



Campus Energy Action Plan

April 2020



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Acknowledgements

A special thanks to the following organizations and individuals who helped develop this Campus Energy Action Plan for Southern Utah University.

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The team was formed from a diverse group of staff, faculty, and students.

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Executive Summary

Southern Utah University (SUU) and Rocky Mountain Power (RMP) are working together through the Wattsmart Communities program to find actionable ways to support the University's ongoing success in reducing its environmental footprint, specifically related to electrical energy consumption. The Campus Energy Action Plan is meant to serve as a two-year springboard to help kick off the next phase of energy efficiency, renewable energy, and campus engagement for SUU. In addition, the Campus Energy Action Plan is intended to dovetail with overall campus sustainability efforts being proposed by the SUU Sustainability Committee. Lessons learned through this planning process may be applied across other facets of the campus community as the University advances its sustainability efforts.

Rocky Mountain Power's Wattsmart Communities team facilitated two planning workshops (November 2019 and January 2020). Several stakeholders from SUU, representing a cross-section of the University, participated. This Energy Planning Team was made up of representatives from faculty, students, and staff across several University departments who committed to supporting SUU's energy priorities. During the two workshops, the Energy Planning Team developed and agreed upon an energy vision, four focus areas, and eight actionable strategies to support an overall energy goal of reducing electrical consumption across the University, over and above past achievements.

Over the last three years, the University has achieved approximately 450,000 kWh in cumulative electricity savings supported by the Wattsmart Business incentive program. Through the planning process, the Energy Planning Team identified a University goal of increasing electricity savings to 500,000 kWh over two years.

When SUU achieves this electricity savings goal, it will increase savings by 67% over historical annual levels, while also saving taxpayers more than \$20,000 per year and reducing greenhouse gas emissions by approximately 150 metric tons. With Facilities Management leading overall implementation coordination to achieve the goal, each strategy includes an implementation team with leaders and supporting members identified from groups across campus as well as data tracking and support from Rocky Mountain Power.



Decide to Thrive

Over the last 10 years, Southern Utah University (SUU) has demonstrated a commitment to energy conservation even as its building footprint has expanded. It was for this reason that SUU and Rocky Mountain Power decided to partner and develop the campus' first campus energy action plan as part of the Wattsmart Communities program. As part of the energy-planning process, campus stakeholders were identified and invited to participate on an Energy Planning Team for two planning workshops (held on November 13th, 2019 and January 15th, 2020) where their input on campus priorities were gathered to form the basis for the focus areas and strategies detailed in this plan. A summary of the focus areas and strategies is provided in Table 1.

Table 1. Summary of Strategies by Focus Area

Focus Area & Strategy Summary
Focus Area 1 – Sustainable Culture
<i>Strategy 1-1: Promote campus energy education & awareness</i>
<i>Strategy 1-2: Energy reduction competition pilot</i>
<i>Strategy 1-3: Encourage electric vehicle adoption & infrastructure</i>
Focus Area 2 – Curriculum
<i>Strategy 2-1: Promote student energy education & awareness</i>
<i>Strategy 2-2: Increase energy efficiency on-campus</i>
Focus Area 3 – Renewable Energy
<i>Strategy 3-1: Promote renewable energy sources</i>
Focus Area 4 – Campus Facilities
<i>Strategy 4-1: Improve existing building efficiency</i>
<i>Strategy 4-2: Improve new building efficiency</i>

The Energy Planning Team members represent a variety of campus departments, roles, and perspectives – with the intended result of having an informed and supported plan. Also, they will be essential in leading the strategies identified and in engaging the entire campus for the greatest impact.

This Campus Energy Action Plan is also another step in broader sustainability activities underway on campus and will serve as a template and catalyst for other campus-wide efforts. The Campus Energy Action Plan lays out areas for SUU to focus on specific to energy, and these energy efforts will be incorporated into larger sustainability initiatives at the University. SUU has formed a Sustainability Committee responsible for advising the University's administration on overall sustainability.

Wattsmart Communities

Wattsmart Communities is Rocky Mountain Power's newest program within the Wattsmart portfolio. This program broadens Rocky Mountain Power's energy efficiency and renewable energy programs delivered to entire communities, or campuses such as SUU, with the commitment to support the unique needs of the campus toward achieving its energy-savings goal.

The content of this plan was derived from a series of planning workshops, with the Energy Planning Team committed to representing University energy priorities. Rocky Mountain Power worked with SUU to help answer three essential questions (Figure 1): Where are we now? Where do we want to go? And how will we get there?



Figure 1. Wattsmart Communities Planning Process

This Wattsmart Communities planning process brings together technical experts and facilitators from Rocky Mountain Power with leadership and subject matter experts from SUU, to form the Energy Planning Team. Everyone on campus has a potential role to play, with key roles and responsibilities outlined in Figure 2 . Both the utility and the campus offer unique resources that are leveraged throughout the Campus Energy Action Plan.

