City/County Water & Wastewater Study Oversight Committee

MEMORANDUM

To: Joint Oversight Committee
From: Jim Barry, Chair
Re: Regional and Statewide Perspectives on Water Resources
Date: September 29, 2009

I have been developing my perspectives on our Phase II report. In doing so, I am sampling information from other perspectives – international, national, statewide, and regional – to see how our concerns compare with issues germane in these other perspectives. Brenda already forwarded to you a paper Madeline Kiser wrote for us and information on water management issues in the Great Lakes.

I also reread the Sharon Megdal/Aaron Lien report "Tucson Regional Water Planning Perspectives Study," presented at our August 27 meeting), for a regional perspective.On August 28, 2009, I attended a conference held by the Arizona Investment Council (AIC) on "Meeting Arizona's Water Needs Today and Tomorrow," which provides a statewide perspective.

I am asking Brenda to forward my thoughts on these regional and statewide perspectives, with the hope that some committee members might find the information helpful.

A Regional Perspective

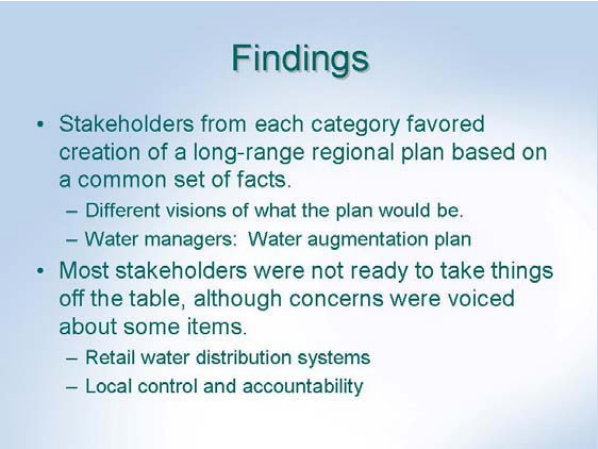
At the Committee's August 27, 2008 meeting, Sharon Megdal presented the results of the "Tucson Regional Water Planning Perspectives Study," jointly authored by Sharon and Aaron Lien. Sharon designed the study "to provide the Tucson region with an indication of the perspectives, including the hopes and fears, of a representative sample of stakeholders about regional water planning." The study participants numbered forty-seven, falling into six categories: elected officials (14), local jurisdiction managers (6), water managers (9), business stakeholders ((5), environmental stakeholders (7), and miscellaneous stakeholders (6). (Disclosure: I was interviewed as chair of the Joint Committee and was classified as a miscellaneous stakeholder.)

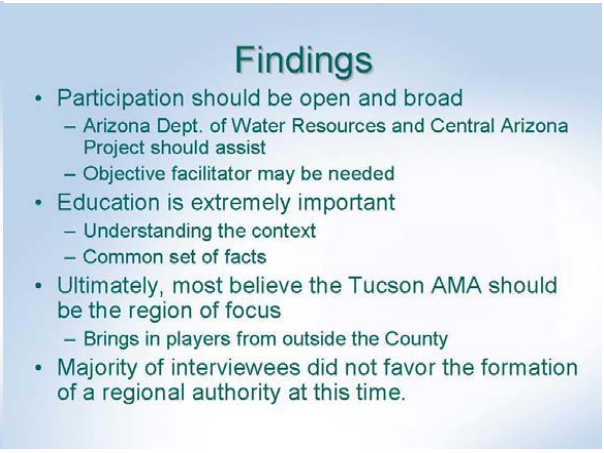
The study asked eight questions, two of which most directly relate to both phases of our joint study:

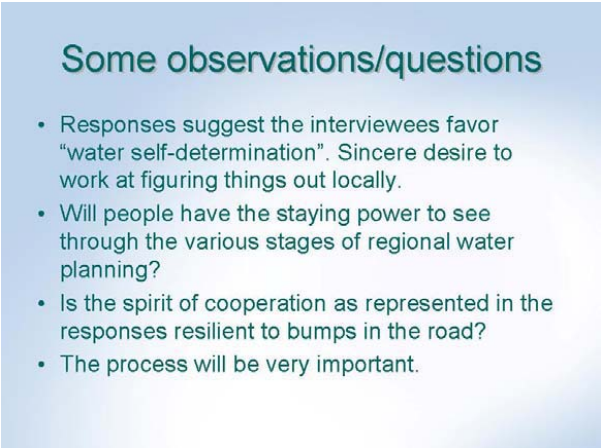
1. "What should be the goals of a regional process? What issues/topics should be on the table? Off the table?

4. "What assumptions should be used to inform the process, e.g., growth projections, infrastructure capacities, carrying capacity, etc?"

In her comments to the committee, Sharon reported several findings and observations noted in the following slides from her presentation.







