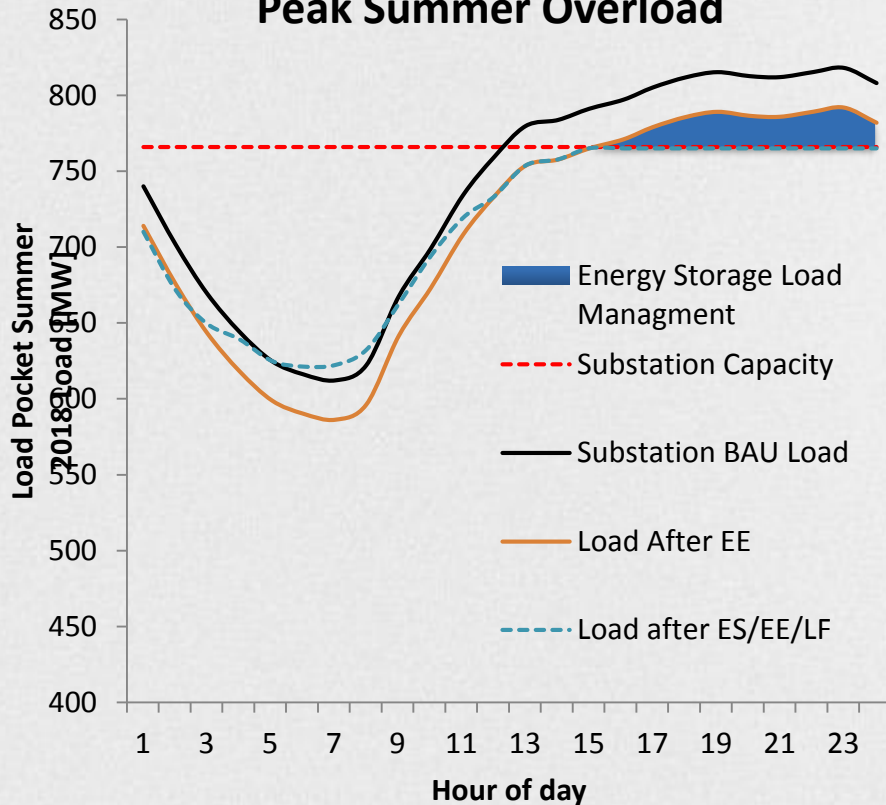


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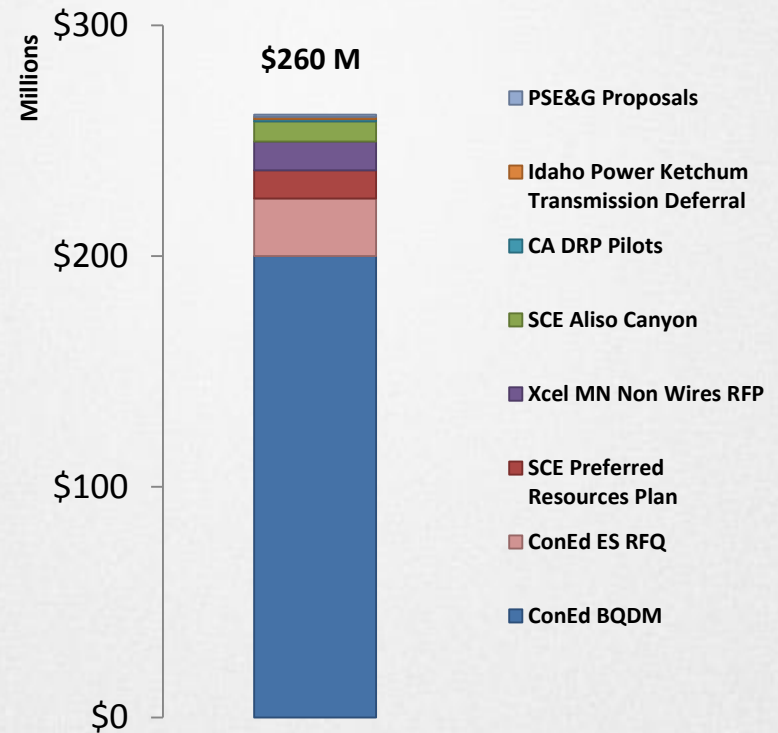