CAMPUS ENERGY ACTION PLAN

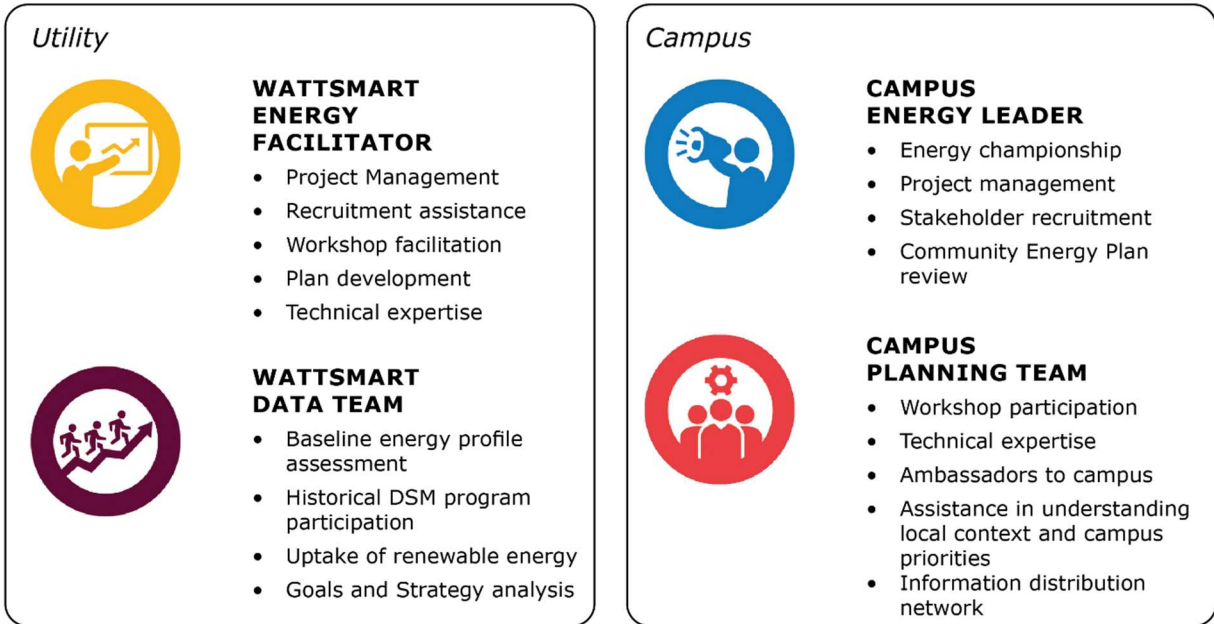


Figure 2. Wattsmart Communities Utility & Campus Roles and Terminology

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Where Are We Now?

Over the last several years Southern Utah University, driven by the efforts of the Facilities Management department, has been committed to maximizing campus energy efficiency. The University is proud to formalize these activities through the formation of a new energy-specific vision statement and energy savings goal.

Campus Energy Profile

The first step in the Wattsmart Communities planning process is to explore the campus energy profile, which provides a picture of the University's current energy landscape. Wattsmart Communities facilitators analyzed and presented electric energy consumption data, provided by Rocky Mountain Power, to illustrate the campus electricity baseline as a framework for developing the targets and actions in this plan. The campus energy profile illustrates historic electricity use and incentive program participation, helps identify potential opportunities, and supports model scenarios that informed decision making during the planning process. Three years of data (2016-2018) were used for analysis, with 2018 established as the baseline against which to compare future progress toward the energy goal SUU set as part of the planning process. Data to support this analysis was supplied by Rocky Mountain Power and SUU.



Figure 3. SUU's newly redesigned Mark and Julie Svoboda Geosciences Building

Southern Utah University's campus energy profile is described in the following sections.

Electricity Consumption

Three years of electricity data were provided by Rocky Mountain Power for all University electric meters, from 2016 through 2018. Over this time there is a slight increase (3%) in electricity use, likely due to SUU's Extended Campus, as the Main Campus has seen a general downward trend in electricity use over the last 10 years.

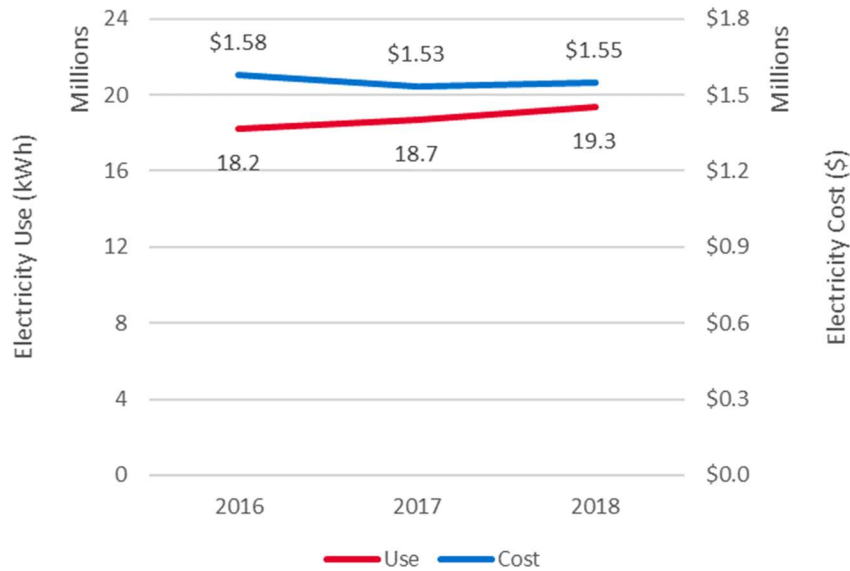


Figure 4. SUU Electricity Use and Cost (Rocky Mountain Power Data)

Figure 4 shows SUU’s year-to-year electricity use and cost between 2016 and 2018. SUU spent approximately \$1.55 million on electricity in 2018. Per student, this amounts to an average of \$152 annually, or about \$13 monthly. Note that electricity costs vary by meter and time of year. The decrease in electricity cost is due to two consecutive years of rate cuts by Rocky Mountain Power. Unfortunately, this type of cost decrease cannot be expected every year. For more information about energy rates and charges by sector, visit www.rockymountainpower.net.

