

# **Redefining ‘Economic Feasibility’ Using Economics: A Reform Proposal that Would Improve both Efficiency and Equity**

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10<sup>th</sup> Annual Conference

Society for Benefit-Cost Analysis

George Washington University

March 16, 2018



# Road map

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- SDWA 1401(C)(i) requires that MCLs be economically feasible
- How the ‘substitution of ‘affordability’ for economic feasibility had perverse results
- How to fix SDWA’s inefficiency & inequity

# ‘Technologic feasibility’ & ‘economic feasibility’ under SDWA 1401(C)(i)

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The term 'primary drinking water regulation' means a regulation which—

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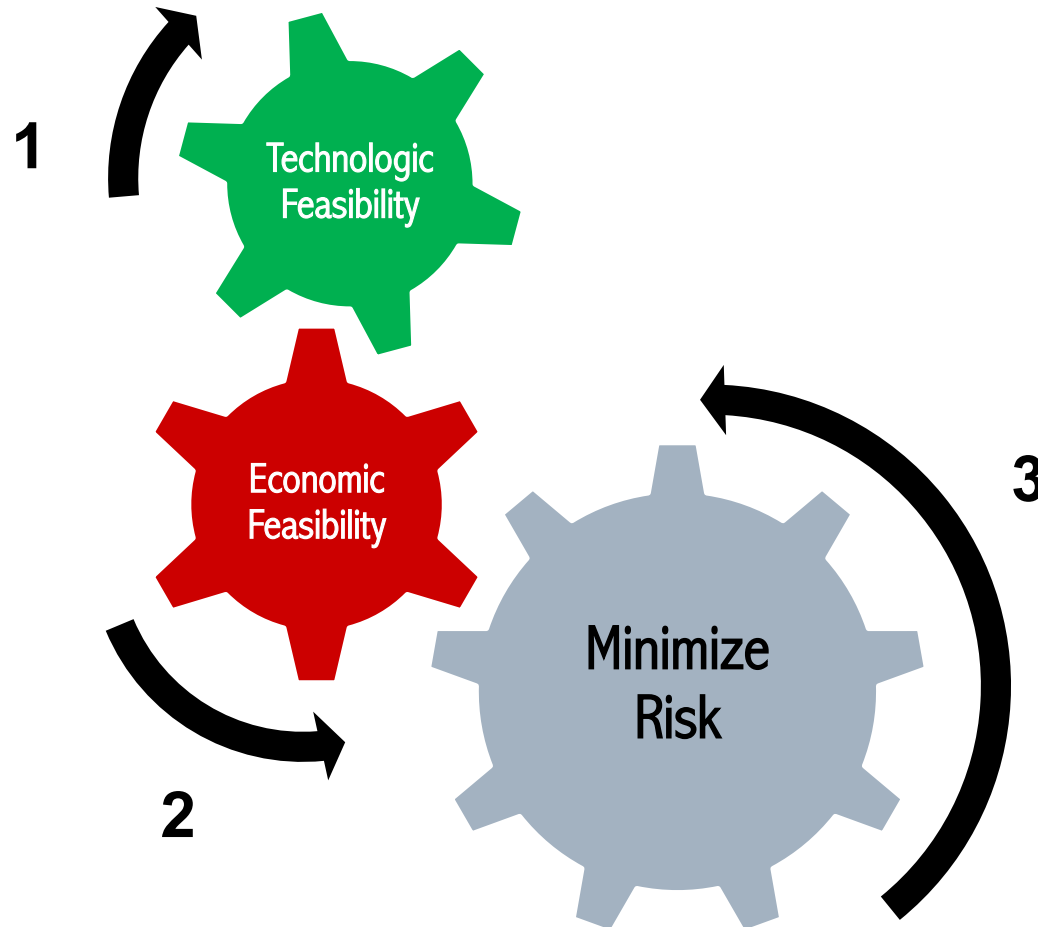
specifies for each ... contaminant a maximum contaminant level, if, in the judgment of the Administrator, it is economically and technologically feasible to ascertain the level of such contaminant in water in public water systems...