3. Evaluate DER alternatives to centralized capex investments

Brooklyn-Queens Load Pocket During Peak Summer Overload



Total value of non-wires alternatives contracts



Source: RMI Economics of Battery Energy Storage

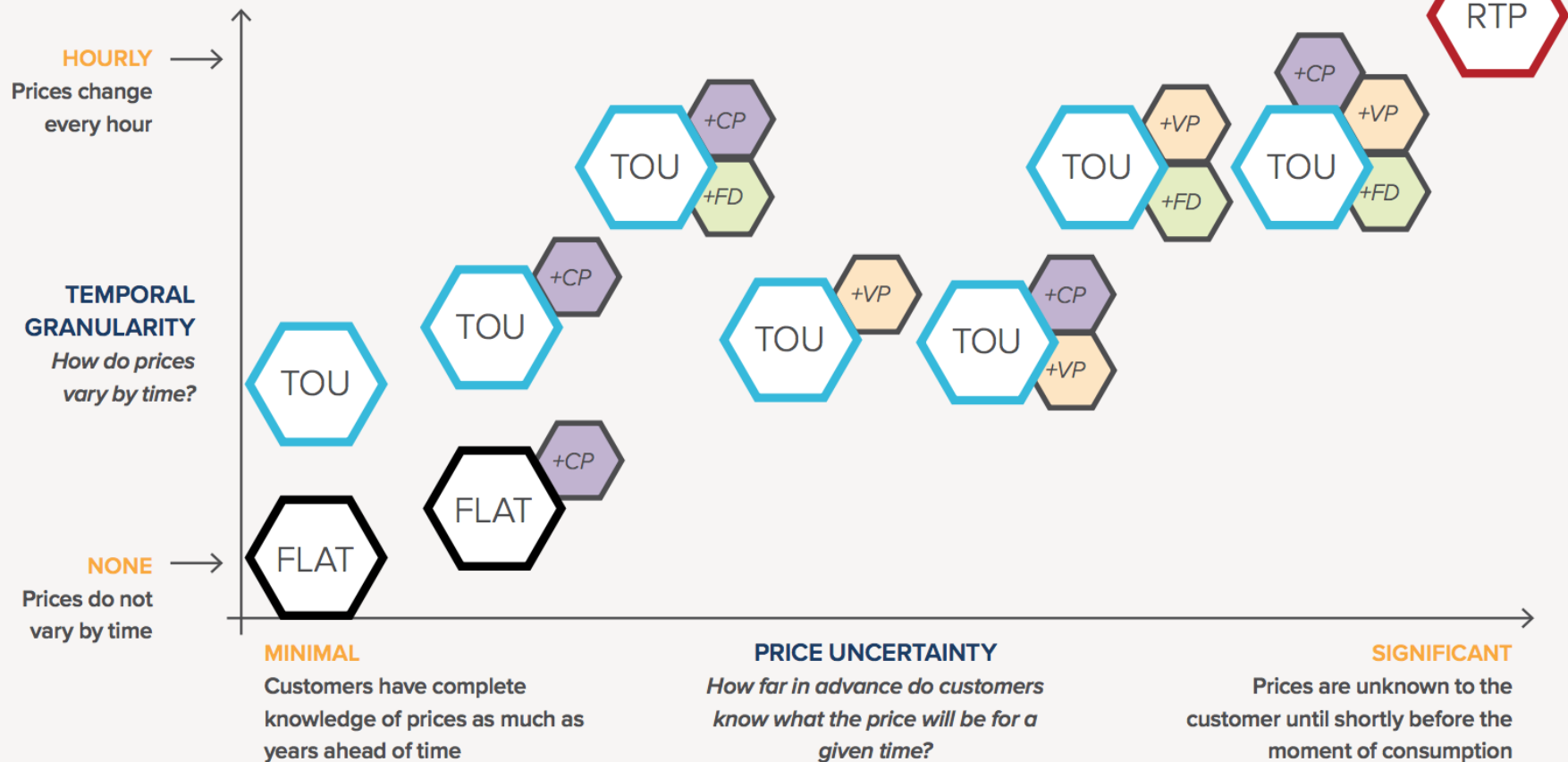
Source: RMI analysis



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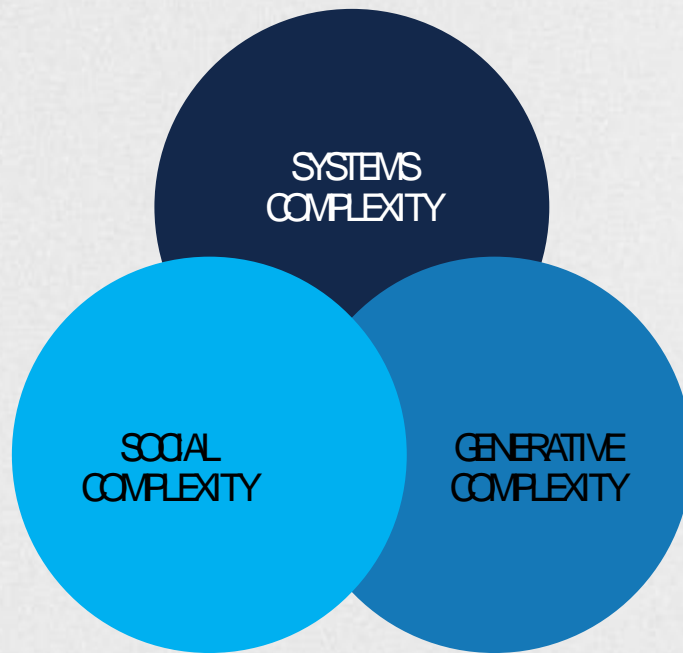