In Figure 1 below, I reproduce responses the Megdal/Lien study highlighted for Questions 1 and 4, sorting responses into three categories: (1) regional water planning; (2) regional water supply and management issues; and (3) process considerations. Figure 1 then links respondent categories with each response.

The stakeholders showed levels of unanimity on five issues.

A. The stakeholders were unanimously associated with positions on (1) the need for basic information on population, water use, infrastructure, growth plans and projections and (2) using this information to develop scenarios of future conditions and enabling planning based on these scenarios. In Phase I, we focused exclusively on item 1 and in Phase II we are focusing on Item 2.

B. Five of the six stakeholder categories (environmental stakeholders were the exception) were associated with the need to augment existing water supplies. The committee discussed additional

water supplies in both Phase I and Phase II, and I assume we will include discussion of the topic in our Phase II final report.

C. Four of the six stakeholder categories (environmental and business stakeholders were the exceptions) were associated with managing existing supplies to maximize sustainability as a policy issue. Our Scope of Work stresses a sustainable water future and, pursuant to the scope, the committee has focused closely on sustainability, though I suspect we have not formulated a consensus on what we mean by the term.

D. Three of the six sectors (water managers, local jurisdiction managers, and miscellaneous stakeholders) were associated with the position that the jurisdictions should provide the bases of information referred to in section "A" above. Pursuant to our scope of work, city and county staff worked very hard to provide the committee with most of the information we reviewed and we were quite pleased with their level of effort and quality of information they provided. I believe the committee, however, was not and will not be hesitant to critique the information provided or to question the assumptions upon which it was based.

E. Three of the six sectors (environmental stakeholders, elected officials, and miscellaneous stakeholders) were associated with the position that water planning scenarios should be based on limitations imposed by water supply, not desired future growth. Pursuant to our scope, the committee investigated linkages between water resources and land use planning, including breaking the paradigm of finding water regardless of the population growth.

Additionally, I believe the committee, pursuant to our scope, will place a higher emphasis on reserving water for the environment and natural habitat and on water quality and emerging contaminants, which were associated only with environmental stakeholders.

The Megdal/Lien study identified issues that were not on our radar, such as concerns about how existing and future water resources should be distributed in the region and the distinction between water supply and retail operations.

Figure 1 Summary of Megdal/Lien Study Participant Concerns

	Participants					
Responses	Water Managers	Environmental Stakeholders	Business Stakeholders	Local Jurisdiction Managers	Elected Officials	Miscellaneous Stakeholders
Regional Water Planning						
Basic information on population, water use, infrastructure, growth plans and projections	X	X	X	X	X	X
This information used to develop scenarios of future conditions and enable planning based on these scenarios	X	X	X	X	X	X
Infrastructure plans and comprehensive plans for each jurisdiction should be the basis for the process/information should be generated by jurisdictions	X			X		X
Planning should proceed with the assumption that the environment and natural habitat are water users and must be allocated a portion of the regional water supply		X				
Change state laws to ensure region can meet its goals		X				
ADWR should be a source of data	X					
Scenarios should be based on limitations imposed by water supplies, not desired future growth		X			X	X
Use of water to restrict growth should be off the table			X			
All data underlying assumptions should be subject to peer review		X				
Cost of service projections will be needed					X	
Single, regional water rate						X
Approaches to funding regional efforts	X					
Revisit City/County IGA regarding allocation of effluent			X			
Certainty for continued economic development			X			

	Participants					
Responses	Water Managers	Environmental Stakeholders	Business Stakeholders	Local Jurisdiction Managers	Elected Officials	Miscellaneous Stakeholders
Regional Water Supply and Management Issues						
Need to augment existing supplies	X		X	X	X	X
Manage existing supplies to maximize sustainability	X			X	X	X
Equitable distribution of water				X		
Achieving the statutory water management goals for TAMA		X				
Voluntary sharing of water supplies between utilities in the region	X					
The quality of potable water and treatment of emerging contaminants		X				
Only supply side issues should be on the table; retail operations should remain as they are	X		X			
Potential of CAWCD as a regional supply augmentation authority		X				
Development of common conservations standards for the region				X		
Consider using rainwater to augment existing supplies					X	
ADWR should be forthright about its plan for using its CAP allocation		X				
Process Considerations						
Education of participants and the public					X	X
Community, collaboration and information sharing				X	X	
Develop a regional process with equitable participation for all/transparency		X	X			
Process should start with defining shared values/visions of what region wants for its future		X	X			
Strengthen local governance				X		

A Statewide Perspective

On August 28, 2009, I attended a conference held by the Arizona Investment Council (AIC) on "Meeting Arizona's Water Needs Today and Tomorrow."Chris Brooks and Vince Vasquez also attended the conference. (Disclosure: In its brochure for this conference, AIC billed itself as a "non-for-profit organization dedicated to building economic foundations through energy, water and communications infrastructure. **"** On its web page, AIC states: "Our mission is to maximize the influence of utility investors on public policies and governmental actions and to support infrastructure development in the State of Arizona.)

