



Exhibit C - Appropriation Study to Award \$45,000 to Summit Community Power Works through their fiscal sponsor the Park City Community Foundation.

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Pursuant to Sections 10-8-2 of the Utah Code Annotated, the following factors and analysis were considered in award of this contract and are the basis for its consideration:

- (i) [Park City received the following benefits in return for any money or resources appropriated:](#)

Summit Community Power Works (SCPW) History of Past Performance:

- a. LED Switch competition at South Summit School District, North Summit School District, Weilenmann School of Discovery, Park City Day School, and Jeremy Ranch Elementary. 7,000 bulbs were converted to LEDs, resulting in approximately 400,000 kWh saved annually, and \$1,555,000 in estimated lifetime savings in the cost of energy and bulbs.
- b. LED upgrade at North Summit School District and Park City School District. Result: 32,000 LED bulbs will be installed summer 2016, equating to annual savings of \$240,000 in the cost of bulbs, energy, and maintenance.
- c. Ski Town Showdown with Aspen in October 2015. Result: social media reach greatly expanded, and an additional 2,700 bulbs switched to LED, equating to \$610,200 lifetime savings in the cost of energy and bulbs.

SCPW Continued Community Benefits (over the term of the contract (March 2017)):

1. Quantitative Goals
 - a. Impact of switch of 10,000 bulbs to LED – The average lifetime savings per LED bulb is \$266 (https://www.guep.org/docs/GUEP_IndEEGuide2014_Lighting.pdf). \$266 x 10,000 = \$2,660,000 or \$266,000/year assuming a 10-year bulb life. Assuming a bulb has up to

50,000 hours of life and considering the avoided cost of replacement bulbs (not including maintenance and operations cost, which increase lifetime savings), this effort could keep as much as \$425,722 dollars/year in the local economy.

- b. Smart thermostat impact - The average residential property in Utah spends \$79.49/month on electricity (http://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf) or \$953.88 and \$496.28/year on natural gas. (68.6 thousand cubic feet) (https://www.eia.gov/pub/oil_gas/natural_gas/feature_articles/2010/ngtrendsresidcon/ngtrendsresidcon.pdf), 68.6 decatherms (Dth), (<https://www.questargas.com/Tariffs/uttariff.pdf>) = \$496.28/yr). This amounts to \$1,450.16 per year in combined utility costs (Park City's homes tend to be significantly larger than average.) A smart thermostat is proven to save at least 15% of combined utility costs per year. $\$1,450.16 \times 0.15 \times 500 = \$108,762$ /year in savings.
- c. Impact of installation of solar on 130+ homes. The average solar system costs \$14,000 to install, assuming \$3.50/watt and a 4kW install. SCPW has secured an install price of \$2.85/Watt, saving residents almost 20%. 130 installations X \$14,000 = \$1,820,000 in community value. 130 installations X \$2,600 in savings per home = \$338,000 in immediate savings. 5,600 kWh per year/per installation X \$0.07/kWh = \$50,960/year in avoided utility expenses.
- d. Impact of writing and electronic distribution of SCPW's Switch eBook to 300 residents: This effort facilitated passive, increased uptake of LEDs, Smart Controls, and Solar PV (multiplier for 1.A., 1.B., and 1.C.). The ebook also included detailed direction and resources for home weatherization, which typically accomplishes 50% reduction in home energy costs, or \$725.08 per home.
- e. Summary of quantitative benefits (minimum assumption):
 - i. \$425,722 in annual Citywide utility savings.
 - ii. 5.5% annual increase in savings due to predictable utility rate increases.
 - iii. \$2,158,000 in immediate added value to the community in the form of cost savings through bulk purchases as energy savings.
 - iv. Additional, un-quantified savings in commercial maintenance and operations.

2. Qualitative Goals

- a. Increase awareness of and advocate for adoption of energy efficiency and renewables citywide, in alignment with Park City's net-zero goal. This will be done through information (direct outreach, web, social media, information products) and education (in-school lessons and competitions, tabling events, household events). A full adoption of programming at the household-level could offset 100% of electricity demand and 50% of natural gas demand. While significant energy reductions are anticipated in the next year, SCPW is not expecting every home to achieve this level of performance. SCPW assumes that it will deliver at least 750 hours of this service at an at-cost rate of \$75 or \$56,250.