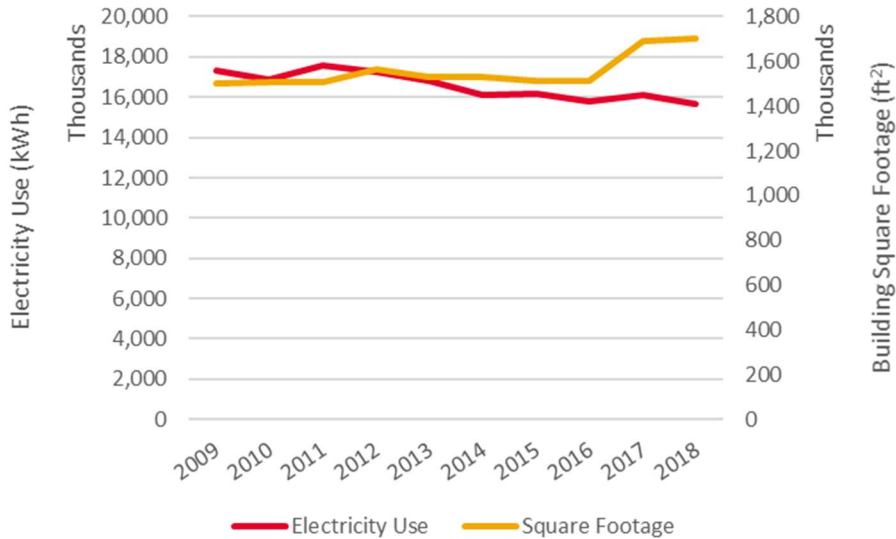


Figure 5. Main Campus Electricity Use and Building Square Footage (SUU Data)

Figure 5 plots the electricity use and building square footage of SUU’s Main Campus since 2009. This data was provided by SUU. Although the building footprint of the

campus grew by 13%, electricity use declined by over 9%. The new additions to the campus square footage include the Center for Health & Molecular Sciences addition, George S. Eccles Sports Performance Center, Dixie L. Leavitt Business Building, Facilities Management Administration, and the Beverley Taylor Sorenson Center for the Arts. This downward trend in energy use while, at the same time, expanding the campus footprint is a testament to the work SUU has done over the last decade to reduce its utility consumption through energy efficiency.

Electric metering granularity limits the level of data detail that is able to be included in this plan. Currently, Rocky Mountain Power and SUU data is metered at the University and campus level, respectively. SUU is currently in the process of installing building-level sub-metering to enhance their energy data tracking and analysis in the future.

Program Participation

Table 2 and Table 3 include baseline data on the campus’ historic participation in Rocky Mountain Power’s demand-side management (DSM) Wattsmart Business incentive programs from 2016-2018. These tables include program participation counts and associated electricity savings, to provide a snapshot of the types of programs the campus is utilizing and to what degree. Translating these savings into dollars the campus has saved, on average, \$12,500 a year from these efforts.

Table 2. Wattsmart Program Participation (2016-2018)

Wattsmart Business Project Counts						
Program	Units	2016	2017	2018	Average	Total
Midstream Lighting	Counts	3	1	5	3	9
Small Business Direct Install	Counts	0	9	1	3	10
WSB - Building Shell	Counts	0	0	1	0	1
WSB - Food Service Equipment	Counts	0	1	0	0	1
WSB - HVAC	Counts	0	1	1	1	2
WSB - Irrigation	Counts	0	1	0	0	1
WSB - Lighting	Counts	1	0	2	1	3
Total	Counts	4	13	10	9	27

Table 3. Wattsmart Program Electricity Savings (2016-2018)

Wattsmart Program Electricity Savings						
Program	Units	2016	2017	2018	Average	Total
Midstream Lighting	kWh	7,465	4,823	51,291	21,193	63,579
Small Business Direct Install	kWh	0	72,709	13,864	43,287	86,573
WSB - Building Shell	kWh	0	0	7,519	7,519	7,519
WSB - Food Service Equipment	kWh	0	3,020	0	3,020	3,020
WSB - HVAC	kWh	0	6,494	46,495	26,495	52,989
WSB - Irrigation	kWh	0	13,268	0	13,268	13,268
WSB - Lighting	kWh	191,847	0	31,817	111,832	223,664
Total	kWh	199,312	100,314	150,986	150,204	450,612

As both tables show, SUU has been committed to lighting upgrades during the three years analyzed. In addition to incentive program participation, SUU has developed lighting standards for indoor and outdoor fixtures while addressing energy efficiency and errant night sky light pollution. With these standards, the campus has already made significant progress in updating interior and exterior lighting to LED, as well as installing and programming lighting controls. The tables also reflect opportunities for greater participation in the available program offerings and an indication of where to focus capital and operational planning projects in the future. SUU has been working with kW Engineering to help identify and implement energy savings opportunities and is excited to see what opportunities are recommended for implementation. Additional details about Wattsmart Business programs may be found at www.rockymountainpower.net/savings-energy-choices/business/wattsmart-efficiency-incentives-utah.html.

Renewable Energy Programs Participation

SUU does not currently participate in any of Rocky Mountain Power’s renewable energy programs. However, the Facilities Management Administration Building and Shops have a 94.5 kW photovoltaic solar array installed and the department is exploring opportunities to continue adding solar to available rooftop space. Additionally, several members of the Energy Planning Team identified installing additional renewable energy resources or participating in Rocky Mountain Power’s renewable energy subscription programs as potential priorities for the future. SUU is committed to renewable energy investments that are considered fiscally responsible by the University’s administration.