The conference explored four themes:

1. The Challenge Ahead: Arizona's Water Supply and Infrastructure
   A. Arizona's Water Supply
   B. Water Infrastructure Needs over the Next 25 Years
2. The Energy-Water Nexus: How Policies Overlap
3. Best Management Practices, Conservation, and Smart Water Policy
4. Funding Water Infrastructure

AIC made power point slides available for the seven major presentations at the conference, at http://www.arizonaic.org/.

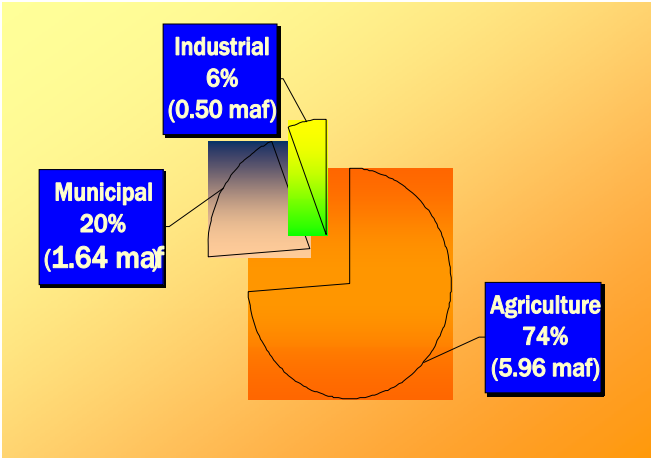
I briefly highlight information from some of the presentations that I thought worth noting and comparing against how our conversations have progressed.

Herb Guenther, Director, Arizona Department of Water Resources

The Joint Study was tasked with making "a water resource assessment" and determining "the most likely sustainable population" based on the water resource assessment. We discussed and reported on these issues in Phase I and as recently as out September 17, 2009 discussion of additional water needs. In the following slides, Herb Guenther presented ADWR data on statewide water supply and consumption by sector. Statewide water supply is 7.4 million acre feet, with 56.7% coming from surface water (37.8% from the Colorado River and 18.9% from in-state rivers); 39.2% from groundwater; and 4.1% from effluent. We know from Tucson Water reports that we are more reliant on Colorado River water and are becoming less reliant on groundwater than the statewide data shows.

The Guenther data also shows that almost three-quarters (74%) of statewide water consumption is from the agricultural sector. Data from our Phase I report shows in 2006 that the Municipal sector was the largest consumer in the Tucson Active Management Area (55.9%), while Agriculture consumed 25.3% of TAMA water, a percent that has declined over the years.

Arizona Water Supply Annual Water Budget			
Water Source	Million Acre-Feet (maf)		% of Total
SURFACE WATER			
Colorado River		2.8	37.8 %
CAP	1.6		22%
On-River	1.2		16%
In-State Rivers		1.4	18.9%
Salt-Verde	1.0		14%
Gila & others	0.4		5%
GROUNDWATER		2.9	39.2%
RECLAIMED WATER		0.3	4.1%
Total		7.4 maf	

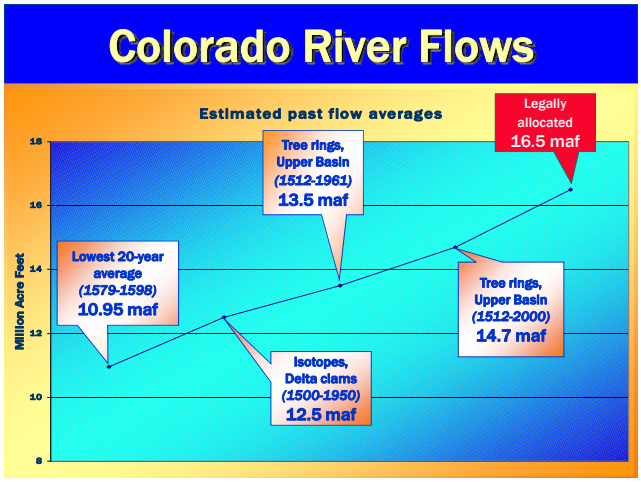


In the following slide, Mr. Guenther compared the legal allocation of Colorado River water (16.5 million acre feet annually) to four estimates of past annual flows. The lowest estimate of past flows is 10.95 million acre feet and the high is 14.7 million acre feet. These estimates produce a range of over allocation of the river from 5.65 million acre feet to 1.8 million acre feet.

On September 24, 2009, the Arizona Daily Star carried an article "Arizona's water future is cloudy, worried experts agree," which certainly underscores the picture painted in Mr. Guenther's slide. The article quotes David Modeer as saying "We know it is over-allocated."

