



The Energy Efficiency and Resilience Relationship

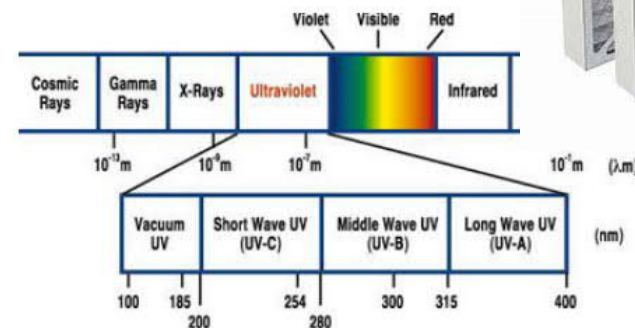
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Energy Master Planning for Resilient Public Communities



Forms of Resiliency: Buildings

- Energy Systems
 - Primary thoughts around the Energy Master Plan
- Building Envelope
- Indoor Air Quality
- Contact Tracing / Personnel Location and Access
- Safety Systems
- Others?



MERV 13



Efficiency

- Base energy efficiency efforts are often applied to systems that also affect resilience
- Some examples are obvious
 - Microgrid applications
 - Combined Heat and Power, Renewable Power
- Some less so
 - Window retrofits
 - Lighting Retrofits



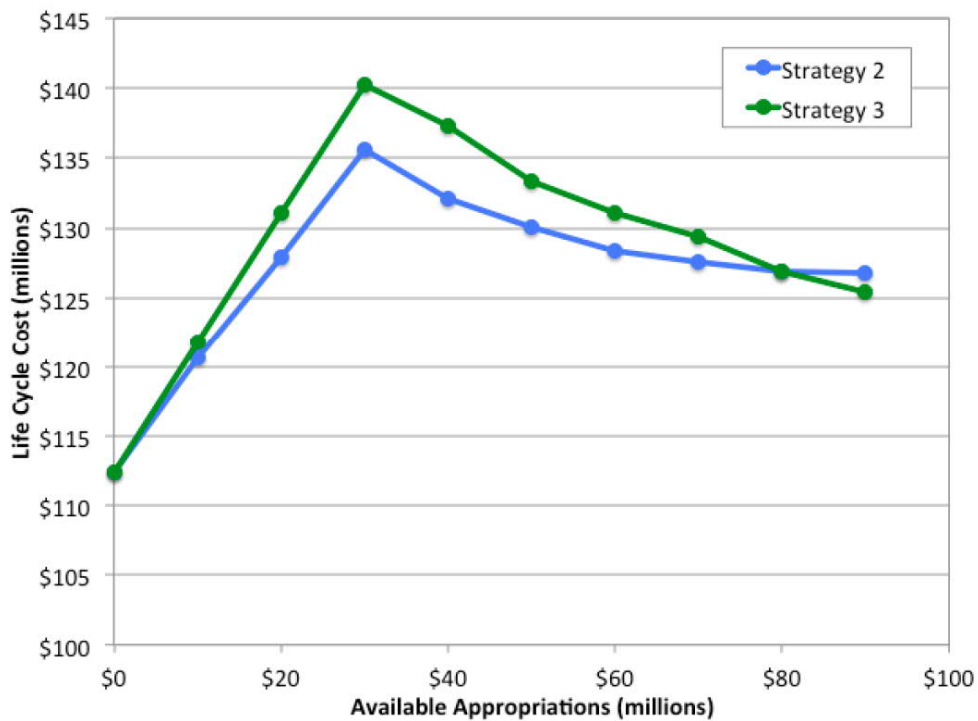
Resiliency vs Efficiency

- Efficiency is often justified through a payback of Life Cycle Cost Analysis
- Resilience has some opportunities, but can often need additional funds for full justification
- Combining Efficiency and Resilience could impede efficiency improvements due to challenging Life Cycle Cost or payback criteria

Systems vs Components

- Further compounding the issue is consideration of a 'systems approach' to Energy Master Planning.
- Rather than examining the replacement of a lighting or a building HVAC system, they must be considered together.
- Many incentive programs push towards single component rather than system considerations.

Mixing to Maximize



Strategy 2:

Fund with private financing and use appropriations for longer payback measures

Resiliency + Efficiency

- This is one of several contractor/government relationships that could be formed
- In each case, due to various contracting rules this can prove challenging
- ESCOS however, have experience coordinating with General Contractors with success

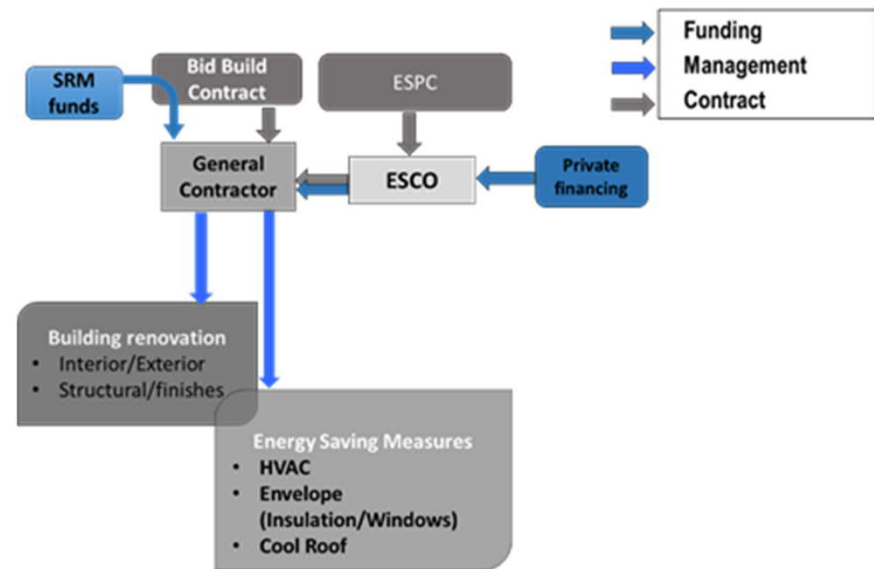


Figure 10-8. Schematic of the combined funding model #1.

Where do we go?

- Consider revisiting contractor selection guidelines to combine energy savings performance contracts with contracting work
- Consider re-examination of statutes: The head of a Federal agency may enter into contracts under this subchapter solely for the purpose of achieving energy savings and benefits ancillary to that purpose. 42 USC 8287(a)(1)

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