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AWE LANDSCAPE TRANSFORMATION...
Improving Outdoor WUE Programs

AWE Outdoor Water Savings Research Initiative—Phase II

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INTRODUCTION

• HISTORY—PHASE I – ANALYSIS OF PUBLISHED RESEARCH

• DIRECTION FOR PHASE II – SIX QUESTIONS FROM PHASE I

1. WHAT MOTIVATES PEOPLE TO CHANGE THEIR LANDSCAPE AND IRRIGATION PRACTICES TO REDUCE THE OVERALL WATER REQUIREMENT AND USAGE?
2. WHAT ARE THE REASONS AND RATIONALE FOR THEIR LANDSCAPE CHOICES?
3. WHAT BARRIERS EXIST TO LANDSCAPE TRANSFORMATION AND TO UTILITY SPONSORED PROGRAMS?
4. WHAT RANGE OF WATER SAVINGS (GALLONS REDUCED ANNUALLY PER IMPACTED CUSTOMER AND PER SF OF LANDSCAPE) CAN BE EXPECTED FROM REDUCING LANDSCAPE WATER REQUIREMENTS?
5. WHAT FACTORS INFLUENCE THE VOLUME OF WATER SAVINGS ACHIEVED FROM REDUCING IRRIGATION REQUIREMENTS?
6. HOW CAN WATER SAVINGS BE MAXIMIZED?
MARKET TRANSFORMATION (MT)

- OCCURS WHEN A NEW PRODUCT OR PRACTICE EMERGES,
- IS FOUND TO BE SUPERIOR, AND
- MAKES THE PRIOR PRODUCT/PRACTICE OBSOLETE.

SUSTAINABLE LANDSCAPES

- REQUIRE MULTIPLE APPROACHES TO TRANSFORM CONSUMER CHOICE FOR LANDSCAPING
PROJECT ORGANIZATION: ROLE AND PROJECT FOCUS OF KEY PERSONNEL

A & N Technical Services

Thomas W. Chesnutt, Ph.D.
Project Manager

Task 1 – Initiation, Data Assessment, Research Plan
Tom Chesnutt – Task Lead
Maureen Erbeznik - Process Evaluation
David Pekelney – Survey Analysis
Dana Holt -- Support

Task 2 – Process Evaluation
Maureen Erbeznik - Task Lead
David Pekelney – Survey Analysis
Cindy Dyballa – Process Eval.
Irrigation Expert – Field Work

Task 3 – Impact Evaluation
Tom Chesnutt – Task Lead
David Pekelney—Analysis
Dana Holt-Data compilation and validation

Task 4 – Scaling Results, Recommendations, and Replication
Tom Chesnutt – Task Lead
Maureen Erbeznik – Process Evaluation
David Mitchell—Results, Recommendations, and Replication
Dana Holt – Report Coordination
RESEARCH METHOD AND APPROACH

OVERALL RESEARCH APPROACH

METHODS

• PROCESS EVALUATION
  • PROGRAM DOCUMENTATION
  • INTERVIEWS
  • PROGRESS REPORTS

• IMPACT EVALUATION
  • WATER USE ANALYSIS
  • COST EFFECTIVENESS ANALYSIS

• TRANSFORMATION AND DOCUMENTATION

• WHAT MOTIVATES PEOPLE TO CHANGE THEIR LANDSCAPE AND IRRIGATION PRACTICES TO REDUCE THE OVERALL WATER REQUIREMENT AND USAGE?

• WHAT ARE THE REASONS AND RATIONALE FOR THEIR LANDSCAPE CHOICES?

• WHAT BARRIERS EXIST TO LANDSCAPE TRANSFORMATION AND TO UTILITY SPONSORED PROGRAMS?

• WHAT RANGE OF WATER SAVINGS (GALLONS REDUCED ANNUALLY PER IMPACTED CUSTOMER AND PER SF OF LANDSCAPE) CAN BE EXPECTED FROM REDUCING LANDSCAPE WATER REQUIREMENTS?

• WHAT FACTORS INFLUENCE THE VOLUME OF WATER SAVINGS ACHIEVED FROM REDUCING IRRIGATION REQUIREMENTS?