The article also contained the following thoughts from Ralph Marra: at Tucson Water

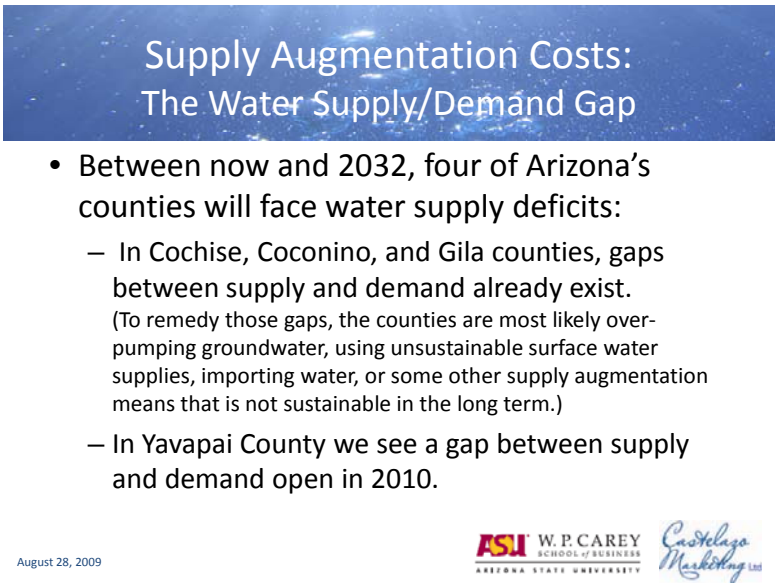
> "Forecasts are not useful to us. Forecasts are wrong," said Tucson Water's Ralph Marra. "We don't have a good sense of what the future range of credible possibilities is."
>
> "Marra, the utility's water administrator, said Tucson Water must plan for a wide range of scenarios. He called for more and better science and for cooperation among water users."



Molly Castelazo, Researcher ASU L. William Seidman Research Institute, W.P. Carey School of Business; President Castelazo Marketing Ltd

Molly Castelazo presented the results of the Infrastructure Needs and Funding Alternatives for Arizona: 2008-2032: Water, Energy, Communications and Transportation study prepared by the Seidman Institute (with assistance from Elliott D. Pollack & Company) for AIC. The study looked at infrastructure needs through 2032.

Ms. Castelazo and Mr. Guenther identified areas of the state **already** experiencing an imbalance between water supply and demand. In northern Arizona, Ms. Castelazo identified Coconino, Gila and Yavapai counties; in southern Arizona was Cochise County. (Mr. Guenther included Mohave County, but not Gila County.)



The AIC report estimates water augmentation costs through 2032 for these four counties at $1.1 billion, with the largest costs for augmentation in Coconino County at $652.3 million. The augmentation plans all envision importing water supplies, by, for example, extending the CAP to Sierra Vista and importing CAP water from Lake Powell.

Supply Augmentation Costs: Augmentation Project Details and Costs

County	Need Timeframe	Supply Augmentation Method	Duration of Supply Augmentation	Total Capital Cost (Mil. Nominal $)
Cochise	Immediate	Extend CAP to Sierra Vista for recharge and recovery	2050+	$217.4
Coconino	Immediate	Import Colorado River water from Lake Powell to Navajo, Hopi, and Flagstaff; import groundwater from R-M Aquifer to Williams; import water from Bright Angel Creek Infiltration Gallery to Grand Canyon and Tusayan	2050+	$652.3
Gila	Immediate	Import surface water from the Blue Ridge (Cragin) Reservoir via the Blue Ridge pipeline	2050+	$30.7
Yavapai	2010	Import groundwater from the Big Chino aquifer via the Big Chino pipeline*	Unknown	$197.5

**The Big Chino pipeline could serve Yavapai County's needs well past our study period. However, concerns about the project's impact on surface watersheds may limit the amount of water available through the Big Chino pipeline alternative.*

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(Mr. Guenther noted in his presentation that "Most critical areas do not have a sufficient tax base or revenues to fund those projects.")

The AIC report estimated all water and wastewater infrastructure costs (capital and O&M) for 2008 to 2032 at $109.1 billion. (Please note that these cost estimates do not include estimates of ADD Water in the three county CAP area, which probably extend beyond 2032.)

All 25-year Infrastructure Costs (incl. O&M) Summary

	Total Cost 2008-2032, Mil. Nominal $	
	Water	**Wastewater**
Total Capital Costs	$30,716	$14,162
Total O&M and Other Costs	$42,088	$22,139
Total, All Costs	**$72,804**	**$36,301**
Grand Total, Water and Wastewater	**$109,105**	

August 28, 2009

The AIC report also notes that we are in the "era of replacement" of existing infrastructure (the "Nessie Curve"), which we discussed in our Phase 1 report and reviewed again in Phase II. As a result, most of

the identified costs were to address needs arising from the current population, as the following slide on water costs demonstrates.

