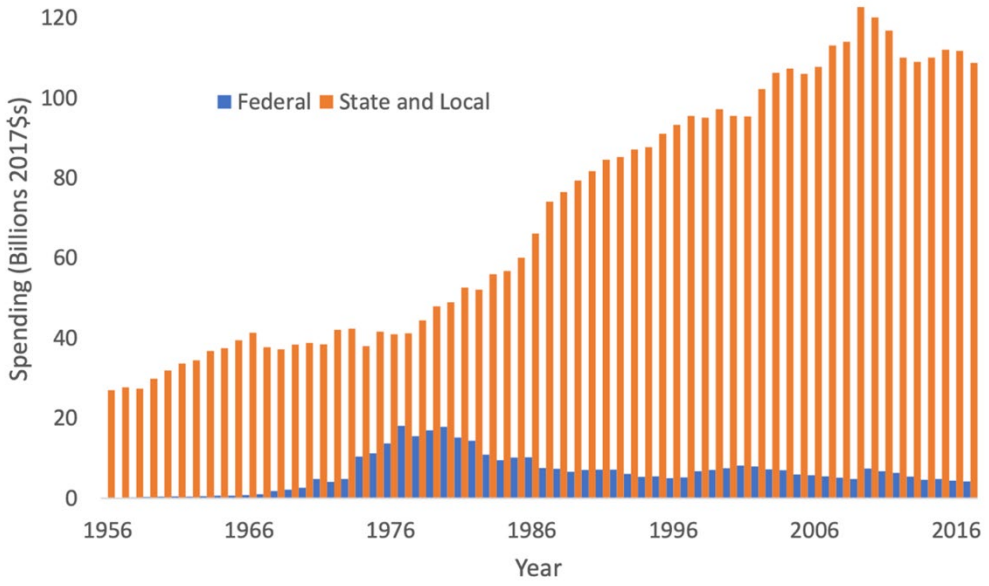
EFAB AFFORDABILITY EXECUTIVE SUMMARY AND RECOMMENDATIONS

Affordability Charge Summary

- **Capital Investments:** Explore alternative infrastructure investment choices that could be less financially burdensome on ratepayers, e.g., water use efficiency measures, GSI, etc.
- **SRF Subsidies:** Research the flow of SRF funds for additional subsidization to ratepayers experiencing hardship due to rate increases needed to support capital projects.
- **Rate Structure/Design:** Analyze options for rate structure/design to help households adversely affected by rate increases within the bounds of legal restrictions
- **Customer Assistance Program (CAP) Barriers:** Analyze common state and/or local legal barriers, including perceived barriers, to adoption of CAPs and other affordability measures, and provide recommendations for EPA to address these
- **EPA Policy Development:** Provide recommendations for how EPA can develop supportive policy for CAPs and provide leadership in guiding program implementation.

Context Setting Issues

- Water, sewer, and stormwater services are paid for primarily at the local community level.
- Affordability is a household-level problem, distinct from the cost of regulatory compliance for communities as a whole.
- 9% of US utilities serve 85% of the US population, including the majority of low-income households.
- The affordability issues facing these utilities are of a different nature than the access/affordability issues facing the thousands of very small utilities serving primarily small, often isolated areas.



Affordability Definition

"The ability of a customer to pay the water bill in full and on time without jeopardizing the customer's ability to pay for other essential expenses."

Affordability Framework

- Capital Investments
- Operations & Maintenance
- Federal/State Support
- Rate Structure Design
- Customer Assistance Programs (CAPs)

Capital Investments: Alternatives to Conventional Water Infrastructure

Water Use Efficiency as a Source of Supply

CA Case Study (Pacific Institute): Estimate that adopting proven technologies and practices could reduce urban water use in California by 2.0 million to 3.1 million AFY, or by 30% to 48%."

Green Infrastructure as Stormwater Management

GSI can cost less than conventional gray infrastructure, provides green jobs and reduces municipal water usage and cooling costs**.** **T**his can result in increases in available household income for healthcare, healthy foods, and adequate housing. (US EPA, Healthy Benefits of Green Infrastructure in Communities).

