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1.0 Summit Introduction

1.1 Summit Background

The Convene for Green Regional Sustainability Summit held on Thursday, March 10, 2011 was the most recent in a series of collective workshops intended to unite diverse stakeholders from across Nevada around a common purpose and unified plan to further economic, environmental, and social regional sustainability goals. This particular summit was organized specifically to identify meaningful strategies and action steps that will catalyze achievement of key performance objectives and goals established during preceding Convene for Green summits and meetings held during the months of January, March, April, and November of 2010. The macro objective of these exercises is to chart a path and establish a roadmap for efficient use and reuse of our community's natural resources, maximize the potential of our human capital, and promote policies and programs that will result in a healthy, vibrant and sustainable region.

The Convene for Green Regional Sustainability Summit was hosted by the Southern Nevada Regional Planning Coalition (SNRPC) and Green Chips. The SNRPC is comprised of representatives from Clark County, the Clark County School District, the City of Boulder City, the City of Henderson, the City of Las Vegas, and the City of North Las Vegas. In 2000, these entities adopted an interlocal agreement that established the SNRPC, creating a means through which local governments may regularly collaborate on issues affecting quality of life in Southern Nevada, including the promotion of problem solving and consensus building with respect to long term regional sustainability. Green Chips is a local public/private, non-profit partnership created to encourage and facilitate environmental sustainability initiatives in Southern Nevada, advancing the region's identity as a sustainable destination, promoting green activity, attracting green investment, and stimulating green jobs.

The SNRPC and Green Chips launched the Convene for Green Regional Sustainability Summit to provide a forum through which local government, private, and non-profit leaders could collaborate, share ideas, and develop a long term regional sustainability plan for Southern Nevada. The Nevada Chapter of the U.S. Green Building Council, MGM Resorts International, Caesars Entertainment, and Clean Energy Project Nevada served as sponsoring organizations for the summit.

At the conclusion of the summit, a "Sustainable Nevada Declaration" was signed by public and private sector community leaders. The declaration provided a sustainability mission statement, principles, and goals and included a commitment by signees to use these elements to guide actions and policies they implement to create a sustainable Nevada.



1.2 Summit Format

The Convene for Green Regional Sustainability Summit drew participants from a broad cross-section of the community, including representatives of Nevada’s K-12 and higher education systems, leaders in green and renewable energy industries, representatives from municipal governments and Metropolitan Planning Organizations (MPOs), community development non-profits, trade associations, environmental organizations, and concerned citizens. These individuals collectively define the brain trust of emerging sustainability planning and innovation and were invited to attend specifically because of their subject matter expertise within their particular industry, profession, or constituency group.

The summit began with a welcome statement from Las Vegas Mayor Oscar Goodman, who thanked participants for their commitment to advancing regional sustainability initiatives and emphasized the importance of collaboration and exploration of innovative ideas among community stakeholders. Dr. Robert Lang, Director of the Lincy Institute and Brookings Mountain West, delivered the summit keynote address. Dr. Lang began by commenting that the image of Las Vegas as a sustainable region is lost on many who are unfamiliar with the actual advancements that have been made in our region with respect to alternative energy development, water conservation, and regional sustainability planning. Dr. Lang further explained that the prevailing sentiment outside of Las Vegas is that Las Vegas is, in fact, among the least sustainable communities in the United States. He further emphasized that our region is underselling its achievements and that this allows misinformation and negative views to proliferate. To support this assertion, Dr. Lang mentioned that our region uses less than 4% of the Colorado River supply and that our GDP per unit of water used would rival the most sustainability-minded regions in the country, yet many outside our region do not know these facts.

Dr. Lang set the tone of the summit by encouraging attendees to contemplate ways to re-brand Las Vegas from a dysfunctional city to one that has grown to live within its means. It is true, according to Dr. Lang, that there is a great deal of work to be done, but we should grow the reputation of our region as “hyper vigilant” in terms of sustainability and showcase the commendable advancements that have been made to reduce our regions footprint. Dr. Lang introduced the “triple bottom line – equity, environment, and economy” concept as a recognized measure of a region’s long term sustainability. Taken together, the concept highlights the important work that remains to be done, starting with the economy – which is among the most volatile and least diversified in the nation. In terms of equity, our region must place more emphasis on investing in people through education, workforce development, and health and wellness. In terms of environment, we have made some remarkable achievements and should continue the momentum to further demonstrate our commitment to long term sustainability. For instance, we should vigorously pursue investments in green



technology, which Dr. Lang believes is one of the most promising opportunities for economic diversification.

Dr. Lang concluded his remarks by stating “doing nothing is not an option”, especially as it relates to our economic and equity metrics. Nevada has the most affluent and least educated workforce in the nation. Our state is at or near the bottom in most measures of education system quality. We spend less on education than New Mexico, which is smaller and less wealthy than us. The lack of research investment, particularly within higher education, places us at an extreme disadvantage. Less than one of every five Nevadans has a four year college degree. Dr. Lang stated that we must contemplate ways to provide more upward mobility for Nevadans, starting by investing in education, workforce development, and other programs that build skills beyond those needed in a service-based economy. Dr. Lang challenged attendees to listen closely to panel experts during the summit program, to challenge one another to think creatively and thoughtfully about ways to improve our regions triple bottom line, and encouraged everyone to leave the summit even more committed and dedicated to long term sustainability than they were when they arrived.

The summit program commenced following Dr. Lang’s keynote address and was arranged in three core sessions:

- ▼ *Session 1: “Spreading Green: Economic Sustainability, Diversification, and Innovation”*
- ▼ *Session 2: “Finding Green: Environmental Sustainability in the Urban Desert”*
- ▼ *Session 3: “Walking Green: Social Sustainability through Community Engagement”*

Each of these core sessions were deliberately tied to one of the three key performance measure focus areas that constitute the Convene for Green Road Map for Sustainability: Economic, Environmental, and Social. The program sessions were designed as one part testimony from a panel of experts within each focus area and one part attendee collaboration and discussion. It was during the latter half of each session that attendees were asked to break into small groups and to provide their insights, thoughts, and recommendations for specific strategies and action steps that may be pursued to achieve each performance measure within the three focus areas. Summit attendees were prompted to deliberate on the information shared during each panel session and to document their suggested strategies and action steps on the individual comment forms provided for their use. These comment forms were subsequently reviewed, along with notes compiled by an appointed table captain, to formulate the strategies and action steps outlined in this report.