Drinking Water Infrastructure:

Total Drinking Water Infrastructure Needs in Arizona, 2008-2032

	Infrastructure Cost (Mil. Nominal $)
Total Public Need for Existing Population	$18,224.1
Total Indian Tribes Need	$52.9
Total Private Need for Existing Population	$2,991.4
Total Public and Private Need for Future Population	$7,852.5
Total, All Drinking Water Infrastructure Needs	**$29,120.9**

Source: 2003 EPA Drinking Water Needs Survey and Indian Health Services Sanitation Facilities Construction Program

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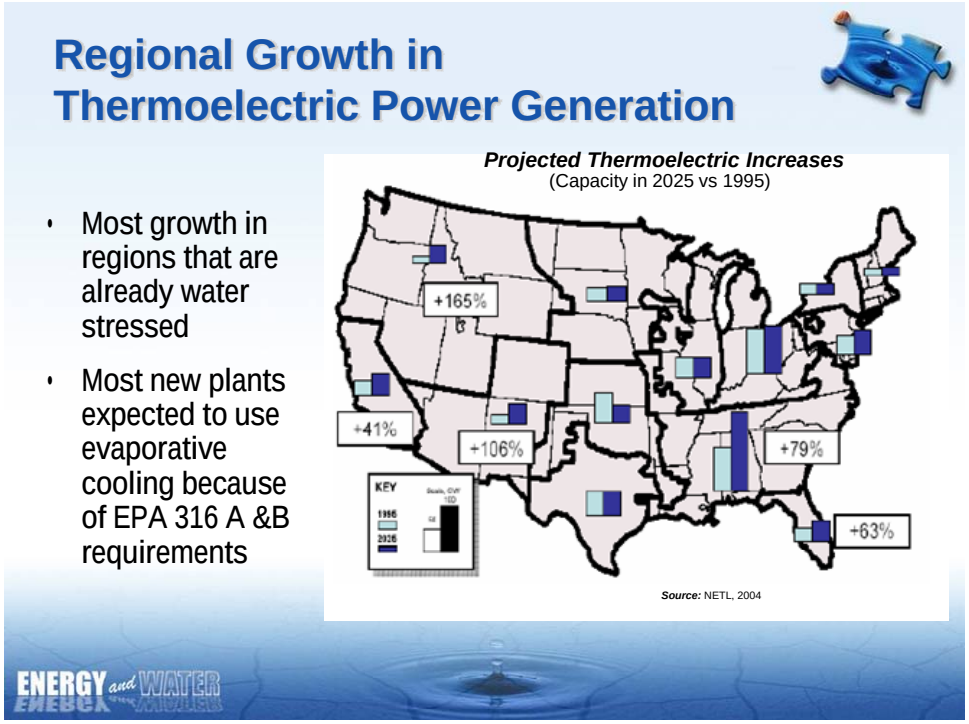
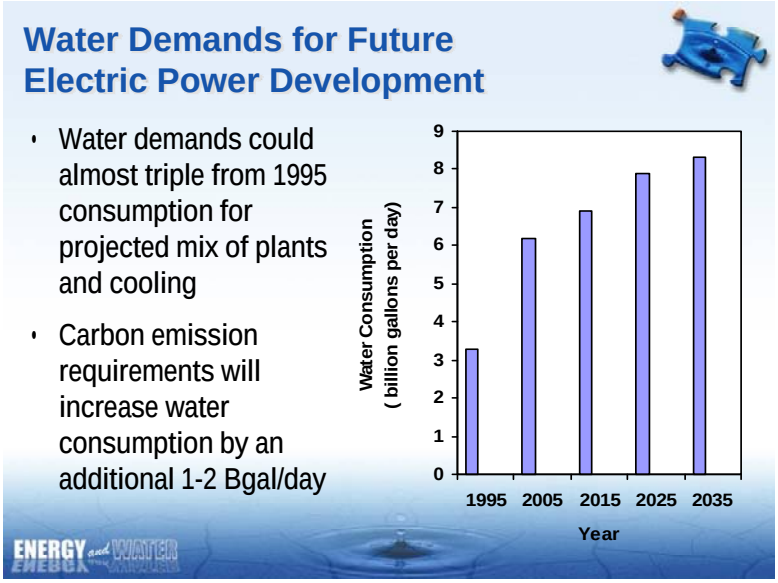
Mike Hightower, Sandia National Laboratories, Albuquerque

Mr. Hightower titled his presentation "Energy and Water: Emerging Issues and Challenge and How Policies Overlap." Mr. Hightower stressed the interdependence of water and energy: a lot of water is consumed in the production of energy and a lot of energy is needed in the treatment and distribution of water. For example, Mr. Hightower noted that 73% of kw/h of power to deliver one gallon of water to a Salt River Project household is used for heating water in the household.

