



Strategic Energy Plan Overview

PATHWAY TO 100% RENEWABLE ELECTRICITY FOR THE CITY
OF SANTA BARBARA COMMUNITY



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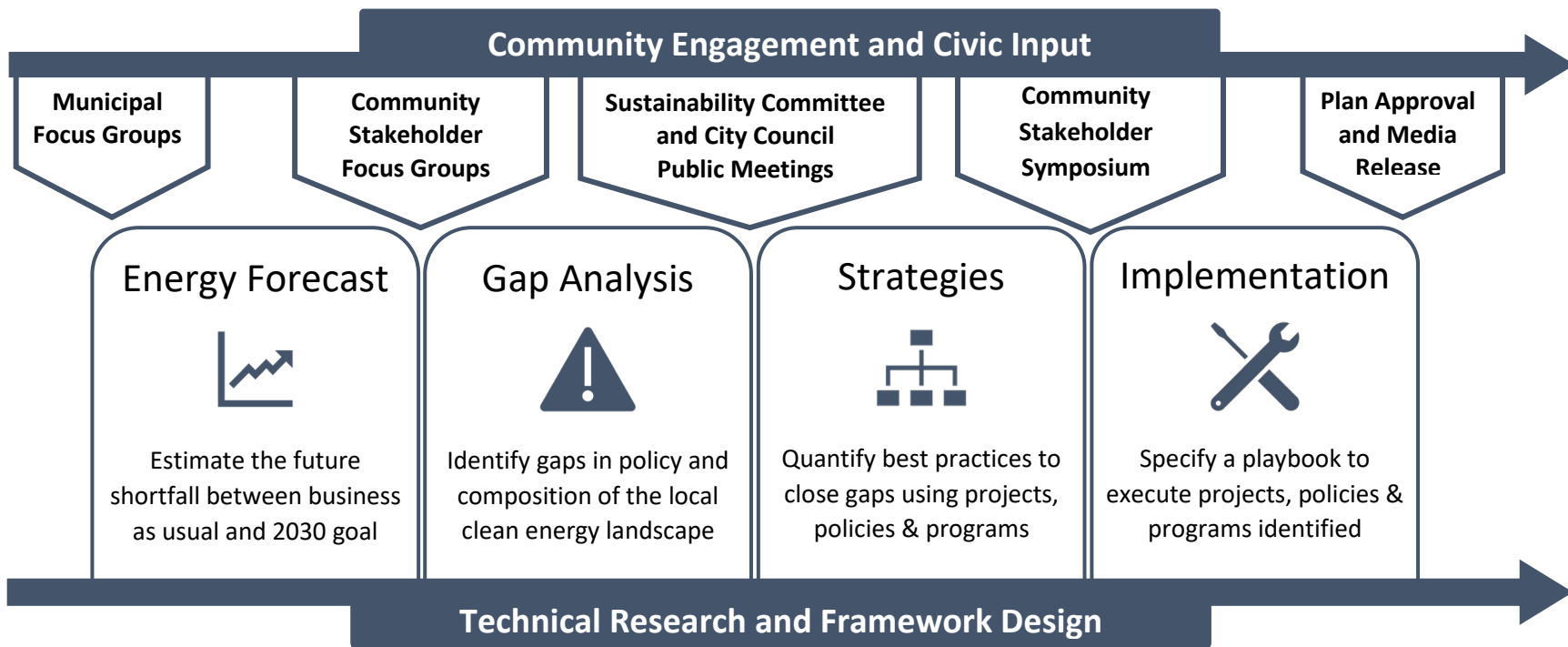


Introduction

On June 7th, 2017 the Santa Barbara City Council adopted a hugely ambitious goal of 100% renewable electricity for the entire community by 2030 and an interim goal of 50% renewable electricity for municipal facilities by 2020.¹ This bold initiative necessitates an equally ambitious response, which is outlined in the City of Santa Barbara Strategic Energy Plan (SEP). The SEP presents a flexible pathway to achieving a 100% renewable electricity supply by 2030 through a combination of strategic policy and program options focused on developing local renewable energy resources and bolstering local reliability and resilience.

Approach

In order to gather key information, and enable the design of specific and relevant strategies, each stage of the SEP approach is bounded by civic and community stakeholder engagement processes. Community feedback was essential to identify top priorities and major barriers to energy measure adoption. The outcome was the identification of opportunities to bridge those barriers with community-centered, implementable, solutions. Stakeholder engagement helped reveal key themes guiding the design and framework at the core of the SEP strategies which address current and future actions required to reach the community’s renewable energy goals.



Scope

In order to align with the resolution adopted by the City this plan focuses only on electricity used within Santa Barbara. This plan does not address thermal energy usageⁱⁱ, electric vehicles or other climate-related energy issues. Recognizing the limits of the SEP scope, the SEP prioritizes strategies that enable capacity building within the City. Capacity built through SEP implementation can be used to drive additional climate and energy efforts beyond the SEP.

Priorities

In addition to establishing a 100% renewable electricity goal, City Council laid out certain priorities to be addressed. Foremost amongst these were increased reliability of the local electric grid and improved resilience in the face of a changing energy and climate landscape. Given these priorities, the solutions that followed necessitated a strong preference for locally sited renewable generation, as opposed to buying renewable energy credits (RECs).

Gap Analysis Summary

The primary gap analysis was identifying the delta between current renewable energy use in the City (including the expected increase in renewable generation if efforts were to continue at the current pace) and the amount of renewable electricity generation needed to meet the City's goal. In order to address this gap, however, several follow-on gap analyses, focusing on specific barriers and opportunities, were necessary.

Staffing	<ul style="list-style-type: none">• Barrier: Lack of staffing capacity to support necessary programs• Opportunity: Coordinate the City's energy & climate efforts
Funding	<ul style="list-style-type: none">• Barrier: Limited funding for energy initiatives• Opportunity: Create steady local funding streams and pursue grants
Regulatory Congestion	<ul style="list-style-type: none">• Barrier: Delays on energy legislation & development due to State/Local review• Opportunity: Streamline local energy development and reduce need for State/utility involvement
Local Authority	<ul style="list-style-type: none">• Barrier: Lack of local stakeholder ability to drive energy planning and procurement• Opportunity: Incentivize local development while procuring electricity
Public Understanding	<ul style="list-style-type: none">• Barrier: Increased level of community involvement necessary to meet goals• Opportunity: Engage community through specific SEP programs
Infrastructure	<ul style="list-style-type: none">• Barrier: Lack of renewable generation & electrical infrastructure necessary to achieve goals & support microgrids• Opportunity: Increase City support of infrastructure development
Reliability	<ul style="list-style-type: none">• Barrier: Increasing risk & frequency of electrical service interruptions• Opportunity: Provide local economic benefits through development of local generation
Resilience	<ul style="list-style-type: none">• Barrier: Lack of disaster planning & resources for local energy system• Opportunity: Protect public health through creation of a more resilient electricity system

Emergent Themes

Through the stakeholder engagement process and gap analysis, several themes emerged that proved critical to address through the strategy development process. These included:

Staffing Resources: The City would require additional allocated staff to effectively implement all proposed strategies outlined in the plan.