- Case Study: Philadelphia Green City, Clean Waters Program
- Case Study Milwaukee: Green Streets Stormwater Management Program

Capital Investments: Alternatives to Conventional Water Infrastructure

Source Water Protection as Water Quality Infrastructure

- Denver Water Case Study: Forest to Faucet Program
- Central Arkansas Case Study: Watershed Protection Program

Optimization with Intelligent Infrastructure

- South Bend Case Study: Smart Sewer Sensors to enable “right sizing” infrastructure investments
- Costa Mesa Case Study: Pipe Condition Assessment Program to determine remaining useful life of pipelines
- Park City: AMI to right size infrastructure investments

Capital Investment Options for Enhancing Affordability: Recommendations

1. Study on Relative Costs of Infrastructure Investment Options: Commission a comprehensive study documenting utility level and regional data on the actual cost of green, distributed, nature- based, digital, and regional water infrastructure options implemented nationwide. This would be extremely valuable to communities and utilities seeking tangible information about how the cost of these strategies has played out in other areas.

2. Infrastructure Life Cycle Benefits and Cost Assessment: Identify a standardized approach to assessing the life cycle benefits and costs of distributed and nature-based water infrastructure alternatives (including water use efficiency, source water protection/watershed restoration, urban GSI, water reuse, etc.) that allow for an apples-to-apples comparison to more conventional approaches to capital investment in water infrastructure.

Capital Investment Options for Enhancing Affordability: Recommendations (cont')

3. **Nature-Based Infrastructure Benefits Valuation:** Elevate tools for quantifying and valuing the co-benefits that can accrue from investments in green infrastructure, energy efficiency (e.g., generating energy onsite), and other non-traditional water infrastructure, such as reduced urban heat island effect, creating more urban green space, economic and workforce development, and improved air quality, among others.

4. **EPA Affordability Website Page**. Create a new affordability page on EPA's website that repurposes and integrates EPA's current set of resources related to each component to the affordability framework that EFAB has developed. This recommendation would incorporate resources related to each section outlined in this report, as well as other EPA resources related to addressing local water affordability challenges including capital investment alternatives.

5. **Expand EPA Integrated Planning Guidance**. Revise EPA's integrated planning guidance to incorporate a more "One Water" approach and help utilities meet drinking water mandates as well as wastewater, and stormwater requirements.

Capital Investment Options for Enhancing Affordability: Recommendations (cont')

6. **Affordability Screen Template**. Develop a template affordability screen that utilities can use or adapt as part of their capital investment decision making, along the lines of the equity and/or environmental justice models. EPA has developed something like this in the FCA guidance in the context of regulatory compliance; but this could be revised as an optional tool for utilities seeking to elevate local affordability issues in decision making.

7. **Case Study Highlights**. Develop a biennial publication highlighting case studies and lessons learned related to non-traditional water infrastructure for distribution to states and local governments.

8. **New PISCES Award for Non-Traditional Water Infrastructure**. Create a distinct PISCES award that recognizes the most innovative non-traditional water infrastructure projects funded by the Drinking Water and Clean Water State Revolving Fund in each of five categories: conservation-based, distributed, nature-based, digital, and regional water infrastructure.

Capital Investments: Alternative Delivery Models

Opportunities to address these challenges include:

- Taking an integrated approach to project delivery planning
- Building new leadership capabilities emphasizing a culture of collaboration and people-focused management
- Addressing statutory constraints that can unnecessarily limit the forms of project delivery available to community water systems.

Capital Investments: Alternative Delivery Models

- Capital investments in water infrastructure can be more cost-effective depending on how infrastructure projects are implemented, i.e., design, bid, build decisions.
- A more holistic approach emphasizing all phases of project planning, design, and construction can lead to more affordable outcomes.
- Potential challenges with conventional project delivery models that can increase costs:
  - Over-designing or overbuilding projects
  - Using models that elevate lower up-front costs, are more costly over time due to high operations and maintenance
  - Misaligned incentives

Capital Investment Alternative Delivery Models: Recommendations

1. **Project Delivery Strategies Study**. Commission a study on the impact of various project delivery strategies on lifecycle costs of water infrastructure projects.
2. **Legal Barriers Impacting Water Project Delivery Study**. Commission a study of current state and local ordinances that allow or prohibit various water project delivery strategies, with lessons learned and tools (e.g. model ordinances).
3. **Best Practices Recommendations**. Develop high level suggestions and ideas for how utilities can best organize to have the long-term capabilities needed to carry out the planning, designing, building, operating, and maintaining of water system capital improvement projects. These capabilities should ideally include incorporating quality-based selection processes

Capital Investment Alternative Delivery Models: Recommendations (cont')