Campus Energy Efforts

SUU has a history of pursuing energy conservation and renewable energy projects to improve campus operations and reduce the campus' utility costs. A selection of these efforts is included in Table 4.

Table 4. Campus Energy Practices

Southern Utah University's Past and Present Energy Efforts

On-Campus Efficiency

- SUU has reduced its electricity consumption through LED lighting upgrades, recommissioning & scheduling, variable frequency drives, insulation, air sealing, energy efficient roofing and equipment upgrades.
- 2018 gross electricity consumption has decreased by over 10% from 2007, despite the addition of several new buildings completed during that time, including:
 - the Center for Health & Molecular Sciences
 - the George S. Eccles Sports Performance Center
 - the Dixie L. Leavitt Business Building
 - the Beverly Taylor Sorenson Center for the Arts
 - the Facilities Management Administration Building
- Between 2009 and 2018, campus square footage increased 13% and gross electricity consumption decreased by over 9%

New Construction Efficiency

- New buildings are designed to meet Utah's High Performance Building Standard
- SUU's Center for Health and Molecular Sciences received LEED Gold Certification from the U.S. Green Building Council
- Many other buildings on campus which were built within the last decade are constructed to the State of Utah's High Performance Building Standard (HPBS) – which is equivalent to LEED Silver designation

Renewable Energy

- Facilities Management Administration Building/Shops Photovoltaic Solar Array
 - 94.5kW solar system (equivalent electrical power used by 70 homes in one year)
- New buildings are built solar-ready, enabling the installation of future solar arrays when funding is identified

SUU Facilities Management Conservation Efforts

- Highlighted energy projects and initiatives completed over the last several years at SUU are available at:
<https://www.suu.edu/ad/facilities/energyconservation.html>



Where Do We Want to Go?

Understanding SUU's energy context and existing initiatives sets the stage for determining a roadmap for moving forward on electricity savings. This roadmap includes a broad vision for the long term and identifies campus priorities, formulated by the Energy Planning Team, that serve to organize activities and initiatives for making progress toward goals.

Energy Vision

An energy vision is an aspirational description that aligns with the University's core ideals and values to inspire work toward achieving its energy goals. SUU's Energy Planning Team decided on the following vision statement during its second workshop. The vision statement aligns with the University's overall mission to guide its energy future:

Southern Utah University will empower a culture of leadership in sustainability by exploring improved energy efficiency, engaging an educated campus community, and excelling together at reducing our impact on the environment.

Focus Areas

To make progress toward the ideals and values in this vision statement, the Energy Planning Team selected four focus areas. The first two focus areas, Sustainable Culture and Curriculum, encompass potential energy savings from a better understanding of energy conservation through engagement inside and outside of the classroom. The work plans for these two focus areas are wide-reaching and include team members identified outside of the Energy Planning Team, in order to offer the largest campus-wide impact. The last two focus areas, Renewable Energy and Campus Facilities, builds on the ongoing actions taken by the Facilities Management department to reduce energy use and to explore renewable energy, for SUU's facilities, at a higher level. Work plans for all four focus areas are discussed in more detail in Section 4: Course of Action. Focus areas are described in detail below.

Focus Area 1: Sustainable Culture

The first area of focus the Energy Planning Team identified was to develop and foster a culture of energy efficiency and sustainability on campus. This includes initiatives or activities designed to engage and educate the campus community on campus energy use, largely by activities outside the classroom. Actions taken within this focus area will influence the remaining focus areas, as many of the strategies build a foundation of energy efficiency across the campus community.

Below are some of the specific objectives for this focus area:

- Lead by example for energy action in the broader community of Cedar City
- Inform the SUU community about how the campus uses energy
- Increase awareness, in the larger community, around energy topics including annual consumption, current and future energy efficiency projects, and ways the community can engage with each other about energy
- Develop the knowledge and skills of students and faculty who are invested and involved in creating a more efficient and sustainable community
- Be responsible with public resources, including the University's utility budget
- Promote alternative transportation methods like electric vehicles (EVs), bicycles, etc.

In order to measure progress on this focus area, the Energy Planning Team has identified the following metrics.

- Number of students/faculty/staff engaged by using a selected campus community engagement platform
- Number of energy pledges made by students/faculty/staff and estimated energy saved
- Number of energy events and number of attendees
- Results from a campus commuting survey

Focus Area 2: Curriculum

This focus area builds on the planning group's interest in growing a culture of sustainability by incorporating these ideals into the classroom. SUU would like to infuse energy efficiency and sustainability into its curriculum, from major and minor offerings to specific class coursework, as well as get more students involved in the process of grant writing and in sustainability projects that would be offered for course credit.

The objective for this focus area is to engage students in education related to energy efficiency, carbon reduction, and renewable energy adoption - to benefit their personal growth, sense of civic responsibility, and professional outlook.

In order to measure progress on this focus area, the Energy Planning Team has identified the following metrics:

- Number of capstone projects that are energy-related
- Number of courses that include energy-related topics in their syllabi and annual enrollment in those courses
- Number of credits transferred from other institutions for energy-related courses

Focus Area 3: Renewable Energy

This focus area seeks to enhance the University's rooftop solar arrays at the Facilities Management buildings by investigating additional opportunities for the campus to utilize renewable electricity. This includes both on- and off-site

opportunities that are fiscally responsible. On-site opportunities start with designing new buildings to be solar-ready and evaluating funding sources such as grants and partnerships that would enable SUU to install solar arrays on more buildings. Off-site opportunities that SUU is interested in pursuing include Rocky Mountain Power's renewable energy program offerings as well as investigating the feasibility of using land at SUU's Valley Farm for a larger solar installation. A priority of any renewable energy project will be to create marketing materials to help boost SUU's brand and attract prospective students and faculty.