1.3 Summit Objectives

It is the focus of this report to summarize the testimony of summit speakers and panel experts and to prioritize the strategies and action steps that came out of the attendee breakout sessions. In vetting the attendee recommendations, it was critical to establish a reasonable set of criteria in determining whether they meet the litmus test of a strategy or action item that may lead to the achievement of previously established performance measures. To that end, attendee commentary was reviewed with an eye to whether the recommendation:

- ▼ Is germane to the creation of a regional sustainability plan;
- ▼ Is actionable or executable;
- ▼ Is relevant to the established objective and goal;
- ▼ Is possible to monitor over time;
- ▼ Is substantive in application to existing programs;
- ▼ Is adding value with minimal duplication of existing programs

Attendee comment forms and table notes included a very diverse and broad array of potential strategies and action steps for fulfillment of the established performance measures within each of the three focus areas. However, several themes consistently emerged during each of the panel and attendee deliberation sessions. It's important to note these trends in the context of the established performance measures and ascribed strategies and action steps. Panelists and attendees consistently recognized the preeminent need to conduct more extensive, deliberate, consistent, and targeted outreach and education efforts. This extends to activities that recognize existing efforts and celebrate sustainability achievements, and that focus on fully leveraging the existing inventory of programs and services to maximize the value of what we are currently doing rather than reinventing the wheel in certain instances. Furthermore, a concerted effort at distinguishing between short term, incremental or individual level efforts and long term, transformational or community level efforts to change perceptions and inspire behavioral change were also mentioned as methods to facilitate a viable and productive regional sustainability plan.

The ultimate objective of the Convene for Green Regional Sustainability Summit is to create measurable action items and to identify potential collaborators for each of the established sustainability goals. This effort implies the need for ongoing, consistent coordination between community stakeholders. Convene for Green partners have formulated a preliminary framework to begin collaboration with partners by assigning "goal teams" to each of the sustainability goals described in this report. Goal teams, under the management of a "goal leader" will be responsible for initiating action items and measuring outcomes for their assigned goal. This framework will allow stakeholders with recognized subject matter expertise to focus their efforts on a goal that they are



most able to impact positively. This framework also emphasizes the essence of partnership, accountability, and commitment to a common purpose.

2.0 Summit Executive Summary

- ✔ Panel members from all three segments offered several insights to inform attendee deliberations beginning with recommendations to capitalize on competitive advantages in the renewable energy industries that are unique to Nevada. Panel members stressed the importance of raising the profile of the Las Vegas region to promote sustainability achievements in the short term and to position Las Vegas as a green technology and green energy Regional Innovation Cluster (RIC) in the long term. Panelists offered real world examples of financial cost savings realized by energy efficiency measures, described production challenges associated with green energy development and transmission, and emphasized the importance of creating more aggressive public outreach and awareness campaigns to inform residents and businesses about the benefits and merits of regional sustainability.
- ✔ *Session 1: “Spreading Green: Economic Sustainability, Diversification, and Innovation”*
- ✔ Attendee deliberations focused panel expert testimony into identifiable strategies and action steps to improve economic sustainability, diversification, and innovation. Action steps to “Green the Local Economy” include efforts to focus on creating “green collar” jobs starting with the retrofit field, encouraging local governments, businesses, associations, and other organizations to adopt green policies and practices, engaging Green Chips partners to actively promote sustainability as part of the Las Vegas brand, and the creation of a Green Chips member discount program to be made available to residents and tourists.
- ✔ The action steps established to increase economic stability and diversity include supporting local workforce development organizations with providing more jobs training and retraining programs in green energy and energy efficiency. Attendees also recommended engaging a stakeholder dialogue on establishing an equitable tax structure and to research regional green energy incentives to ensure competitiveness, providing energy efficiency incentives to commercial and residential property owners through streamlining business licensing, permitting, and code processes, and the creation of a working group or task force to develop financial services partnerships that will address the capital outlay and financing challenges associated with funding green energy and energy efficiency retrofit programs. Finally, attendees also suggest encouraging the SNRPC to implement Phase 2 of the Regional Economic Study to identify and



create business clusters, essentially laying the foundation to position the Las Vegas region as a green technology and green industry Regional Innovation Cluster (RIC).

- ▼ *Session 2: “Finding Green: Environmental Sustainability in the Urban Desert”*
- ▼ Attendees developed several action steps for the established environmental sustainability goals. The action steps include continuation of Southern Nevada Water Authority (SNWA) plans to reduce water consumption, the application of SNWA strategies and consumer education models to other conservation initiatives, working with the SNWA to leverage conservation achievements to raise the Las Vegas region’s sustainability profile, and exploring the development of demonstration gardens as consumer education programs.
- ▼ The goal of promoting renewable energy and energy efficiency attracted several important action steps. These include increasing large, utility scale solar projects, pursuing a Southwest United States regional dialogue on grid system improvements and clean energy transmission, establishing revolving micro loans to address the high costs of installing solar panels in commercial and residential structures, promoting the use of solar hot water systems in homes and businesses, and promoting outreach and access for home energy assessments and retrofits.
- ▼ Attendees identified action steps to support a truly multi-modal transportation system, including exploration of “complete streets” planning policies that incorporate all methods of travel - public transit, pedestrian walkways, bike lanes, carpool lanes, and personal vehicles. Action steps also include completion of the regional trail system, expansion of ClubRide, and creating a framework for more collaboration and communication between municipal planning departments and Metropolitan Planning Organizations.
- ▼ Promoting alternative fuel vehicles drew action steps that include support for a regional planning model that provides infrastructure support for electric vehicles, expanding the number of biofuel pumps, particularly along major highways, and the creation of a pilot program to test electric vehicle infrastructure systems and the expansion of alternative fuel pumps.
- ▼ Increasing the recycling rates could be accomplished through the creation of a post-recycling industry, expansion of current recycling opportunities to multi-family residential complexes, commercial centers, and all public buildings. A targeted outreach program to property management companies, Homeowners



