



CLIMATE CHANGE ADAPTATION INFORMATION SHARING FORUM

*Adaptation Strategies for Water Use
and Reuse in the ACT*

- Greywater Innovation
- The Big Picture



THE BIG PICTURE

- ✘ Sustainable Cities Forum
- ✘ Dr Maheepala - Sustainable Cities
- ✘ Whole of Urban Quality / Quantity Analysis



WATER PLUS

- ✘ 15 Years
- ✘ Sustainability Policy and Programs - TAMS
 - Interaction storm water, sewer mining and aquifer storage and recharge
- ✘ 5 Feasibility Studies Sewer Mining ACTEW
- ✘ 1 CIT Full Water Analysis
- ✘ LDA Hume West Innovation Planning
- ✘ Work with Government
 - Legislative and co-operative frameworks



NEED FOR COMPETITION

- ✘ Productivity Commission
- ✘ Urban Water Monopolies - may not facilitate innovation
- ✘ Research Required



CANBERRA

UNIQUE REQUIREMENTS

- ✘ Government
- ✘ Public Service Structure
- ✘ Need for Co-Ordination
- ✘ Innovation - Think Water - Act Water
- ✘ Largest Inland City



ACTEW OPTIONS

WATER2WATER

- ✘ Treatment of Waste Water LMWQCC
- ✘ Pump to Cotter Dam

\$100m Trial Plant
Tantangera Dam Transfer
Water from Coast
Enlarge Cotter Dam
Tennent Dam

THINK WATER ACT WATER

April 2004

- ✘ Well Reasoned
- ✘ Household Tune Ups
 - Dual Flush Toilets
 - AAA Rated Showers
 - Rain Water Tanks/Rebates
- ✘ Protect Water Quality
- ✘ Creation of Wetland Areas

THINK WATER ACT WATER

WATER SENSITIVE URBAN DESIGN

- ✘ Managing the Water Cycle as a Whole Using Rain and Storm Water Instead of Mains Water
- ✘ Enhanced Social Amenities?
- ✘ Enhanced Urban Amenities?
- ✘ Improved Recreational Opportunities?
- ✘ New Systems and Products?
- ✘ Protect Environmental Flows?
- ✘ Fund Innovation?
- ✘ Community Involvement?
- ✘ No System or Structure

Review Due April 2009

PUBLIC CONCERN

- ✘ Editorials
- ✘ Letters to Editor
- ✘ Health Concerns Water2Water
- ✘ Greenhouse Gas Emissions Water2Water
- ✘ "Yuck" Factor Ignored Water2Water

NEED FOR LEADERSHIP THE BIG PICTURE

ONE AUTHORITY

- ✘ Environment Department
- ✘ ACTEW
- ✘ ACTPLA
- ✘ ACT Health
- ✘ Plumbing Inspectors
- ✘ Parks and Gardens
- ✘ Sustainability Commissioner
- ✘ LDA

OTHERS

- ✘ Local Industry
- ✘ Consultants - environmental, hydraulic, mechanical, landscape
- ✘ Universities
- ✘ Sporting Bodies
- ✘ Plumbing Contractors
- ✘ Developers

RECYCLING

BLACK WATER - Compliance / Risk / Cost / Limited Uses

GREY WATER

- ✘ 60 - 80% (76%) of Water from Homes can be Reused
- ✘ Diversion - Use Within 24 Hours
- ✘ Treatment and Sanitisation
 - Store Re-Use Tank
 - Toilets
 - Washing Machine
 - Irrigation
 - General Use - Car and Window Washing

RECYCLING

RAIN WATER

- ✘ Boom in Sales of Domestic Tanks - limited re-use
- ✘ Buffer to Reduce Run-Off
- ✘ Less Water to Sewer During Storms
- ✘ Commercial Tanks
- ✘ Infrastructure

STORM WATER

- ✘ Ponds and Lakes



GREY WATER TREATMENT

- ❑ Technology Proven Locally
- ❑ Prototypes Operating 2 Years
- ❑ System Developed
- ❑ Price Point Reached
- ❑ Physical Size Reduced
- ❑ Reduced Maintenance Costs
- ❑ Further Cost Reduction Possible



GREY WATER REUSE

CHALLENGES

- ❑ Insufficient Co-Ordination and Co-Operation
- ❑ Lack of Regulations and Enforcement
- ❑ Grey Water Guidelines Review - Public Health
- ❑ Plumbing Regulations/Building Requirements
- ❑ Ongoing Servicing
- ❑ Industry Reputation
- ❑ Rouse Hill
- ❑ Equity
- ❑ Retrofitting Expensive - New Home Feature
- ❑ Sewer Flow
- ❑ No Sense of Urgency



OPPORTUNITIES

- ❑ Develop Systems Based Upon New Digital Technologies
- ❑ Market Systems to Other Jurisdictions
- ❑ Research and Development - Universities
- ❑ Local Assembly, Marketing = Employment
- ❑ Reclaim Garden City Concept
- ❑ Revenues for Government



BENEFITS

- ❑ Re-empower Residents
- ❑ Protect Public Health
- ❑ Urban Expansion
- ❑ Environmental Flows
- ❑ Compliance
- ❑ Government Revenue
- ❑ Public Awareness
- ❑ Competition
- ❑ Reduced Prices
- ❑ Less Infrastructure Costs
- ❑ Less Treatment / Salts to River System
- ❑ Achieves Aims and Targets of TAW
- ❑ Best Practice Outcomes
- ❑ Enhance Social, Urban & Recreational Outcomes
- ❑ Reclaim Garden City Concept