In order to measure progress on this focus area, the Energy Planning Team has identified the following metrics.

- Participation in Rocky Mountain Power renewable energy program offerings
- Capacity & production of electricity by renewable sources (kW & kWh of electricity produced)
- Greenhouse gas emissions reduced

Focus Area 4: Campus Facilities

This focus area continues SUU's history of energy conservation projects, campus-wide, by increasing energy savings through energy projects and participation in Rocky Mountain Power incentive programs. SUU and, specifically, the Facilities Management department will continue to identify opportunities for energy and cost savings for existing campus facilities as well as new construction projects. SUU would like to move closer to net zero energy building practices that incorporate renewable energy installations while ensuring occupant health and comfort in a fiscally responsible manner. SUU is also interested in investigating electric vehicle charging infrastructure on campus to promote electric vehicle use by faculty and students and, eventually, fleet vehicles.

In order to measure progress in this focus area, the Energy Planning Team has identified the following metrics.

- SUU's annual electricity use (overall and by individual buildings)
- Energy Use Intensity (EUI)
- Number of energy conservation projects and estimated energy savings
- Number of electric vehicle charging stations installed
- Number of parking designated for electric vehicles

Goals

SUU has achieved significant electricity savings over the last several years, despite growing the campus (see Campus Energy Efforts). These efforts have amounted to approximately 150,000 kWh savings per year over the last three years. Through two workshops, the Energy Planning Team decided to increase efforts to achieve additional electricity kWh savings over and above the historic savings achieved. Multiple scenarios were presented to the Energy Planning Team, offering between 225,000 kWh savings (“Better”) and 300,000 kWh savings (“Best”) annually. The group was split between these two scenarios and agreed that a goal of saving 250,000 kWh in total electricity savings per year is ambitiously practical.

As a result, SUU has committed to achieving a cumulative total of 500,000 kWh in electricity savings by June 30, 2022.

The University’s energy goal includes cumulative, gross electricity savings achieved through energy efficiency projects supported by Rocky Mountain Power’s Wattsmart Business program from July 2020 – June 2022.



Course of Action

Implementation strategies are a series of action steps that provide a road map for the campus to meet its goals. Each focus area should have one or more strategies that support achievement of the associated goal.

Strategies

During both Workshop 1 and Workshop 2, actionable strategies were developed to support the energy goal, for SUU, by each of the four focus areas. Each strategy is described in detail below.

Focus Area 1 – Sustainable Culture

Strategy 1-1: Promote campus energy education & awareness	
Description	<p>In this strategy, SUU strives to engage the campus community to spread energy education and knowledge outside the classroom. Promote ways to maximize energy efficiency. Three implementation actions have been defined:</p> <ul style="list-style-type: none"> • Identify an engagement platform for energy & sustainability engagement • Month of Impact challenges • Energy Awareness Campaign
Target	<ul style="list-style-type: none"> • Engage 75% of the campus community by tracking sign-ups on the selected engagement platform
Scope & Action Items	<ul style="list-style-type: none"> • Convene the team • Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope. • Identify a timeline to accomplish the following prioritized action items: • Determine an Engagement Platform: <ul style="list-style-type: none"> ○ Identify one or two methods to track energy action and engagement at the University. These methods are platforms, either web based or mobile-friendly, to track qualitative metrics to support this focus area. Several tools are available in the market to help track engagement, energy actions, competitions, transportation, etc. However, depending on feasibility and cost, it may make sense for SUU to add on to existing platforms including the SUU Mobile App or the T-Fit web-based platform. • Design Month of Impact Challenges: <ul style="list-style-type: none"> ○ Design monthly actions for SUU community to take, to reduce their energy use or carbon footprint. Supported by the engagement platform, monthly actions will be tracked across students, faculty, and staff; and, rewards can be offered to the winning person, college or division.

Strategy 1-1: Promote campus energy education & awareness

• **Energy Awareness Campaign:**

- Develop materials to support campaign outreach
- Table at events during welcome week, orientation, welcome back week, Earth Week 50th Anniversary.
- Target incoming freshman, to encourage energy efficient behavior early.
- Awareness campaign topics could include a “Lights Off” campaign or a “Power Down” campaign for computers.

Responsible Parties

Identified Strategy Team Leaders

- SUU Marketing
- Student Sustainability Group at SUU

Identified Partner at SUU

- SUU Information Technology

Implementation Resources

Potential identified engagement platforms include:

- JouleBug
- SUU App
- T-Fit Platform
- SCPW.org
- Clear the Air Challenge

Strategy 1-2: Energy reduction competition pilot

Description

This strategy is focused around the creation of a pilot energy reduction competition - between members, colleges, and divisions of the SUU campus community - toward reducing energy consumption across campus.

Target

- Pilot an energy competition at SUU

Scope & Action Items

- Convene the team
- Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope.
- Identify a timeline to accomplish the following prioritized action items:
 - Identify the feasibility of using existing and future sub-metering on campus to support an energy competition. Encourage students and staff to reduce energy use through competitions at the college level, division level, and/or dorm level

Strategy 1-2: Energy reduction competition pilot

- If utilizing on-campus sub-metering is not feasible, utilize the engagement platform identified in Strategy 1 to track energy actions and/or pledges toward a participation-based competition.
- Pilot a competition at SUU for competition between schools. Based on the results of the pilot, potentially scale the competition to the community-level to engage members of Cedar City in energy reduction efforts.
- Create a rotating trophy for top performers

Responsible Parties

Identified Strategy Team Leaders

- SUU Housing (Resident Assistants)
- Student Sustainability Group at SUU

Identified Partner at SUU

- SUU Facilities Management

Implementation Resources

- RMP Smart Plug Strips program
- JouleBug
- SCPW.org
- RMP Sponsorships
- On-Campus metering and monitoring

Strategy 1-3: Encourage electric vehicle adoption & infrastructure

Description

This strategy involves performing a campus commuting survey for students, faculty and staff. The results can help inform interest and infrastructure requirements for alternative modes of transportation, including electric vehicles.