The Energy-Climate Nexus: Due to their thematic alignment, the City would benefit from combining its energy and climate implementation efforts in order to increase collaboration and maximize resources, benefits and progress.

Equity: There is strong desire from the community and City leadership to prioritize equity and affordability throughout the transition to renewable energy. Identifying how to prioritize equity in each relevant enables disadvantaged communities within Santa Barbara to benefit from the strategies implemented through the SEP and protects those most affected by climate change and pollution.

Community-Centric Solutions: The community portion of energy consumption is far larger than the municipal load. Therefore, prioritization should be given to solutions that can be scaled up city-wide and that can enable easy and manageable contributions by the community toward achieving the 2030 renewable energy goal.

Regional Approach: There is a growing trend to address energy reliability and climate action on a regional scale. The City would likely benefit from participating in a regional effort to reduce

greenhouse gas emissions and build a resilient regional community.

City Leadership: There is ample opportunity for the City government to lead by example and catalyze renewable energy development within Santa Barbara.

The strategies included in the SEP address the identified gaps in a way that reflects these emergent themes and



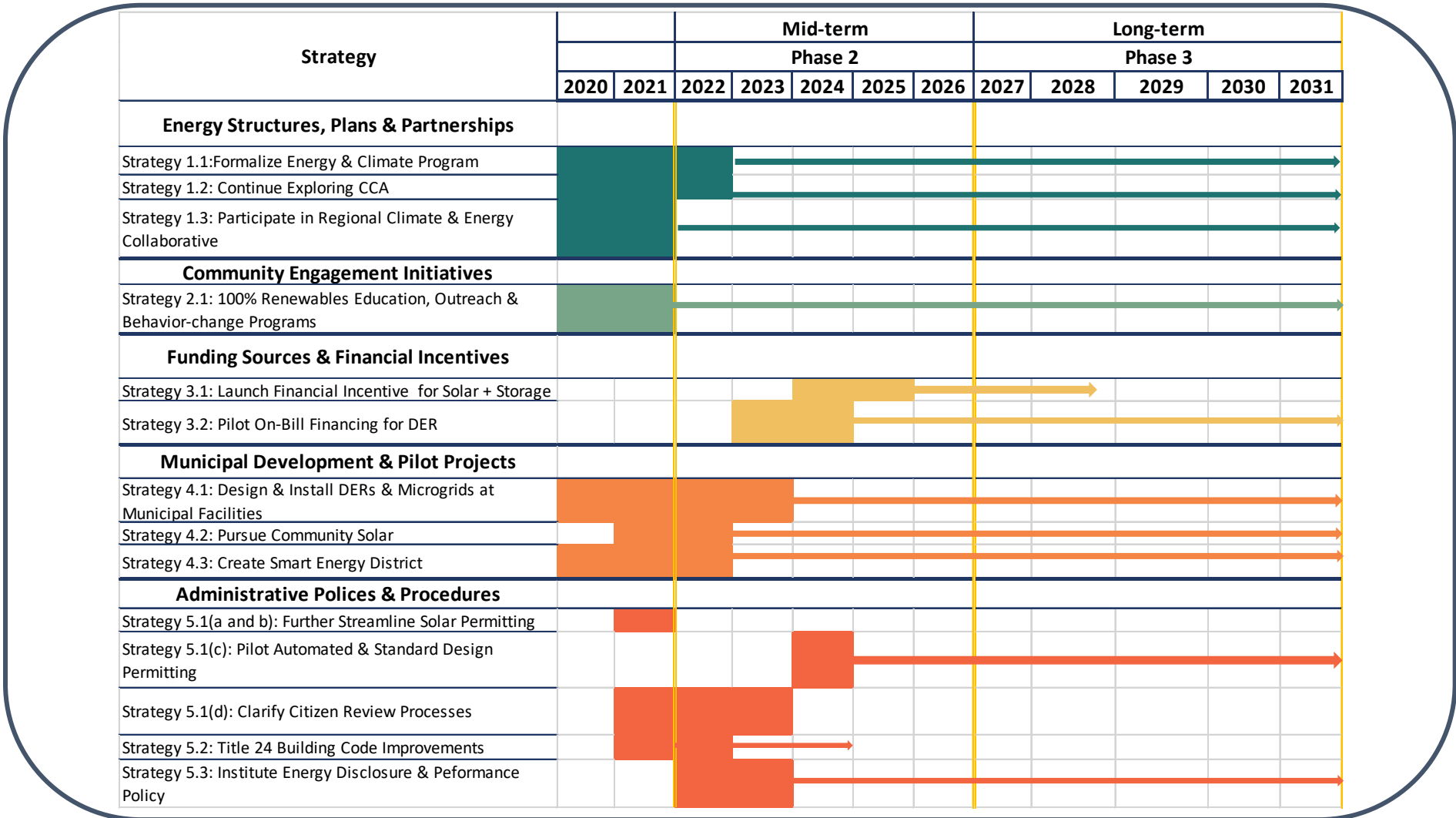
Program Areas & Strategies

Through assessing the City’s progress to date and the remaining gaps to be addressed, the SEP identifies five Program Areas for the City to prioritize during design and implementation. Each of these Program Areas is supported by a mix of strategies that address identified gaps with policies and programs specific to Santa Barbara.

Program Areas	Strategies
 <p>Program Area 1: Energy Partnerships, Plans & Structures</p>	<p><i>Strategy 1.1</i> Formalize Energy & Climate Program</p> <p><i>Strategy 1.2</i> Continue Exploring Community Choice Energy (CCE)</p> <p><i>Strategy 1.3</i> Participate in Regional Climate & Energy Collaborative</p>
 <p>Program Area 2: Community Engagement Initiatives</p>	<p><i>Strategy 2.1</i> Launch 100% Renewables Education, Outreach & Behavior-change Programs</p>
 <p>Program Area 3: Funding Sources & Financial Incentives</p>	<p><i>Strategy 3.1</i> Offer Financial Incentive for Solar + Storage</p> <p><i>Strategy 3.2</i> Pilot On-Bill Financing for Distributed Energy Resources (DERs)</p>
 <p>Program Area 4: Municipal Development & Pilot Projects</p>	<p><i>Strategy 4.1</i> Develop Distributed Energy Resources (DERs) & Microgrids at Municipal Facilities</p> <p><i>Strategy 4.2</i> Pursue Community Solar</p> <p><i>Strategy 4.3</i> Create Smart Energy Zone</p>
 <p>Program Area 5: Administrative Polices & Procedures</p>	<p><i>Strategy 5.1</i> Further Streamline Permitting, Inspections & Administrative Procedures for DERs</p> <p><i>Strategy 5.2</i> Explore Title 24 Building Code Improvements</p> <p><i>Strategy 5.3</i> Implement Energy Disclosure & Performance Policies</p>

Implementation Timeline

In order to meet the City’s renewable energy goals and balance City resources, SEP strategies will be implemented through a phased approach. This timeline maps proposed strategy design and implementation periods through 2030, in a manner consistent with achieving the goals set forth by the Santa Barbara City Council.



