Overview of the Presentation:

1. Social Justice Defined in the Context of Water Rates
   Greg Clumpner/NBS, Director of Utility Rate Practice

2. Implications for Water Rate Design Under Prop 218
   Kim Boehler/NBS, Associate Director of Utility Rate Practice

   Ryan Pham/City of Sacramento, Billing Services Manager
1. Social Justice Defined in the Context of Water Rates

Embedded Social Justice: Are Utility Rates Really “Fair & Equitable”?

1. Social Justice & Water Rates (cont.)

A. Social Justice Includes:

• Ensuring the fair distribution of wealth and equal opportunity. (Wikipedia)

• The belief in human equality, especially with respect to social, political, and economic affairs. (Meriam Webster Dictionary)
1. Social Justice & Water Rates (cont.)

B. In the Context of Water Rates:
   - **California’s Policy** – Is to promote the “human right to safe, clean, affordable, and accessible water to support basic human needs.”
   - **Income Customers** – Often cannot afford basic water services, yet have a right to water.
   - **Historical Programs Include:**
     - Low-income discounts
     - Senior discounts

C. Implications of Water Rate Design:
   1) Impacts of Fixed vs. Variable Costs
   2) Impacts of Tiered Rate Design
   3) Impacts of Water Budget Based Rates

   How do these affect low-usage (low-income) customers?
1) Impacts of Fixed & Variable Cost on Rates:

- **Actual Costs**
  - Fixed costs *should be* collected by fixed charges, and variable costs *should be* collected from volumetric charges.

**1. Social Justice & Water Rates (cont.)**

- Conservation objectives often result in collecting revenue mostly from volumetric rates.
- When more revenue is collected through volumetric rates, it favors low-consumption customers.

**Typical Rate Design**

- This typically favors low-income customers.

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- This is fair & equitable but results in higher bills for low-usage (low-income) customers.

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- 30% Fixed
- 70% Volumetric
1. Social Justice & Water Rates (cont.)

1) Impacts of Fixed & Variable Cost (cont.)

![Customer Bill Impacts - Fixed vs. Volumetric Rates](image)

- High-Users Benefit from Fixed Rates
- Low-Users Benefit from Volumetric Rates

2) Impacts of Tiered Rate Design:

- Traditional Conservation Strategy is “Steeply Inclining” Tiered Rates…
  - …to meet conservation objectives,
  - …which usually mean low-use customers have lower bills.
- Low-use customers tend to be lower-income customers.
3) Impacts of Water Budget Based Rates:

Water Budget Rates

Customers in the same class are treated differently

1. Social Justice & Water Rates (cont.)

3) Water Budget Based Rates:

- Do not favor lower-income customers because:
  - They provide less water in lower-tiers to customers with smaller water budgets.
  - These are typically low-income customers.
- There’s no apparent cost difference to explain why customers in the same class with the same water use have different monthly bills.
- This is a Prop 218 concern.
2. Implications for Water Rate Design Under Prop. 218

1. Side Note: The Role of the Rate Consultant
   - We Don’t Advocate Policy
   - We Don’t Sell an “Agenda”

2. Prop 218 Requirements
   - Rates Must Demonstrate a Cost-Basis
   - One Class Cannot Subsidize Another
   - Emphasis on Tiered Rates – Water Supply and Consumption Data are Important
2. Implications for Water Rate Design (cont.)

3. Examples of Rate Impacts on Social Justice:
   - Shifting to Higher Fixed Charges/Lower Volumetric Charges \( (\text{Tends to impact Low-Income Customers more than High-Income}) \)
   - Shifting to Tiered/Conservation Rates vs. Uniform Volumetric Rates \( (\text{Tiered Rates Tend to Favor Low-Income Customers more than High-Income}) \)

4. Uniform Volumetric Rates

   **Rate Alternative Example**

<table>
<thead>
<tr>
<th>Single Family Residential Rates</th>
<th>20% Fixed 80% Variable</th>
<th>50% Fixed 50% Variable</th>
<th>70% Fixed 30% Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Charge ($/meter)</td>
<td>$13.56</td>
<td>$34.99</td>
<td>$49.28</td>
</tr>
<tr>
<td>Volume Charge ($/hcf)</td>
<td>$1.59</td>
<td>$1.00</td>
<td>$0.60</td>
</tr>
</tbody>
</table>
2. Implications for Water Rate Design (cont.)