- b. Drive market demand for efficiency and renewable technology: SCPW's education efforts have resulted in Deer Valley, Snowflower Condos, Park City Lodging, JANS sports, Aloha Ski and Sports, the Grub Steak, among others, upgrading to LED in many of their properties. Although the exact numbers aren't known, the demand for efficiency is a direct result of SCPW's outreach and education.
- c. Provide a hub for utilities, businesses, local government, schools, and HOAs to simplify, streamline and coordinate a reduction in energy consumption. Execute in a management-consulting capacity to facilitate goals, interactions, and outcomes among stakeholders. Excluding the financial benefit of outcomes (e.g., \$610,000 LED lighting contract), SCPW assumes that it will deliver at least 500 hours of this service at an at-cost rate of \$75 or \$37,500.
- d. Continued reduction of consumption, verified through Questar and Rocky Mountain Power, is unknown and difficult to quantify. We are trying to get an accurate handle on total and seasonal consumption, but seasonal data are not easily accessible. We have access to accurate gross numbers but are unable to analyze the numbers with any granularity. Developing partnerships in the field such as with Vutiliti, who provide utility use data, present opportunities to understand both the scope of the problem and the total opportunity.
- e. Summary of qualitative Goal benefits:
 - i. At least \$113,625 in delivered qualitative benefits annually.
 - ii. Additional, un-quantified savings on behalf of PCMC in the form of avoided staff time, materials, and implementation budget.

(ii) [Park City's purpose for the appropriation will enhance the safety, health, prosperity, moral well-being, peace, order, comfort, or convenience of the inhabitants of the municipality by:](#)

Park City Municipal has employed sustainability professionals since 2007. Municipal environmental/sustainability managers are supported through local funding, open networks, like USDN, and funding from major foundations. Sustainability work, at its core, is long-term work. Because of budget and election cycles, governments, especially local governments, tend to have longer cycles that are more conducive to far reaching environmental/sustainability plans. Quarterly pressures, near-term profitability, and legal obligations to shareholders make private-sector sustainability more challenging. More importantly, governments have a responsibility to their citizenry and can neither pivot nor relocate.

According to Stratus Consulting's *Climate Change in Park City: An Assessment of Climate, Snowpack, and Economic Impacts*¹:

The economic modeling results indicate that projected decreases in snowpack will have

¹ *Climate Change in Park City: An Assessment of Climate, Snowpack, and Economic Impacts*
<http://www.parkcitymountain.com/site/mountain-info/learn/environment/ParkCityClimateChangeAssessment9-29-2009.pdf>

severe economic consequences for the region. In 2030, the predicted 15% decrease in snowpack is estimated to result in \$120.0 million in lost output. This is estimated to result in approximately 1,137 lost jobs and \$20.4 million in the form of lost earnings (or labor income). In 2050, the potential impacts range from \$160.4 million in lost output, \$27.2 million in lost earnings, and 1,520 lost jobs (low-emissions scenarios) to \$392.3 million in lost output, \$66.6 million in lost earnings, and 3,717 lost jobs (high-emissions scenario).

In separate studies using current emission projections, Park City's winter precipitation is projected to be 50/50 snow/rain by 2035 and potentially no snowfall by 2100.² Park City will continue to see its risk of extreme events (heat, cold, drought, flood, wind, and fire) increase. With the current amount of atmospheric CO₂ pollution, in terms of snowfall, Park City will have to adjust to a very different future. Park City's economy will need to adapt with fundamental shifts across equity, environment, and economic metrics in the coming decades if it hopes to maintain its current status. Park City Municipal has the rare opportunity to become more aggressive in its approach to sustainability, thereby setting a standard for our residents and business community, while at the same time helping to prevent some of the harshest impacts of climate change on our community.

