

WISH LIST – ISSUES/TOPICS ECONOMIC WORKING GROUP BLUE RIBBON PANEL ON RECLAIMED WATER

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Goals and Principles

Develop goals and principles in the following areas:

1. ***Foster increased use of reclaimed water through system expansions, increased effluent allocations, and incentives***
 - Expand financing options
 - Maintain private payer and explore pricing incentives to encourage conversion
 - Lower operating cost by increasing system efficiencies
 - Consider reclaimed water in new developments
 - Consider other uses of reclaimed water for municipal and environmental supply needs
 - Increase the amount of effluent dedicated to reclaimed
 - Attract additional reclaimed customers based on efficiency considerations and benefits achieved
2. ***Increase the use of rainwater and stormwater to reduce demands on potable supplies***
 - Develop design guidelines for neighborhood stormwater harvesting
 - Analyze expanded water and stormwater harvesting potential and benefits

Policies and Practices

Develop policies and practices in the following areas:

1. ***Establish a means to evaluate the cost/benefit of different incentives in order to prioritize alternatives.*** While situations may differ for different water users, having a common terminology and method for evaluating the cost - effectiveness of different incentives would be a valuable tool in helping to promote incentives for reclaimed water use. Examples of such methods are:
 - AWWA – Manual – planning conservation (has benefit cost model for utilities to assess cost-effectiveness of incentives)
<http://apps.awwa.org/ebusmain/OnlineStore/ProductDetail.aspx?ProductId=6740>
 - Pacific Institute study takes a combined water and energy evaluation approach
http://www.pacinst.org/reports/urban_usage/waste_not_want_not_full_report.pdf

2. ***Develop a method to value the economic benefit of reclaimed water in environmental uses including:***
 - Ecologic benefits
 - Tourism
 - Quality of life
 - Mitigation of Urban Heat Island Impact
 - CO2 mitigation
 - Offset the use of potable (especially groundwater)
 - Using reclaimed water for environmental benefit as an incentive for water conservation, e.g. “Conserve to Enhance” program for conservation banking.
3. ***Establish a state-wide real estate policy” and regulations” that new subdivisions must utilize reclaimed water for schools, parks and common areas whenever possible.***
4. ***Identify “out of the box” conservation measures in all sectors to evaluate for incentives:*** Some examples include:
 - Incentives for the use of AC condensate
 - Incentives to change over to ‘dry’ cooling towers
5. ***Place a higher priority/value on incentives that reduce consumptive use.*** For example, it might be possible to plumb toilets to use reclaimed water, which is a non-consumptive use that will allow water to be used and treated again. Because water is not used-up, we might want to reward it with higher incentives.
6. ***Evaluate different rate structures to determine which are most conducive to making reclaimed water more attractive to users:*** For example, a utility could use a block rate structure for potable (i.e. higher rates for each unit of water for higher users) with a fixed rate structure for reclaimed. Such a structure may encourage high water users to use reclaimed while not penalizing moderate use potable users.
7. ***Because power and water use are intimately linked, tailor the power rate structure to maximize efficiency of water use.***
8. ***Provide incentives for groundwater users to switch to reclaimed.*** Some examples include Incentives to move groundwater users off the pump such as in lieu recharge credits, environmental tax credits, etc.
9. ***Look at ways to reduce reclaimed system costs:***
 - Try to achieve a mix of consumptive uses and non-consumptive uses so that lines tend to flow closer to capacity (i.e. reduce peaking requirement).
 - Consider economies of scale and treatment efficiencies.
 - Prioritize customers to those that can benefit and pay for the system.

10. Generate cost savings by use of lower quality water where appropriate (i.e treat water to the desired use and no more):

- Allowing one plant to treat to different qualities can save money, and make reclaimed more cost-effective.
- For irrigation, lower quality water may actually be more effective because higher nitrogen content of poorer quality water may benefit plant growth.

11. Explore alternative funding mechanisms

- Financing mechanisms for reclaimed systems – GO bonds?
- Rates & ACC approval – are there any issues here? ADWR Conservation Grants
- ADWR Water Protection Fund
- ADEQ Water Quality Improvement Grants (319h funding from EPA)
- ADEQ Recycle Grants
- EPA Grants
- WERF Grants
- “Green Infrastructure” Grants/Loans

12. Establish a state-wide stakeholder Committee to work with WIFA, ADEQ, ADWR and ACC staff to solicit and coordinate grant funding among various local and regional water and wastewater providers. Such a committee could be coordinated through ADEQ and ADWR and funded by contributions from the utilities

Specific Incentive Proposals

1. ***Make changes to state statutes to grant full recharge credit to the Secretary of the Interior for effluent used to sustain the flows in riparian corridors.*** Managed recharge projects receive underground storage credit for 50% of what reaches the aquifer, while constructed recharge projects receive 100% credit. Effluent-dominated riparian reaches can create important habitat. However, a managed recharge project only receives full recharge credit if the Water Resources Director designates it under A.R.S. §45-811.01(B) “...as a facility that could add value to a national park, national monument or state park if that park or monument includes any portion of a natural channel of a stream or adjacent floodplain that would benefit from the facility.” Jurisdictions would have a greater incentive to continuing devoting this reclaimed water resource to managed recharge and maintaining flow, if full recharge credit could be attained.
2. ***Gray water incentives should be provided to the commercial and municipal sector.*** Currently the ADEQ type 1 general permit is limited to private residential property, cannot exceed 400 gpd, and must be contained within the private property boundary. ADEQ should develop a Type 1 general permit for gray water from commercial property and provide an incentive for gray water stub outs in new construction.

Commercial gray water could augment water harvesting for landscape irrigation that is now required in new commercial development in Tucson.

3. ***Provide incentives for emphasizing water harvesting as a preferred Best Management Practice (BMP) for stormwater management.*** Federal regulations established under the Clean Water Act require large municipalities to implement measures to reduce pollutants in stormwater to the “maximum extent practicable.” The required federal permit requires implementing a Stormwater Management Plan with a requirement for new development to include permanent structural controls to reduce pollutants discharged from a site. Water harvesting can help fulfill this function. The ADEQ AZPDES stormwater MS4 regulatory approach should recognize this BMP as an effective alternative to treatment – MS4’s should receive some type of incentive credit for emphasizing rainwater harvesting, alone or in conjunction with reclaimed water use, to support their Green Infrastructure and Low Impact Development. One way to do this would be to allow MS4’s that promote this BMP to reduce emphasis and costs for other prescribed BMPs (for example, street cleaning, catchbasin inspections, etc.) in the context of their AZPDES MS4 permit.
4. ***Refine policy and regulations governing the accrual of groundwater credits to provide incentives for conversion to reclaimed water from groundwater pumping for groundwater turf users proximate to reclaimed lines.*** ADWR will not give in-lieu credit as groundwater savings facilities for conversion of turf irrigation to reclaimed water for circumstances where the user is already adjacent to Tucson Water’s reclaimed system infrastructure. Allowing GSF storage credits in these instances would provide some of the needed incentive to convert these groundwater users and secure them as new reclaimed customers. This approach would broaden the economic base supporting the reclaimed system. Any other measures that would provide economic or water management incentives for getting over the hurdle of transition to reclaimed water would be helpful to operators of reclaimed systems.