

Seattle Pacific University

Climate Action Plan

Adopted June 2010



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I. Introduction and Institution Background

This climate action plan outlines Seattle Pacific University's greenhouse gas emissions as well as the strategies the University will employ to become climate neutral by the year 2036. The plan is intended as a 'living' document, to be updated at least once every two years as situations and technologies change.

Seattle Pacific University is a premier Christian university with a mission to "engage the culture and change the world." In accordance with the biblical instructions to care for the earth and love our neighbors and recognizing that the effects of environmental degradation and climate change will be most strongly felt by some of the world's poorest populations, Seattle Pacific is strongly committed to sustainability. SPU defines sustainability as a community's ability to meet its needs without endangering the capability of further generations to meet their own needs. Further correlation between the University's priorities and sustainability can be observed in our Signature Commitments.

- 1.) SPU will be a place that knows and understands what's going on in the world.

We commit to being informed about environmental issues, human rights struggles, and other challenges inherent in a global and postmodern world.

- 2.) SPU will be a place that embraces the Christian story, becoming biblically and theologically educated.

We endorse the biblically backed Christian beliefs that all humans have worth and dignity, and that our Earth is a gift that must be cared for and cherished.

- 3.) SPU will be a place that masters the rigorous tools of learning, becoming a vibrant intellectual community.

We commit to equip students with the tools necessary to enact and inspire change.

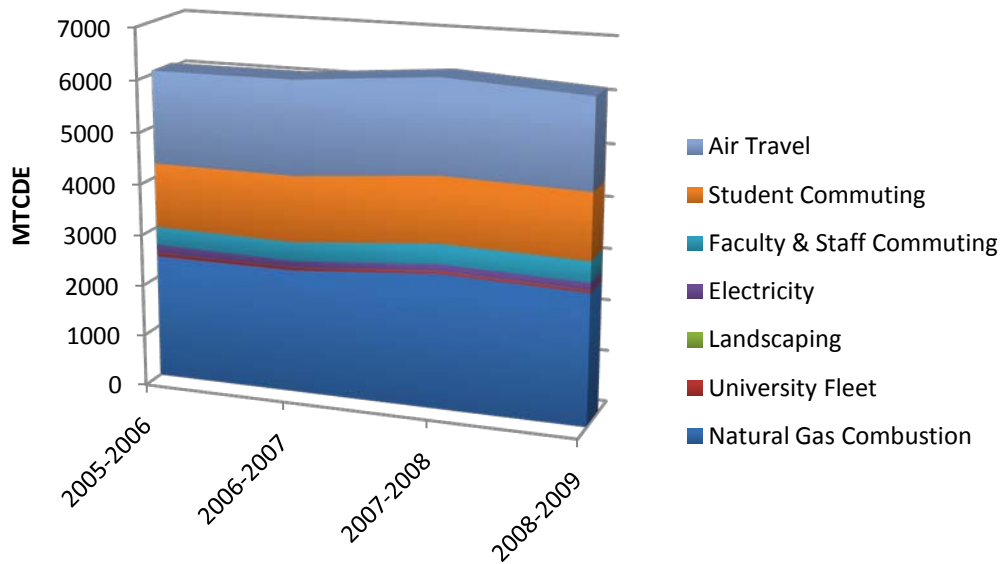
- 4.) SPU will be a place that models grace-filled community and practices radical reconciliation.

We commit to practicing social sustainability, and aim to equip our students with compassion as well as knowledge.

- 5.) SPU will be a place that graduates people of competence and character equipped to change the world.

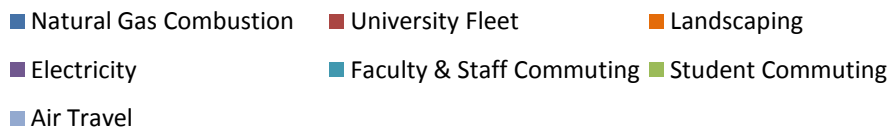
Although resource stewardship has long been a value at SPU, sustainability has achieved a higher campus profile in recent years. Seattle Pacific's first LEED Certified building opened in 2003, and a comprehensive sustainability assessment was completed in 2007. This led to President Philip Eaton signing the American College and University Presidents' Climate Commitment (ACUPCC) in March of 2008. A full time Sustainability Coordinator was hired that summer, and later, a twenty person Sustainability Committee was created and tasked with supplying the President's Cabinet with a set of strategies and recommendations for the University to become carbon neutral (see Appendices A and B).

