Sustainable Landscaping Market Transformation Plan

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Executive Summary

[To be developed.]

The Ask

[To be developed separately and specifically for each potential partner or funder.]

The Plan

The Challenge: *California Needs a Landscaping Paradigm Shift*

Multi-year drought has heightened the awareness of what many Californians have long known: resource scarcity across the state necessitates a paradigm shift across all landscaping sectors. Conventional landscaping, built around thirsty turf grass, and other climate inappropriate plants, is deeply rooted in California. This traditional approach, however, soaks up, on average, half of the water used in the state's urban areas. In addition, the traditional approach contributes directly to water quality degradation from runoff of storm water tainted with synthetic pesticides and fertilizers. It also produces extensive yard waste that chokes our landfills.

The complexity of landscapes themselves combined with the many stakeholders involved in their management creates a challenging path to the state's transformation to sustainable landscaping. Existing end-user values, behaviors, and knowledge; workforce practices and capabilities; service and product market availability; industry standards; and building codes collectively reinforce this ultimately unsustainable paradigm.

Sustainable landscaping offers Californians multiple resource, social, and economic benefits. While reduced outdoor water use is a primary objective, sustainable landscaping transcends water-use efficiency. The multi-benefit approach to sustainable landscaping will not only lead to a more water efficient California, but will also provide benefits through rainwater capture and use; reduction of pollution, green house gases, and green waste; energy and cost savings; and human and wildlife habitat improvements. To enjoy these benefits, California must strategically address all of the barriers that stand in the way.

The Objective: *Accelerate the Transition to Sustainable Landscaping*

This plan will accelerate the transition to sustainable landscaping in California. It uses a collaborative, market transformation approach to overcome the many barriers to sustainable landscaping. In this transition, the Council and its partners seek to redefine Californians' relationship with their urban landscapes.

The Approach: *Market Transformation*

From the Council's perspective, a *Sustainable Landscaping Market Transformation Plan* documents*:*

> a strategic process that will intervene in a market to create lasting change in market behavior by removing identified barriers and exploiting collaboration opportunities to accelerate the adoption of sustainable landscaping as a matter of standard practice.[1]

[1] Adapted from Northwest Energy Efficiency Alliance's (NEEA) definition of a Market Transformation Plan.

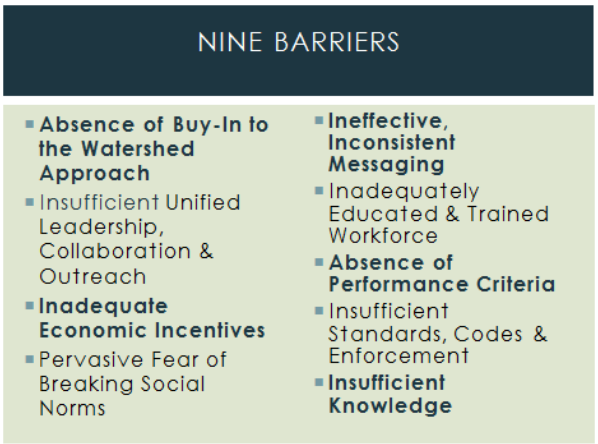
A market transformation process builds on the well-known dynamic of product diffusion. Inspired by innovators' and visionaries' ideas, early adopters, willing to experiment, ground-truth and refine them. Once the advantages of a product or process are firmly identified, the proven benefits will appeal to the values of the "early majority" of consumers. Over time, what was once a mere vision becomes a new standard, a new norm.

The market place interventions necessary to move beyond the visionaries and early adopters include: the creation of public awareness, motivation, and knowledge through conventional and community-based social marketing; the development of new workforce capabilities; and changes in standards and codes. Research and new management tools are needed to support the strategies and adaptively manage their direction.

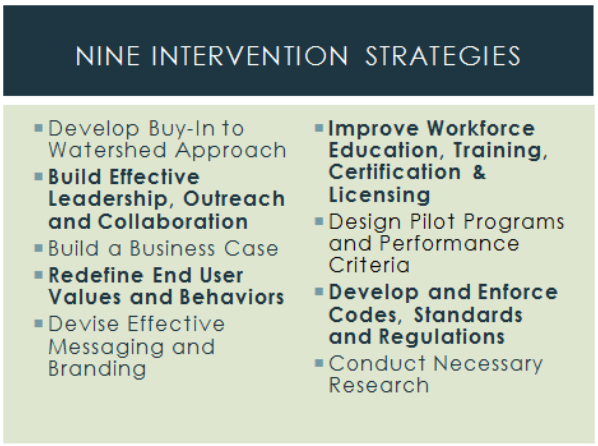
The complexity of Californians' relationship with their landscaping, however, requires more than changes in the supply chain. While standards, codes and regulations have a role to play, sustainability cannot be easily mandated. Ultimately, it must become valued both by individual Californians and by the state as a whole; it must become a way of life. As such, as used in this plan, "market transformation" is a shorthand expression for the creation of a new set of relationships between Californians and their urban environment.

Barriers and Strategies: *What Stands in the Way? How can Barriers by Overcome?*

Over the course of 2014 and early 2015, the Council and its partners identified nine primary barriers to the adoption of sustainable landscaping in California:



For each of the nine barriers, nine categories of intervention strategies were also identified.



Each of these nine broad strategies was considered in greater detail. Indeed, Council staff combined and consolidated over 25 suggestions from stakeholders into 15 specific interventions. Each intervention addressed at least one of the nine barriers; many addressed more.

After a well-attended stakeholder workshop in April 2015 (see *Appendix C*: April 15, 2015, Sustainable Landscaping Stakeholder Workshop – Organizations Represented for a list of attendees), three broad groups of priorities emerged:

1) The first group incudes six strategies that were identified by the stakeholder group as the top priorities to pursue now; these six strategies are addressed in Phase I of this plan[2] (see *Phase I: Six Strategies to Accelerate the Transition to Sustainable Landscaping in California Now*).
2) The second group includes seven additional strategies; these will be addressed in the plan's Phase II (see
3) *Phase II: Seven Additional Strategies to Accelerate the Transition to Sustainable Landscaping* in California).
4) The third group includes four strategic efforts that are actively being pursued and championed in other venues or by other means (see

[2] Two strategies within this series of six combined two individual strategies each. Therefore, the six priority Phase I strategies represent eight of the original 15 strategies.

5) *Concurrent Sustainable Landscaping* Efforts).

Phase I: Six Strategies to Accelerate the Transition to Sustainable Landscaping in California Now

The following six interventions strategies are the top priorities for the Council and its partners to undertake in the next two years. Collectively, they form Phase I of the market transformation plan.

Each of these strategies include: 1) actionable next steps; 2) roles and responsibilities; 3) available and needed resources; and 4) a timeline for implementation. They will serve as the Council's basis for advancing sustainable landscaping action over the next two years. They are detailed, in tabular form, in the Appendix: *Appendix A: Tabular* Market Transformation Plan That table identifies specific actions by year and quarter and details on collaborative opportunities and necessary resources. The following lays out these six strategies more generally and narratively.