Mr. Hightower presented two slides that show (1) the regional increases in power generation that will occur between 1995 and 2025 (it will increase by 106% in the Arizona/New Mexico/Colorado region) and (2) that water demand for power could almost triple over 1995 and carbon emission requirements will increase water consumption by 1 2 billion gallons per day.



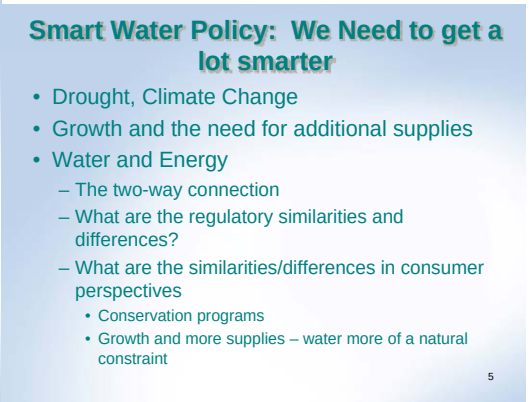


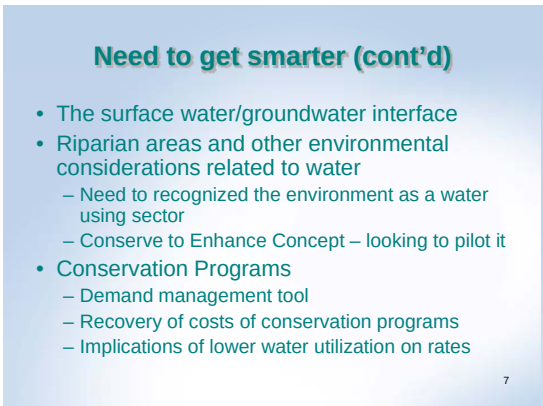
Since the energy and water nexus was not in our scope of work, the committee did not investigate or discuss it in any depth. (Bob Cook repeatedly stressed the importance of this nexus throughout Phases I and II.) I would think this is one of the major gaps in the Joint Study output.

Sharon Megdal, Director, Water Resources Research Center

Sharon Megdal titled her presentation "Best Management Practices, Conservation and Smart Water Policy." Sharon started her presentation with a question about whether the bottle of water policy in Arizona is half-full or half-empty. On the plus side, Sharon spoke about the value of the groundwater code, groundwater management, conservation requirements, the Assured Water Supply program, the Arizona Water Banking Authority, and the Central Arizona Groundwater Replenishment District.

Sharon then introduced several actions under the rubric of "smart water policy: we need to get a lot smarter," which I reproduce below. I would say we considered most of Sharon's issues, though perhaps not in the depth they require, with the exception that we did not discuss water and energy, groundwater management outside of AMAs, and interstate and international water issues.





AIC Presentation on Funding Water and Wastewater Infrastructure

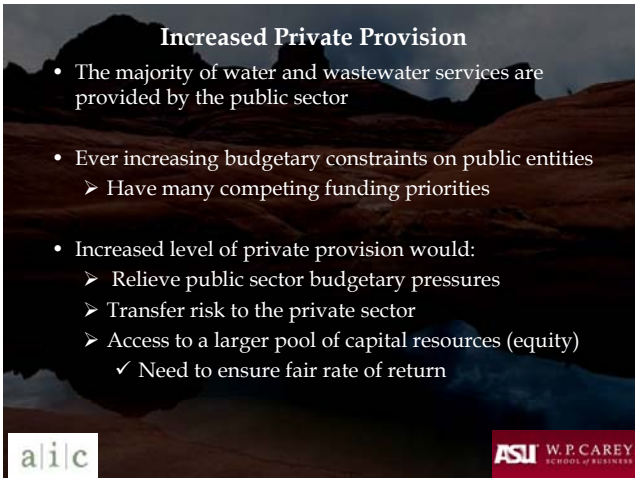
The Seidman Institute also presented evidence from the AIC report on funding options. I thought two of their slides were noteworthy:

The first slide below reports a statewide $30 billion gap for water and wastewater needs between 2008 and 2032: water at $19.6 billion and wastewater at $10.3 billion. The second slide presents conclusions that: (1) closing the gap will come from a variety of sources; (2) water and wastewater costs are going to increase for the foreseeable future; and (3) these increases will vary across the state.

This presentation, and others, paid less attention than we did on "growth paying for itself," while more stress than the committee did on pricing, especially scarcity pricing, as a strategy for water management.

This presentation and others also talked about "revenue decoupling" of water sales and water revenue. As we noted in the Executive Summary for our Phase I report, 84% of Tucson Water's revenue comes from water sales. To the extent that conservation drives down water sales, it also drives down the utility's revenues, forcing Mayor and Council to raise rates to make up for lost revenue. With private utilities, coupling sales and revenue acts as a disincentive to sponsor conservation or energy efficiency since reduced sales lowers profits. Revenue decoupling is an idea for generating utility revenues and being able or willing to sponsor conservation at the same time. This is a topic we did not discuss.