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# WHAT WENT WRONG

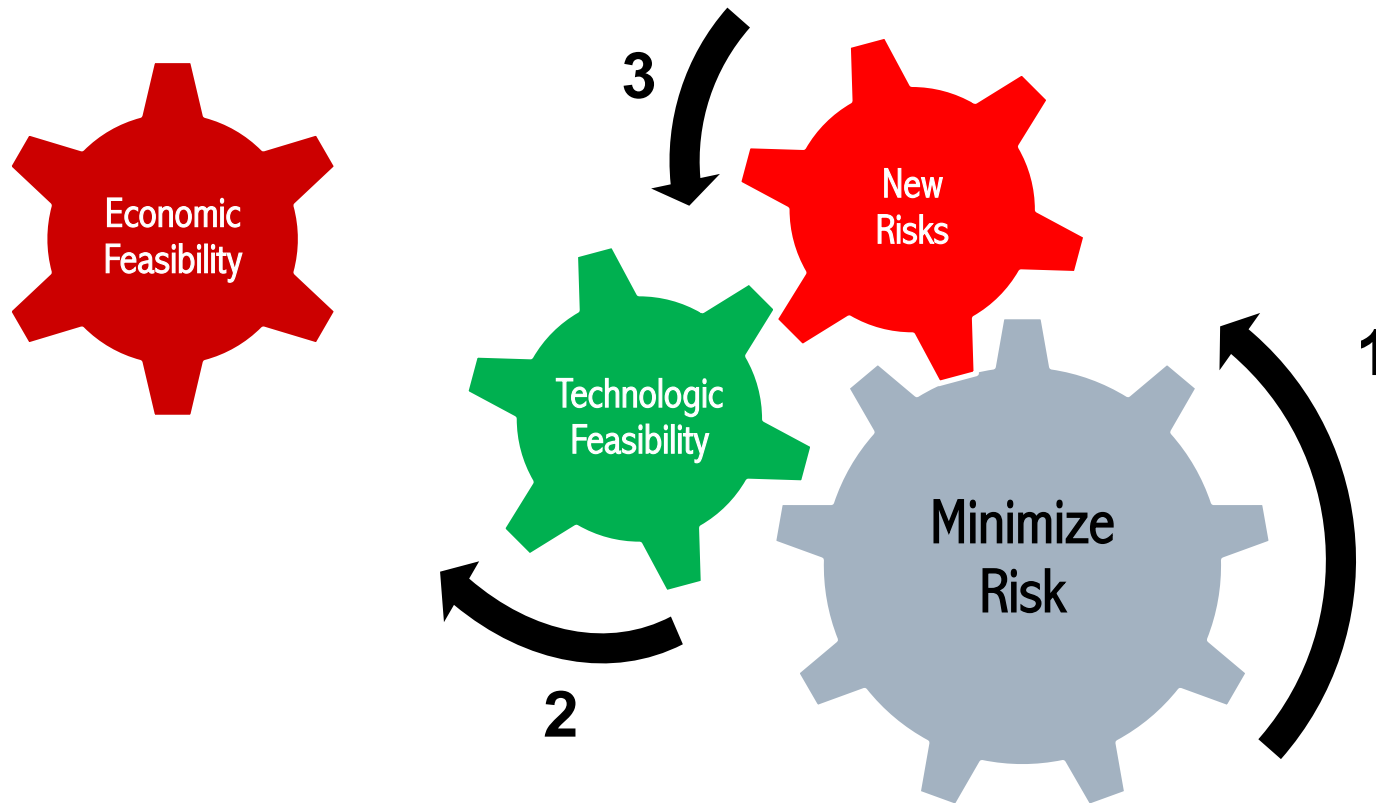
# Statutory task as written

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# Statutory task as implemented

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# Historic EPA interpretation of SDWA 1401(1)(C)

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## 'Technologic feasibility'

- Applies to all system sizes
- Actually achievable at requisite scale

## 'Economic feasibility'

- Applies to very large systems only
- 'Affordable' for typical household

# 'Economically feasible' v. 'affordable'

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## 'Economically feasible'

- What households would do based on their own preferences
- Purchase if marginal benefits > marginal costs

## 'Affordable'

- What households would do if they had EPA's preferences
- Spend up to 2.5% of income regardless of benefits



# Other pathologies of 'affordability'

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- Arbitrary outcomes depending on parameter selection
  - What income percentile? (2.5%, 1%, 0.5%)
  - What distribution percentile? (50<sup>th</sup>, 25<sup>th</sup>, 10<sup>th</sup>)
  - What domain (US, state, county, city, Census tract)
- Ignores distributional effects
  - Every choice above harms the poor
  - Some choices harm more than others