4. Workforce Development Series. Initiate a series of studies to improve workforce development in the water sector. While STEM skills are important, the water sector also requires strong leadership and management skills that are not often integrated into STEM programs. Studies that EPA could implement that would ideally serve as a foundation for improved local capital improvement programs and should focus on:

- Appropriate staffing
- Training programs
- Matching delivery methods to project/program needs
- Improved risk analysis accounting for health outcomes, etc.
- Changes to state/local rules to increase flexibility

Operational Efficiencies

- Utility operations offer a further opportunity for lowering the cost water services.
- EPA has long recognized the importance of effective utility management (EUM) practices, including asset management as a key operational tool for maximizing benefits and limiting life cycle cost.
- While technically outside of the direct scope of the current EFAB charge, given the relationship of operational efficiencies to water affordability, and EPA's long history of providing resources related to these topics for affordability purpose, they are flagged in the report to ensure that the water affordability roadmap is comprehensive.

Operational Efficiencies: Recommendations

1. **Highlight successful asset management programs.** Commission a review of water utility asset management programs and identify 12 to 24 successful programs that have resulted in significant cost savings. (see Exec Summary for detailed questions)
2. **EPA Affordability Website Page.** Bring together all of EPA's asset management and EUM resources as potential affordability strategies, ideally also including case studies of how utilities are utilizing Continuous and Process Improvement tools to make substantial savings to operating processes (e.g.,. chemical dosing, supply chain management, lead replacement).
3. **Incentivize asset management programs.** Develop incentives for local water utilities to implement asset management programs focused on maintaining utility fiscal health. Options could include but not be limited to:
    - Justice40 credit
    - Eligibility for higher levels of additional subsidy

Federal Financial Support (SRF Additional Subsidy)

"Additional Subsidy" Background:

- Total federal spending on local water infrastructure is very small but can be effective in supporting household water affordability.
- EPA's 2 SRF programs represent the greatest level of federal financial support for local water infrastructure, primarily in the form of low interest (i.e., below market rate) loans.
- Congress has directed both SRFs to provide "additional subsidization" – a portion of an SRF loan that does not need to be repaid -- to utilities serving low-income populations.
    - The Ad Sub is intended to defray all or part of an increase in household water bills necessary to repay the SRF loan.

Federal Financial Support (SRF Additional Subsidy)

Statutory eligibility criteria differ under the SDWA and CWA differ.

- Clean Water Act
  - Add Sub can be provided to SRF applicants that do **not** meet the CWA affordability criteria if specific metrics are met, including hardship to low-income ratepayers
  - Provision could address a key challenge; substantial low-income populations that would qualify for additional subsidy, but overall community income precludes eligibility
  - Substantial under-utilization of this provision.
- Safe Drinking Water Act
  - No similar provision as CWA
  - How “disadvantaged communities” are defined directly impacts access to additional subsidy

Federal Financial Support (SRF Additional Subsidy): Recommendations

1. **Pilot Program.** Identify water utilities interested in partnering with their state Clean Water SRF program to pilot a project that could be awarded additional subsidy to channel to low-income utility rate payers.

2. **Guidance Toolkit for CWSRF Programs.** Develop a guidance toolkit for SRF programs advising SRF programs managers of the opportunity to program these funds to low-income customers, ways to award, set up the funding, work with a utility, and push the administrative burden of the program to the benefiting utility. Eventually the guidance toolkit should be revised to incorporate lessons learned from program pilots. (See Exec Summary for proposed key focus areas for the toolkit).

3. **Continue to Explore Approaches for Defining "Disadvantaged Communities" for the DWSRF.** Build on EPA's existing efforts to identify key elements that would reduce disparities to households resulting from state DAC definitions.

4. **EPA Affordability Website.** Bring together in one place relevant (i.e., affordability-related) aspects of the agency's resources, policy, and guidance on both SRF programs, additional subsidy, and technical assistance.

Cost of Service Rate Setting Principles

- Cost of service ratemaking has a long history in the water sector
- AWWA's M1 Manual provides guidance for establishing rates that recover the full cost of service associated with meeting a **community's average use, peak demands, total water volume needs, and fire flow requirements**.
- Cost of service – key steps:
    1. *Determine revenue requirements*
    2. *Allocate costs*
    3. *Design rates*
- This framework limits the type of costs that can be recovered through utility rates, as well as how they are recovered (i.e., from which customers).