Park City Municipal Corporation has incorporated metrics of economy, equity, and environment into its strategic and work plans. Functionally, the city has multiple departments and operating budgets cohoused in a department called Sustainability. The placement/structure and funding of the Sustainability Department is highly correlated with the City's ability to execute on a robust work plan, using expertise in the areas of infrastructure, communications, housing, special events, and environmental regulation and policy. A multi-faceted Sustainability Department, using strong Council support and direction, is well positioned to implement and act upon a very progressive and responsible sustainability work plan for the community.

Some of Park City Environmental Sustainability's biggest wins exemplify this balanced role, intra-departmental approach, and work plan. For example, past and ongoing efforts include:

- Improved Fleet Procurement – Fleet and Sustainability Teams with input from all departments – resulting in right-sized vehicles and right-sized fleets
- Summit Community Solar – Park City Municipal: Building Department, Planning Department, Executive, and Sustainability; Summit County, and Utah Clean Energy – resulting in a 500% increase in residential solar PV installs and \$1.2M in new economic activity
- MARC Solar PV Installation – Park City Recreation, Building Department, Planning Department, and Sustainability – offsetting 20% of the MARC's annual electricity use
- LED Streetlight Switch – Streets & Streetscapes, Water Department, and Sustainability – reducing energy and maintenance costs. Six-hundred streetlights were converted to LED, which equates to \$40,600 annual savings and \$570,000 lifetime savings (5-year ROI).
- LED Facility Lights Switch – Building Maintenance, Sustainability, and all other departments – reducing energy and maintenance costs

² *Brian McInerney* – NOAA

- Improved Idling Enforcement – Police, Parking Services, IT, and Sustainability
- Hiring a Sustainable Energy Project Manager – Water Department, Human Resources, Sustainability, and Rocky Mountain Power – targeting a 3M kWh, 25%, reduction in PCMC electricity usage
- Georgetown University Energy Prize/Summit Community Power Works
 - All Park City and Summit County Departments
 - Cities of Coalville, Francis, Henefer, Kamas, and Oakley
 - North Summit School District, Park City School District, and South Summit School District
 - Habitat for Humanity, The Park City Community Foundation, Recycle Utah, and many more

National and Regional Relationships

There are at least 135 municipal sustainability departments in North America.³ Park City Municipal staff are members of the [Urban Sustainability Director's Network](#) (USDN). USDN is funded by member dues (11%) and nine national foundations (89%). Beyond the network, resource sharing, and access to resources USDN provides, staff also has access to the placement, structure, funding, and role of all sustainability departments across the country. Our regional working group, the [Western Adaptation Alliance](#), has provided our Water Department, regional partners, and Sustainability staff direct access to data, best practices, and the staff of thirteen southwestern cities including Aspen, Denver, Boulder, Flagstaff, and Tucson. The Western Adaptation Alliance provides access to communities that share our unique challenges and opportunities. Annual meetings are funded entirely by the Walton Family Foundation. Access to these networks accelerates Park City's work, improves our access to funding, and illuminates the investment of other communities are making in carbon mitigation and climate adaptation nationally.

Additional information and background can be found in the November 19, 2015 update to City Council p. 4

(<http://parkcityut.igm2.com/Citizens/FileOpen.aspx?Type=1&ID=2078&Inline=True>).

SCPW's efforts are consistent with past and current City and community environmental efforts. Their continued work will increase awareness of and advocate for adoption of energy efficiency and renewables Citywide, which is in alignment with Park City's net zero goal. For example, in a recent conversation with Kim McClelland, who oversees all Deer Valley Lodging property managers, he noted that the work of SCPW and the urgency of the Georgetown prize was a catalyst for the company to switch many of their buildings, including The Lodges to LEDs and smart thermostats. It is through relationship-building, education and facilitating the connections between businesses and installers that SCPW has been and will continue to be successful in driving efficiency and renewables citywide. SCPW is presenting to the Park City Chamber of Commerce, with Rocky Mountain Power on July 20th, as well as the Park City Board of Realtors

³ Urban Sustainability Director's Network – www.usdn.org

on July 21, on the benefits of efficiency and renewables. They continue to develop community relationships as a catalyst for change.

Other examples include their Mountain Town Community Solar Program, which currently has a 70% adoption rate from proposal to signed contract. The average in former programs was 20%. Through marketing, outreach and administration of proven programs with their partners such as Alpenglow and Utah Clean Energy, they continue to offer simplified, streamlined and cost-effective programs for the residents of Park City.