I. Increase Key Decision Maker Buy-In to the Multi-Benefit Approach to Sustainable Landscaping

Through countless interactions, the Council and Council members have found a need to increase sustainable landscaping knowledge and buy-in. From key state decision makers, to water agency general managers, to program managers, would-be stakeholders have not grasped the value and relevance of sustainable landscaping and its potential multiple benefits.[3]

[3] Over the last 3 years, Council members and other stakeholders have been using different terms as a short-hand name to the approach they advocate. The "New Norm," the "New Normal," and the "Watershed Approach" each have their proponents. Each has its own advantages and disadvantages. As a placeholder, until a better term can e developed, this plan uses the "Multi-Benefit Approach" as its short-hand reference. This term invites leaders and property owners to maximize the "bang" for their "buck" when they make decisions about landscape irrigation; an approach to landscaping that offers multiple benefits is intuitively better than an approach that only offers one benefit.

The disconnect between, on the one hand, stakeholder representatives who've participated in the development of the sustainable landscaping vision, and, on the other hand, the state, local, and business leaders who have the ability to turn vision into reality, is particularly apparent during the ongoing drought emergency. While the drought has begun to focus Californians' attention to their unsustainable outdoor watering practices, and the Governor has called for the replacement of 50 million square feet of turf grass in 2015, the focus has been almost entirely on water use reduction. While minimization of outdoor watering is a critical component of sustainable landscaping, the lack of appreciation of the multi-benefit approach to sustainable landscaping may lead to the loss of a unique opportunity to make multiple long-lasting changes. Homeowners who are going to the time and expense to replace their turf can, at the same time, advance soil health; turn storm water from waste to resource; and reduce synthetic fertilizer and pesticide use. When they choose beautiful California native plants for their water-efficient landscape, they also create food and habitat for birds and beneficial insects.

To address this challenge, the Council proposes a series of actionable next steps, identifies key roles and responsibilities, lists available and needed resources, and details a tentative strategy implementation timeline.

A. Actionable Next Steps

The following steps fall broadly into three categories: 1) qualitative resources, 2) quantitative resources, and 3) outreach efforts.

First, to increase buy-in to the multi-benefit approach to sustainable landscaping, there is a need for clear and succinct written, graphical, and audiovisual materials. These narrative, visual, and audio resources will help advance basic understanding among key leaders. Combined with stories of real-world, successful landscape transformations, they will help guide busy leaders and managers towards decisions that can advance sustainable landscaping daily. Both the development of new high quality resources as well as the evolution and refinement of existing messaging sources, like the Save Our Water campaign, will advance decision maker buy-in.

Second, beyond stories, quantified cost-benefit information, tailored to appropriate audiences, can also drive decisions. This information can appeal to primary motivators, including the saving of time and money. Synthesizing and tailoring sustainable landscaping cost-benefit research will inform manager-level decisions and integrate the multiple benefit approach into landscaping practices.

Third, buy-in can also be advanced in two other ways. The breadth of stakeholder involvement can grow through increased outreach and engagement. And specific invitations and challenges to civic leaders and key decisions makers can capitalize on social norms to further expand awareness and action.

B. Roles and Responsibilities

The Council can serve as a principal leader for this intervention strategy. The Council and Council members who have long been involved in sustainable landscaping are well equipped to tackle initial

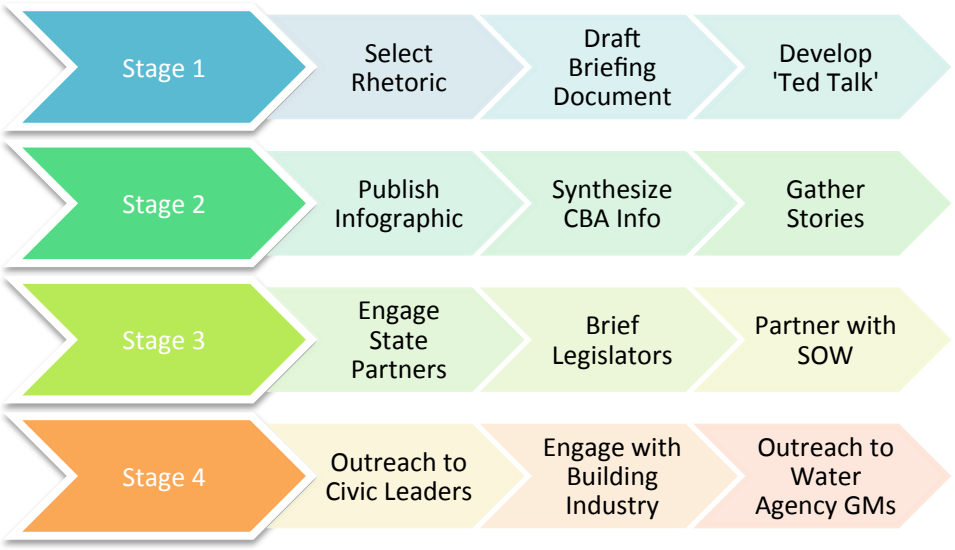
outreach measures. Key partners to help the Council reach the target audiences include Save Our Water (SOW) to reach the general public; the Association of California Water Agencies (ACWA) and California Urban Water Agencies (CUWA) to reach water agency general managers and state agencies; and the Local Government Commission, League of Cities, and California State Association of Counties to reach civic leaders.

C. Available and Needed Resources

Substantial resources exist to begin to advance this strategy. The Council and its existing network, as well as other non-profit advocacy and landscaping organizations (e.g., the garden 'Friendly' groups and brands), have knowledgeable and committed staff members. There are also existing brands, such as EPA WaterSense, that can be enlisted to reinforce awareness. Finally, the existing sustainable landscape workforce, including some of its trade associations, have an important role to play.

Resources needed to support the strategy include marketing talent, marketing budgets (see also *Implement a State-Wide Integrated* Messaging and Branding Campaign), access to landscape success stories (see also *Popularize and Proliferate* Highly Visible and Durable Sustainable Landscapes), and access to key decision makers and leadership. Some of the leaders who need to be engaged include: members and staff of the California Legislature; key gubernatorial cabinet appointees; local-elected officials; and representatives of relevant, prominent trade and business associations.

D. Timeline for Implementation: Year 1



II. Implement a State-Wide Integrated Messaging and Branding Campaign

Inconsistent, diffuse, and variable landscape messaging compromises consumer education efforts and landscape conversion results. To address these challenges, the Council proposes a series of actionable next steps, identifies key roles and responsibilities, identifies available and needed resources, and details an initial implementation timeline.

A. Actionable Next Steps

The following next steps fall broadly into three categories: 1) defining outcomes and audiences, 2) integrating stakeholder insights and generating brand buy-in, and 3) crafting and delivering messages.

First, campaign leaders must identify their desired outcome(s) and audience(s). The ultimate goal of the campaign will be to catalyze state-wide California-Friendly[4] landscape conversions. Interim goals, however, will also need to be developed to address specific, immediate drought-related landscaping messages. Marketing experts will need to help assess relative levels of awareness; motivation; and "how-to" knowledge in order to determine the messaging appropriate to each.