Strategic Energy Plan Findings

The gap analyses, strategy identification, design and impact modeling yielded several important results that showcase the different potential outcomes for the City's renewable electricity supply.

BAU Scenario

Under a business-as-usual (BAU) scenario, at the current rate of local renewable development, current energy efficiency trends and with SoCal Edison's planned electricity mix, the City would achieve 67% renewable electricity by 2030. This represents significant progress but is well short of the City's 100% goal.

Community Resource Potential

To meet the City's 100% renewable goal using only local renewable generation, the City would need the equivalent of 235-240 MW of local renewable generation. SEP analyses revealed that local generation potential, which is entirely solar potential, is an estimated 150 – 191 MW.ⁱⁱⁱ However, further SEP modelling revealed that only about 110 MW of local solar development by 2030 can be expected in a likely scenario. Thus, the equivalent of at least 125 - 130 MW of offsite renewable generation will need to be procured to meet the City's goals. The SEP strongly prioritizes strategies that support offsite generation in the Santa Barbara region.

Strategy Impacts & Achieving the Goal

Given the uncertainty inherent in long-term planning, the SEP modeled three primary scenarios under which the City would need to achieve its goals (see Forecast Community-Wide Electricity mix below). Under the most likely scenario, about

362 GWh of renewable electricity will be needed in 2030 to meet the City's renewable energy goal. Combined, the SEP strategies are predicted to result in an estimated 95 GWh of renewable generation and energy savings by 2030. The expected utility-procured renewable energy content would account for a set portion of the remaining load, in addition to this local generation and energy efficiency. The combination of the utility renewable content, energy savings and new clean energy sources is estimated to bring the city to 74% renewable energy by 2030. In the modeled SEP scenarios, marginal renewable power (i.e., above State requirements) procured via Community Choice Energy (CCE) provides the offsite renewable generation necessary to achieve the City of Santa Barbara's 100% renewable electricity goal.

Importantly, the SEP strategies are also designed to provide resilience benefits by accelerating the development of an estimated 89 MWh of advanced energy storage capacity by 2025. By 2030 the capacity is estimated to be about 161 MWh which represents enough capacity to support countless small critical circuits or the full electric load of roughly 32,000 homes through a short power outage (and roughly 1,300 homes in an extended outage).^{iv}

CCE Scenarios

The future development of a regional CCE is still an outstanding question at the time of writing. However, the strategies presented in the SEP make allowances for either possible outcome such that they can be implemented with or without a CCE, though CCE remains the most influential tool in the SEP toolkit and the key to achieving the City's goals.

Forecast Community Wide Electricity Mix

California’s renewable energy and energy efficiency policies, combined with local efforts, have created a dynamic and changing energy landscape in Santa Barbara, with a rapidly shifting utility electricity mix and declining electricity demand. The City of Santa Barbara’s path towards 100% renewable energy depends on how the SEP strategies interact with and impact this landscape. To address this dynamic landscape, the

SEP modeled three community-wide load forecasting scenarios; a low, medium (most likely) and high scenario. These scenarios vary primarily due to changing assumptions in economic growth, population, electric vehicle adoption and building energy efficiency. Figure 4 shows the medium scenario and the projected electricity mix to achieve 100% renewable energy assuming under that scenario. Projected electricity mixes needed to achieve 100% renewable energy under the low and high scenarios are included in the SEP Appendix.

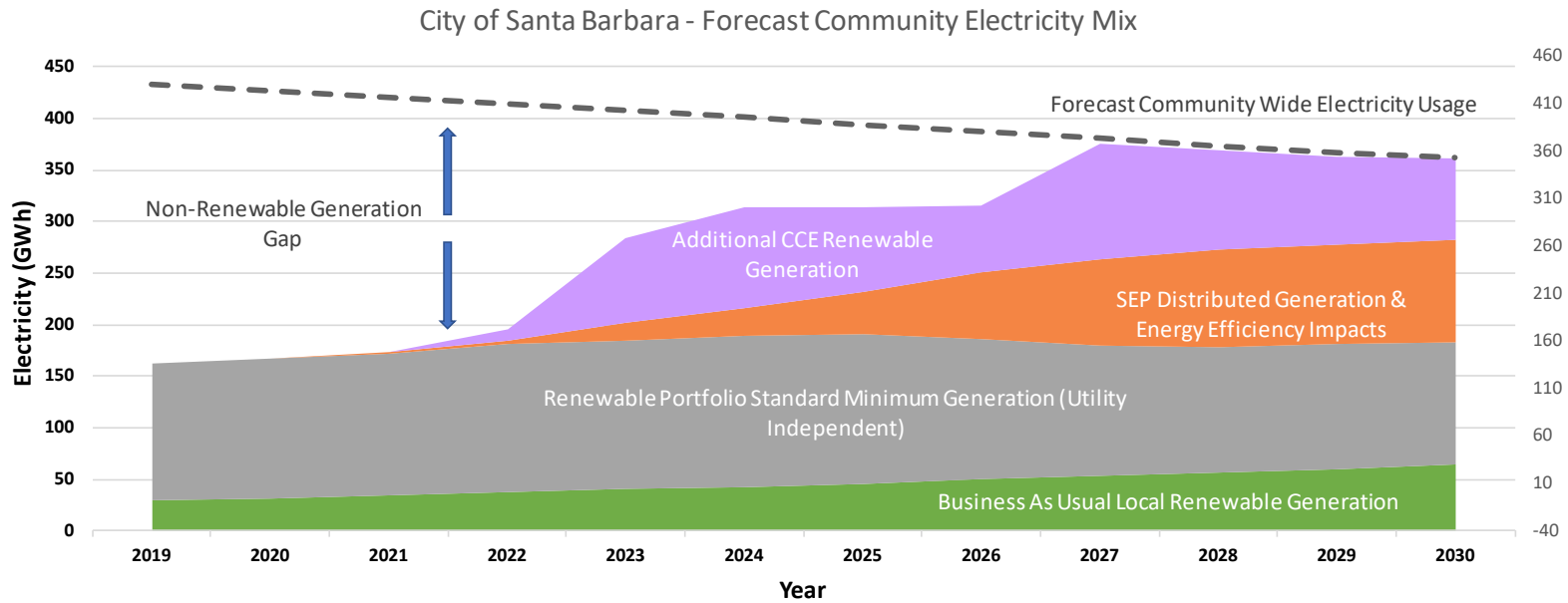


Figure 2: Forecasted Community-wide Electricity Mix through 2030 - 100% Renewable Electricity Scenario

Why Now?