Target

- Perform a commuting survey

Scope & Action Items

- Convene the team
- Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope.
- Identify a timeline to accomplish the following prioritized action items:
 - Identify survey questions to understand current commuting habits and the potential to switch modes of transportation. The survey is intended to identify the existing level of alternative transportation use, including electric vehicle use at SUU, as well as to gauge the

Strategy 1-3: Encourage electric vehicle adoption & infrastructure

interest in future electric vehicle purchases if infrastructure were provided at SUU

- Administer a transportation survey
- Use results to encourage more sustainable transportation choices

Responsible Parties

Identified Strategy Team Leader

- Student Sustainability Group at SUU

Identified Partner at SUU

- SUU Facilities Management

Implementation Resources

- Clear the Air Challenge
- JouleBug
- SCPW.org
- RMP electric vehicle charging incentive program

Focus Area 2 – Curriculum

Strategy 2-1: Promote student energy education & awareness

Description

In this strategy, there are three implementation actions defined:

- Provide educational opportunities geared toward all students
- Identify the feasibility of an energy management certificate program
- Provide student mentorship opportunities for energy-related grants

Targets

- Identify the feasibility of partnering with Southwest Technical College regarding course credit and/or energy management certifications for students
- Identify and apply for at least one grant to support energy efficiency, renewable energy, or alternative transportation efforts.

Scope & Action Items

- Convene the team
- Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope.
- Identify a timeline to accomplish the following prioritized action items:
- **Provide educational opportunities for all students:**
 - Topics of interest for students: energy efficiency, renewable energy, EVs
 - Southwest Technical College credit transfer for energy classes
 - Add targeted classes for energy management, etc.
 - Develop a general education credit based on sustainability
 - Ask about sustainability actions during interview with incoming provost (mid-July/next semester)
 - Develop a list of departments that could support efforts
 - Incorporate sustainability/energy into Tanner Center speaker series
 - Incorporate developed opportunities into freshman orientation
 - Track the number of students in the sustainability minor
- **Provide student mentorship opportunities for energy-related grants:**
 - Identify beneficial grant opportunities to support energy efficiency and renewable energy adoption including electric vehicles, charging stations, and infrastructure
 - Gauge interest and identify students to involve in the grant-writing process (to apply for available funding)
 - Create groups of 2- or more-person student teams. Teams were identified as working better at SUU for problem solving
- **Identify the feasibility of an energy management certificate program:**
 - Engage with Southwest Tech to see if energy management can be incorporated into their solar academy offering

Strategy 2-1: Promote student energy education & awareness

- Co-develop a Certified Energy Manager offering with Southwest Tech, potentially utilizing the Southwest Tech Solar Academy
- Sponsor an internship through the Facilities Management department

Responsible Parties

Identified Strategy Team Leaders

- Executive Director, SUU Community Education Unit
- Unit Business Manager, SUU Library
- Associate Department Chair, SUU English Department

Identified Partners at SUU

- SUU Sustainability Committee
- Individual college/school Deans
- SUU Grants Office

Implementation Resources

Potential identified engagement platforms include:

- JouleBug
- SUU App
- T-Fit Platform
- SCPW.org
- Clear the Air Challenge

Strategy 2-2: Increase energy efficiency on-campus

Description

This strategy is focused around providing on-campus student project opportunities that are integrated into the existing capstone project curriculum.

Target

- Identify at least one project opportunity for students to be involved in during capstone project selection (annually).

Scope

- Convene the team
- Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope.
- Identify a timeline to accomplish the following prioritized action items:
 - Facilities Management, in addition to other departments at SUU, will become increasingly involved in student-led capstone projects that will kickstart future energy projects for SUU.

Strategy 2-2: Increase energy efficiency on-campus

- Create a list, of capstone projects that can be provided, to departments

Responsible Parties

Identified Strategy Team Leader

- Assistant Vice President (AVP), Facilities Management

Identified Partners at SUU

- SUU Department heads

Implementation Resources

- RMP Wattsmart Business programs
- Staff resources to help students implement projects
- SUU summer internship program

Focus Area 3 – Renewable Energy

Strategy 3-1: Promote renewable energy sources

Description

In this strategy, five implementation actions are defined:

- Encourage participation in renewable energy program offerings
- Identify funding mechanisms for renewable energy
- Design new construction projects to be solar ready
- Establish a marketing and public relations outreach strategy
- Develop onsite renewable energy projects

Target

- New buildings will be designed to be solar ready at SUU.