As for audiences, owners of highly visible and public landscapes will form an important part of the initial audience (see *Popularize and Proliferate* Highly Visible and Durable Sustainable Landscapes). Marketing to the broad groups of other property owners—e.g., homeowners, business park owners—will need to address segmentation and sequencing.

Second, considering and integrating stakeholder insights into messaging will be critical to developing a unified brand. More than a mere image, symbol, or logo, a unified brand must signify an agreed set of basic values and actions. It needs to be regionally specific, and applicable to plant materials, soil amendments, rainwater capture equipment, irrigation equipment, and landscape design, installation and maintenance companies. Stakeholder insights can help to avoid unintended consequences, rival messaging, and alienation of critical partnerships. By generating stakeholder buy-in, the odds will increase that stakeholders state-wide can coalesce around one brand.

Third, this intervention requires the early identification and engagement of marketing partners capable of crafting discrete, actionable message; advising on effective message delivery; and developing a unified brand. The marketing partners will help campaign leaders gain a better understanding of target audience awareness, motivators, and knowledge. Marketing experts will need to be knowledgeable about both traditional messaging efforts as well as Community Based Social Marketing.[5]

B. Roles and Responsibilities

The Council is well-positioned to lead state agency partners, key stakeholders, and marketing experts in the adoption of a unified messaging campaign and brand. Necessary partners include Save Our Water and all of the current Friendly and similar brand-holders. Additional partners can include growers, manufacturers and retailers who have their own existing marketing efforts; the Council can encourage these other efforts to align with its unified messages and brand. Additional partners will include water utilities—particularly large or regional water agencies; workforce groups and associations; public interest groups; and both conventional and "new" media outlets.

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[4] The Metropolitan Water District of Southern California holds the trademark to "California Friendly." Other "Friendly" brands, promoted by other organizations, include Bay Friendly, Ocean Friendly, and River Friendly.

[5] Though time-intensive and costly, Community Based Social Marketing (CBSM) is an established approach to gather valuable marketing research, to aid the diffusion of social norms, and to generate lasting behavioral change. This marketing approach, when feasible, can advance all of the Phase I or Phase II market interventions strategies.

C. Available and Needed Resources

Among resources available to support the strategy include: the Council and its existing network (staff, members, and committees); existing state messaging platforms such as Save Our Water (SOW); non-profit advocacy and landscaping organizations (e.g., 'Friendly' groups and landscape contractors); UC Extension and Master Gardener programs; and retailer events (e.g., Home Depot water saving plant fairs).

Resources needed to support the strategy include marketing talent and a marketing budget. Potential funding sources could include: funds for turf conversion outreach; for-profit sponsorships; legislative mandate money such as cap and trade funding; and foundation or other philanthropic funding.

D. Timeline for Implementation

III. Grow Sustainable Landscaping Educational Programs

From landscape workforce members to program managers, landscape stakeholders do not yet grasp sustainable landscaping principles and why or how to implement them. (See also *Increase Key* Decision Maker Buy-In to the Multi-Benefit Approach to Sustainable Landscaping.) To overcome this barrier, sustainable landscaping educational programs must be expanded or developed. The Council proposes a series of actionable next steps, identifies key roles and responsibilities, identifies available and needed resources, and details a tentative strategy implementation timeline.

A. Actionable Next Steps

The following next steps fall broadly into three categories: 1) identifying target student audiences and synthesizing relevant curricula and content, 2) publicizing existing educational programs and gathering

and sharing curricula-relevant resources, and 3) identifying implementation partners and crafting a framework for a state-wide training program.

First, the initial target audiences must be identified. These could include staff of local utilities and state agencies; landscaping professionals; community college students; and consumers. Different audiences will inevitably have different needs. The choice of initial audiences will determine the development of program content and 'recognition criteria,' such as the requirements to earn a certification.

Second, better awareness of existing landscape educational programs will help avoid redundant programming and better identify the underserved landscape sectors. In this process, educational partners can help identify and gather the existing curricula and other training resources. Programs that maximize cross landscaping-sector awareness and skills will be designed for the appropriate audiences based on student needs, best industry practices, and available resources.

Third, the choice of initial implementation partners will determine the scope and scale of new programming and impact subsequent expansion efforts. Ultimately, this strategy should lead to a state-wide network of training programs bearing the unified brand (See *Integrated Messaging and Branding*). Critical to the success of this strategy will be engagement of policy makers capable of integrating sustainable landscaping educational programming and other training into state professional licensing requirements.

B. Roles and Responsibilities

Again, the Council can play an important clearinghouse role. It can gather and disseminate existing training resources. The Council can also serve as a convener of the stakeholders necessary to guide development of a state-wide framework for landscaper training programs. Government agencies should install sustainable landscapes on their properties and lead by example in consumer education. Commercial property owners, homeowners associations, civic groups, and local governments can help create demand for architects, designers, contractors, and maintenance workers who have been trained and certified. In turn, this will create the demand for additional training programs, materials and venues.

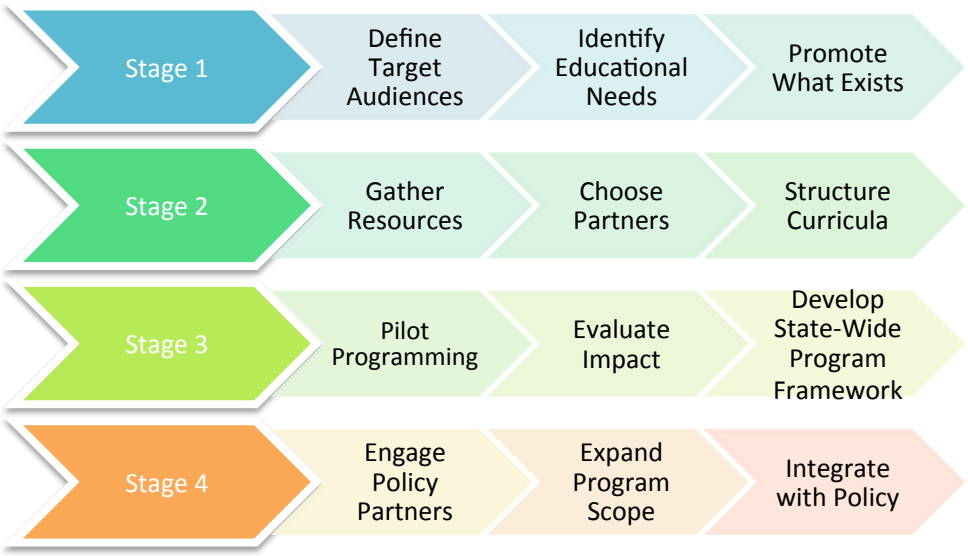
C. Available and Needed Resources

Resources available to support the strategy include: existing landscaping educational programs and licensure requirements; the Council's Sustainable Landscaping Clearinghouse Toolbox (in development);[6] Master Gardeners and other UC Cooperative Extension programs; water agency programming (e.g., San Diego's homeowner training program); non-profit and private educational programming (e.g., the 'Friendly' organizations, EcoLandscape, Surfrider, Green Gardens Group); and the California Nursery & Garden Centers, a horticultural trade association that oversees Continuing Education Units (CEUs) for certified nursery professional training.