4. Uniform Volumetric Rates

Embedded Social Justice: Are Utility Rates Really “Fair & Equitable”?  

**Uniform Volumetric Rates**

Single Family Residential Bill Comparison  
(3/4 inch Meter / 10 HCF Monthly Water Use)

---

**Uniform Volumetric Rates**

Lower Fixed Charges Benefit Low Water Users

5. Tiered Volumetric Rates

**Rate Alternative Example**

<table>
<thead>
<tr>
<th>SFR Water Rates</th>
<th>30% Fixed</th>
<th>50% Fixed</th>
<th>60% Fixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Charge ($/meter)</td>
<td>$28.52</td>
<td>$46.09</td>
<td>$54.88</td>
</tr>
<tr>
<td>Volume Charges ($/hcf):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tier 1 (0-14 hcf)</td>
<td>$0.92</td>
<td>$0.92</td>
<td>$0.92</td>
</tr>
<tr>
<td>Tier 2 (15-35 hcf)</td>
<td>$2.39</td>
<td>$1.65</td>
<td>$1.28</td>
</tr>
<tr>
<td>Tier 3 (36+ hcf)</td>
<td>$3.59</td>
<td>$2.24</td>
<td>$1.57</td>
</tr>
</tbody>
</table>

Embedded Social Justice: Are Utility Rates Really “Fair & Equitable”?  

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2. Implications for Water Rate Design (cont.)

5. Tiered Volumetric Rates

![Graph showing water rate comparison]

Lower Fixed Charges Benefit Low Water Users

Embedded Social Justice: Are Utility Rates Really “Fair & Equitable”? 19

2. Implications for Water Rate Design (cont.)

4. Water Budget-Based Rates (WBBR)

- The Rarely Discussed Social Justice Impacts:
  - Larger Lots/Higher Water Users Pay Less
  - Low-Income Users Tend to be Low-Consumption Customers
  - Exception: Single-Family Homes with More than One Family

Embedded Social Justice: Are Utility Rates Really “Fair & Equitable”? 20
2. Implications for Water Rate Design (cont.)

4. Water Budget-Based Rates (cont.)

- Illustrations of Impacts (for “Efficient” Users)

<table>
<thead>
<tr>
<th>Traditional Increasing Block Rates</th>
<th>Water-Budget Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average User</strong></td>
<td><strong>Large User</strong></td>
</tr>
<tr>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>$20</td>
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</tr>
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<td>$40</td>
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<td>$60</td>
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</tr>
<tr>
<td>$80</td>
<td>$100</td>
</tr>
<tr>
<td>$100</td>
<td>$120</td>
</tr>
</tbody>
</table>

Smaller Bills for “Large Users” vs. Average (i.e., Lower-Income Customers)

2. Implications for Water Rate Design (cont.)

4. Water Budget-Based Rates (cont.)

- Illustrations of Impacts (for “Inefficient” Users)

<table>
<thead>
<tr>
<th>Traditional Increasing Block Rates</th>
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</thead>
<tbody>
<tr>
<td><strong>Average User</strong></td>
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<tr>
<td>$80</td>
<td>$100</td>
</tr>
<tr>
<td>$100</td>
<td>$120</td>
</tr>
</tbody>
</table>

Again, WBBR’s favor Larger Users, not Average Customers
Sample Low Income Programs

Desert Water Agency Partnership with United Way
• Funded with Tax-Deductible Contributions from Employees, Vendors, Others
• Helps Low Income Customers Avoid Service Shut-off
• Maximum $50 in a 12-month Period

Cucamonga Valley Water District
• Low Income Discount of $15 bi-monthly
• Must Qualify for Southern CA Edison or Southern CA Gas Company Low Income Program

3. Social Justice in Action – Overview

1. Sacramento Utility Rate Assistance Program (SURA)
   • History
   • Program Funding
   • Participation

2. AB 401 – Low-Income Water Rates Program (LIRA)
   • Provisions
   • Proposed Plan Elements
   • Current Status and Timeline


1. Developed and Implemented in 2014
2. Recommendation made as part of rate proposal
   • Adjustments to water rates result in increased amounts transferred to the General Fund

3. General Fund Transfer Tax
   • City voters approved Measure I in 1998
   • Provides for a general tax on the City’s utility enterprises of 11% of gross utility user fees and charges
3. Social Justice in Action – SURA (cont.)