4. Send better value signals

THE VARIOUS TIME-BASED RATE OPTIONS INTRODUCE DIFFERENT LEVELS OF TEMPORAL GRANULARITY AND PRICE UNCERTAINTY:

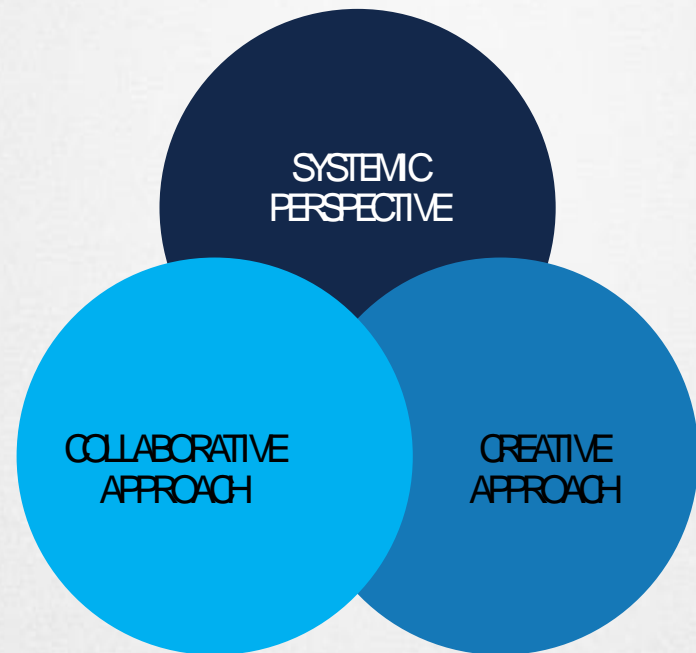


5. Overcome institutional inertia

Nature of complex problems



Approaches required to respond



Thank you



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