[6] The Council's Sustainable Landscaping Clearinghouse Toolbox will be a searchable internet platform that archives projects, studies, and programming related to landscaping in California and documents results and supporting documents.

Resources needed to support strategy include additional funding. This funding is needed to develop additional training materials and employ additional trainers and certifiers. Funding will also be needed to develop regional "yellow pages" of sustainable landscaping services; these will allow customers to identify workforce services that support sustainable landscaping in their region. Potential funding sources include water agencies, public and private grants (e.g., State Board 319H grants), and research funding from state agencies.

D. Timeline for Implementation



IV. Build the (Business) Case for Home Owners and Property Managers

Proponents of sustainable landscaping need to be equipped with well-designed cases that support sustainable landscaping with appeals to personal and business finances, maintenance hours, aesthetics and other values. To address this task, the Council proposes a series of actionable next steps, identifies key roles and responsibilities, identifies available and needed resources, and details a tentative strategy implementation timeline.

A. Actionable Next Steps

The following next steps fall broadly into three categories: 1) development of a Return on Investment (ROI) tool, 2) case study development, and 3) consumer material creation and distribution.

First, a landscape ROI tool will help build a reputable financial case. It will have the greatest use with property owners with substantial bills for landscape irrigation. The tool needs to be configurable for property owners and managers with different size properties and in different climates. It also must be able to integrate the different financial incentives offered by different water service providers.

Second, a collection of case studies and testimonials showing lessons learned and landscape conversion insights will appeal to property owners' needs for evidence of success. It can reinforce overall

messaging. (See *Integrated Messaging and Branding.*) It can also encouragement alignment with evolving social norms.

Third, other programs and materials that build off of primary consumer motivators will further encourage sustainable landscape conversions. These could include: a catalogue of actions that may reduce the lengthy payback period for large landscape conversions (e.g., rebates, tax credits, mortgage adjustments); a matrix of actionable landscape practices organized in a spectrum of good, better, best to indicate a range of options at a range of cost and benefits; or a picture- and infographic- heavy catalogue of sustainable landscaping benefits

B. Roles and Responsibilities

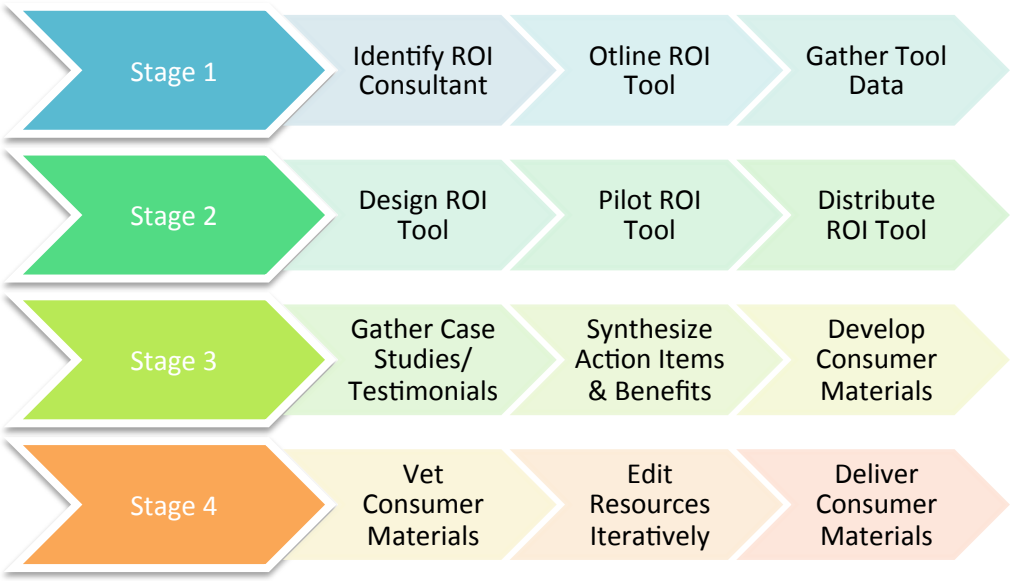
A broad range of parties have a role to play in building the "business" cases. These include the Council, well positioned to serve as a clearinghouse for encouragement and coordination of statewide efforts to help build business cases. State agencies can contribute to ROI tool development. Water agencies can deliver the business cases to property owners and managers. They can also target customers with the most water-intensive landscapes. Regulatory organizations can issue assurances to property owners and managers concerned about being penalized for landscape conversions through home owners association (HOA) systems. Professional and trade associations, such as the Association of Landscape Architects (ASLA) and the California Landscape Contractors' Association, can contribute case studies and success stories. The landscape industry as a whole can develop new products and services to improve ROI. Finally, HOAs and property management firms can develop new landscape design guidelines to convey their support for community sustainability and to increase property values.

C. Available and Needed Resources

Resources available to support this strategy include data and materials produced by water agencies. Water agencies typically have guides for HOAs and provide landscape retrofit fact and benefit sheets. Agency program data can also inform an ROI calculator. Many agencies offer their larger CII customers simple financial tools and audit services to help them determine the benefits of landscape retrofits. Sustainable landscaping organizations such as the Bay Friendly Coalition and River Friendly Landscaping are also important sources of case studies and simple benefits calculators. ACWA also produces a series of short, colorful video testimonials of landscape conversions.

Resources needed to support the above next steps and responsible parties include funding for staff time and consultant work to develop the ROI tool.

D. Timeline for Implementation



V. Popularize and Proliferate Highly Visible and Durable Sustainable Landscapes

At its core, a transition to sustainable landscaping requires a public that appreciates the resultant landscapes' aesthetics. Though there are pockets of acceptance throughout California, by-and-large, turf grass remains king. To make sustainable landscaping a new social norm, the public must be exposed to beautiful, enduring sustainable landscapes. A highly visible landscape that is ugly or whose plants quickly die will do much harm to public perceptions and acceptance. Planting a single demonstration garden in a community is not enough; water agency and civic leaders must engage the public on a community scale to promote sustainable landscaping. To address this challenge, the Council proposes a series of actionable next steps, identifies key roles and responsibilities, identifies available and needed resources, and details a tentative strategy implementation timeline.

A. Actionable Next Steps

The following next steps fall broadly into three categories: 1) motivation of both owners and managers of highly visible landscapes, and key public figures, to convert their landscapes, 2) pooling resources and facilitating landscape conversions, and 3) publicizing and popularizing conversions to promote landscape social norming.

First, pitching the case for sustainable landscaping to public figures and property managers will increase public awareness of a multi-benefit, landscaping aesthetic while growing publicity for the public figures and partnering landscape sites. Suggestions for partners and sites include celebrities, HOA property managers, movie filming sites, state and federal properties, religious and educational institution properties, and large CII landscapes.

