Balancing Energy and Water Efficiencies
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City of Scottsdale
About Scottsdale

- Population ~ 255,000
- Build Out ~ 300,000
- New Growth – North
- Redevelopment – South
- 184.5 square miles
- 31 miles long
- Elevation change 3,727 feet
Award-winning Utility

- 2019: Sustainability Champion, Arizona Forward Environmental Excellence Crescordia Award
- 2018: Sustainable Utility Management Award, American Association of Metropolitan Water Agencies
- 2017: Public Education Program of the Year (Scottsdale Water Citizen Academy), WaterReuse Association
- 2016: Utility of the Future Today, EPA and national consortium of water organizations
Scottsdale Water’s History of Sustainable Water Practices

- Gainey Ranch Water Reclamation Facility - 1981
- Water Campus – October 1998
  - CAP Water Treatment Facility
  - Water Reclamation Plant
  - Advanced Water Treatment Facility
    - Ozone/Ultrafiltration/Reverse Osmosis/Ultraviolet Photolysis
    - Two end uses: recharge, turf irrigation
- Safe Yield 2006
- First Facility DPR Permit – September 2019
Operating Systems

• Drinking Water System:
  • CAP WTP (Water Campus) – 70 MGD (combined traditional treatment 50 mgd with membrane treatment 20 mgd and GAC)
  • Chaparral WTP (SRP Water) – 30 mgd (submerged membrane system)
  • 3 Arsenic Treatment Plants
  • 2 Superfund Treatment facilities (air stripping and GAC)
  • 1 Groundwater Treatment facility (underconstruction)
  • 16 wells
  • 21 booster station
  • 43 reservoirs
Drinking Water Treatment Facilities

- Chaparral Water Treatment Plant (27 MGD)
- Central Groundwater Treatment Facility (12 MGD)
- Thomas Groundwater Treatment Facility (online 2021)

Arsenic Treatment Facility 115
Arsenic Treatment Facility 7
Arsenic Treatment Facility 32
North Groundwater Treatment Facility (4 mgd)
CAP Water Treatment Plant (70 MGD)
Operating Systems (continued)

• Water Reclamation
  • SROG connection (20 mgd)
  • Water Campus Reclamation Facility (20 mgd)
  • Water Campus Advance Water Treatment Facility (20 mgd)
  • 5 Pump Back Stations
  • Gainey Ranch Water Reclamation Facility (1.8 mgd)
  • 33 Lift Stations
Water Reclamation Facilities

Water Campus
- Water Reclamation Plant – 20 mgd
- Advanced Water Treatment Plant – 20 mgd

Gainey Ranch WRP – 2 mgd
Pumpback System
Operating Systems (continued)

- Reclaimed Water Distribution System
  - 23 Golf Course
  - 14 miles of distribution system
  - 4 booster stations

- Recharge Operations
  - 61 vadose zone wells (Water Campus)
  - 2 ASR wells
  - Westworld and Desert Mountain Recharge sites
Scottsdale’s Energy and Water Efficiency Efforts

• Optimization Control Room
  • Staffed 24-7-365 with experienced operators
  • Responsible for:
    • Water deliveries (including water balancing)
    • Optimizing Energy
    • Repair and maintenance scheduling
    • Communications hub
Scottsdale’s Energy and Water Efficiency Efforts

• Hoover Dam Power Allocation
  • 2.371 MW
  • 28% of our Water Campus energy requirements

• Peak Solutions Demand Response Program
  • In 2020 over 5 days saved over 16,000 kW at peak periods
  • Over the previous eight years of participating, received rebate checks of over $1.0 Million

• Non-Revenue Water/Water Conservation
Scottsdale Water Trends

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<th>Potable Water Deliveries (Acre Feet)</th>
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Legend: Service Connections
Questions?