Santa Barbara has a long history of clean energy and environmental leadership, but recent events, including significant natural disasters, make it clear that it is a particularly critical time for the City to move quickly toward its clean energy future.

On a broad scale, climate change continues to threaten communities around the globe and the 2018 Intergovernmental Panel on Climate Change (IPCC) report stresses the importance of rapid, sustained progress towards addressing its causes and effects.^v

Locally, the effects of a warming climate and the importance of energy independence and resilience have never been clearer. The Thomas Fire and resulting Montecito debris flows in early 2018 left a lasting mark on the Santa Barbara region. Additionally, Electric utilities in California are responding to the increase in fires by implementing a new policy of planned power outages called a Public Safety Power Shutdown (PSPS)^{vi} which will likely become a recurring part of electrical system operations moving forward.

In response to these climate trends the California State Senate passed Senate Bill 100 (SB 100) in September 2018, committing California's investor-owned utilities to achieving 100% carbon free electricity by 2045. This is a huge, statewide step in the right direction, however, there are some shortcomings that highlight why energy planning remains a responsibility for the City, and why strategic energy planning should remain within the purview of the City in order to meet a 100% renewable goal by 2030.

First, moving with the State's timeframe will mean that the City will reach its goals 15 years behind schedule. Second, the definitions established in SB 100 expand to include zero-carbon electricity sources and remove geographic limitations on where the renewable electricity comes from. These changes do not align with the renewable electricity

definitions established in the City's resolution or the priorities established by Council. Under SB 100, the IOUs will reach 60% renewable electricity in 2030, using renewable electricity sources consistent with the City's definitions, before diverging, with the option to use renewable electricity credits sourced from anywhere in the country (or nuclear and large hydropower resources, although new resources of this type are unlikely to be developed) to achieve the remaining 40%.^{vii}

Beyond definitions, achieving clean energy goals through SB 100 sacrifices significant local outcomes and benefits that Santa Barbara is more likely to capture through implementation of its City-specific goals. Maximizing local development of renewable energy has the potential to achieve significant economic development, realize cost-savings, improve public health, improve electric system reliability and increase resilience in the wake of disaster.

Implementation Risks

As noted in the discussion of the Forecast Community Wide Electricity Mix, the City's path towards 100% renewable energy depends on how the SEP strategies interact with, are impacted by and impact the dynamic energy landscape in California, within which Santa Barbara sits. There are several implementation risks that could impact the City's ability to achieve its goal. These risks are symptoms of challenges at regional and statewide levels, beyond the purview of the City, but awareness of the context in which the City is operating during SEP implementation will enable staff to ensure that the City is acting in a manner congruent with broader renewable energy efforts. Contextual awareness will also allow the City to understand external factors that may hinder SEP implementation. These risks are summarized below and discussed in more detail in SEP Appendix II.

Risk	Risk Summary
Regulatory Risk	While California’s climate and energy policy has consistently supported renewable energy, and likely will not change, regulatory questions and decisions always have the potential to impact the City’s ability to reach its goal. The Power Charge Indifference Adjustment (PCIA) decision (see Detailed Strategy Descriptions: Strategy 1.2) is an example of unexpected regulatory decision that strongly impacted the City’s ability to reach its goal.
Solar Market Risk	As solar development rapidly expands in California, the electrical grid is experiencing large amounts of solar output at midday, followed by a dramatic spike in net demand in the early evening as solar production decreases and usage increases. This is impacting behind-the-meter solar, as utilities shift their rate structures in a way that reduces the value of those systems. It also impacts the wholesale market and can create negative prices for utility-scale solar at certain times of day and year. If these market trends continue it may affect the City’s ability to procure off-site solar at an affordable rate via a CCE program.
Technology Cost Risk	While renewable energy technologies have decreased markedly and consistently in price over the past ten years, the cost of battery storage, in particular, remains at a level that is not accessible to all customers. As this technology becomes increasingly important in the economic feasibility of distributed resources and in management of the wholesale electricity grid, there is uncertainty surrounding the effects this will have on retail electricity prices and the viability of distributed resources.

Near Term Actions

Delaying implementation of the SEP will increase the difficulty of achieving the City’s goals. Accordingly, there are several strategies that the City can begin work on in 2020 to ensure immediate SEP implementation. Progress on these strategies can be achieved with existing City resources. The list of near-term action strategies included below could be expanded if additional budget is appropriated for SEP implementation in 2020.

Strategy	Summary of Actions
Strategy 1.1: Formalize Energy & Climate Program	Make budget request & begin hiring process for new positions
Strategy 1.2: Continue Exploring Community Choice Energy	Monitor & assess results of active CCE feasibility studies, determine path forward for City
Strategy 1.3: Participate in Regional Climate & Energy Collaborative	Continue engaging with County of Santa Barbra to scope and design the regional collaborative
Strategy 2.1: Launch 100% Renewables Education, Outreach & Behavior-change Programs	Launch marketing campaign connected to finalization of SEP, continue discussions with strategic outreach partners, research behavior-change programs
Strategy 4.1: Develop Distributed Energy Resources (DERs) & Microgrids at Municipal Facilities	Finalize and release RFPs for sites identified during the SEP process
Strategy 4.3: Create Smart Energy Zone	Continue community engagement, establish mechanism for consistent engagement, continue scoping in preparation for implementation

A Call to Action

The City of Santa Barbara 100% renewable electricity goal is a powerful commitment that has the potential to create local, regional and national benefits. Meeting that commitment, however, is no easy task. Executing the strategies outlined in the SEP will require significant effort and leadership on the part of the City, combined with community support and participation. Fortunately, the City has a history of regional leadership on environmental issues and an active community ready to support the City's actions. Now is the time to act on those opportunities and claim the City's clean energy future.