• HOW CAN WATER SAVINGS BE MAXIMIZED?
LANDSCAPE AND MARKET TRANSFORMATION

MT CHARACTERIZES CUSTOMERS BY HOW THEY RESPOND TO MARKET OFFERS:

• INNOVATORS: ADVENTUOUS PERSONS
• EARLY ADOPTERS: EDUCATED LEADERS
• EARLY MAJORITY: DELIBERATE DECISION MAKERS
• LATE MAJORITY: CAUTIOUS AND SKEPTICAL INDIVIDUALS
• LAGGARDS: RISK AVERSE PERSONS
DETAILED PROJECT PLAN

- TASK 1
  - PROJECT INITIATION
- TASK 2
  - PROCESS EVALUATION
- TASK 3
  - IMPACT EVALUATION
- TASK 4
  - REPLICATION, SCALING
  - MARKET TRANSFORMATION
  - DOCUMENTATION

Source: Authors Construct
MARKET TRANSFORMATION VS MARKET ACCELERATION

Market Acceleration

- Limited # of Collaborators
- Incentive Based Tactics
- Reaches Innovators & Early Adopters
- Customer & Supply Chain Interest Wanes when Program Ends
- No Permanent Market Change

Timetable - Months to Years (Depending on Technology or Service)

Market Transformation

- Diverse # of Collaborators
- Strategy Includes Wide Array of Tactics
- Reaches All Consumer Types Over Time
- Customers & Supply Chain Switch Over Time To New Technology or Service
- Market Change is Permanent

Timetable - Years to Decades (Depending on Technology or Service)
FINANCING SUSTAINABLE WATER: WATER RATES AS A TRANSFORMATIVE DRIVER

• BUILDING BETTER RATES IN AN UNCERTAIN WORLD: A HANDBOOK TO EXPLAIN KEY CONCEPTS, PROVIDE CASE STUDIES AND IMPLEMENTATION ADVICE

• AWE SALES FORECASTING AND RATE MODEL: A USER-FRIENDLY PROBABILITY MANAGEMENT TOOL TO MODEL SCENARIOS, SOLVE FOR THE FLAW OF AVERAGES, AND CONFRONT UNCERTAINTY IN RATE MAKING

• FINANCINGSUSTAINABLEWATER.ORG: WEB-BASED RESOURCES TO CONVENE THE LATEST RESEARCH AND INFORMATION IN ONE LOCATION
RESEARCH PLAN

PRIMARY RESEARCH

- PROCESS EVALUATION
  - EXISTING PROGRAM THEORY
  - PROGRAM DESIGN FOR LANDSCAPE TRANSFORMATION
  - IMPLEMENTOR PANEL AT WSI?
- CUSTOMER SURVEY
  - FOCUSED ON SF
  - CORE ITEMS WITH A SMALL SET OF UTILITY SPECIFIC ITEMS
  - EMAIL WITH UTILITY DISTRIBUTION PREFERRED
- WATER USE ANALYSIS
  - REPRODUCIBLE RESEARCH
  - MEASURED DELTA CHANGE
  - SPILLOVER EFFECTS
  - INCENTIVE DESIGN

SECONDARY RESEARCH – NOT REINVENTING

- SUMMARY OF EXISTING FINDINGS
  - MARKET RESEARCH
    - REASONS AND RATIONALES
    - MOTIVATIONS FOR LANDSCAPE CHANGE
  - WATER USE ANALYSIS
- TRANSFORMATION
  - BARRIERS TO ADOPTION
  - MAXIMIZING SAVINGS
  - MAXIMIZING TRANSFORMATION
- IMPLICATIONS FOR PROGRAM DESIGN AND REDESIGN
Market Segmentation Analysis: …the sorting hat for customers

On a scale of 1 to 10, rate the importance of your home (where 1 is low and 10 is high).

On a scale of 1 to 10, rate the importance of your home landscape (where 1 is low).

On a scale of 1 to 10, rate the importance of maintaining your home's landscape.
Landscape Transformation (LT) Programs:
Market Interventions, Participating Utilities, Outcomes

1. Development of Landscape Guidelines and Specifications
   - Peel Colorado City SD Metropolitan

2. Creation of Educational Materials and Provision of Landscape Training
   - Multiple Utilities

3. Provision of Technical Assistance
   - All

4. Marketing and Outreach
   - Xeri Sustainable Landscapes

5. Retrofit Incentives
   - N. Marin SNWA

6. Provision of Landscape Materials
   - Mulch Madness

Cost

Interventions

Participating Utilities Providing Evidence

Benefits

Outcomes

Water Conservation

Modification of long-term landscape behavior

Stakeholder Involvement

Water Supply Diversification

Water Quality Improvement (Reduced dry runoff)

Improved Soil Quality

Reduce Pollutant Loading (Rainfall Retention)
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