SPU Greenhouse Gas Emissions Summary



As the above chart demonstrates, Seattle Pacific’s greenhouse gas emissions peaked in fiscal year 2008, setting the baseline for further emissions reductions at approximately 6320 metric tons carbon dioxide equivalent (MTCDE).

2007-2008 Greenhouse Gas Emissions (MTCDE)



Scope 1 Emissions (direct combustion in University-owned equipment)

At 2638 MTCDE, campus use of natural gas is the University's largest source of emissions. The University greatly reduced its environmental footprint by switching from heating oil to natural gas some time ago, and sets the following goals for further reducing natural gas consumption:

- 20% reduction by 2015
- 65% reduction by 2036

Though the other Scope 1 emissions sources are considerably smaller, Seattle Pacific sets the following goals:

- A 77% reduction in emissions from University-owned vehicles by 2036
- A 50% reduction in emissions from landscaping activities by 2036

Scope 2 Emissions (purchased electricity)

SPU is fortunate in that approximately 90% of Seattle City Light's fuel mix comes from hydropower, with an additional 3% coming from wind. Less than 2% of the utility's fuel mix comes from fossil fuels, causing the University's scope 2 emissions to be quite low at 130 MTCDE. Because Seattle City Light offers an entirely renewable fuel mix at an additional cost, it is feasible to completely eliminate all scope 2 emissions by 2036.

Scope 3 Emissions (indirect emissions)

Combined, scope 3 emissions make up the largest portion of Seattle Pacific's carbon footprint. Because the majority of air travel comes from athletic travel and thus cannot be reduced by behavior change, the greatest opportunities for reducing scope 3 emissions lie in faculty, staff, and student commuting. Student commuting alone accounts for 20% of SPU's greenhouse gas emissions. The University accepts the following goals as both challenging and feasible:

- A 60% reduction in emissions from employee commuting by 2036
- A 60% reduction in emissions from student commuting by 2036
- A 17% reduction in emissions from air travel by 2036

III. Emissions Reduction Strategies

In selecting actions to reduce emissions from each source, the overarching strategy applied is to first eliminate any unnecessary emissions via both conservation and avoidance before investing in alternate technologies and, if need be, carbon offsets. Additionally, priority is given to emissions reduction actions that support the academic mission of the University. Emissions reduction strategies are broken down into four categories: Planning and Development, Energy Infrastructure, Transportation Options, and Education for a Sustainable Future. Emissions reduction strategies are described below; a visual timeline of their implementation is provided as Appendix C.

Planning and Development

- a. **Green Building Standards:** Seattle Pacific is adopting a policy of designing new buildings to a minimum of LEED Silver standards, with a number of credits designated as “Seattle Pacific Priority Credits.” These credits will be required as long as they are applicable and/or feasible. The credits listed were selected either because they contribute to reduced energy consumption or because they are listed as LEED Regional Priority Credits for our location. If achieved, these credits will provide 33 out of the 50 credits required to achieve a LEED Silver rating. The additional 20 credits necessary to achieve a Silver rating (with a 3 credit buffer) would vary depending on building type and location. This standard will apply to any building project entering its design development phase after the 2010 fiscal year. It does not apply to the University Center or Cremona modular classroom projects, which are registered under a previous version of LEED and have progressed much farther in the design and permitting processes. Priority credits are listed below, with a sample LEED-NC scorecard available as Appendix D.

- i. *SS 1—Site Selection (1 point):* In order to reduce the environmental impact of a building’s site location, SS 1 requires that the project refrain from developing buildings, hardscape, roads, or parking areas on environmentally sensitive sites. The criteria for such a site do not apply to any location on SPU’s main campus, automatically qualifying the University for this Regional Priority Credit.
- ii. *SS 5.1—Protect or Restore Habitat (1 point):* SS 5.1 aims to provide habitat and promote biodiversity. The credit has separate requirements for previously undeveloped and developed sites, but only the latter instance is applicable to the SPU main campus.