Program Areas and Strategies

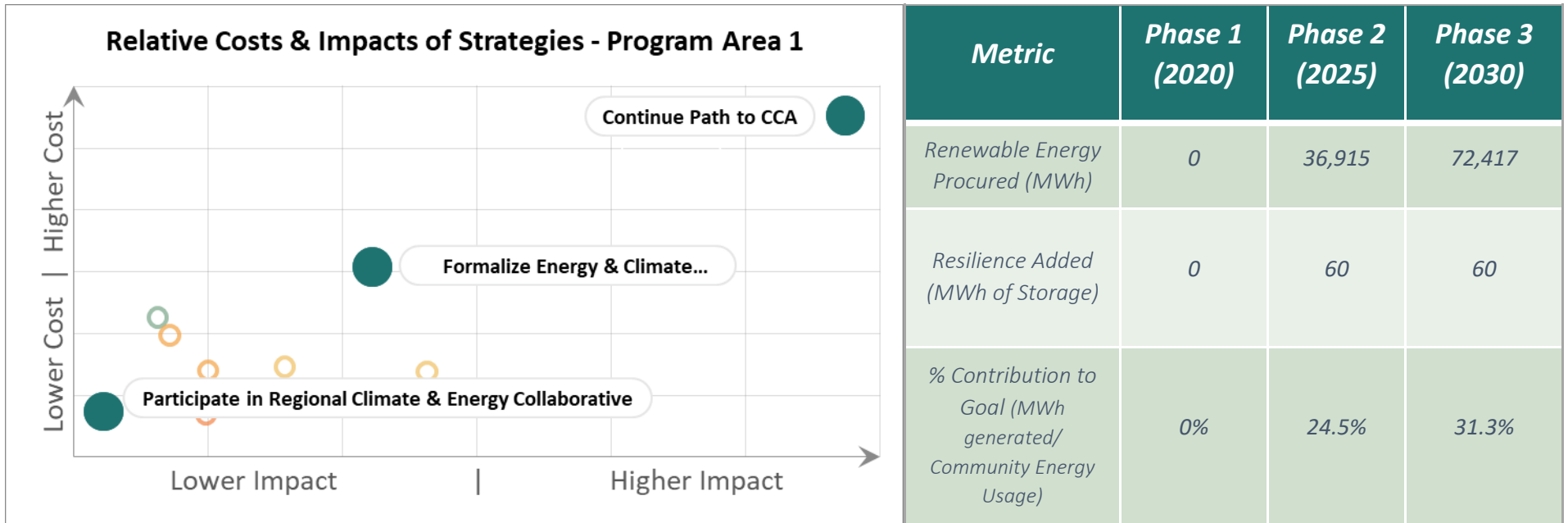


Program Area 1: New Energy Partnerships, Plans & Structures

Program Area Summary

Program Area 1: **New Energy Partnerships, Plans & Structures** addresses the identified gaps in Staffing, Local Authority and Resilience. Strategy 1.1 considers the most efficient way to support SEP staffing needs, Strategy 1.2 outlines an updated approach to Community Choice Energy and Strategy 1.3 suggests steps to improve and expand regional energy system planning. These strategies project to result in a 25% contribution to the City’s goal in 2030.

Modelled Strategy Impacts



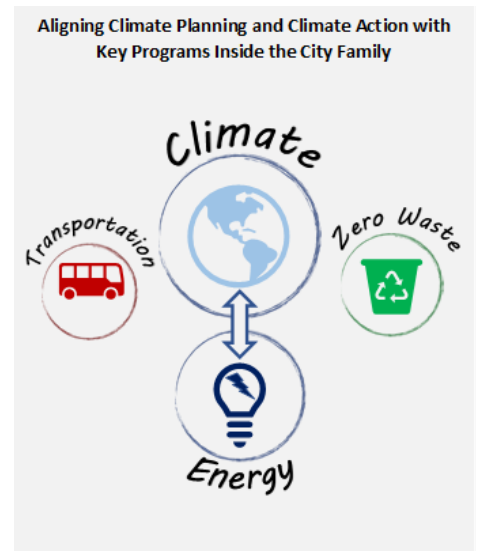
 Program Area 1 - New Energy Partnerships Plans &

Strategy 1.1: Formalize Energy & Climate Program

The City is doing remarkable sustainability work throughout its departments. Creating a centralized Energy & Climate program will streamline these efforts and enable even more success.

To achieve 100% renewable electricity community-wide, the City will need to shift its current in-facing energy approach to an increasingly out-facing one. The City's energy efforts have, historically, focused on municipal electricity usage. The City budgets 1.5 full-time staff, housed in Public Works, and relying on support from additional Facilities staff to execute energy projects. Additional staff will be required to develop programs that engage the community and drive adoption of the SEP. This strategy recommends that the City formalize its Energy Program and add adequate staffing to accomplish the goals established by City Council.

Additionally, the City would best be served by leveraging the Energy-Climate nexus and combining these programs. This would enable streamlined implementation of the SEP and the Climate Action Plan (CAP) and assign staff to oversee and evaluate the City's progress on climate action. This would also add necessary capacity to pursue climate-focused initiatives, such as building and vehicle electrification, that were outside the SEP scope. A formal Energy & Climate Program would be a significant step toward enhancing Santa Barbara's reliability and resiliency in the face of a rapidly changing climate landscape.





Strategy 1.2: Continue Path to Community Choice Energy (CCE)

Community Choice Energy can deliver local control, renewable energy and significant economic benefits to the City of Santa Barbara. It may be the single most important action the City can take toward achieving its renewable energy goals.

This strategy recommends that, if the City's regional Community Choice Energy (CCE) efforts prove feasible, they move forward and participate in a regional CCE. However, should the regional approach prove infeasible, the City could pursue CCE at the City level. This would include a phased approach, beginning with municipal accounts only, before expanding to serve the community. The City may want to consider this, given CCE's significant potential as a powerful tool that gives local governments authority over electricity rates and their power content, particularly the percentage of renewable energy, that they do not usually have.



Additionally, CCE could provide additional pathways for renewable energy incentive creation and local renewable development. It is important to note, however, that CCEs do not guarantee a windfall of funding potential, as that is dependent on the headroom between customer rates and the cost of energy procurement. However, should that headroom be realized, a CCE could act as a potential key source of funding and support for several of the SEP strategies.



Strategy 1.3: Participate in Regional Climate & Energy Collaborative

Climate change and natural disasters do not recognize municipal borders. Regional coordination allows the City to address these threats more effectively.

Energy reliability and greenhouse gas emissions do not subscribe to regional boundaries. Thus, significant benefits can be gleaned by collaborating regionally on grid reliability and resiliency.

In the Santa Barbara area, there are many regional agencies working on similar efforts related to climate and energy without the opportunity to enhance each other's' efforts through a collaborative approach. A regional collaborative focused on GHG emissions reduction, including as they relate to energy, would allow for the sharing of best practices, combined project development, a stronger voice in advocacy and make the region more attractive to potential funding sources.