Scope & Action Items

- Convene the team
- Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope.
- Identify a timeline to accomplish the following prioritized action items:
- **Encourage participation in renewable energy program offerings**
 - Identify appropriate buildings on campus to subscribe to Rocky Mountain Power renewable energy programs
 - Identify department-level funding to set aside in support of individual building subscriptions
 - Subscribe buildings to renewable energy programs where feasible.
- **Identify grant funding mechanisms for renewable energy**
 - Involve the student population in research and applications for grants
 - Continue to utilize the Blue Sky grant to help fund renewable energy projects
- **Design solar-ready aspects into new construction projects**
 - A newer practice has been to install conduit as a standard for new construction projects, in order to add solar arrays in the future
 - SUU has had success adding solar, in phases, to rooftops and can achieve the same in new construction
- **Establish a marketing and public relations methodology**
 - Marketing and outreach to shift perceptions for what is “normal” at SUU in renewable energy
 - Involve students in graphic design for new construction - to visualize solar on a rooftop or building feature
 - Develop communication around standards for renewables on campus, including language to promote what SUU has accomplished in the past and what they plan to accomplish in the future
- **Develop onsite renewable energy projects**
 - Initiate renewable energy feasibility study to identify site locations and evaluate renewable energy projects

Strategy 3-1: Promote renewable energy sources

- Install solar arrays when financially feasible on campus
- Identify the feasibility of using ~260 acres of Valley Farm land to install solar for Subscriber Solar capacity to feed Rocky Mountain Power territory

Responsible Parties

Identified Strategy Team Leaders

- AVP, Facilities Management
- SUU Department Heads

Identified Partners at SUU

- SUU Students
- SUU Sustainability Committee
- SUU Marketing

Implementation Resources

- RMP Net Metering program
- RMP Blue Sky Program
- RMP Subscriber Solar Program
- RMP Schedule 34 for power purchase agreements

Focus Area 4 – Campus Facilities

Strategy 4-1: Improve existing building efficiency

Description

In this strategy, there are two implementation actions defined:

- Designate a lead energy manager or team to manage SUU energy activities
- Identify energy projects in existing buildings

Target

- Increase the project count across the following programs within the next two years, to achieve 500,000 kWh in electricity savings over that time:
 - Increase Midstream Lighting projects to a total of 5 per year (10 total)
 - Increase Lighting projects to a total of 5 per year (10 total)
 - Increase HVAC projects to a total of 5 per year (10 total)

Scope & Action Items

- Convene the team
- Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope.
- Identify a timeline to accomplish the following prioritized action items:
- **Designate a lead energy manager or team to manage SUU energy activities**
 - Coordinate with Rocky Mountain Power to capture incentives on projects completed at SUU
 - Identify program management activities
 - Lead data management and real-time monitoring once the new metering system is fully operational
 - Report on and analyze annual energy and project performance
 - Publicize energy bills when metering project is complete
 - Quantify energy use and savings into equivalent units (number of houses) to cater to varying knowledge levels
- **Identify energy projects in existing buildings**
 - Consider focusing on top users, highest energy intensities, and/or top identified opportunities to save energy
 - Identify lighting project opportunities across campus
 - Identify HVAC project opportunities across campus
 - Consider inclusion of plug loads (computers, smart power strips, etc.)

Responsible Parties

Identified Strategy Team Leader

- AVP, Facilities Management

Identified Partners at SUU

Strategy 4-1: Improve existing building efficiency

- SUU Students
- SUU Sustainability Committee
- SUU Marketing

Implementation Resources

- RMP Wattsmart Business programs
- RMP Energy Management Partnership

Strategy 4-2: Improve new building efficiency

Description

In this strategy, there are two implementation actions defined:

- Require new SUU buildings to exceed the State of Utah's High Performance Building Standard
- Incorporate electric vehicle-ready design elements into new construction projects

Target

- All new construction projects are to exceed the State of Utah's High-Performance Building Standard

Scope & Action Items

- Convene the team
- Identify if additional third-party support outside of ongoing SUU & RMP coordination and resources may be needed to accomplish the strategy scope.
- Identify a timeline to accomplish the following prioritized action items:
 - **New construction efficiency**
 - Update new construction building specifications - to reduce energy use in new construction
 - Increase publicity/marketing, both internally and externally, for new construction projects - to highlight energy efficiency and renewable energy upgrades
 - Include facts about the building on construction fencing - to inform both the on-campus and the greater community
 - In addition to building design, incorporate landscaping - to help provide shading and lower energy usage
 - **New buildings will be designed to be electric vehicle-ready, where feasible**
 - Identify the feasibility of incorporating charging infrastructure into new construction projects
 - As part of new construction building specifications, include language for EV-ready construction
 - Designate EV parking spots through signage

Strategy 4-2: Improve new building efficiency

Responsible Parties

Identified Strategy Team Leader

- AVP, Facilities Management

Identified Partner at SUU

- SUU Marketing

Implementation Resources

- RMP Wattsmart Business programs
- Utah Department of Environmental Quality Electric Vehicle grant program
- Utah Clean Air Partnership (UCAIR) grants program
- RMP Electric Vehicle Charging Infrastructure Pilot
- PlugShare charging station locator

Implementation Approach and Tracking

This plan is just the first step in a series of activities that will be executed over the next two years and beyond. In parallel to this planning effort, SUU formed a broader Sustainability Committee focused on a number of sustainability topics including energy. The energy-related strategies identified in this plan will help kick off the execution by the Sustainability Committee. To that end, each focus area identified and framed in this plan will be implemented by the identified strategy teams in partnership with the Facilities Management Department. The implementer will help support efforts in the four focus areas and will adjust as the team proceeds to accommodate new information and resources, unforeseen challenges, and lessons learned along the way.