- Associations, and Community Management Associations to provide recycling information was also recommended.
- ▼ Attendees recommended several action steps to address the heat island effect, including continuing implementation of the Regional Open Space and Trails Plan, promoting urban forestry best practices, promoting local food production and home gardening, and developing a tree inventory to analyze the current tree canopy and future needs using software such as iTree.
 - ▼ The environmental education goal garnered important action steps such as working with CCSD to develop programs to educate children and parents about sustainability, such as APA's "Box City" program, and working with the College of Southern Nevada (CSN) and University of Nevada, Las Vegas (UNLV) to house a web-based sustainability portal.
 - ▼ *Session 3: "Walking Green: Social Sustainability through Community Engagement"*
 - ▼ The goal of engaging the community on sustainability issues and programs drew a great deal of attention from attendees and resulted in the formulation of several action steps. These include developing neighborhood outreach campaigns through known and trusted voices, creating a green demonstration home or school, creating sustainability materials and programs for use in schools, churches, and places of employment, and encouraging organizations to include sustainability in their strategic visions and mission statements.
 - ▼ Attendees developed action steps for the goal of improving public health that include expanding health programs and initiatives, such as immunization campaigns to companies, and rewarding or recognizing those with high participation rates, advocating for healthier school lunch options with a focus on fresh fruits and vegetables, and increasing school and church health fairs with an emphasis on targeted outreach to low income neighborhoods and new immigrant communities.
 - ▼ To improve education, attendees developed action steps that include legislative contact to support more K-12 and higher education funding support, particularly for research and innovation, increasing mentorship rates to encourage students to become active in their community and continue their education, and creating a dialogue with educators, policymakers, and researchers for the purpose of understanding optimal English Language Learner (ELL) and English as a Second Language (ESL) programs.



3.0. Session 1 – “Spreading Green: Economic Sustainability, Diversification, and Innovation”

Moderator:

Rose McKinney-James, Principal, Energy Works Consulting

Panelists:

Mark Muro, Senior Fellow and Metropolitan Policy Director, Brookings Institution

Tom Wucherer, YWS Architects

Lydia Ball, Executive Director, Clean Energy Project

Tom Axtell, General Manager, Vegas PBS

3.1 Panel Testimony

The moderator gave each panel member an opportunity to share their insights and perspectives on how to effectively “Spread Green” through economic sustainability, diversification, and innovation. Panelist Muro began by stating that Southern Nevada is experiencing the consequences of a completely unsustainable economic development model that is too reliant on too short a list of specialization. As evidence, Muro offered that 53% of our economy has been based on real estate, construction, and hospitality and tourism, an unbalanced model far too reliant on consumption. The most promising opportunity to correct this imbalance exists in expanding our economic base to include a greater share of green energy production, green architecture, and other sectors of green industry, which have grown 1400% in the last decade.

Panelist Axtell expanded on this concept by demonstrating that energy efficiency is not simply about responsible corporate stewardship but that it makes sound financial sense for businesses to invest in greening their own businesses. Vegas PBS made an early decision to be proactive in looking at long term operating costs during the capital campaign for their new building. Vegas PBS spent 6% more during the development of the \$60 million building to invest in energy efficiency. In a provocative comparison, Axtell shared that the old Vegas PBS building (11,000 sq. ft.) has a monthly energy bill of \$11,000 whereas their new building (108,000 sq. ft.) has a monthly energy bill of \$9,000. Axtell shared that he expects Vegas PBS will realize a full payback of their initial energy efficiency investment within six years. The comment was made that the striking juxtaposition of these two cases underscore that energy inefficiency functions as a tax on all of us through higher utility rates charged to consumers.

Panelist Wucherer stated that his experiences have shown the image of a sustainable Las Vegas is lost on most people outside of our community. However, once



one has an opportunity to share all of the advancements that have been made, most people find themselves impressed by the level of activity. The comment suggests a strong gap between what is occurring at the community level to shape a more sustainable Las Vegas Valley and the perceptions of our region among external audiences. Wurcherer shared his experiences implementing energy efficiency improvements within his own office building, a move motivated by a desire to lower long term overhead and operating costs. It was described as a proactive yet financially savvy business decision, with full investment payoff occurring within seven years due to energy savings. Increased energy efficiency, he mentioned, also leads to happier, more productive employees.

Panelist Ball mentioned that throughout the last decade NV Energy has made a conscious choice to invest in Nevada's natural energy resources – wind, solar, and geothermal. Ball shared that in 2008, \$1.7 billion was spent by NV Energy to import fossil fuels (coal, oil) from other states, highlighting the need to further transition to a clean economy. However, one significant impediment to leveraging the full extent of our green energy capacity is the lack of infrastructure to facilitate green energy exports to other markets. She pointed to the fact that there is no real cohesive Southwest U.S. regional planning effort to guide clean energy exports and that we need to begin planning with regional utilities to create coordinated efforts for green energy delivery. The Southwest grid system is generally seen as antiquated and a regional solution is the only way to fix it.

Panelist Muro expressed concern that the “Triple Bottom Line”, described by Dr. Lang during the keynote address as the underlying significance of “Equity, Environment, and Economy” on a community's ability to prove sustainable, is not part of the current regulatory and legislative discussion, and that current policy frameworks must move away from what amounts to legally mandated “stove piping”. Additional commentary was focused on the reality that businesses and households still don't completely understand that energy efficiency is about smart business and financial decisions and that the community at large needs to fully grasp the tradeoffs. For instance, Axtell shared that Vegas PBS workers can see real time energy use in their building through automated kiosks acting as a constant performance measure. Panelist Ball further expanded that reputable research shows energy efficiency results in stable job creation and decreases demand on existing energy transmission infrastructure, allowing for more capacity to produce and transmit a green energy supply.

After a prompt from the moderator, panelists offered their recommendations for next steps. One suggestion that emerged was to ensure all new buildings in Southern Nevada are “purpose built” and that standing stock of existing buildings are retrofitted to achieve greater energy efficiency. This will have the dual effect of lowering operating and maintenance costs while giving the existing transmission system more room for exporting green energy. Panelists also recommended more vigorous and targeted



outreach and promotion of online courses to train for green jobs in the areas of energy efficiency, retrofit audits, and retrofit implementation. Additionally, a focus should be placed on job creation resulting from retrofitting existing building stock and on manufacturing job creation by investing in education programs like those offered at the UNLV Solar Innovation Center. Panelists shared that we need to create demand for green energy within and outside of Nevada and to craft an export policy that qualifies for energy use and loads in surrounding states. Right now the retrofit industry shows the broadest potential for job creation – especially as it relates to growing and positioning Nevada as the center for excellence and expertise in green energy design, architecture, and retrofits. It was mentioned that there is growing interest in these fields within global markets like Brazil and Singapore and that Nevada should cultivate experts who can capitalize on these emerging opportunities.