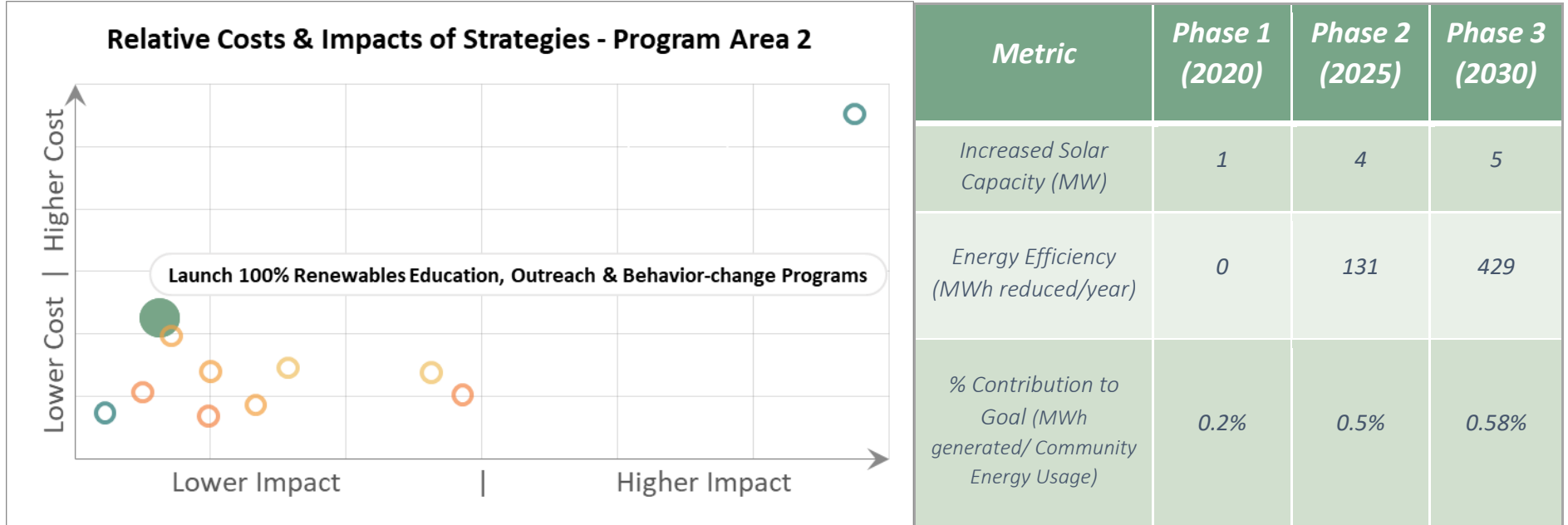
The County of Santa Barbara has taken a first step in forming such a collaborative and this strategy recommends that the City take an active role in this regional working group in order to increase the effectiveness of some of the other SEP strategies and continue acting as a climate champion in the Santa Barbara region.

Program Area 2: New Community Engagement Initiatives

Program Area Summary

Program Area 2: **New Community Engagement Initiatives** addresses the identified gap in Public Understanding. Strategy 2.1 outlines a multifaceted community engagement approach that includes outreach, education and behavior change programs. Program Area 2 contains strategies that the City can begin implementing immediately upon SEP adoption and will reduce energy usage by an estimated 429 MWh by 2030.

Modelled Strategy Impacts





Strategy 2.1: 100% Renewables Education, Outreach & Behavior Change Program

The community of Santa Barbara is an important force driving the City towards its goals and the City must capture the power of its community.



The City cannot achieve its energy goals without the buy-in, input, support, knowledge and actions of the community. Outreach and community engagement around the SEP are extremely important because of the significant role that the community will have in executing the plan and moving the City toward its goals. Throughout the SEP process, the Project Team has engaged key community stakeholders to about learn community

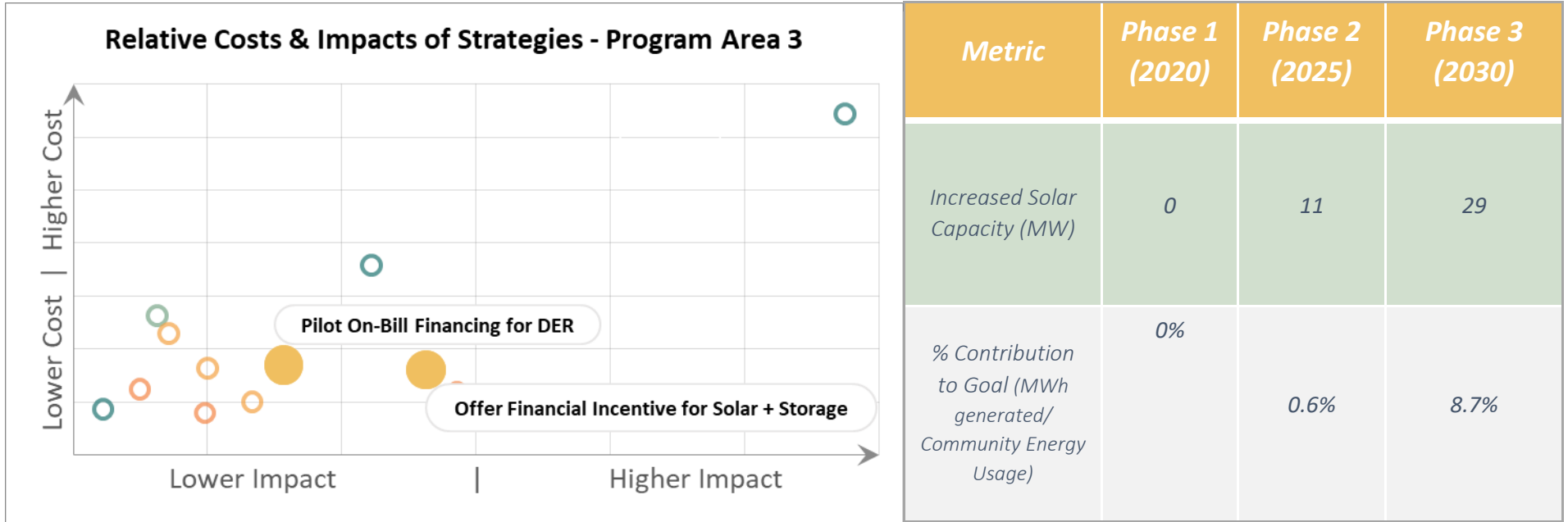
priorities and inform the strategies. By building on these efforts, the City can increase the impact of every community-facing SEP strategy. Continued outreach will serve to educate the community on how they can reap the maximum benefit from newly-established policies and programs; and in return, community members can educate City staff and program managers on how best to adjust SEP programs to maximize the ease of implementation for the community. The primary touch point for the community will be an energy “One-Stop Shop” that is designed to answer community questions and provide all information on energy efforts underway in the city in one convenient place.

Program Area 3: New Funding Sources & Financial Incentives

Program Area Summary

Program Area 3: **New Funding Sources & Financial Incentives** addresses identified gaps in Funding and Reliability. Strategy 3.1 explores options for a direct financial incentive for renewable energy development and Strategy 3.2 describes an approach to connect residents with low-cost capital for renewable energy development. These strategies project to increase solar capacity in Santa Barbara by 29 MW and contribute 8.5% toward the City’s goals in 2030.

Modelled Strategy Impacts





Strategy 3.1: Launch Financial Incentives for Solar + Storage

A financial incentive is the most direct option for the City to catalyze development of renewable generation within Santa Barbara.

While the costs of renewable energy, particularly solar photovoltaics, have dropped significantly in the last ten years, these technologies are still not available to everyone. This strategy recommends that the City offer a financial incentive to support renewable energy development in Santa Barbara. The incentive would be higher for systems with storage, to promote resiliency and reliability in the community.



The objective of the incentive would be to push renewable energy projects just under the threshold for economic viability, above it. As such, the incentive could be offered at different rates for targeted communities or types of customer classes, based on their individual requirements. To promote resiliency and reliability in the community, the incentive could be higher for systems with advanced energy storage.