1. Program Participation
   • Low participation 2014-2016
   • Growing pains for program development
   • Desire to keep administrative costs low
2. Partnered with SMUD to leverage their EAPR program
   • Cross-walked SMUD’s customer database to ours
   • Auto-enrolled eligible customers
3. Current participation around 8,800 customers


1. AB 401 – Low Income Water Rate Assistance Act
   • Directs SWRCB to prepare a plan that covers funding and implementation of a Low Income Water Rate Assistance Program
   • Plan due to Legislature by January 1, 2018
   • Report on feasibility, financial stability and program structure due by February 1, 2018
1. Some elements of the plan:
   • Description of method for collecting moneys to support and implement the program
   • Description of mechanism for providing funding assistance under the program
   • Description of method to be used to calculate revenue requirements

2. Public hearings and request for comment throughout 2016 and 2017

3. Social Justice in Action – AB 401 (cont.)

1. Topics under discussion
   • Funding Sources
   • Benefit Distribution
   • Program Scenarios

2. Current Status and Next Steps
## Questions

![Question Icon]

## Contact Information:

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ryan Pham</strong></td>
<td><a href="mailto:RPham@cityofsacramento.org">RPham@cityofsacramento.org</a></td>
<td>916.808.8995</td>
</tr>
<tr>
<td><strong>Greg Clumpner</strong></td>
<td><a href="mailto:gclumpner@nbsgov.com">gclumpner@nbsgov.com</a></td>
<td>530.297.5856</td>
</tr>
<tr>
<td><strong>Kim Boehler</strong></td>
<td><a href="mailto:kboehler@nbsgov.com">kboehler@nbsgov.com</a></td>
<td>951.216.7022</td>
</tr>
</tbody>
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SOCIAL JUSTICE AND WATER RATES
Understanding Impacts of Water Rate Design on Low-Income Customers

By: Greg Clumpner, Director of the Utility Rate Group, NBS

INTRODUCTION
Numerous recent lawsuits concerning water rate designs underscore the importance of addressing fairness and equity in water rates, and social justice has become a more common component of this discussion. Although social justice means different things to different people, for water rates it has three basic components: (1) a social or political component, (2) a legal component, and (3) a technical – or rate structure – component. A water utility manager can benefit from understanding all three aspects as they advise their boards and councils during the rate- adoption process.

This paper, although not aimed at the broader scope of social justice, discusses the intersection of social justice and water rates, and how water rate design can be used to benefit low-income customers. This discussion is presented with two caveats: (1) we are not attorneys and so are not providing legal advice, and (2) we are rate consultants and, therefore, are focusing on the rate structure aspects of this topic.

SOCIAL/POLITICAL CONCERNS
Since the early times of Aristotle and Saint Augustine, social justice has been a topic of concern. The basic concerns have been with human rights, fairness, and what society could or should be doing with regard to these issues. Although there are many variations of the theme of social justice today, it is clear that our tax code and social safety net policies reflect a component; low-income people pay fewer or no taxes and those who have fallen on hard times are offered various forms of support.

California’s official water policy includes promoting the “human right to safe, clean, affordable, and accessible water to support basic human needs.” While this might suggest water agencies should provide water to all customers, regardless of whether they can pay for the service, Prop 218 legal cases have constrained how water rates can be set. Specifically, fairness and equity are defined as meaning no customer or customer class should:

- Pay more than the actual costs incurred to serve them
- Be charged more to lower the cost to other customers (i.e., no subsidies)
- Have tiered rates that demonstrate a clear cost basis, which requires tying tiered rates to both the costs of each source-of-supply and the amount supplied by each source

While this may substantially limit a water utility’s flexibility in meeting social justice concerns, it does not mean income inequalities and serving the needs of the poor won’t come up during public discussion of new water rates. They are of even greater concern today, particularly in light of dramatic cost increases due to regulatory requirements, treatment of ever lower levels of contaminants, and other cost pressures.