It should be noted that a number of panel members were associated with private water companies, a perspective we did not get since we were focused on Tucson Water and the County Regional Wastewater Reclamation department. The following slide was presented to highlight some values of the private sector in water and wastewater infrastructure, also a subject we did not address.



Lucius Kyyitan, Gila River Indian Community

I have attached the comments of Lucius Kyyitan presenting the perspective of the Gila River Indian Community. I think we are well advised to keep his comments on the past, the present, and the future clearly in mind.

1st Session: The Challenge Ahead: Arizona's Water Supply and Infrastructure?

Lucius Kyyitan, Gila River Indian Community

From time immemorial we, the Akimel O'odham and Pee Posh—People of the River—and our ancestors, the Huhugam, subsisted (and thrived) in a symbiotic balance with the surface water flows that the live rivers naturally brought to Central Arizona.

Our people understood and respected the forces of our surrounding environment. We lived as a "community" [little "c,"] (which also included the non-human members of the environment) where the finite resources, such as water, were treated as assets held in "common" for the good of the whole "community" [little "c"]. As a result, we developed into a flourishing, progressive, and peaceful society that existed within its means in harmonious balance with the available natural resources. We were known as the "breadbasket" of the arid Southwest by many of the early explorers because we generously shared much of our hard-earned bountiful foodstuffs.

However, this balance was destroyed by the ever-encroaching waves of Euro-American settlers, who diverted water from the contributing watershed in disregard of our dependent civilization. What resulted was the collapse of our society. "The People of the River" were left without water and our people experienced tremendous hardship through famine and disease. Some of our people survived; mostly by selling fire wood which we harvested from our water-starved riparian forests and mesquite bosques.

Today, after decades of endless effort, my people finally have our water rights claims settled through the historic 2004 Arizona Water Settlement Act. The Gila River Indian Community Water Rights Settlement will not bring back the once-live rivers of Arizona, but it marks a very significant historical crossroads for my people's future (and the future of others throughout Arizona).

Our settlement water resources, 63 percent of which is from the Central Arizona Project, will be managed as a well-rounded Water Use Portfolio (much like a person's retirement investment strategy). This Water Use Portfolio will bring these water resources into the hands of individual

Community members and bring maximum flexibility and benefits to the Community as a whole. Of major importance in the Water Use Portfolio is the promotion of a more traditional agrarian subsistence lifestyle to combat the rampant, unchecked diabetes epidemic which plagues my people. (Many consider the lost use of foods native to this area, such as mesquite beans, as a main cause of this epidemic.) In addition to agriculture, the Water Use Portfolio includes other widely varying uses such as municipal, commercial and industrial, domestic, recreational, and environmental.

To meet these endeavors, we face many internal challenges, such as: (1) the construction of a water distribution network (the Pima-Maricopa Irrigation Project) to service the 600-square mile Reservation; (2) development of a comprehensive Water Code to ensure equitable allocation so that the water, once again, becomes an asset held in Common for the "community;" and (3) the educational and technologic empowerment of our people to effectively manage these resources for sustainability.

Our Community also faces substantial external challenges—all of which are the same challenges faced by all others in the arid Southwest. These external challenges include drought/shortages, environmental issues, and the supply & demand of energy.

--Additional Talking Points—

- Tree-ring data tells us the Colorado River Compact was based upon flows observed during a particularly wet period of time. Coupled with the "hyper-growth" and overpopulation problems being experienced in many of the Colorado River Basin States, sets the stage for an over-allocated river system. This is of particular concern to Arizonans since the CAP has a low priority on the Colorado River System.

- Arizona has tapped nearly every available surface water supply. Climate change research indicates possible changes in the Colorado River system that could lead to less precipitation or changing snowmelt-runoff patterns. Of course, such changes could affect not only the Colorado River, but other river systems like the Gila River.

- As the Colorado River Watershed develops, there will be increasing threats to water quality. In addition, imported water supplies, like the

CAP, brings with it dissolved mineral salts, which, over time will have to be managed in order to avoid toxic effects of salinity build-up.

- There has always been the intimate relationship between water and energy that requires water resources to be managed as a function of energy supply and demand. Thus, the cost water as a function of electrical pumping costs will provide another layer of uncertainty.

- Despite efforts under the Arizona Groundwater Management Act, groundwater mining and non-attainment of Safe-Yield is rampant. In many locations, the ancient "fossil water" aquifer reserves that have resulted over the span of geologic time are now being rapidly drained. The 100-year assured water supply rules lack the necessary controls for true sustainability. In fact, the growing trend under these rules is the complete lack of hydrologic reality [build it here now, someone else's problem somewhere else later)

- Many assume that Tribal water settlements will be the source that quenches urban thirst. In reality, much of the Tribal settlement waters will be utilized by the Tribes themselves, especially in the long-term. Also, much of the Tribal Settlement waters are subject to the same climatic uncertainties.