Panelists also believe that our community should have a comprehensive strategy to aggressively pursue federal, state and local retrofit grants for low income households that require little or no upfront capital contributions. In terms of education and outreach through leveraging existing communication networks, panelists felt that utility bills should include information about ways to be more energy efficient and programs that offer incentives and subsidies. In this way, we can maximize the potential of programs like the NV Energy “Sure Bet” program.

Panelists recommended that a substantive, consistent, and enduring dialogue take place to find new and creative ways to incentivize green industry. A comprehensive analysis of green energy incentives and subsidies offered in the Southwest U.S. needs to be conducted to ensure that Nevada is competitive in these areas. Furthermore, Nevada needs a legislative and policy framework to regularly analyze the effectiveness of green energy incentives and should create a research oriented approach to formulating innovative incentive packages that will attract green energy developers and practitioners.

Panelists recommended that our community find a way to integrate and promote the educational value of energy efficiency and sustainability by developing better K-12 education initiatives that include real time exercises and demonstration projects in curriculum. These efforts should also include ways to better train teachers on how to incorporate more energy efficiency and sustainability learning in the classroom—building on concepts similar to NV Energy funded trainers who go into schools to train teachers about energy efficiency and sustainability. There is a wealth of information online that can be used to teach creatively.

Panelists recommended looking closely at what is currently being done in terms of marketing, outreach, and education with regard to existing energy efficiency programs. Many programs, such as free home energy audits provided by NV Energy are



oversubscribed (three month waiting list) and some can be expanded if more people knew about them, such as cash incentives for return of older, inefficient refrigerators.

In closing, panelists shared that many studies project 80% growth in the green energy economy during the next ten years. In fact, the past few years have shown tremendous opportunity for Nevada's green energy economy, which has grown by 10%-12% per year. A call to action was issued to continue to build on the momentum and to design ways for "thought leaders" and activists to collaborate and better leverage communication and outreach to bring about a perception shift that will accommodate positive behavioral change within the community.

3.2 Attendee Participation & Discussion

Summit attendees engaged in deliberation and discussion following the testimony given by the panel experts. A review of comment forms and table notes submitted by attendees showed consistently wide-ranging conversations that explored a myriad of topics related to the issue of economic sustainability, diversification and innovation. In many instances there were cross-over discussions about topics that would logically flow during the second and third panel discussions dealing with environmental and social sustainability goals and objectives. However, several themes emerged during attendee discussions following the first panel that are particularly relevant to the economic goals, and that were applied as the foundation for formulating action steps.

Attendees mentioned the importance of continuing momentum behind large scale, utility scale solar projects. Attendees expressed concern that these projects still face a lot of obstacles in terms of permitting, financing, regulation. They also felt that a strategic mapping of the community to determine the most effective targets in terms of energy retrofits were important. These mapping exercises would be followed by identification of community leaders in high priority neighborhoods who would be provided with resources for them to share with their neighbors and constituency groups. Attendees felt that economic sustainability and diversification would be supported by the establishment of a "green school" in the K-12 education system.

Access to information, rapidly emerging systems, lack of awareness and understanding among the general public and business community were repeatedly mentioned as critical challenges to economic sustainability and innovation. Attendees felt there is a dramatic need for a centralized resource that contains information about important green energy and energy efficiency programs and services and that functions to the benefit of multiple audiences. A consolidated resource would help streamline information sharing and assist end users with more detailed program linkages.

Workforce development was consistently mentioned as an imperative, especially as it relates to "hard-wiring" sustainability and efficiency learning across curriculum and



disciplines in the K-12 and higher education systems. The goal would be to embed these values early on and to consistently reinforce their importance through each stage of educational and professional development. Attendees felt that the promotion and expanded use of “green small business educational tools”, such as the Las Vegas Chamber of Commerce’s “Green Roots” program would help stimulate interest and awareness in programs that help small businesses realize financial savings through energy efficiency improvements. Additionally, attendees stressed the importance of carving out unique industries such as a “green meeting sector” that mutually advance economic and sustainability goals, ensure harmony between our economic development policies and long term sustainability, and help diversify our economy.

A concept that surfaced across most table discussions and that appeared in many comment forms is the aggressive pursuit of national and international promotion and awareness of sustainability and green energy economic activities in Las Vegas. Additionally, a plurality of attendee table notes included adamant references to the stimulative impact of residential and commercial building energy efficiency retrofits. However, participants were quick to mention that these efforts, in addition to large scale renewable energy projects, are hindered by the underlying need for financing and capital outlays – made much more challenging by difficult lending environments.

Attendees overwhelmingly mentioned the need for continued collaboration, education and awareness. This extends to the general public and the business community, which many attendees felt should unite around the core message that education is imperative to long term economic prosperity and sustainability. Attendees also felt that expansion of single stream recycling programs would create more jobs in the recycling industry. A significant amount of attention was paid to utilities, which participants believed should continue to increase investments in green energy and conservation, add transmission and efficiency generating plants, implement a statewide smart grid, and encourage elected officials and green energy experts to aggressively pursue a regional dialogue about improving the energy grid and expansion of renewable portfolios in the Southwest United States.

Attendees expressed that local governments should be encouraged to evaluate business codes and capital improvement projects to identify opportunities for emphasis on green jobs, green technology, and energy efficiency. Attendees believed that sustainable web resources could be better leveraged to support business and industry, especially as it relates to promoting incentives, credits, and financial savings through energy efficiency improvements. It was mentioned often during discussions that exploration of the role played by the financial services industry should be pursued, with a focus on developing partnership efforts for financing green energy projects and programs. This could start with studying default rates on green energy loans to demonstrate the investments are safe and, hopefully, free up loans for green energy programs.