The financial incentive could be structured either as an up-front payment or directly tied to production over several years, in order to encourage system maintenance. The City will explore which incentive structure is the most viable to offer to the community.



Strategy 3.2: Pilot On-Bill Financing (OBF)

Streamlined, affordable financing is one way to increase access to renewable energy for everyone in Santa Barbara.



Renewable energy and energy efficiency can provide significant economic benefits for residents and businesses, but those benefits may not be accessible without the ability to make an upfront investment in the necessary technologies and improvements. On-bill financing is a proven mechanism that can provide accessible loans to unlock the economic benefits of renewable energy.

The City can use its existing utility services and role as a trusted member of the community to provide on-bill financing to its

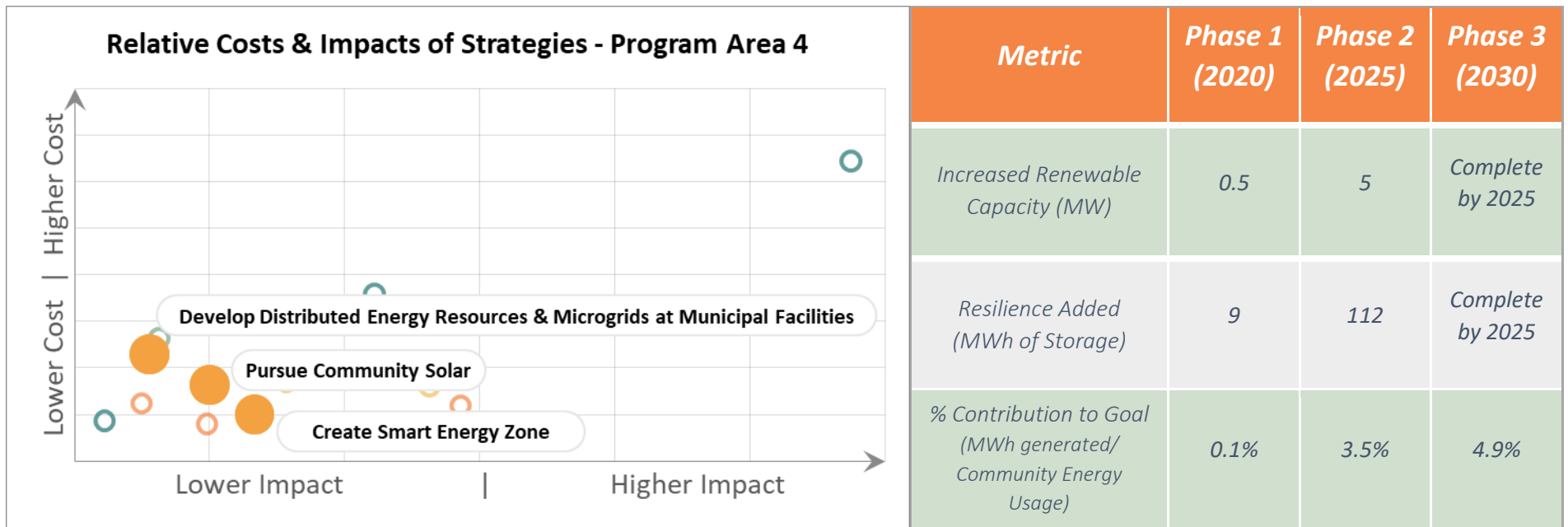
residents and businesses. The City’s existing relationship with the community will enable a user-friendly loan process that will mitigate administrative challenges which can decrease the participation in other OBF programs. There are a variety of program designs that the City could use to structure an OBF pilot, which are explored in SEP Detailed Strategy Descriptions.

Program Area 4: New Municipal Development & Pilot Projects

Program Area Summary

Program Area 4: **New Municipal Development & Pilot Projects** addresses the identified gaps in Infrastructure, Reliability and Resilience. Strategy 4.1 outlines renewable energy opportunities at municipal facilities, Strategy 4.2 describes how community solar could be developed at municipal facilities and Strategy 4.3 summarizes the concept of a Smart Energy Zone. These strategies project to add 112 MWh of battery back up by 2030.

Modelled Strategy Impacts





Strategy 4.1: Install Distributed Energy Resources (DERs) & Microgrids at Critical Municipal Facilities

Developing renewable generation on City facilities saves money for the City, increases renewable energy use and sets an example for the community.



This strategy provides a pathway for the City to continue developing renewable generation and increase resilience to aid in disaster response. The City can lead by example for the community by continuing to install DERs and microgrids at City facilities. These systems will increase resiliency by providing clean backup power at critical City facilities that are needed during emergency response scenarios, as well as provide day-to-day energy savings.

On a site-by-site basis, this could involve installation of solar, battery storage, cogeneration, fuel cells, and/or aggregated demand response. For maximum resiliency, sites close to each other could be aggregated to create a microgrid, a network of sites that support each other and can island from the electricity grid.

This development could be conducted in a multi-step approach where the City initially develops smaller projects at non-critical facilities such as parking garages, followed by a rollout of larger projects at critical sites such as water distribution facilities. This second step would include microgrid development which is currently challenging due to certain California regulations.



Strategy 4.2: Pursue Community Solar

Not everyone can put solar on their roof. Community solar provides an opportunity for those folks to participate in Santa Barbara’s energy goals.



Community solar describes a large-scale solar development program that enables subscribing customers to purchase electricity generated by the project, even if the development is not on their property. It is an important mechanism to enable community members who cannot put solar on their homes or businesses (primarily multifamily units and rental properties) to experience the benefits of solar development and contribute to the City’s goal.

Community solar also allows the City to leverage municipal sites with a large solar potential that do not have enough on-site electricity load to support a full build out. These sites include locations such as reservoirs and large parking lots. The City can pursue the development of a community solar project through either a potential CCE or SCE’s recently proposed Community Renewables program.



Strategy 4.3: Create A Smart Energy Zone

The Strategic Energy Plan is a bold strategy with bold solutions. The Smart Energy District creates a “living-lab” where those solutions can be put to the test and perfected.

Achieving the City’s energy goals will require implementation of many new policies and programs. A Smart Energy Zone supports the City’s energy goals and SEP implementation by creating a designated



part of the City where new policies and programs can be piloted and improved. This “living-lab” allows the City to test, and prove, new ideas before making the investment and commitment to establish them throughout the City.