Second, offers of volunteer labor, staff time, and available funding will incentivize landscape conversions. They will allow informed partners to guide and influence the conversions, ensuring

aesthetically-pleasing, sustainable outcomes. By offering these resources and partially controlling the expansion of demonstration sites, partners can encourage even spatial distribution and integrate educational signage.

Third, publicizing the resulting landscapes will leverage a social norming impact and catalyze further conversions.

B. Roles and Responsibilities

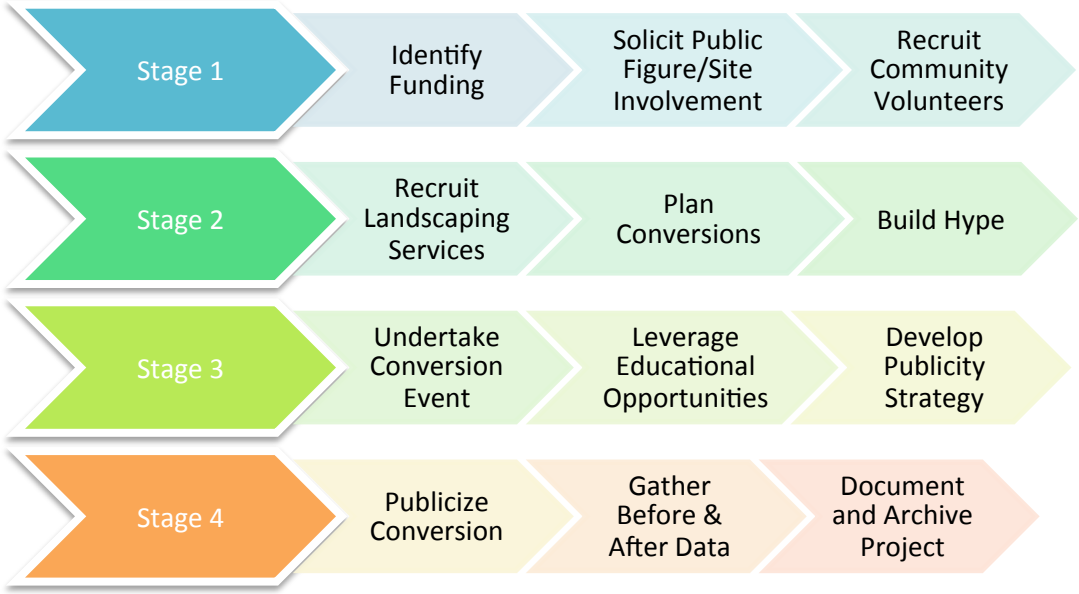
The Council and other agencies and organizations can join with a broad group of potential partners to help proliferate and publicize sustainable landscaping conversions. As mentioned above, public figures like celebrities and civic leaders have a particular role to play in setting a landscaping example and a particular benefit to gain in garnering positive public relations. Similarly, landscaping companies can offer services to earn media attention and public recognition. Community and public interest groups can also help with volunteer resources and provide in-kind services.

C. Available and Needed Resources

Resources available to support the strategy include: sustainable landscape template designs; water agency landscape resources; 'Friendly' landscaping brands and principles; existing demonstration gardens; service-based organizations such as the California Conservation Corps; bloggers; brand ambassadors; and media eager to play a role in the California drought crisis.

Resources needed to support the strategy include funding for conversions; property owners or managers willing to convert landscapes and offer cost shares; and sites suitable for highly visible landscape conversions.

D. Timeline for Implementation



VI. Develop Landscape Performance Criteria, Measurements, & Standards

The absence of any means with which to compare sustainable landscape project outcomes makes it difficult to develop robust, region-specific landscaping standards. The development of such standards requires both some performance criteria and a methodology for measuring landscape inputs and outputs. To address this challenge, the Council proposes a series of actionable next steps, identifies key roles and responsibilities, identifies available and needed resources, and details a tentative strategy implementation timeline.

A. Actionable Next Steps

The following next steps fall broadly into three categories: 1) collecting data and generating criteria for landscape evaluation, 2) developing performance-based standards for landscaping products, and 3) designing a standardized evaluation system for landscape programs.

First, collecting data and generating a range of benefit criteria on which to evaluate landscape programs will challenge program managers to design programs for maximum benefit. Managers will be able to target benefits that transcend water savings to include runoff reduction, carbon sequestration, water storage, reduce pesticide use, soil health, etc. When possible, life cycle analyses of landscapes will yield a thorough understanding of benefits and assist in landscape evaluations.

Second, developing performance based (when possible) standards for landscaping products including but not limited to irrigation devices, plants, and landscape materials such as mulch and compost will challenge industry partners to meet regulatory, environmental, and consumer needs. Performance based standards avoid the need to prescribe one-size fits all solutions that thwart innovation and creativity.

Third, designing a state-wide evaluation system for landscaping programs that analyzes both process and impact of the program will enable property managers to benchmark progress and measurably comply with state-wide standards. This system must include instructions on 'how-to' develop benchmark data and will establish minimum benefit criteria.

B. Roles and Responsibilities

Three types of stakeholders, with different roles and responsibilities, must lead this effort.

First, state resource agencies have the responsibility of developing and integrating sustainable landscape performance criteria from the top-down. For examples, DWR's revisions to MWELO directly trigger local landscape ordinance revisions. Second, Implementing agencies, such as municipal plan-checking entities, are responsible for integrating sustainable landscape performance criteria from the bottom-up. For example, they ground-truth the statewide MWELO standards through planning, permitting, and inspecting actual landscapes. Third, standard-setting organizations challenge the current range of landscape performance criteria through higher levels of achievement and certification. For example, Leadership in Energy and Environmental Design (LEED) certification has become important to many owners of commercial buildings.

Three broad groups of partnerships will inform the work of the three leadership groups described above.

Program Data Collection – Water agencies, state agencies, local builders and planners, associations such as the Association of Professional Landscape Designers (APLD), and key environmental non-profits such as National Resource Defense Council, all have a critical role to play in tracking and documenting projects and programs and collecting data to inform the development of criteria and standards.

Landscape Device & Material Standards – The Irrigation Association, UC Cooperative Extension, California Association of Nursery and Garden Centers, EPA WaterSense, California Landscape Contractors Association, and other technically savvy groups can advise on criteria, codes, and standard recommendations for marketplace products and services.