For previously developed sites, credit 5.1 requires that the greater of 50% of the site (excluding the building footprint) or 20% of the total site area (including the building footprint) be restored or protected using native and/or adapted vegetation. For sites meeting SS 2 density requirements (likely for main campus locations), vegetated rooftops count toward this credit provided that the plants are native or adapted, provide habitat, and promote biodiversity.

- iii. *SS 6.1—Stormwater Design, Quantity Control (1 point):* In order to reduce and/or eliminate pollution from stormwater runoff and associated contaminants, SS 6.1 requires the implementation of a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the 2-year, 24-hour design storm.
- iv. *EA 1—Optimize Energy Performance (15-19 points):* To achieve 15 points in EA 1, a project must demonstrate an energy savings of 40% or more above a baseline building. To achieve the Regional

Priority Credit, a building must earn 19 points in EA 1, demonstrating an energy savings of 48% above a baseline building.

- v. *EA 2—On-site Renewable Energy (1-7 points)*: To achieve 1 point in EA 2, one percent of the project’s annual energy needs must be met with on-site renewable energy sources such as solar, wind, or geothermal. To achieve the Regional Priority Credit, thirteen percent of the project’s annual energy needs must be met using an on-site renewable energy source.
 - vi. *EA 3—Enhanced Commissioning (2 points)*: This credit requires that an independent commissioning authority (CxA) be appointed to complete the following tasks:
 - At least one commissioning design review of the owner’s project requirements, basis of design, and design documents prior to the mid-construction documents phase.
 - Back-check the review comments in the subsequent design submission.
 - Review contractor submittals applicable to systems being commissioned for compliance with the owner’s project requirements and basis of design.
 - Development of a systems manual that provides future operating staff the information needed to understand and optimally operate the commissioned systems.
 - Verify that the requirements for training operating personnel and building occupants have been completed.
 - Review the operation of the building with O&M staff and occupants within 10 months of substantial completion and create a plan to resolve and outstanding commissioning-related issues.
 - vii. *EA 5—Measurement and Verification (3 points)*: This credit requires the development of a measurement and verification plan to ensure that projected energy savings are met. This plan must cover at least one year of post-construction occupancy and provide a process for corrective action should analysis reveal that energy savings are not being achieved.
 - viii. *EA 6—Green Power (2 points)*: EA 6 requires that at least 35% of the building’s electricity come from Green-e certified renewable sources for a minimum of two years. Participation in Seattle City Light’s “Green Up” program, which charges a \$0.015/kWh premium for certified renewable electricity, would meet this requirement.
 - ix. *MR 7—Certified Wood (1 point)*: MR 7 requires that a minimum of 50% (by cost) of wood-based materials come from Forest Stewardship Council Certified or equivalent sources.
 - x. *IEQ 8.1—Daylight and Views-Daylight (1 point)*: Demonstrate that at least 75% of regularly occupied spaces achieve daylight illuminance levels between 25 and 500 footcandles (fc).
- b. **Space Planning**: The simplest and most cost-effective way to reduce energy use is to turn buildings off when not in use. It’s intended that the University continue its practice of conducting space utilization studies, placing an emphasis on scheduling density during off-peak hours. If evening classes were to be consolidated in fewer buildings, other campus buildings could be taken offline earlier, saving energy.
 - c. **Planning and Green Space**: When the campus master plan is redone, sustainability principles will figure more prominently. In the meantime, the University will create a plan outlining standards for the campus outdoor

environment, including landscaping, exteriors, movement throughout campus, and other components such as bicycle racks. This plan will contain a green space commitment that goes beyond the City of Seattle's open space requirements.