Rate Structure and Design

Requirements for rates are provided in state statutes and/or case law

- Common terms: Just, reasonable, uniform, equitable, non-discriminatory, cannot grant preference . . . .
- Some state statutes specifically limit the types of costs that can be recovered
- Mostly intended to ensure utilities adhere to cost-of-service requirements and safeguard against one class of customers cross subsidizing others.
- Strict cost of service definitions and ambiguous requirements have led to real and perceived legal barriers to setting rates that address broader concerns, including household affordability.
    - E.g., providing different rates to low-income customers within a utility's residential class may be interpreted as "non-uniform" or "discriminatory."

Rate Structure and Design

Thinking beyond the traditional cost of service framework

- Expanding definition of utility services to include public health and affordability would allow utilities to incorporate these costs into their revenue requirement determinations.
- “Common-to-all” cost allocation can distribute costs associated with affordability and public health across all customer classes.
- Could also expand water utility cost of service methodology to explicitly include human health as a core utility function (in addition to the four already included).
- Could result in significant benefits by providing a stronger legal basis for rate structures that improve affordability.
- Another way to think about expanding the cost-of-service framework is to quantify the costs associated with unaffordable water bills.

Other findings . . . .

- There are some options to enhance affordability through rate (e.g., lifeline rates, reduced fixed charges)
- Income indexed rates – jury still out?
- Alternative approaches to get around legal requirements (e.g., host community discounts) can help in some communities, but don’t provide sustainable solution
- Separately charging for stormwater can result in a more equitable rate structure.

Rate Structure and Design: Recommendations

1. **Cost of Service Expansion Policy Statement.** Issue a new EPA policy supporting expansion of the cost-of-service framework to include public health and affordability.
2. **Tie Federal Financing to Affordability.** Incorporate prioritization criteria related to how well utilities are addressing affordability into federal water and wastewater infrastructure funding/financing program decisions (e.g., SRF and WIFIA).
3. **Elevate Model State Statutes**. Provide examples of state statutes that can serve as models for rate guidance that explicitly allows for funding customer assistance programs and/or incorporating public health and affordability into cost-of-service rate practices.

Rate Structure and Design: Recommendations (cont.')

4. **Technical Assistance for Rate Development**. Provide enhanced technical assistance to utilities for rate development, particularly for mid-sized utilities and for stormwater fees.
5. **Rate-Related Analyses.** Commission studies to explore key rate-related affordability issues, including:
   - Advantages and disadvantages of income-indexed rates, focusing on the financial impacts to utilities and customers.
   - Impact of best practices for rate design on utilities and low-income customers.

Customer Assistance Program Barriers

Common CAPs:

- Bill Discount
- Flexible Terms.
- Temporary Assistance.
- Water Efficiency
- Lifeline Rates for low-income customers

- Reach of utility-led CAPs still limited
- EPA survey: ~30% of utilities had CAPs, assistance does not always reach neediest households.

Customer Assistance Program Barriers

- Legal/rate funding challenges
  - Because of real or perceived legal barriers, CAPs often require special funding sources (e.g., customer donations) and/or additional funding streams to create robust programs.
- High **administrative burden** for customers
- High **administrative costs** for utilities
- Many low-income customers are “hard-to-reach”