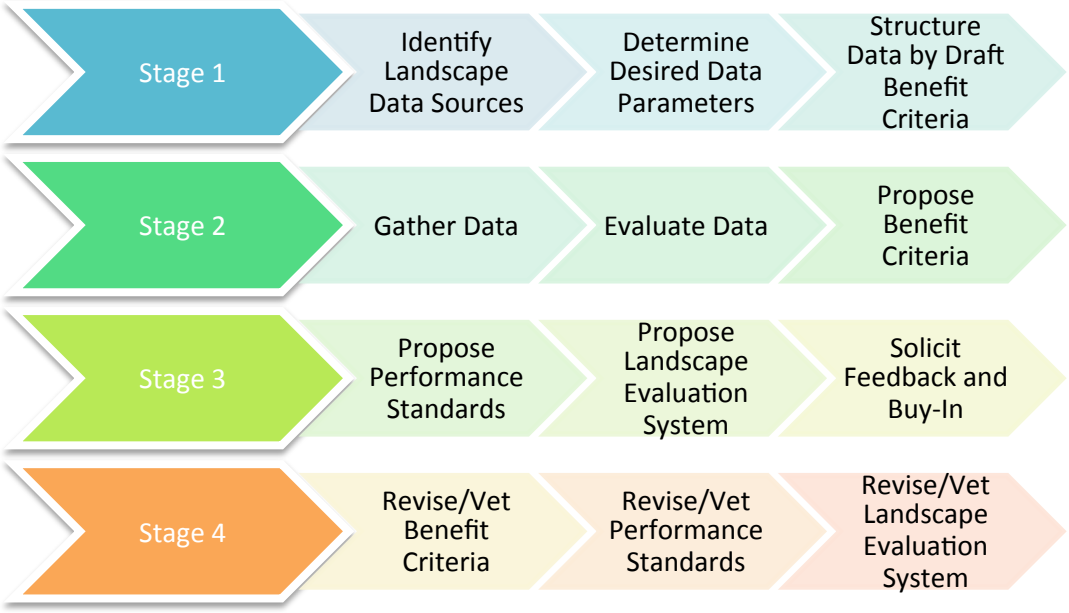
Landscape Evaluation System – Certifying bodies such as the Bay-Friendly Coalition, enforcement entities, academic researchers, and other groups with experience devising methodology for measurement and evaluation can inform evaluation protocols.

C. Available and Needed Resources

Resources available to support the strategy include existing pilot project or sustainable landscaping models and existing program standards or criteria such as Ocean Friendly Garden criteria or EPA WaterSense standards. Other industry standards such as the American Society of Agricultural and Biological Engineers (ASABE)/ International Code Council (ICC) efficiency standards can form the basis of landscape device standards. The Council's pending landscaping clearinghouse toolbox and the Alliance for Water Efficiency (AWE) Outdoor Water Savings Initiative research and tracking tool are also available to document, track, and archive projects. Conservation program worksheets from AWE, American Water Works Association (AWWA), and the EPA can help structure evaluation systems.

Resources needed to support the above next steps and responsible parties include a collaborative task force, considerable agency buy-in, and funding.

D. Timeline for Implementation



Phase II: Seven Additional Strategies to Accelerate the Transition to Sustainable Landscaping in California

The following seven interventions strategies are secondary priorities for the Council and collaborators to undertake in the next five years. Collectively, they form Phase II of the market transformation plan. As each of these strategies become more immediately relevant, they will be targeted by the Council and integrated into the Plan's timeline.

Concurrent Sustainable Landscaping Efforts

There are countless concurrent efforts to advance sustainable landscaping in California. Many of these activities are occurring regionally and locally. The Council intends to complement this ever-growing body of work and leverage collaborative impact rather than duplicate existing efforts. For a collection of recent and on-going sustainable landscaping projects and efforts, see the Council's Sustainable Landscaping Market Transformation Plan.

Four areas of these efforts deserve special recognition. In the course of developing this plan, stakeholders identified each of them as high priority matters.[7] They are particularly timely in the current drought emergency.

1) *The Executive Order (EO)*: Governor Brown's April 1, 2015 executive order set in motion a series of events that will change state-wide landscaping regulation through a number of channels:

   I. The revision of the Model Water Efficient Landscape Ordinance (MWELO);
   II. The evaluation of water rates and billing practices for their conservation signals;
   III. An increase of landscape-related financial incentives.

   The EO has expedited the regulatory revision process. The Council and many other stakeholders are contributing to each of the above efforts.

2) *Turf Replacement Programs*: Throughout the state, water agencies are hosting turf replacement programs. These use rebates to incentivize homeowners and CII properties to remove and replace turf grass. These programs seek significant outdoor water savings. Related to the EO, DWR has been tasked with supporting the removal of 50 million square feet of turf throughout the state. As such, more funding is available for these projects. The Council and many other stakeholders are informing DWR and rebate program managers on ways to integrate sustainable landscaping principles into the rebate process in order to realize beneficial landscape conversion results. For more information on these programs, see the Council's March 2015 report, Turf Removal & Replacement: Lessons Learned.

3) *Top-Down Education*: The Council and several Council members are involved in an effort to educate California legislators on the overall value of sustainable landscaping, its role in advancing existing legislative mandates, and its necessity as a drought response. (See *Appendix A: Tabular Market Transformation Plan*

[7] The Council hosted a trial sustainable landscaping stakeholder exercise at a quarterly plenary meeting in March, 2015 that identified three intervention strategies as top priorities: 1) increase financial incentives, 2) update the Model Water Efficient Landscape Ordinance (MWELO) and other landscape regulations, and 3) reevaluate and restructure water pricing and associated regulations. These intervention strategies do not appear in Phase I and Phase II because they are already being tackled by collaborators with the opportunity for Council and other stakeholder engagement.

(See attached Excel document.)