# Unintended consequences

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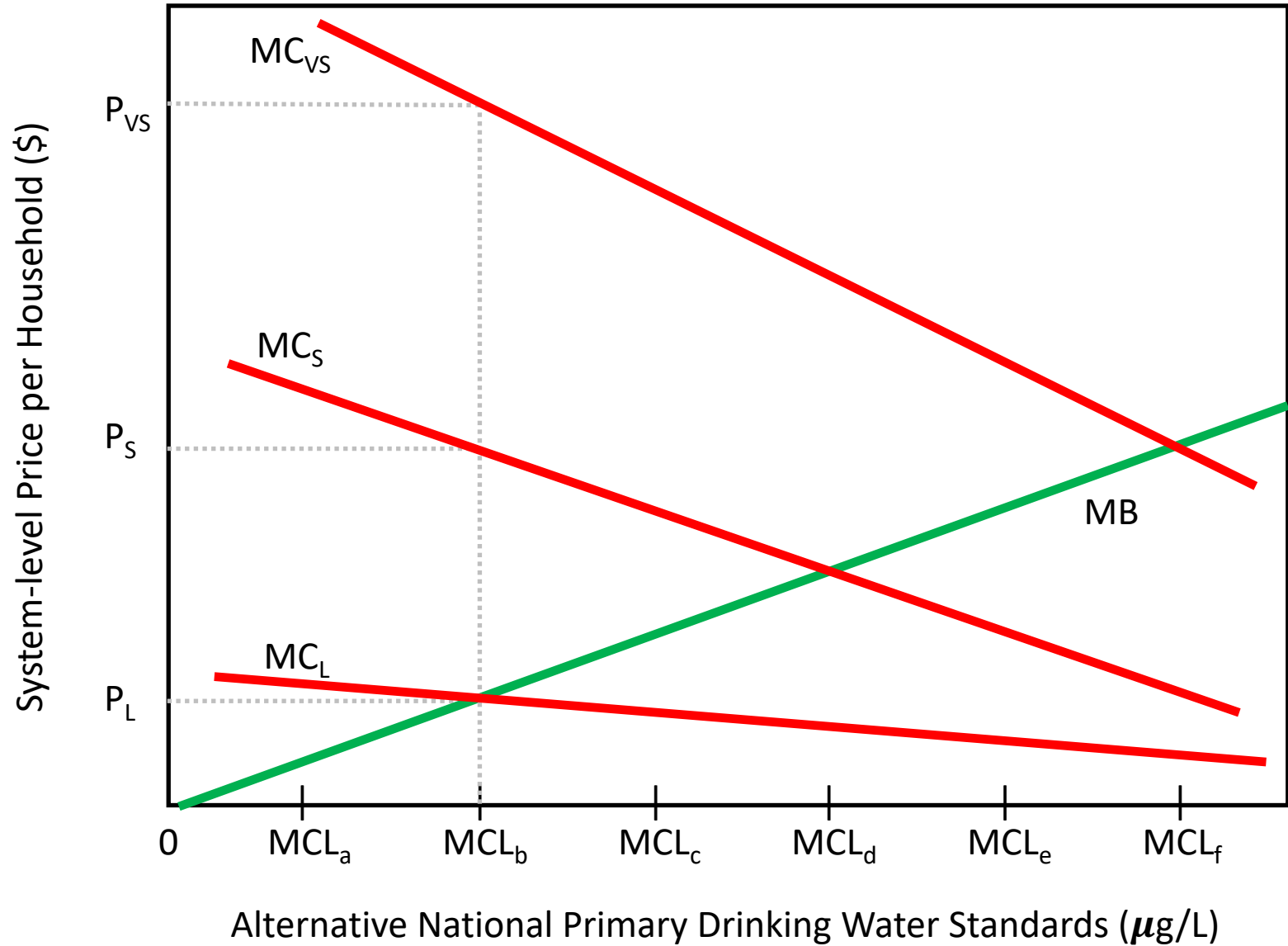
## Regulatory Budget

- Early rules consume budget headroom
- Anti-backsliding provision prohibits rational substitution
- New, larger risks cannot be regulated
- Infrastructure deficit exacerbated