CAP Barriers

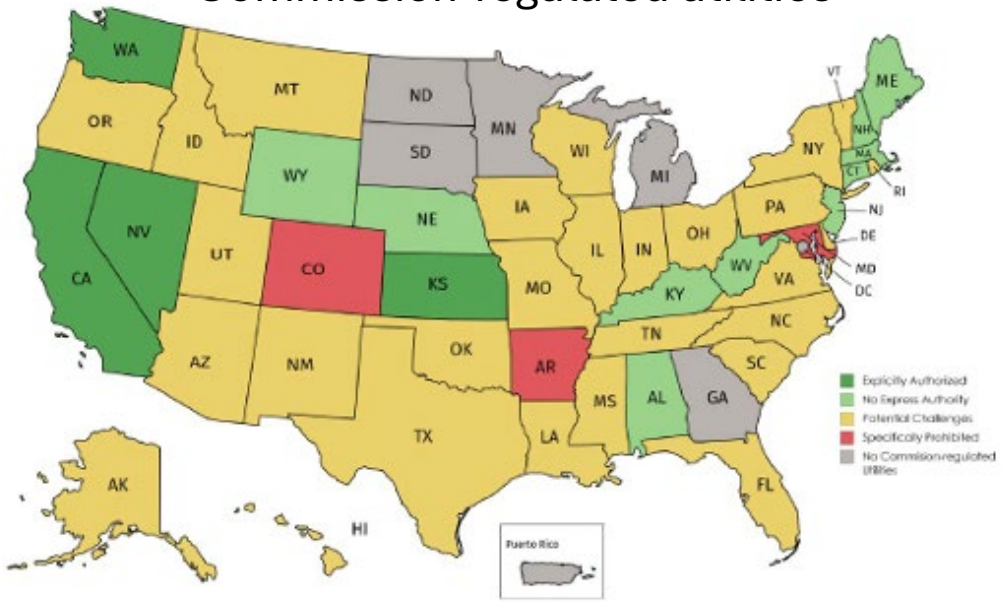
Legal rate/funding challenges

Legal concern is that lower rates, discounts, or other assistance for low-income households amount to:

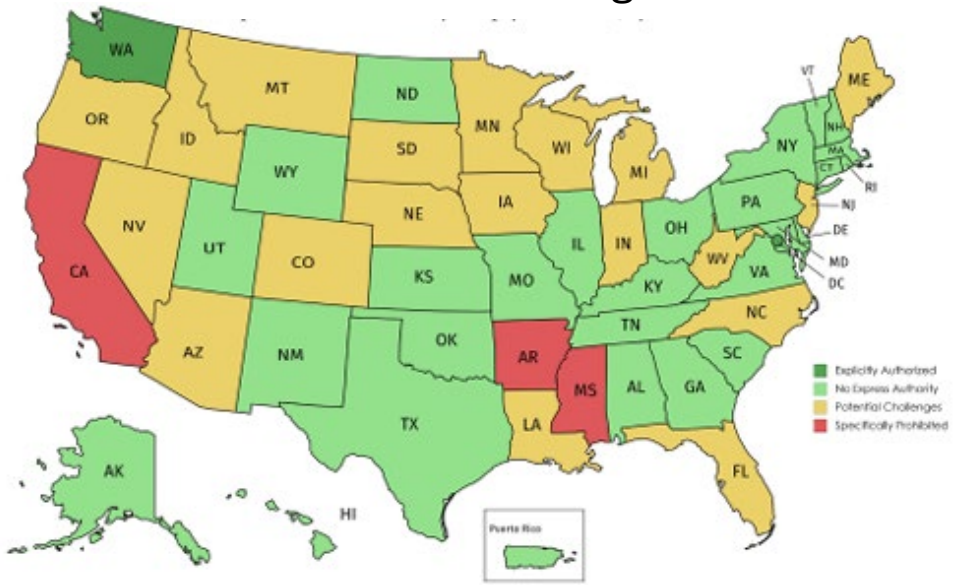
- Unlawful “cross-subsidization” of one set of customers by another
- Unlawful “discrimination” against some customers in favor of others.

In many cases the state law is unclear and/or not definitive.

Commission-regulated utilities



Non-commission-regulated utilities



CAP Barriers

Low Participation Rates in Utility-led CAPs

- Most CAPs reach ~10% to 15% of eligible households
- High administrative burden on low-income customers often leads to low participation
- Successful strategies for CAP participation include:
  - Automatic enrollment for customers who participate in other assistance programs and/or categorical eligibility.
  - Partnering with third-party administrators, service providers, or community-based organizations.
  - Providing multiple opportunities to apply for assistance.
  - Using data to better understand and proactively market the program to the eligible population.