Implementation Stage	Phase I Timeline Intervention Strategy Milestones					
	I. Buy-In	II. Messaging	III. Education	IV. Business Cases	V. Visible Examples	VI. Performance Criteria
Stage 1	Determine best, consistent rhetoric for the key sustainable landscape concepts and establish consensus and familiarity	Develop Summer 2015 Messaging about turf watering; share with state and local partners; seek consensus where possible; share messaging with partners and media outlets	Define the primary target audiences such as utilities, agencies, professionals, and consumers. Specifically target landscape industry workers that are not applying sustainable landscaping to their professional practices	Identify an external consultant capable of designing and developing a landscape-based ROI calculator	From existing efforts, develop guidelines for successful programs on publicly controlled lands	Identify and consolidate sources of landscape data including inputs and outputs
	Develop a two-page briefing document and shorter pithy statement to gain consensus on the meaning of 'sustainable landscaping' or the 'watershed approach' and to detail the key associated actions or practices	Define the desired messaging outcome of a statewide messaging and branding campaign (e.g., to catalyze a state-wide watershed-friendly landscape conversion).	Determine the educational/certification needs of each target audience with respect to professional marketability and sustinable landscaping practices	Outline tool inputs, outputs, and functionality	Identify Prominent publicly and privately owned properties to target for conversion.	Identify desired landascpe data parameters to be measured, monitored, and evaluated over time
	Develop a short "Ted Talk" presentation on sustainable landscaping that is customizable for any audience	Define and prioritize key target audiences and their respective values and motivators (e.g., homeowners and decision makers for highly visible and public landscapes)	Increase access to and awareness of existing landscape educational resources and existing research by developing and sharing a centralized catalogue	Gather pilot data necessary to structure the ROI tool; demonstrate and test functionality	Identify funding sources	Structure data paramters by specific benefit criteria (e.g., water savings, carbon sequestration, etc.)
		Solicit broad stakeholder input to generate early buy-in from state partners, water agencies, etc.			Solicit involvement from key public figures/sites to participate in cost-share landscape conversions	
		Coordinate target approaches to awareness, motivation, and "how to", with Save Our Water			Recruit volunteers for landscape conversion events	
Stage 2	Produce, vet, and publish a sustainable landscaping infographic	Apply for and secure funding to support a sustained and state-wide program	Gather educational resources to identify the body of available curricula content and the gaps in educational materials	Develop a landscape Return on Investment (ROI) tool to build a reputable financial case configurable for property owners and managers with different size properties in different climates and under different water service providers with variable incentives	Recruit pro bono or discounted landscaping services (e.g., landscape architects, designers, contractors)	Gather available data to help structure performance criteria
	Gather and synthesize quantifiable information on sustainable landscaping costs/benefits; tailor information for a range of key stakeholders	Identify and hire a capable marketing firm or partner with an organization capable of executing a state-wide campaign with a three-pronged approach to marketing: effective messaging, recognizable branding, and community based social marketing	Identify and choose a select number of educational programming partners to help design and refine a state-wide framework for sustianable landscape educational programs for a range of audiences	Pilot the ROI tool with focus groups and revise based on feedback	Plan landscape conversions	Analyze and evaluate data, colelction methodology, and implications for performance criteria measurement and enforcement
	Gather and share short stories that demonstrate sustainable landscaping concepts and benefits	Craft brand and messaging options with actionable outcomes	Structure a series of pilot curricula to test on sample audiences; integrate cross-profession collaboration and communication resources in all pilot programming	Publish and share the final ROI tool	Generate hype through community, local, and regional sacle event-involvement	Propose a final set of benefit criteria supported by data analysis as achievable and ground-truthed
Stage 3	Encourage state partners to take the lead on promoting and integrating the watershed approach to sustianable landscaping through their programmatic and regulatory powers	Vet brand and messaging with focus groups to gauge efficacy and to gather further data on target audience level of awarness; motivators and driver; and need for clear "how to" information	Pilot the sample curricula with partner educational organizations	Working with marketing experts from Messaging Strategy, develop understanding of target audience values and emotional connections.	Facilitate conversion events	Propose a set of performance standards supported by data analysis as achievable and ground-truthed
	Brief key legislators and capitol staff on sustainable landscaping through a joint hearing or equivalent opportunity	Coordinate messaging with SOW and with commercial entities that have existing marketing/messaging campaigns.	Evaluate content and impact through course evaluations and landscape workforce surveys	Gather case studies and testimonials showing lessons learned and overall landscape conversion process insights for homeowners and businesses	Identify and leverage concurrent education opportunities (e.g., school tours, on-site signage, etc.)	Based on the benefit criteria and performance standards, design and propose a landscape project/program/conversion evalutaion system, applicable state-wide
	Leverage existing legislative mandates to find common ground and generate interest in sustainable landscaping benefits	Re-engage with messaging and branding partners to achieve a consensus on the best products and to avoid regional redundancy and conflicting messaging	Based on pilot program results, develop a statewide framework for sustainable landscaper training programs; develop a "steps for success" guide that explains what programs should consist of for various workforce sectors, and leave specific resources to be filled in locally by program facilitators	Identify a spectrum of consumer landscape action items and associated costs and benefits	Develop post-conversion publicity strategy (media contacts, continued site usage, etc.)	Solicit stakeholder feedback and generate buy-in
	Engage with Save Our Water to shift the 'new' landscape visuals from rocks and small plants to rain gardens	Develop a unified and state-wide message and brand delivery strategy and engage 'boots on the ground' organizations to help consumers ground-truth messages with resources and information		Develop a series of resources including a catalogue of actions that may reduce the lengthy payback period for large landscape conversions (e.g., rebates, tax credits, mortgage adjustments); a matrix of actionable landscape practices organized in a spectrum of good, better, best to indicate a range of options at a range of cost and benefits; and a picture- and infographic- heavy catalogue of sustainable landscaping benefits		
Stage 4	Challenge civic leaders to participate in an "Ice Bucket" type challenge that demonstrates their support for and commitment to sustainable landscaping.	Deliver messages and deploy branding	Share the framework with state policy partners to gauge alignment with state-wide educational policies and requirements	Vet resources with consumers to determine value to the consumer	Help publicize the conversion; generate positive press for all parties invovled	Based on stakeholder feedback, revise and vet benefit criteria through integration with landscaping programs
	Familiarize the Building Industry Association (BIA) and the Building Standards Commission (BSC) with the watershed approach to sustainable landscaping and engage in their codes and standards processes	Track impact by gathering data on message efficacy and track metrics over time	Expand the scope of the available programming	Refine and edit drafted resources based on consumer feedback	Gather before and after data to evaluate the effect on landsacpe inputs	Based on stakeholder feedback, revise and vet performance standards through engagement with codes and standards-defining bodies
	Increase awareness and buy in by water agency general managers; help them identify ways to reach out to land use and stormwater partners	Edit and deploy messaging iteratively as funding allows	Propose integration with existing public and private landsacpe certification/licensing/qualification programs	Share and deliver resources to target audiences	Document the process and archive conversion events and resources for interested parties	Based on stakeholder feedback, revise and vet the landscape evaluation system through integration with landscaping programs and landscape conversions
Primary Leader	The Council + Members	The Council + Members and Partners with interest and existing p	The Council + Members	TBD	TBD / Multiple Parties	The Council / Multiple Parties
Potential Supporting Partners	Save Our Water	The Metropolitan Water District	Council Landscape Committee	The Council	The Council	DWR, CalEPA, EPA WaterSense, California and other State/Federal Partners
	Association of California Water Agencies (ACWA)	Water Agencies with existing "brands"	State Agencies	State Agencies	Celebrities	Implementing Agencies (e.g., water agencies, municipal plan checking entities)
	California Urban Water Agencies (CUWA)	Media Outlets	Water Agencies	Water Agencies	CII/HOA Property Managers	US Green Builders Association/Building Industry Association
	Local Government Commission	Mass Merchandisers	Environmental Interest Groups	Regulatory Organizations	Neighborhood/Community Groups	Certifying bodies (e.g., Leadership in Energy and Environmental Design)
	League of Cities	Manufacturers and Growers with existing messaging/media campaigns	California Nursery & Garden Centers	Professional Associations	State/Federal Agencies	Professional Associations (e.g., Landscape Contractors Association, Irrigation Association)
	California State Association of Counties	Workforce Stakeholders	Public Interest Groups/Non-Profits	Industry Players	Educational/Religious Institutions	Industry Partners
	California Legislators	Marketing Firms	Existing Landscape Educational Programs	Public Interest Groups/Non-Profits	Private Companies/Retailers	UC Cooperative Extension
	Public Interest Groups/Non-Profits	Public Interest Groups/Non-Profits	Organizations of Landscape Architects, Designers, Contractors	HOAs and Property Management	Public Interest Groups/Non-Profits	California Association of Nursery and Garden Centers

4) Appendix B: Alignment with California Legislation & State Agencies below.) Tied to this effort is a proposed overhaul of landscaping around the Capitol building. Multiple state partners and Council Members are working in concert with Capitol property managers to set the stage for a highly public sustainable landscape conversion.