Although SPU is not permitted to count campus trees as a carbon sink in its inventory, trees play an important role in preventing climate change and improving air quality. It's estimated that more than one-fifth of the world's greenhouse gas emissions is due to deforestation. A No Net Tree Loss policy will guarantee that SPU continue to receive the environmental, social, and aesthetic benefits of a tree-covered campus while allowing for the removal of trees due to disease, safety concerns, or if necessary, development. Under such a policy, SPU would be required to replace any trees that get taken down so that the overall amount of tree canopy on campus remains unchanged.

Energy Infrastructure

- a. Information: Targeted and effective energy efficiency projects will be difficult to achieve without accurate and specific information about how energy is used on campus. To this end, the following actions are slated to be undertaken within the next two years:
 - i. Install natural gas sub-meters at each building (in situations where one boiler serves multiple buildings, a sub-meter must at least serve the location of the boiler)
 - ii. Develop a more efficient and user-friendly method for tracking building energy consumption. Initially, this would be fairly basic, used by Facility and Project Management staff to better identify opportunities for increased efficiency.

Additionally, the following will occur at least every two years:

- iii. Conduct energy audits that include, at a minimum, controls, mechanical systems (production, distribution, and scheduling), building envelopes, and lighting. Implement low and no cost improvements, and assign remaining recommended projects to the deferred maintenance list.

In the four- to seven-year range, efforts will focus on the launch of a web-based monitoring system targeted at end users. Behavioral economics studies have demonstrated that when an individual is shown their energy use compared to their neighbors or peers, they reduce their energy consumption by an additional 2-5%. Such an online system will allow building occupants to compare energy use by building and view fluctuations in usage over the course of a day and throughout the seasons of a year.

- b. Efficiency: Energy efficiency is one of the most cost efficient means to carbon neutrality. Seattle Pacific is committed to aggressively pursuing energy efficiency. Key components of such a plan are listed below.
 - i. Improved Energy Management: Facilities department staff members have identified a series of improvements (EMOs) that will reduce the University's natural gas use by 15%. Implementing night setbacks, installing submetering and communicating programmable thermostats, and upgrading to a web-based interface for networked controls are examples of pieces in this project. Some of these items may be eligible for financial incentives from local utilities. This series of projects is estimated to pay for itself in five to seven years, not counting any utility incentives.

- Ask departments to utilize the overhead fluorescent lighting and unplug and remove any free standing incandescent lighting that they may have purchased or brought to campus, unless approved by Human Resources as required by a doctor for a medical condition.
- ii. The University will explore continued reductions in the energy used by computers on campus. The Computer and Information Systems (CIS) department has already implemented power management settings on all University-owned desktop workstations. Further energy savings could be realized by turning computers off at night. However, issues such as network security and ensuring that CIS staff are able to perform off-hours updates and maintenance must be addressed first.
- d. Renewable Energy Sources: Ultimately, the University will have to invest in renewable energy sources in order for its energy consumption to become completely carbon neutral. Renewable technologies are being developed at an extraordinary rate. The University will conduct a thorough analysis of all renewable energy options feasible to its location, updating this analysis every three years. Some of the options that would be viable at SPU's location are low temperature geothermal, via the use of ground source heat pumps, and solar energy. Use of waste heat should also be explored.

The University will begin requiring renewable options to be considered whenever upgrading or replacing HVAC equipment. Given the current rate of replacing HVAC infrastructure on campus, it is estimated that additional renewable energy projects will be necessary to significantly reduce the amount of natural gas used by the University within the next 25 years. It is intended that, for the next five to seven years, a focus be placed on conservation and efficiency. In the mid- to long-term, the University will need to consider capital projects that include or consist solely of renewable energy installations that substantially reduce natural gas consumption on campus.

Transportation Options

- a. University Fleet: As detailed in the chart below, Seattle Pacific is in the process of phasing gasoline vehicles out of its maintenance fleet. When this process is complete, SPU's maintenance fleet will be made up of thirteen electric vehicles, two biodiesel vehicles, and nine hybrid or alternative fuel vehicles.