The Smart Energy Zone can also be a catalyst to community involvement because of the engagement required to establish such a Zone. Additionally, by enabling innovative and cutting-edge projects and centering them in one area,

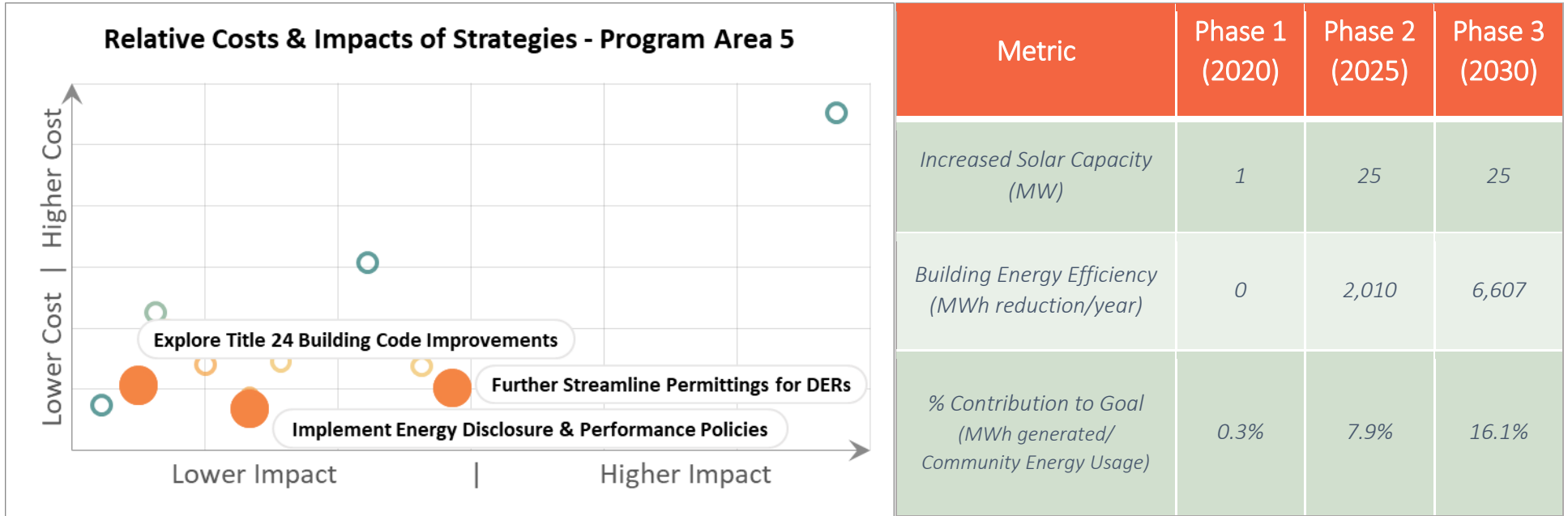
the Smart Energy Zone becomes a natural landing spot for external investment in the City. Cities such as Fort Collins, CO, have leveraged municipal, private and university expertise to create successful Smart Energy Zones. Santa Barbara has experienced success in establishing specific Business Improvement Districts and can take advantage of that concept to further its energy goals.

Program Area 5: New Administrative Policies & Procedures

Program Area Summary

Program Area 5: New Administrative Policies & Procedures addresses the identified gap of Regulatory Congestion. Strategy 5.1 summarizes opportunities to further support renewable energy development through City procedures, Strategy 5.2 discusses energy code improvements and Strategy 5.3 outlines the concept of an energy disclosure and performance policy for buildings. These strategies project to drive 25 MW of solar development & contribute 13% to the City’s goal.

Modelled Strategy Impacts





Strategy 5.1: Further Streamline Permitting, Inspections & Administrative Procedures for Renewable Energy

Reducing permitting costs is one of the simplest ways the City can support renewable energy development.

Through the stakeholder process, it became clear that project delays associated with permitting and design review are still a barrier to renewable energy development in the City, particularly for solar. This strategy recommends several steps the City can take to refine internal processes to ensure that they align with, and support, the City’s renewable energy goals.

Step 1

Assess progress and impacts of past permit streamlining efforts

Step 2

Expand permit streamlining to include more eligible projects

Step 3

Explore additional techniques to standardize renewable energy

Step 4

Standardize design review processes

Evidenced by the valuable input received through the SEP stakeholder process, the City can continue to use community input to inform and guide the process of refining various administrative procedures for renewable energy.



Strategy 5.2: Explore Title 24 Building Code Improvements

The unique climate in Santa Barbara creates the opportunity to customize the State’s energy code to benefit the people of Santa Barbara.



California local governments can adopt and enforce their own building energy standards, known as reach codes, which are more stringent than California’s state-wide Building Energy Efficiency Standards (Title 24). These reach codes can be adapted specifically to fit the community and its energy and sustainability goals. Santa Barbara has previously implemented a reach code in 2007.

As the most recent residential codes are already stringent and require solar panels on all new construction, any future reach code implemented by the City would likely be aimed at replicating this zero-net-energy (ZNE) goal for new commercial construction. It could also be complemented by other requirements such as battery storage, electric vehicle charging readiness, and electrification of natural gas appliances, that help the City achieve its Climate goals.



Strategy 5.3: Implement Energy Disclosure & Performance Policy

Promoting energy efficiency in existing buildings is one of the most cost-effective ways to reduce energy use.

Although Santa Barbara has a temperate climate, leading to lower energy use^{viii}, there are still opportunities for energy efficiency improvements that advance the City towards its renewable energy goals. This strategy recommends making energy efficiency upgrades a central part of the building sector in Santa Barbara. Energy disclosure and benchmarking is a best practice for building management, as decreased utility costs lead to lower operating costs and increased property value. Many cities throughout the country, such as Berkeley, San Francisco, Austin, Texas and Portland, Oregon, are implementing energy disclosure policies that incentivize energy efficiency by increasing availability and visibility of building energy usage. Increased visibility encourages reductions in energy use and the City could even consider establishing an energy performance policy to further incentivize reductions in energy use.



By following in the footsteps of these leaders Santa Barbara can move closer to its energy goals and create cost savings in the commercial and residential sectors.

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References

ⁱ City of Santa Barbara, City Council, Resolution 17-043., Passed June 6, 2017.

ⁱⁱ In 2017 the Santa Barbara received funding from the California Energy Commission to complete a Zero Net Energy Feasibility Study that included thermal energy use. This report provides an overview of the City's efforts to address thermal energy use.

ⁱⁱⁱ This analysis used statistical modelling to assess the solar resource potential of rooftops in the City of Santa Barbara. Potential for other resources, including wind, biogas, hydropower and energy efficiency was also considered. More information can be found in the SEP document "Community Resource Potential".

^{iv} Assuming 1 MW for 200 homes.

^v IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland.

^{vi} Palomino, Joaquin, and Peter Fimrite. "60,000 without Power as PG&E Shuts down Lines over Wildfire Fears." *San Francisco Chronicle*, October 15, 2018. Accessed February 26, 2018. <https://www.sfchronicle.com/california-wildfires/article/PG-E-warns-it-may-shut-off-power-amid-red-flag-13306256.php>.

^{vii} "California Renewables Portfolio Standard (RPS)." Accessed January 5, 2019. http://www.cpuc.ca.gov/RPS_Homepage/.

^{viii} *The Pacific Energy Center's Guide To: California Climate Zones*. Report. October 2006. Accessed January 12, 2019.

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