Attendees felt strongly that policymakers should be engaged to discuss appropriate use of capital funds for energy efficiency improvements. Many attendees felt that greater economic impact will be derived from allocating local capital funds to energy efficiency improvements to help stimulate green jobs rather than being used for operating expenses.

3.3 Focus Area 1: Commitment to Economic Sustainability

Goal 1: Green the Local Economy

Measure1: Economic Volatility will decline from 200 (U.S.=100) in 2010 to 175 by 2020

Measure 2: Industrial diversity increase from .3 (U.S.=1) in 2010 to .45 by 2020

Action Item	Identified Collaborators	Future Partners
Focus on creating "green collar" jobs by attracting business with sustainable products and services by Developing a process to monitor green industry growth & diversification	All local governments, counties, state	Chambers of Commerce, Nevada Development Authority, Industry associations and trade groups, Brookings Intermountain West
Encourage local government, business, and individuals to adopt organizational green practices, including sustainable procurement policies	All local governments, counties, state, MGM Resorts Intl., Caesars Entertainment	Chambers of Commerce, Nevada Development Authority, state and local economic development agencies, Industry associations and trade groups
Engage Green Chips partners in actively promoting sustainability as a significant part of the Las Vegas brand to resident and visitors	All local governments, counties, state, Green Chips partners	Future Green Chips member organizations, Las Vegas Convention & Visitors Authority (LVCVA), Tourism boards
Adopt Green Building policies	USGBC	Local and state governments
Create a Green Chips membership discount program available to both tourists and residents	All local governments, counties, and state governments, Green Chips partners	Nevada Resort Association, LVCVA, tourism boards, convention trade shows, chambers of commerce



Goal 2: Increase Economic Stability and Diversity

Measure 1: Reduce economic volatility from 200 in 2010 to 175 by 2020

Measure 2: Stimulate industrial Diversity from .3 in 2010 to .45 by 2020

Action Item	Identified collaborators	Future Partners
Support workforce development organizations with program promotion: job training/retraining, increase technical skills, professional development and develop process to track program completion rates	SNRPC	UNLV, Nevada Institute for Excellence, CSN, Nevada Partners, NVDETR, trade unions, community colleges and technical schools
Engage a stakeholder dialogue with focus on establishing a fair and equitable tax structure that also supports investment in green business and sustainable developments, evaluate regional incentives to ensure competitiveness	Clean Energy Project, all local governments, counties, state, SNRPC	Chambers of Commerce, UNLV Sustainability Institute, UNLV Center for Business and Economic Research, Brookings Mountain West, green energy industries,
Provide and promote incentives to help all property owners reduce operating costs through increased energy efficiency, streamline building licensing and codes, low-cost financing for renewable energy equipment. Create a working group to specifically address initial capital outlays and financing challenges	Green Chips, NV Energy, Southwest Gas, all local governments, counties, state, Nevada State Bank, HomeFree Nevada	State Office of Energy, Financial services industry, Nevada Bankers Association, UNR and UNLV
Support SNRPC's efforts to implement Phase 2 of the Regional Economic Study to identify and create business clusters; lay the foundation necessary to position Nevada as a green industry and technology Regional Innovation Cluster (RIC)	SNRPC, local and state governments, Green Chips partners	Chambers of Commerce, NDA, economic development agencies, private industry leaders



4.0 Session 2 – “Finding Green: Environmental Sustainability in the Urban Desert”

Moderator:

Rose McKinney-James, Principal, Energy Works Consulting

Panelists:

Dr. Robert Fielden, RAFI

Doug Bennett, Conservation Manager, Southern Nevada Water Authority

Henry Shields, Director of Finance, Energy and Environmental Services, MGM Resorts International

Rob Dorinson, Area Director – Recycling Business Development, Evergreen Recycling – A Republic Services Company

4.1 Panel Testimony

The second panel of the summit was focused on ways to achieve environmental sustainability in the urban desert. Panelist Fielden began the discussion with the assertion that rapid growth and expansion in Nevada during the last couple of decades has caused us to forget our roots, resulting in neighborhoods being replaced by subdivisions and a steady decline in the social fabric of our community. He shared that we need to fully understand the full potential of our natural resources and how they can be best used for strategic implementation of renewable energy opportunities, and that we carefully watch the wealth created from new and emerging green industry to ensure that it gets reinvested back into the community.

Panelist Shields continued the theme developed during the first panel by stating that conservation programs make good business sense by lowering expenses, and that sustainability is seen as vital to the long term prognosis of major industries, such as hospitality and tourism. Panelist Shields shared the experience of energy efficiency and sustainability program implementation at MGM Resorts International, which began with a case by case analysis of what they could do to make each of their properties more energy efficient. MGM Resorts International proactively educates employees about the merits of energy efficiency and considers sustainability and environmental conservation a responsibility and core value. Each property has a green team tasked with managing the broader goals of the company at the property level by using a company framework and template for energy efficiency and sustainability practices. Shields shared that there are a myriad of different ways to improve energy efficiency and sustainability but his company recognized the need to be aggressive at communicating with and involving employees to positively influence individual behavior patterns.

Panelist Bennett stated that we need more pilot programs that emphasize the infrastructure and processes necessary to make good, responsible decisions about energy efficiency and sustainability. He shared the experiences of the Southern Nevada Water Authority (SNWA) and how the drought was an impetus to aggressive



conservation measures in the Las Vegas Valley. In 2002, Southern Nevada used 326,000 acre feet of Colorado River water compared to the 227,000 acre feet of Colorado River used in 2010. In terms of results, 8.4 billion gallons of water have been saved every year due in large measure to the removal of 150 million square feet of ornamental turf – one of the biggest offenders in terms of water waste. A major mechanism to facilitate conservation was the turf rebate program and a combination of code and policy decisions such as a moratorium on water fountains and allocation of specific watering times.

Dr. Fielden commented that our green industry needs to be at the forefront of technology through a concerted effort to understand emerging trends, such as new lighting technology. He also shared that we need a greater focus on redevelopment efforts – existing structures are in large part inefficient and we need to look at whether, from a planning standpoint, the existing Redevelopment Agency framework provides enough incentives for retrofitting existing structures, and whether revenues are efficiently distributed between projects that emphasize rebuilding and repairing older structures. A possible strategy would be the creation of urban sustainability zones with more attractive incentives that focus on these efforts.