ID #	Fuel Source	Year	Make/Model	Usage
PS-04	Diesel	2001	Isuzu	37,835 miles
PS-05	Electric	2008	E-Ride	90.1 hours
PS-22	Electric	2007	E-Ride	167.7 hours
PS-23	Electric	2008	E-Ride	70.3 hours
PS-12	Electric	2009	Miles	-
PS-18	Electric	2009	Miles	-
PS-28	Gas	2004	Ford Ranger	14,467 miles
PS-16	Gas	2001	Ford Ranger	6,717 miles
PS-11	Gas	2007	Ford Ranger	11,239 miles
PS-09	Gas	1985	Dodge D-50	55,528 miles
PS-14	Gas	2000	Ford Ranger	11,427 miles

PS-01	Gas	2000	Ford Ranger	4,584 miles
PS-06	Gas	2007	Ford Ranger	2,634 miles
PS-07	Gas	2000	Ford Ranger	12,023 miles
PS-15	Gas	1998	Ford Ranger	20,095 miles
PS-17	Gas	1988	Chevrolet Flatbed	42,763 miles
PS-21	Gas	1998	Ford Ranger	15,443 miles
PS-02	Gas	1994	Dodge Caravan	46,331 miles
PS-03	Gas	2002	Chevrolet Astro	8,985 miles
PS-13	Gas	1985	Chevrolet Van	28,824 miles
PS-19	Gas	2000	Chevrolet Astro	14,552 miles
PS-20	Gas	2003	Chevrolet Astro	5,761 miles
PS-24	Gas	2004	Chevrolet Astro	5,171 miles
PS-08	Gas	2008	Ford Ranger	1356 miles

To be converted to or replaced by biodiesel
To be replaced by a hybrid or alternative fuel vehicle
To be replaced by an electric vehicle
Electric vehicle

Patrol vehicles for Safety and Security are purchased used from WA state police, who have begun phasing hybrid vehicles into their fleet. Once the state police begin selling the hybrids used, we will phase in their addition to our security fleet.

As hybrid versions of large SUV’s continue to be introduced into the market, the University will follow a similar phased approach in greening its motor pool (used to transport athletes and performing groups). Currently there are no viable sustainable alternatives to replace the fleet’s passenger vans. We will continue following the development of alternative vehicle technology and adjust this plan as new options emerge.

- b. Commuting: Faculty, staff, and student commuting accounts for 26% of Seattle Pacific’s baseline carbon footprint, comprising the University’s second largest contribution to climate change. Employee commuting is responsible for 6% of the overall footprint, whereas student commuting represents 20% of the total. As the majority of transportation programming traditionally has been aimed at employees, the biggest gains to be made are with student commuters.

Dealing with this emissions source will require expanding current program offerings as well as exploring new strategies. Because this action category requires dealing with behavior change rather than the physical campus, the goal will be to make the sustainable transportation option the easiest and most convenient one. This will require using principles of behavioral economics as well as social marketing. Resulting actions will include incentivizing alternative commute options as well as gradually making it more difficult or costly to drive alone to campus. Any new significant programs will proceed with community input via an open forum, survey, or series of focus groups so that any investment in alternative commute programming has a higher chance of being successful. The following goals are provided as a starting point:

- i. Within three years, create a detailed campus bike plan detailing improvements to campus bike infrastructure as well as programs and incentives to encourage cycling. The bike plan may be included

as part of a larger transportation plan or as part of a campus outdoor environment plan. The plan may include, but is not limited to, the following strategies:

- Increase the number of bike racks on campus to support growing demand for them
 - Partner with the Commuter Council and/or bicycle club to create a student-staffed bicycle repair shop on campus
 - Offer subsidized urban cycling courses that cover what to wear, traffic rules, etc.
 - Offer trip advice (customized bike routes; Seattle bike maps)
 - Bike rental program (quarterly for commuters, daily for residents)
- ii.* Increase program and communications support for public transportation
- Increase the number of discounted transit passes available to students so as to match demand
 - Develop a streamlined purchasing mechanism for discounted student transit passes
 - Supplement parking permit applications with information on all modes of transportation available to the SPU community
 - Offer a 'Preferred Pass,' which could cost roughly the same amount as a parking permit but would cover a transit pass and bike rental
 - Advocate for the campus to be better connected to public transit hubs in downtown Seattle and at the University of Washington. This could include involvement in a local coalition to expand streetcar to SPU/Ballard/Fremont.
- iii.* Make carpooling easier to coordinate and more accessible with secure, online rideshare matching
- iv.* Increase focus on research, communications, and program evaluation
- Focus groups, pilot studies, and other planning
 - Communications plan for each initiative
 - Evaluation—benchmarking and addressing barriers