LEGAL BACKGROUND
A number of recent Prop 218-related lawsuits over water rates, particularly the 2015 San Juan Capistrano case, have narrowed the flexibility that water utilities have in designing and adopting rates. For example, tiered rates were often previously designed largely based on their effectiveness in promoting conservation. While promoting conservation during the drought, rates also focused on reducing the revenue losses resulting from mandated conservation. Post-drought concerns now often focus more on revenue stability.

1 On September 25, 2012, Governor Edmund G. Brown Jr. signed Assembly Bill (AB) 685, making California the first state in the nation to legislatively recognize the human right to water.
2 This court decision resulted in more stringent requirements for water rates, and rates must demonstrate the actual cost basis. See Capistrano Taxpayers Association Inc. v. City of San Juan Capistrano, G048969, decided April 20, 2015.
However, as a result of these lawsuits, the cost-basis of rates today are closely scrutinized, and tiered rates in particular must demonstrate a direct nexus between costs, tiers, and the actual tiered rates. This has generated new ways of demonstrating this cost basis. While no prevalent methodology has emerged, if water utilities clearly establish the costs within each tier, they can have some degree of confidence in defending their rates. A second reaction to these more stringent cost-based criteria has been that many utilities are moving away from tiered rates to uniform (single-tier) volumetric rate simply because they are legally more defensible.

An interesting side note on these cost-based criteria is that fixed charges, or the amount of revenue collected from fixed vs. volumetric rates, has not drawn much attention. Yet fully allocating fixed costs to fixed charges can have a significant impact, and in some cases has a greater impact on customer bills than strict cost-based tiered rates. This leads us into the rate structure issues.

**The Impact of Water Rate Structures on Low-Income Customers**

The Prop 218-related court decisions have raised the technical scrutiny of water rate design, including: (1) one customer class cannot subsidize another class; (2) no customer, at least ideally, pays more than their actual cost of service; and (3) tiered rate design must demonstrate the cost basis within each tier. These stricter standards of fairness and equity are becoming well-established within cost-of-service principles.

However, various rate-setting alternatives can still be used to benefit low-income customers, without subsidies or encroaching on cost-of-service or rate-design principles. These alternatives include: (1) how fixed vs. variable costs are collected through rates; (2) how tiered rates are designed; and (3) how water budget based rates may affect low-income customers compared to a more traditional rate design.

**Fixed vs. Variable Costs** – The most equitable (and rational) way to treat fixed and variable costs is to collect fixed costs through fixed charges and variable costs through volumetric charges. It makes sense and provides a higher degree of revenue stability; that is, lower than expected water sales result in little or no revenue shortfalls. However, most water agencies collect a relatively low percentage of fixed costs through fixed charges, which creates the need to shift at least some fixed costs into volumetric rates. For example, Los Angeles Department of Water and Power collects 100 percent of its rate revenue through volumetric rates. While most agencies collect far less than 100 percent of their fixed costs through volumetric rates, they still shift a significant amount of fixed costs into volumetric rates.

If we assume that low-income customers are primarily low-consumption homes, then we can see how shifting fixed costs to volumetric rates would benefit those customers. That is, their fixed charges are smaller than they otherwise would be and, even though volumetric rates are higher, low-consumption customers use less-than-average amounts of water and so the volumetric portion of their bill is relatively small.

As shown in the chart to the left, low-use (low-income) customers would be better off with a 100 percent volumetric rates. If a water utility is trying to improve revenue stability by adopting rates with higher fixed charges, they are inadvertently and disproportionately increasing low-income customer bills. To illustrate this point, moving to a 100-

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3 The exception to this assumption is that some low-income communities also have households with more than one family in a single-family home and, in these cases, may have higher than the average consumption.
percent fixed charge would dramatically increase lower-income customer bills (because they are lower-than-average water users) while reducing higher-income customer bills.

**Tiered Rate Design** – California’s emphasis on conservation, which became even more pronounced during the drought, was primarily implemented through steeply inclining tiered rates. The number of tiers and how much each tier rate increases was directly linked to the level of conservation the water utility wished to achieve. Those levels of tiers were not typically calculated from the actual cost basis for each tier.