These challenges may lead to an unavoidable "Tragedy of the Commons," unless we all strive for sustainable equilibrium. We must work with what has been placed before us—the available sun and rainfall. Thus, we must all be more diligent utilizing solar energy, rainwater harvesting, gray-water, and reclaimed water

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Now that many of Arizona's water rights uncertainties are resolved, it seems prudent for Arizonans and Arizona Tribes to all work together in a united effort to resolve these external challenges. Now that the Gila River Indian Community has become a major player in Arizona's water future, it is our intent to collaboratively work together to overcome these challenges and become, once again, the breadbasket of the arid Southwest.

City/County Water and Wastewater Study Oversight Committee

May 14, 2009

Dear Water Utility Manager,

We are pleased to let you know that the City/County Water and Wastewater Study Phase I Report was recently completed and is available on the study website (www.tucsonpimawaterstudy.com). The report was presented to the Tucson City Council on April 14th and the Pima County Board of Supervisors on May 5th. Both governing bodies accepted the report, endorsed moving forward with Phase II of the study as outlined in the original scope of work, and reiterated the importance of involving regional stakeholders in the process.

Toward that end, we write to you today to extend an invitation for you and your organization to participate in Phase II of the study. Phase II is focusing on City/County agreement on specific topic areas associated with water sustainability. Technical papers are being prepared on each of these topics and the Oversight Committee would appreciate your input and comment on these papers. A list of all topics being discussed along with the meeting dates, times and locations where they will be discussed is attached to this letter. The technical papers are being posted to the study website approximately two weeks prior to each meeting for review by Committee members and the public. You may submit comments to the Committee via e-mail (info@tucsonpimawaterstudy.com), or you are invited to attend Committee meetings to address the Committee in person. The next meeting will take place Thursday May 21, 2009, 5:00 – 9:00 p.m. at the Randolph Golf Course Clubhouse, 600 S. Alvernon Way.

We are proceeding with wrapping up Phase II as quickly as possible, anticipating completion in September 2009, to allow a regional dialogue on these issues to take place. During Phase II, the Committee is cognizant of the fact that many of these issues will benefit from regional discussion. The regional dialogue will not grow from this Committee or this process, but the information gathered in this process can provide a foundation to build from. Our hope is that a regional dialogue will take place and that planning for this will begin soon.

We hope you will respond positively to this invitation. Feel free to contact the City's coordinator for the project, Nicole Ewing Gavin at 791-4204 or the County's coordinator for the project, Melaney Seacat at 740-6517 with any questions you may have.

Sincerely,

James T. Barry
Committee Chair

Marcelino C. Flores
Committee Vice-Chair

C: Pima County Board of Supervisors
Tucson Mayor and Council
Chuck Huckelberry, County Administrator
Mike Letcher, City Manager
Oversight Committee members

City/County Water and Wastewater Study Oversight Committee
Phase 2 Schedule

Meeting Date/Location	**Report Posted on-line**	**Meeting Time**	**Topic**
Thursday, **April 23, 2009** Tucson Association of Realtors (TAR) 2445 N. Tucson Blvd Tucson, Arizona 85716	04/09/09	5 pm-9 pm	Adaptive Management • Drought • Reclaimed Water • Water Conservation (Water CASA report)
Thursday, **May 21, 2009** Randolph GC Clubhouse, Copper Room 600 S. Alvernon Way Tucson, Arizona 85730	05/07/09	5 pm-9 pm	Adaptive Management • Water Conservation (City/County report) Comprehensive Planning/Environment • Stormwater Harvesting • Riparian Protection
Thursday, **June 25, 2009** Randolph GC Clubhouse Randolph GC Clubhouse, Copper Room 600 S. Alvernon Way Tucson, Arizona 85730	06/11/09	5 pm-9 pm	Comprehensive Planning/Environment • Location of Growth, Urban Form, & Cost of Infrastructure
Thursday, **July 16, 2009** Tucson Association of Realtors (TAR) 2445 N. Tucson Blvd Tucson, Arizona 85716	07/02/09	5 pm-9pm	Comprehensive Planning/Environment • Integrating Land Use Planning with Water Resources and Infrastructure • Water /Wastewater Cost of Growth Assessment • Economic Needs for Water
Thursday, **August 20, 2009** Tucson Association of Realtors (TAR) 2445 N. Tucson Blvd Tucson, Arizona 85716	08/06/09	5 pm-9 pm	Additional Water/Environment • Additional Water Resources • Water Quality • Environmental Restoration

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