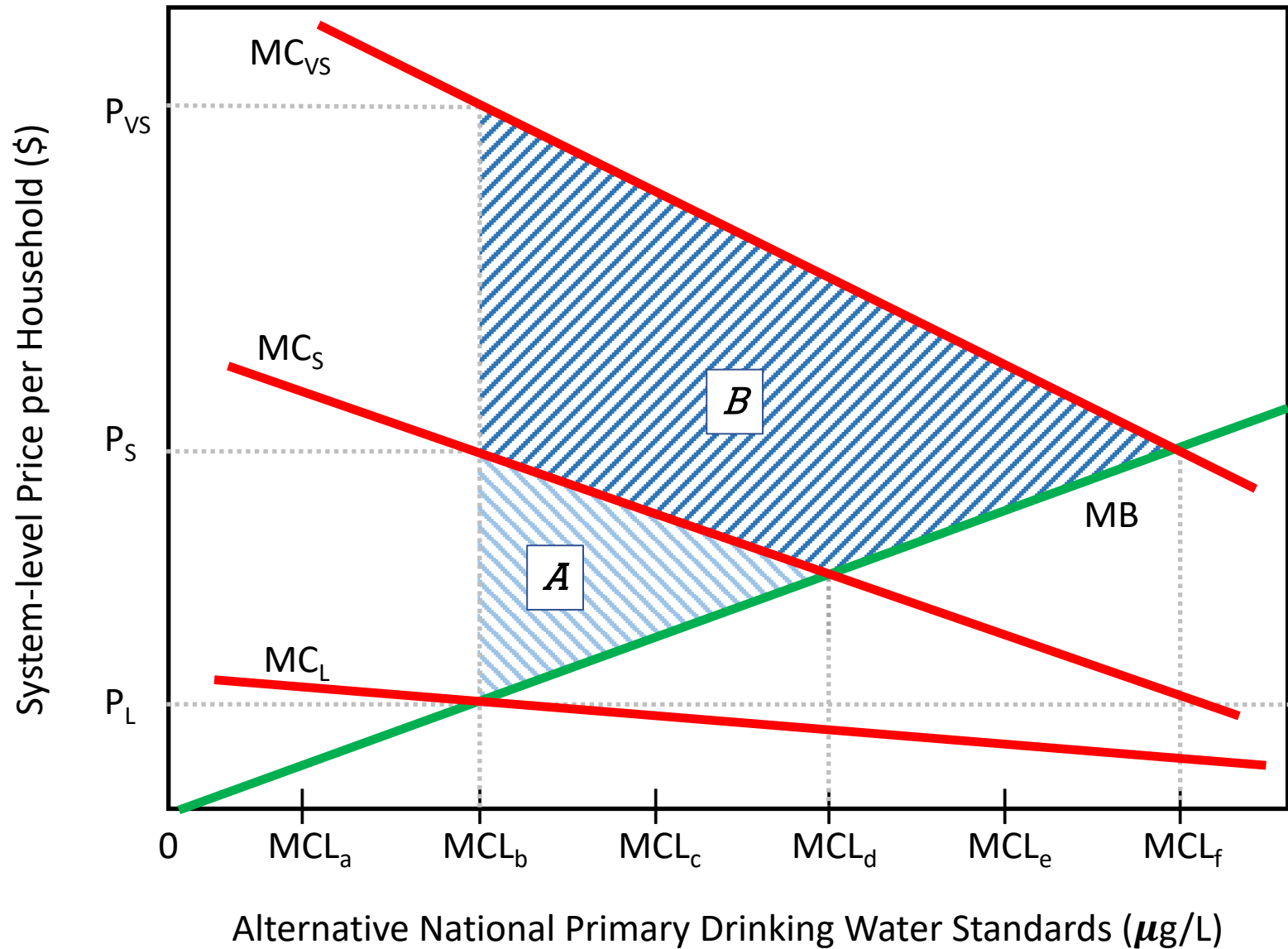
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# FIXING THE INEFFICIENCY