5) *Research:* Developing an adequate knowledge base is often a pre-requisite to successful market interventions. Similarly, improving a knowledge base is necessary to adaptive management. The sustainable landscaping community seeks to gather further evidence of water savings and environmental health benefits attributable to specific landscaping actions such as irrigation system selection, plant selection, landscape design choices, etc. Though landscape conversion projects have yielded promising and repeatable results, there is a need for a continued expansion of collective sustainable landscaping knowledge, defensible by robust research and testing methodologies. Existing outdoor water savings research has been compiled by the Alliance for Water Efficiency's (AWE's) Outdoor Water Savings Initiative in a comprehensive report that identifies research gaps. AWE is now pursuing follow-up research to fill the identified gaps. Other entities are also participating in on-going sustainable landscaping research including state partners, academic institutions, and private and non-profit organizations .

Conclusion: Moving Forward

With financial and organizational support, the Council can play a key role marketing, messaging, educating, and popularizing sustainable landscaping. The Council is also well-positioned to aggregate pertinent resources, serving as a clearinghouse of information for both consumers and water utilities. Finally the Council is capable of connecting key players and partners to leverage collaborative action. The limiting factors, as usual, are money and time.

With the above narrative market transformation plan, the tabular plan outline in the Appendix below, and the active support of its partners, the Council is ready to take action!

Appendices

Appendix A: Tabular Market Transformation Plan

(See attached Excel document.)

Implementation Stage	Phase I Timeline Intervention Strategy Milestones I. Buy-In	II. Messaging	III. Education	IV. Business Cases	V. Visible Examples	VI. Performance Criteria
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	Public Interest Groups/Non-Profits	Public Interest Groups/Non-Profits	Organizations of Landscape Architects, Designers, Contractors	HOAs and Property Management	Public Interest Groups/Non-Profits	California Association of Nursery and Garden Centers

Appendix B: Alignment with California Legislation & State Agencies

The watershed approach to sustainable landscaping aligns closely with an array of state agency mandates to augment water supply, reduce stormwater runoff, improve water quality, reduce synthetic fertilizer and pesticide use, reduce green waste, reduce emissions, improve soils, and sequester carbon. Specifically, the watershed approach appeals to the following legislative and policy mandates:

1. Water Conservation – Lead Agencies: State Water Resources Control Board, Department of Water Resources
Legislative Mandate – SB X7-7 20% urban water use reduction by 2020:
http://www.swrcb.ca.gov/water_issues/hot_topics/20x2020/docs/20x2020plan.pdf
Executive Order – 25% average urban water use reduction from 2013: http://gov.ca.gov/home.php

Over 50% of California urban water is used outdoors. The following four watershed approach landscaping principals can help the state achieve its water conservation goals: 1) enhanced soil water holding capacity; 2) on-site rainwater and graywater collection; 3) limited, efficient, supplemental irrigation; and 4) climate appropriate, water-conserving plants.

For example, soil scientists report that for every additional 1% of organic matter per acre of soil (introduced by way of compost), soil capacity to hold plant-available water increases by 16,500 gallons. The increased water holding capacity reduces irrigation requirements, as does the removal of inefficient, ineffective, and degraded irrigation systems. Similarly, climate appropriate plants, central to the watershed approach, require 50-85% less water than turf grass, limiting supplemental irrigation needs. This plan also supports DWR's efforts to revise MWELO and meet executive order mandates through landscaping transformations.

2. Water Quality Improvement – Lead Agencies: State Water Resources Control Board, Dept. of Pesticide Regulation, Dept. of Fish and Wildlife
Legislative Mandate – Clean Water Act; attain and comply with MS4 Permits:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.shtml

Water running off our properties picks up pollutants like fertilizers, pesticides, animal waste, and fine sediment, as well as oil, brake pad dust and exhaust from cars. Runoff contributes to flooding and degradation of stream banks. Watershed approach landscaping principles minimize and clean would-be runoff by 1) maximizing on-site water retention and percolation through landscape topography and materials; and 2) eliminating excess supplemental irrigation. Decentralized yet prevalent reductions in urban landscape runoff can help municipalities remain in compliance with their MS4 permits and save significant money on costly stormwater management measures and processing facilities. Associated water quality improvements protect river and ocean biodiversity.

3. Green Waste Reduction – Lead Agency: CalRecycle
Legislative Mandate – AB 341 75% solid waste to be source reduced, recycled, or composted by 2020:
http://www.calrecycle.ca.gov/75Percent/

Of the projected 43 million tons of waste that will be produced in California in 2020, green waste, lumber, food, and organics comprise 44% of disposal activity. Components of each of these disposal sectors can be re-purposed into landscaping materials that support living soils by reducing surface compaction, increasing water absorption and retention, and by supplying soil nutrients. Thus, central pillars of the watershed approach (e.g., mulch and compost) can help the state re-direct conventional waste streams to capture multiple landscape benefits while achieving legislative goals. The resultant healthy soils better support plant growth, aligning with other agency campaigns such as the California Department of Fish and Agriculture's Health Soils Campaign.

4. Carbon Sequestration – Lead Agency: Air Resources Control Board,
Legislative mandate – AB 32 reduce GHG emissions to 1990 levels by 2020:
http://www.arb.ca.gov/cc/ab32/ab32.htm

Healthy, living urban landscapes serve as a Green House Gas (GHG) mitigation strategy. Plants and trees sequester carbon from the atmosphere as they grow, reducing atmospheric carbon dioxide and slowing the buildup of GHGs. Plants also store atmospheric carbon in soils by releasing carbon compounds in the form of simple sugars that feed soil microbes. Thus, many scientists look at soil carbon sequestration as a viable means of mitigating the impact of GHG emissions. Finally, living soils with organic matter retain water more readily, thereby reducing particulate matter in the air, or dust, and increasing air quality.

Appendix C: April 15, 2015, Sustainable Landscaping Stakeholder Workshop – Organizations Represented

Alliance for Water Efficiency
Altman Plants
Bay-Friendly Coalition
Beneficial Gardens
CA Landscape Contractors Association
Cal Recycle
California Native Plant Society
CalRecycle
City of Santa Rosa
California Urban Water Conservation Council
Department of Pesticide Regulation
Department of Water Resources
EcoLandscape California
EPA - WaterSense
Ewing
FlyCatcher Marketing
G3 Green Gardens Group
Hunter Industries
Irrigation Consultants
Irvine Ranch Water District
Municipal Water District of Orange County
Natural Resources Defense Council
PlantRight
RainBird
San Diego County Water Authority
Santa Clara Valley Water
Scotts
State Water Resources Control Board
Surfrider Foundation
Toro
UC Cooperative Extension
UC Davis - CA Center for Urban Horticulture
Utah State University
WaterFluence
Water Forum
Western Municipal Water District