Roles and Responsibilities

To support the success of the Campus Energy Action Plan as well as build a comprehensive sustainability program, the **Facilities Management Department** will lead strategic implementation of this plan. The Facilities Management Assistant Vice President will serve as the central coordinator of the work plans across focus areas and will review the tracking of program delivery by the identified strategy teams. The Facilities Management Assistant Vice President also will coordinate among and across campus departments, convene meetings, oversee the plan's monitoring and reporting activities, and initiate future Campus Energy Action Plans or broader updates related to the plan. The campus has begun to discuss how it will communicate, both internally and externally about its energy efforts, with its Marketing Department. The initial intent is to share status updates with the rest of the Energy Planning Team, campus, and the broader public with an eye toward how these efforts complement SUU's larger sustainability efforts.

Third-Party Support may need to be procured by SUU to accomplish strategies for each focus area in the implementation of the Campus Energy Action Plan. Third-party support is not limited to, but may include, additional strategy metrics tracking, software system procurement or management, design & construction support, etc. Third-party support is intended to aid SUU specifically in their areas of need and may not be necessary in order to meet the University's energy goal. SUU will fund additional support needed outside of the Rocky Mountain Power partnership and resources outlined in the Campus Energy Action Plan, unless further agreement is made.

Rocky Mountain Power will serve as a resource and partner and will bring all available energy efficiency and renewable program offerings to SUU in coordination with the Facilities Management department. Rocky Mountain Power will also serve as a resource to provide periodic energy and program data to track progress against savings goals. Rocky Mountain Power is committed to transitioning to a sustainable future; and a partnership with SUU can help both parties achieve their goals. This partnership will include energy efficiency expertise and funding through Wattsmart Business programs, guidance and support for renewable programs

through Blue Sky and Subscriber Solar, and willingness to evaluate feasibility of building new solar resources based upon customer willingness to participate. In partnership with the campus Facilities Management department, periodic reports will be shared with the campus, the Energy Planning Team, and the general public.

A table of the strategies, by focus area and the identified teams, is summarized in Table 5.

Table 5. Summary of Strategy Teams at SUU

Strategy	SUU Implementation Lead(s)	SUU Partners
Focus Area 1 – Sustainable Culture		
Strategy 1-1: Promote campus energy education & awareness	Marketing, Student Sustainability Group	Information Technology
Strategy 1-2: Energy reduction competition pilot	Housing (Resident Assistants), Student Sustainability Group	Facilities Management
Strategy 1-3: Encourage electric vehicle adoption & infrastructure	Student Sustainability Group	Facilities Management
Focus Area 2 – Curriculum		
Strategy 2-1: Promote student energy education & awareness	Executive Director of Community Education Unit, Unit Business Manager of Library, Associate Department Chair of English Department	Sustainability Committee, Individual college/school Deans, Grants Office
Strategy 2-2: Increase energy efficiency on-campus	Assistant Vice President of Facilities Management	Department heads
Focus Area 3 – Renewable Energy		
Strategy 3-1: Promote renewable energy sources	Assistant Vice President of Facilities Management, Department heads	Students, Sustainability Committee, Marketing
Focus Area 4 – Campus Facilities		
Strategy 4-1: Improve existing building efficiency	Assistant Vice President of Facilities Management	Students, Sustainability Committee, Marketing
Strategy 4-2: Improve new building efficiency	Assistant Vice President of Facilities Management	Marketing

Implementation and Partnership with Rocky Mountain Power

As the Campus Energy Action Plan is implemented, it is imperative to measure and monitor progress across the work plans, toward the targets and aspirational campus energy goals, particularly as compared to baseline. This step will involve monitoring and tracking achievements made in implementing the work plans, while quantifying their impacts to measure success over time and to inform future actions. This iterative implementation process is illustrated in Figure 6.



Figure 6. Iterative Implementation Cycle

The implementation cycle is meant to accommodate lessons learned and to continue making progress beyond initial activities. Rocky Mountain Power has been excited to participate in the development of this Campus Energy Plan and to support its implementation over the next two years. This includes working with SUU and its Facilities Management department on identifying and implementing energy conservation projects as part of its Wattsmart Business program and taking advantage of the campus' ongoing relationship with kW Engineering. Rocky Mountain Power is also excited to support SUU as it explores its renewable energy options and potential electric vehicle projects.

Appendix. Glossary of Terms

Campus Energy Action Plan: A written document that outlines the collective energy vision, goals, and focus area work plans for achieving those goals.

Campus Energy Profile: Paints a picture of campus' recent energy use, participation in DSM programs, and reliance on renewables.

Demand Side Management (DSM): Modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours or to shift time of energy use to off-peak periods, such as nighttime and weekend.

Energy Planning Team: Campus stakeholder group comprised of students, faculty, and staff

Energy Baseline: Historical data (usually a full calendar year) of a campus' energy use, including electricity, renewable energy, and other sources of power.

Energy Vision: An expression of the campus' shared energy intention.

Focus Area: A category a campus selects to target for action

Goals: The results toward which efforts and actions are directed. There can be several objectives and goals outlined in order to successfully implement a plan.

Greenhouse gas (GHG): Gas in the atmosphere that absorbs and emits radiant energy within the thermal infrared range (primary GHGs include water vapor, carbon dioxide, methane, nitrous oxide, and ozone); GHGs are associated with affecting climate change.

HVAC: Heating, ventilation, and air conditioning.

LED: light-emitting diode.

kW: kilowatt (1,000 watts); a unit of electric power.

kWh (kilowatt-hour): A unit of electric consumption.

Solar PV: Solar cells/panels that convert sunlight into electricity (convert light, or photons, into electricity, or voltage).

Subscription: An agreement to purchase a certain amount of something in regular intervals.

Third-Party Support: Any paid services or support external to the Rocky Mountain Power-SUU relationship that may be identified and procured to help meet University energy goals.