Panelist discussion turned to regional collaboration among agencies tasked with planning and community development activities. A good first step would be to provide a more substantive link between municipal community development and planning processes and the Regional Transportation Commission of Southern Nevada (RTC) and SNWA, both of which are largely considered to be proactive, forward thinking organizations. Panelists generally agreed that we should focus efforts on changing behaviors that will result in reduced air conditioning consumption and that limit the use of asphalt because it generates too much heat. Additionally, panelists commented that we should look at new and creative ways to use compost and trash as an energy source, and develop a regional recycling model by comparing recycling rates in Southern Nevada to other southwestern metropolitan areas to find new, better, more innovative ways to increase rates of recycling.

A theme that emerged during the first panel was reiterated during the second panel – that generating a higher level of awareness and understanding of environmental conservation, energy efficiency, and sustainability within the community is imperative. Additionally, panelists stressed that our energy efficiency and sustainability goals and practices should recognize that we live in the Mojave Desert. To that end, we should focus on creating more shade from trees, provide better building insulation, and find more onsite “distributive generation” opportunities.

Panelists also mentioned the statutory requirement that 25% of energy produced in Nevada come from renewable sources by 2025 and that attainment of that goal will rely not just on green energy production, but will depend largely on how well



we maximize the potential of existing programs such as low interest loans for distributive power.

In closing, panelists encouraged all stakeholders to focus on ways to change the hearts and minds of residents by empowering people of all ages, backgrounds, and socioeconomic circumstances. By educating residents on livability and sustainability we may be able to shift away from consumption based thinking that results in things being constantly thrown away and rebuilt all the time – this needs to change to a focus on re-use and regeneration.

4.2 Attendee Participation & Discussion

The comment forms and table notes submitted for the environmental sustainability panel generally reflect a similar dynamic as those submitted for the economic panel in that discussions appeared to be wide ranging and varied in terms of potential strategies and action steps. Upon close examination there appeared to be consensus around several core concepts.

Attendees again referenced the importance of promoting the positive sustainability gains that have been realized in the Las Vegas region. One participant mentioned the possibility of a “sustainability highlights tour” to promote the level of solar development, energy efficiency improvement and retrofit savings, and water conservation achievements. This concept gels with previous comments that our region must do more externally to showcase the level of activity and synergy coalescing around our green energy and sustainability initiatives. It was mentioned that these should be ongoing efforts that celebrate implementations and achievements in real time. Attendees suggested that educational messaging that encourages residents and businesses to engage in more sustainable behaviors focus more on cost savings and long term benefits rather than altruism. Many attendees felt that existing utility programs such as rebates and incentives were drastically underutilized and should be examined with an eye to increasing awareness.

Considerable discussion was paid to existing recycling programs and how they should be expanded to include greater participation among multi-family residential complexes and commercial businesses. Many attendees felt recycling could be much more effective in our region if there was more participation, perhaps even mandated participation. Attendees also felt that greater promotion and grassroots outreach at the neighborhood level should be pursued, especially in low income neighborhoods and new immigrant communities. Las Vegas has a significant immigrant population moving in with limited exposure to recycling, conservation, and energy efficiency programs and services. Attendees felt overall that education, familiarity, and awareness of sustainability and conservation will continue to be a hindrance until adequately addressed.



Considerable discussion was focused on integrated planning and the need for more communication and collaboration between municipal planning departments and regional Metropolitan Planning Organizations, particularly as it relates to transit, natural areas, and walk able communities. Additional comments suggested the possibility of creating a community gardens pilot program or demonstration project with edible plants, fruits, and vegetables to emphasize the importance of natural environments, demonstrate smart water practices, and highlight the unique opportunities for reuse and compost. It was determined that this could be pursued as an educational exercise with school children or as a partnership with Homeowners Associations to promote gardening in their neighborhoods. The importance of energy efficiency assessments and retrofits for residential and commercial buildings was mentioned frequently in discussions about economic stimulation, individual financial savings, and energy savings.

4.3 Focus Area 2: Commitment to Environmental Sustainability

Goal 1: Conserve water resources and protect water quality

Measure 1: reduce water consumption from 240 GPCPD in 200 to 199 GPCPD by 2035

Action Item	Identified Collaborators	Future Partners
Continue with SNWA plan to reduce need/use, explore opportunities to apply SNWA strategies to other sectors and conservation initiatives	SNWA, all local governments, counties, state, Convene for Green partners	Chambers of Commerce, trade associations, professional groups, business community at large, environmental groups
Work with SNWA to leverage conservation measures and achievements to promote and describe impacts of sustainability	SNWA, SNRPC, all local governments, counties, state, Convene for Green partners	Chambers of Commerce, trade associations, professional groups, business community at large, environmental groups

Goal 2: Promote renewable energy and energy efficiency

Measure 1: Increase renewable resources from 10% of generation in 2010 to 25% by 2025

Measure 2: Decrease energy use (Natural Gas and Electricity) in buildings by 15% between 2010 and 2020

Action Item	Identified Collaborators	Future Partners
Support ongoing efforts to streamline federal regulatory approvals of large, utility scale green energy projects	Clean Energy Project	SNRPC, Public Utilities Commission, Federal Energy Regulatory Commission, BLM, NV congressional delegation
Improve the statewide transmission grid to support clean energy development in Nevada	NV Energy, Clean Energy Project	SNRPC, Public Utilities Commission, state and local agencies
Pursue Southwest U.S. regional dialogue on grid system improvements	NV Energy, Clean Energy Project	SNRPC, Public Utilities Commission, state and local agencies
Establish and promote revolving/micro loans to address the barrier of high costs for installing solar on homes and businesses	Green Chips, Nevada State Bank	Financial industry firms and associations, Nevada Retrofit Initiative
Promote solar hot water systems for homes and businesses	Convene for Green partners	NV Energy, Southwest Gas, HOAs, contractors, Energy Star, NAIOP



Promote energy conservation through home energy audits and retrofits	Green Chips, HomeFree	Associated General Contractors, Realtors Association, utilities, Nevada Retrofit Initiative
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Goal 3: Promote a truly multi-modal transportation system

Measure 1: Increase ClubRide membership from 3% of employed workforce in 2010 to 7% by 2020