# Decision-making under USEPA practice



# Deadweight losses under USEPA practice



# How to fix SDWA's inefficiency

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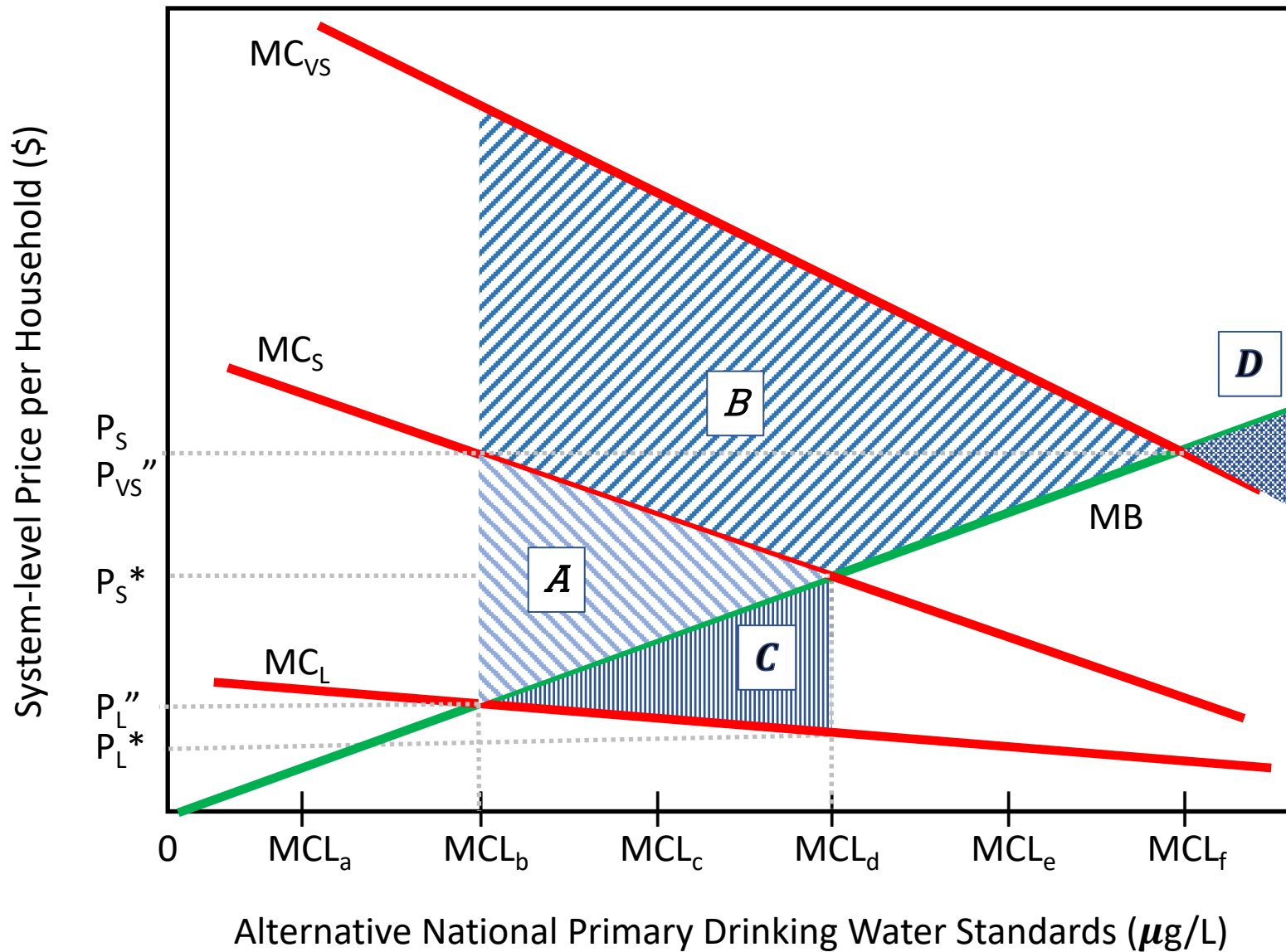
## Current practice

- Set MCL for large systems
- Small systems require variances
- Variances are temporary, and not available anyway

## Proposed alternative

- Set MCL for smallest system not exempt
- Other systems may rationally choose greater stringency
- All deadweight losses are avoidable

# Deadweight losses avoided under proposed fix



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# FIXING THE INEQUITY



# Equity means 'equal protection'

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## Equal Quantities

- Constitutional rights, e.g.
  - Free speech
  - Protection from unreasonable search/seizure
  - No takings without just compensation
  - Guaranteed trial by jury
  - Equal voting rights
- Public goods funded by general taxation
  - National security
  - Access to justice
  - Public health & welfare
- Examples of private goods?

## Equal Prices

- Public goods funded by user fees
- Most private goods & services supplied in competitive markets (including health & safety)
- Some private goods supplied by natural monopolies
  - Natural gas & electricity
  - Refuse collection
  - Public schools
  - Drinking water

# USEPA's definition of 'equal protection' is inequitable

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- ① Poor must pay higher prices to be 'equally protected'
- ① Little relief available from the Drinking Water State Revolving Fund
  - Appropriations since FY1997 average \$929 million/year
  - Needy can't easily repay loans, so wealthy get preferred access

# Inefficient and inequitable policies have high opportunity costs

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- ◎ \$1 trillion is needed over the next 25 years to fund drinking water pipe replacement (AWWA 2013)
  - Existing DWSRF could cover 2%
  - Prospects for 40-fold increase are dim
  - Mandatory spending on economically infeasible (but 'affordable'!) SDWA standards takes away resources needed for infrastructure

# Summary

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- SDWA requires standards be technically feasible and economically feasible
- EPA substituted ‘affordability’ for economic feasibility, with perverse results
- Following the law as written would
  - eliminate inefficiency, substantially reduce inequity
  - reduce or eliminate need for variances
  - allow DWSRF to be focused on systems lacking financial capacity

# Questions?

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