Following the San Juan Capistrano decision, the requirement that tiered rates be calculated on a cost basis may also limit the ability to set tier breakpoints at “convenient” levels. For example, recalculating tiered rates based on how many sources of supply a water utility has, as well as their costs, may change the number of tiers, the tier ranges, and the price per unit, as illustrated in the hypothetical example below:

![Example: Tiered Rates Pre- (Current) and Post-San Juan Capistrano (New)](image)

Following this example, and assuming a low-income customer who had an average consumption of 10 hcf/month, their average monthly volumetric charges would increase from $24.00 under “current” rates to $31.50 under “new” rates. If the water utility chooses to eliminate tiered rates and switch to a uniform rate, the low-income customer’s bill would be even higher than $31.50; that is, they would share in the cost of the highest price water (i.e., the $5.00/hcf third tier).

The bottom line is that assuming low-income customers are low-consumption customers, low-income customers benefit from tiered rates.

**Water Budget Based Rates** – A water budget based rate structure, which is relatively well-accepted in Southern California, encourages greater efficiency of individual customers by establishing each customer’s water budget primarily based on their landscaping needs, and in some cases the micro-climate in which they are located. Each customer is allowed a different amount of consumption in each tier, based on their irrigable area.

However, the potential Prop 218 problem is that different customers within the same class are treated differently – one residential customer may be assigned 10 units of consumption in tier 1 while another is only allowed 6 units. It is difficult to establish an actual cost difference for customers within the same customer class. Although there has never been a legal challenge of water budget based rates to our knowledge, neither have they been tested in court.

The other potential problem with water budget rates is that they tend to produce higher bills for low-income customers – again, assuming that low-income customers generally have less irrigable area (smaller yards). It is fairly easy to see that when higher-income customers with larger yards are allowed more usage in lower tiers, it lowers their average bill. In contrast, when low-income customers with smaller yards are allowed less water in lower tiers, it increases what they pay for consumption in higher tiers.

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4 Generally, tier 1 is for indoor (domestic) consumption, tier 2 is for landscaping needs, and higher tiers represent some level of inefficient water use which is penalized by higher rates.
All things being equal, a traditional inclining block tier would provide all customers with an “average” amount of water. In order to provide more water to customers with larger yards, as water budgets do, the utility must take cheaper water away from customers with smaller yards, resulting in lower income customers seeing their consumption moving into more expensive tiers and thus paying a higher bill. As higher-income customer bills go down, lower-income customer bills go up.

To illustrate this, we will compare two residential customers: a low- and a high-consumption customer (i.e., smaller vs. larger water budget customers). Assuming each used what their assigned water budgets allow (i.e., they are efficient), the low consumer will have a lower bill and the high consumer will have a higher bill. Now switch their water consumption; the low-consumer will have high water use and vice versa. When we compare their water bills for equal consumption levels, they will pay different amounts for the same water use. Water budget proponents may claim “that’s exactly the point, they are encouraged to use water efficiently per their budgets.” However, it is difficult to defend the cost-basis for these different bills.

As another example, in the generic water budget rate structure shown here, the question that is not being asked (under the San Juan Capistrano obligation to demonstrate the cost-basis for each tier) is “What is the basis for different rates for the same level of consumption within the same customer class?” (We note that customers in the same class are assumed to have the same consumption characteristics, such as average- and peak-use factors.)

Our point in these examples is that lower-income customers generally end up paying higher bills than they would if water budgets were not used. In other words, lower-income customers are typically better off without budget-based rates.

### SUMMARY

Water agencies should understand the social, legal, and technical challenges when updating water rates, such as those briefly summarized in this paper:

- **Social justice: A New Criteria?** – In light of more and more costly water service, many of the lowest-income customers are struggling to pay higher water bills. There are local and statewide efforts to find ways to assist low-income customers, but legal constraints are limiting the options.

- **Legal Constraints** – Water rates are more frequently challenged today than ever before, a claim substantiated by the number of recent and ongoing court cases. Water utilities must seriously consider the legal defensibility when changing their water rates, particularly if changing the cost-basis of individual tiers.

- **Water Rate Design Can Be a Means of Addressing Social Justice** – Within current legal constraints, water utilities will help or hinder efforts to make water service more affordable for the lowest-income customers depending on how they:
  - Collect costs from fixed vs. volumetric charges
  - Design their tiered rates, and
  - Evaluate the pros and cons of using a water budget-based rate structure vs. more traditional alternatives.

### Contact Information:

Greg Clumpner, Director, NBS Utility Rate Group  
800.676.7516 (office) 530.297.5856 (cell) gcclumpner@nbsgov.com