Measure 2: Reduce single occupancy vehicle trips, increase number of homes within ¼ mile of commercial centers

Action Item	Identified Collaborators	Future Partners
Explore "complete streets" planning policies that safely accommodate all modes of transportation, including pedestrians, bicyclists, public transit, and cars	RTC, SNRPC, all local governments	HOAs, NDOT, engineers association, UNLV alumni association for engineers, Harry Reid Tech Center, architects association, UNLV College of Engineering, CAMEO
Complete the Regional Trail System	RTC, SNRPC, all local governments	Sierra Club, SNV urban trails groups, Outside Las Vegas
Expand participation among current ClubRide members and promote other rideshare opportunities	RTC, SNRPC	SNHD, HOAs, Chambers of Commerce, CCSD, large employers
Explore framework for increased collaboration among local municipal planning departments and RTC	SNRPC, RTC, all municipal governments	Architecture, engineering, and urban planning associations

Goal 4: Promote Alternative Fuel vehicles

Measure 1: Increase number of registered alternative fuel and hybrid vehicles from 1% in 2010 to 10% by 2020

Action Item	Identified Collaborators	Future Partners
Explore the creation of pilot programs that test electric vehicle infrastructure systems and expansion of alternative fuel pumps	RTC, NDOT, SNRPC	UNLV Transportation Research Center, UNLV Sustainability Institute, alternative fuel manufacturers and distributors, RTC, NDOT
Support regional planning, coordination, and development of infrastructure to support electric vehicles, including a discussion of regionally competitive incentives	SNRPC, RTC, all local governments	NV Energy, NAIOP, NDA, commercial developers, large employers, Brookings Mountain West
Expand the number and distribution of biodiesel pumps	SNRPC, DAQEM, SNHD	Petroleum manufacturers and distributors, Nevada Motor Transport Association



Goal 5: Increase Recycling

Measure 1: Increase recycling rate from 20% in 2010 to 30% in 2020

Action item	Identified collaborators	Future partners
Establish post-recycling industry	SNRPC, Convene for Green partners	NDA, Evergreen Recycling (Republic), all local governments, recyclers associations, mid-stream waste users
Expand recycling opportunities to multi-family residential, commercial, all public buildings	SNRPC, Convene for Green partners	HOAs, property management firms, CB Richard Ellis, all local governments, Evergreen (Republic), SNHD, recyclers associations

Goal 6: Take measures to address heat island effect

Measure 1: Increase tree canopy from 10% in 2010 to 20% in 2020

Action Item	Identified Collaborators	Future Partners
Continue to implement the Regional Open Space and Trails Plan	SNRPC, all local governments	Outside Las Vegas
Promote urban forestry management best practices	SNRPC, all local governments	DAQEM, Nevada Dept. of Forestry, Sierra Club, Audubon Trust for Public Land, UNLV Cooperative Extension, urban planners associations, Las Vegas Urban Tree Initiative
Protect undeveloped land and local washes	SNRPC, all local governments	CCRFCD, SNWA, BLM
Develop a tree inventory to analyze current and future tree canopy utilizing iTree or similar database software	SNRPC, all local governments	Nevada Division of Forestry, UNLV

Goal 7: Education

Action Item	Identified Collaborators	Future Partners
Connect with CCSD to start educating about all environment goals at all grade levels	CCSD, Nevada Education Foundation, NV Energy, NV State Board of Education,	Envirovolution.org, Sierra Club, conservation groups
Work with UNLV, CCSD, and Green Chips to house regional sustainability education portal	SNRPC, Green Chips	CCSD, UNLV, CSN, community education partners



5.0 Session 3 – “Walking Green: Social Sustainability through Community Engagement”

Moderator:

Rose McKinney-James, Principal, Energy Works Consulting

Panelists:

Dr. Ron Smith, Vice President for Research and Graduate Dean, University of Nevada, Las Vegas.

Dr. Lawrence Sands, Chief Health Officer, Southern Nevada Health District

Guy Amato, President and CEO, Habitat for Humanity

Gwen Migita, Corporate Director of Sustainability & Community Engagement, Caesars Entertainment

5.1 Panel Testimony

The third and final panel brought together experts in the fields of social sustainability and community engagement. Panelist Sands began the panel discussion by informing attendees that a range of health issues surface when a community degrades the environment. He expanded by stating public health must be part of the formula for a sustainable future. We need to create systems that encourage healthy decisions, such as connectivity so that people will walk more often and be more open to riding public transit without being completely inconvenienced.

Panelist Smith stressed that community engagement and sustainability are inextricably linked, and that you must have one-on-one communication vehicles and methods to be truly sustainable over the long term. Dr. Smith shared that the UNLV Urban Sustainability Institute has experienced many accomplishments and that cuts to higher education budgets as proposed will have very negative consequences on sustainability progress.

Panelist Migita shared the nuances of Caesars Entertainment’s “Code Green” sustainability strategy. The company has designed and implemented a grassroots approach that tackles energy efficiency, environmental conservation, and sustainability issues on a property by property basis. Caesars Entertainment developed a vision and roadmap that includes goals with measurable action steps so that a uniform language is spoken, essentially functioning as a “best practices” framework that results in an integrated sustainability strategy with focused efforts in core areas. Migita described a system of “Incent, Reward, and Systematize” that Caesars Entertainment has initiated, requiring supervisors and above to volunteer and serve on boards in their communities. The strategy is aligned with business objectives such as brand value, financial integrity, and employee engagement. Incentives are offered to encourage a higher level of community service.



Migita also commented that sustainability cannot be linked exclusively to financial incentives if it is to survive, that there must be an element of ownership, commitment, and value in the community. A public engagement strategy that includes efforts to reengineer community design and to get people to think seriously about healthy lifestyles is desperately needed. This strategy should include the concept of “buying share of mind” by looking at what amounts to a bell curve to determine who can be moved to positive behavior change. This would ideally lead to “hitting the middle with grassroots in a big way” by partnering with individuals, organizations, and associations with unique spheres of influence and who know how to move people. It’s also important to target distinct constituency groups by developing messages that will move people based on public opinion testing.