The successful partnerships and working relationships with the Park City School District have empowered the district to invest in switching 28,000 bulbs. The further impacts of this program include:

* The Salt Lake City School District has adopted the RFP process designed by Park City School District, and in July 2016, entered into a contract with a local business, SES Green Energy, to switch out buildings within their district. This relationship has expanded so Hughes Contractors, who are doing the remodels on various PC district buildings, has asked SES to bid on three new builds - thereby expanding local economic development and demand for efficiency in our community.

A third example includes Rocky Mountain Power, Tesoro Foundation, Mountainlands Community Housing Trust and Park City Municipal. These entities are coordinating the funding, procurement and installation of LED bulbs for low-income housing in Park City and Summit County. This represents the value of SCPW as the hub to foster, streamline, and expand the adoption of efficiency and renewables by bringing together the various stakeholders, and providing the organizational structure to put funding into programs that directly impact the reduction at the meter.

SCPW continues to work to develop positive partnerships with RMP, Utah Clean Energy and local businesses, municipalities and residents to ease the installation process for rooftop solar. Education of various architectural review committees will be key in eliminating hurdles to adoption of rooftop solar city-wide. SCPW's targets for reduction are ambitious - 10% over the two years of the competition.

(iii) [The appropriation is necessary and appropriate to accomplish the reasonable goals and objectives of the municipality for the following public purpose:](#)

Park City residents and visitors consistently prioritize "Enhancing and Improving the Natural Environment" as one of the four City Council goals outlined in Park City's long-term strategic plan, Park City 2030([Link](#)).

For example our recently adopted General Plan clearly supports an aggressive approach to sustainability measures:

Park City will be "greener." This doesn't mean that wishy-washy light-tone green that most communities are striving to attain. This means that dark "green" color, that truly sustainable green community that offers transportation alternatives to get us out of our comfortable cars, a community that incentivizes energy-efficient design in all new

construction and historic rehabilitation, a “green” that makes us rethink driving a half mile to drop our kids off at school. We will hyper-focus on the color “green” that makes us consider the environment before we consider the “green” dollar bills that may be singularly focused. Park City doesn’t want to stop at being the best IN the world; we want to be the best FOR the world.

More recently, City Council elevated Energy to a third critical priority and recommended target dates to achieve Net Zero Carbon (AKA Carbon Neutral) for the municipal operations by 2022 and citywide by 2032. The following services will be provided by SCPW to help pursue and promote that goal:

- a. Pursuing policy related to efficiency and adoption of renewable energy sources.
- b. Preserving and Enhancing the Natural Environment by enhancing municipal and community carbon mitigation, energy reduction and conservation.
- c. Developing, promoting, and implementing energy efficiency with residents, local government and the school district.
- d. Partnering with local nonprofits (Swaner EcoCenter, Recycle Utah, Utah Clean Energy, The Park City Community Foundation, etc.) as well as program development and alignment of values with Vail Resorts, and Deer Valley Resort.
- e. Developing partnerships with local businesses to offer products and services that address energy efficiency, including Utah Clean Energy to administer Mountain Town Community Solar in 2016.
- f. Continued development of partnerships with Rocky Mountain Power and Questar Gas to provide energy-efficiency education and services to Park City residents.
- g. Writing the final report to Georgetown University.
- h. Administering LED bulk-purchase program.
- i. Administer LED installation for low-income residents

In summary, SCPW delivers proven programs that offer the residents of Park City a pathway to reducing their consumption. SCPW programs enhance air quality, reduce the monthly bills of residents, and reduce the costs of providing Park City Municipal maintenance. Through SCPW’s marketing and outreach they have elevated the awareness of the average citizen of Park City regarding the whole fuel cycle and its associated costs. The Georgetown University Energy Prize is a catalyst for addressing and mitigating the consumption of energy by the City’s Water department, and provides motivation to act now, rather than wait. For Park City to reach its community goal of Net Zero by 2032, there needs to be a strong environmental advocate, focused on energy, to drive demand for efficiency and renewables.