CAP Barriers

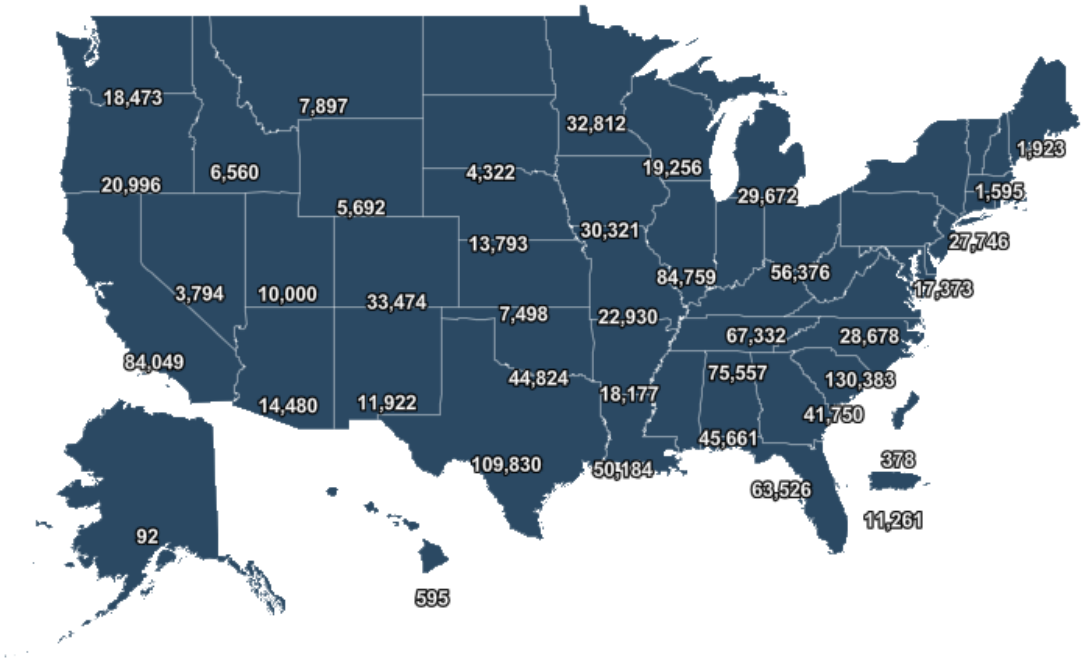
Hard to Reach Customers

- 26% of households earning <150% FPL pay for water/sewer as part of their rent.
  - 80% of these are multi-family renters
- 18% of households indicate they “have no charge” for water or sewer.
- Urban areas have much higher percentages of hard-to-reach customers.

	U.S. households earning <150% FPL	U.S. households earning >150% FPL[a]
Occupied households	26.7 M (20.6% of total)	103.1 M (79.4% of total)
Single family	50%	74%
Multi-family	41%	22%
Other	9%	4%
Renters	59%	29%
Owners	41%	71%
Pay for water through rent	**26%**	13%
No charge for water	18%	14%
Pay a water bill	56%	73%

CAPs - State and Federal Efforts

- No state operates a permanent water CAP; several have introduced or passed supporting legislation.
- There is currently no national level assistance program that directly addresses water affordability.
- LIWHAP – temporary (Covid 19) program assisted 1.7 million households, mostly by paying arrears.
- Efforts to establish a permanent water affordability program have continued.



Households served by LIHWAP per state, through end of program

A national level assistance program could overcome many of the local level barriers

CAPs: Recommendations

1. **Planning Grants.** Offer grants to utilities to support development of affordability/assistance programs. Could help to overcome capacity, resource limitations and other barriers.

2. **Best Practice/Case Study Compendium.** Develop a compendium of best practices and provide case studies of successful local, utility-led CAP programs, including those that have successfully overcome barriers.

3. **Study Costs of Nonpayment/Shutoffs to Utilities.** Commission study to quantify administrative and other costs associated with non-payment, and related service shutoffs, to help make the business case for CAPs.

CAPs: Recommendations (cont.')

4. **Federal CAP Study.** Conduct a study to explore alternative program pathways for providing a federal water assistance program, ideally guided by the following principles:

   - Focus on increasing assistance for those most in need rather than primarily on helping utilities capture lost revenue from past due bills.
   - Include renters and multi-family households
   - Prioritize limiting the administrative burden on applicants and allow for automatic enrollment and categorical eligibility whenever possible.
   - Prioritize limiting the administrative burden on local utilities (in keeping with observation that "water services sector did not evolve to address poverty relief ")
   - Prioritize limiting costs and administrative burdens on federal program managers by maximizing the use of existing systems and organizations/agencies and simplifying eligibility requirements.
   - Embrace the principle of not allowing the perfect to be the enemy of the good; plan for the reality that no program will reach every household in need, some will receive assistance who may not technically be as in need as others.

EPA Policy Development:
Recommendation Categories

1. Comprehensive Affordability Webpage
2. SRF Additional Subsidy Pilot Program
3. Technical Assistance and Planning Grants
4. Incentives
5. Studies/Information Gaps
6. Policy, Guidance and Elevation of Best Practices