Panelist Smith shared a striking set of figures during the panel discussion. He mentioned that for every 100 9th graders in Nevada, 48 will graduate high school, 46 will enroll in college during the fall following graduation, 18 will still be enrolled during their sophomore year of college, and 4 will graduate with an associates or bachelors degree. He finished by commenting that when it comes to education, Nevada “aspires” to be Mississippi. He also shared that sustainability efforts are compromised through the loss of subject matter expertise and institutional knowledge resulting from UNLV faculty and staff losses. UNLV lost 450 faculty and staff in the last four years and another 350 faculty and staff may be let go if the state budget is passed as proposed.

Panelists shared that community-wide behavioral change is possible but starts with strong policies that support and encourage healthy choices. Our sustainability strategies and action steps should recognize that children can be advocates to help educate parents. We must also recognize that our education attainment is challenged by the amount of English Language Learner (ELL) and English as a Second Language (ESL) students in our public schools. Panelists believe the realities are that language barriers are not properly dealt with in our K-12 education system. It was described as “the big elephant in the room” that needs to be considered to boost education attainment.

Panelists offered closing comments that stressed the importance of collaboration and joint action. Collaboration is the hallmark of a successful community sustainability plan. Panelists also agreed that we have to work together to do a much better job at emphasizing sustainability as a value among younger generations. It was stated that value systems rarely change with age so we need to start early. It’s also important to emphasize incremental change, positive movement in day-to-day habits at the individual level, if we ever expect to reach the level of transformational, community-wide change.



5.2 Attendee Participation & Discussion

Attendee attrition was a contributing factor to the less robust discussions reflected in the comment forms and table notes submitted for the social sustainability panel. Many of the comments submitted dealt with issues discussed in previous breakout sessions but there were a series of suggestions that informed the formulation of the action steps below. Attendees generally agreed that existing volunteer resources, such as the Volunteer Center of Southern Nevada, are underutilized. Ideas were circulated about potentially creating a revamped, web-based volunteer portal through partnering with an existing organization. The portal would facilitate event information exchanges, the sharing of personal stories, and the solicitation of new ideas to further enhance volunteer programs and opportunities. Some attendees felt that policymakers should be engaged to institute a volunteerism, community service, or mentoring requirement before teenagers can get a driver's license or graduate from high school. It was mentioned that this would help instill the merits and benefits of giving back before reaching adulthood.

Several attendees expressed that professionals should be encouraged to spend more time mentoring or speaking to classrooms about their industry, especially those that focus on green energy and sustainability. Additional discussion focused on the promotion and expansion of health and wellness competitions in the workplace. The development of a best practices framework in partnership with a health care provider and business association may prove to be a valuable resource for small businesses.

Many attendees mentioned the importance of facilitating or creating neighborhood based programs that encourage more interaction, physical activity, and socializing among neighbors. A "get to know your neighbor" public service announcement or pilot program may help engender a greater sense of community and common cause within a region where gated communities, block walls, and limited yard space to recreate have proliferated. Outreach efforts promoting these types of activities could be pursued through local neighborhood services departments in partnership with local non-profit organizations.

Attendees consistently mentioned the importance of developing proactive and creative K-12 education partnerships, demonstration projects, and curriculum development opportunities to further sustainability learning. Attendees felt there are existing programs and services that can be better leveraged to further education attainment goals while at the same time instilling a sense of awareness and appreciation for long term regional sustainability. It was determined that better communication, perhaps even through formal collaborative venues, should be pursued to further K-12 educational partnerships with the green energy and sustainability industries.



5.3 Focus Area 1: Commitment to Social Sustainability

Goal 1: Engage the community on sustainability issues and programs

Measure 1: Increase residents who value the environment on New Ecological Paradigm scale from 25.2 in 2010 to 30 by 2020

Action Item	Identified Collaborators	Future Partners
Develop neighborhood outreach campaigns leveraging partnerships with known and trusted voices	Convene for Green partners, SNRPC, all local governments	Faith-based organizations, utilities, non-profits, environmental groups
Create a green demonstration model home or school	Green Chips, HomeFree, SRPC, all local governments, Nevada Retrofit Initiative, Vegas PBS	CCSD empowerment schools, gaming industry, USGBC, HOAs, conservation district, Habitat for Humanity, UNLV
Create sustainability information materials and programs for use in schools, churches, and places of employment	SNRPC, all local governments, CCSD	Faith-based organizations, non-profits, chambers of commerce, public relations firms
Encourage organizations to include sustainability in their strategic visions and mission statements	All local governments, counties, state	Chambers of commerce, trade associations, professional groups

Goal 2: Improve Public Health

Measure 1: Decrease percentage of obese children from 11% in 2009 to 9% by 2020

Measure 2: Decrease percentage of obese adults from 28% in 2009 to 25% by 2020

Action Item	Identified Collaborators	Future Partners
Expand health initiatives in companies and reward or recognize those with high participation rates	SNHD	Chambers of commerce, trade associations, professional groups
Advocate for school lunches to include fresh fruit/veggies	CCSD, State Board of Education, Nevada Legislature, Vegas PBS, SNHD	Farmer's markets, UNLV Cooperative extension, PTAs, UNLV Public Health
Increase number of school/church health fairs with an emphasis on outreach targeted to low income families and new immigrant communities	CCSD, SNHD	Water Conservation Coalition, Culinary Training Academy, Three Square, Catholic Charities, Center for Overweight & Obese Children, faith-based groups, regional open space and trails groups



Goal 3: Improve Education Quality and Attainment

Measure 1: Increase high school graduation rate from 55% in 2010 to 74% by 2020

Action item	Identified collaborators	Future partners
Legislative contact to support educational funding	Convene for Green partners	CCSD, Public education foundation, Chambers of Commerce, NDA, economic development agencies, community leadership programs, professional organizations
Increase mentorship rates to encourage students to become active in their community and continue their education	CCSD	CCSD PAYBAC Program, YMCA, community leadership programs, professional organizations, faith-based organizations
Commence a dialogue with educators, policymakers, and academics for the purpose of understanding optimal ELL and ESL programs	CCSD	UNLV, State Board of Education, Hispanic and Latino organizations, Public Education Foundation, Legislative Counsel Bureau
Explore creation of an index to track social safety net outcomes over time	SNRPC, CCSD, all local governments, counties, and state	SNRPC Homeless Coordinator, non-profits, faith-based organizations, UNLV, CSN, social workers, health care professionals