In the mid- to long-term, these additional actions may be pursued:

- v.* Identify alternate funding mechanisms for alternative transportation programs. Currently, these programs are funded with parking revenue. As we set goals to aggressively reduce the number of cars coming to campus, it will be necessary to increase parking rates (both to discourage driving alone and provide funding for alternative commute programs). At some point however, decreases in drive alone commuting may render increases in parking fees insufficient in funding transportation programs. Ultimately, our transportation efforts will need an additional funding source or mechanism.
- vi.* Support and advocate for the establishment of additional Residential Parking Zones within a quarter-mile radius of campus. These zones restrict parking to two hours for anyone without a residential permit, ensuring that neighborhood residents are the primary recipients of street parking. Establishing such zones will prevent an exodus of commuter parking onto residential streets as parking rates increase. However, such zones may only be established when requested by the community of residents.
- vii.* Explore additional telecommuting technologies
- Faculty and students: While personal connections between students and faculty make up an integral part of the Seattle Pacific experience, online technologies such as Skype have made that connection much easier to achieve electronically. It is recommended that online meeting

technologies be explored to determine the potential commute decrease resulting from, for example, faculty being able to conduct office hours online one or two days a week.

Additionally, flexible scheduling programs, such as the one offered in the engineering department, may provide a competitive advantage as well as a means to reduce student commute. With these programs, all courses are accessible remotely, either in real-time or on demand. This set up would not work for all departments but should be considered particularly in fields where students tend to maintain a professional position while pursuing a degree.

- Staff: While some staff members are allowed to telecommute on a case-by-case basis, it is recommended that the University explore the potential of using online meeting and multimedia technology to further reduce staff commuting.
- c. Air travel: Approximately three-quarters of the air miles reported in the carbon footprint were logged by athletics; staff business travel accounts for the rest. In planning for carbon neutrality, it is impractical to aim at significantly reducing air travel. The carbon emissions resulting from University-funded air travel will need to be offset with an annual investment in renewable technologies, carbon reduction or sequestration projects. A strategy for addressing this emissions source is outlined below.
- i. Expand the University's policy on business travel to include:
 - A filter to ensure the travel is necessary/highly beneficial to the employee. (I.e. could the employee achieve the desired outcome by another means?)
 - A preference for traveling by train rather than airplane, if the destination is within the Northwest/Cascadia region.
 - An emphasis on minimizing environmental impacts of travel. An example of this might be encouraging the use of public transit (or discouraging the use of taxis) for business travel.
 - ii. Create a mechanism for tracking air miles traveled. Currently, business travel emissions are calculated by applying a flat dollar-to-mile conversion to all air travel expenses. This practice does not adequately reflect the dynamic pricing strategies used by airlines.
 - iii. For all student-funded travel opportunities (SPRINT, study abroad, etc.), include an option to offset the carbon emissions associated with their air travel. While these emissions aren't counted towards SPU's footprint, this would afford us the opportunity to raise student awareness of the environmental impacts associated with travel and provide them with one mitigation strategy.

Education for a Sustainable Future

This category describes communications and co-curricular activities to encourage individuals in the SPU community to live more sustainably. While the short-term results of such efforts may lead to a decrease in the University's environmental footprint, the long-term benefits go far beyond our physical campus.

- a. Academics & Career
 - i. Inventory: Given SPU's mission to graduate students equipped with both the compassion and knowledge to change the world, the University offers a number of courses that address or interact with

sustainability topics. Beginning in the 2010-2011 year, identification of these courses will assist in demonstrating SPU's commitment to sustainability to current and potential students.

- ii.* Campus Laboratory Grant: Aimed at encouraging dialogue and cooperation between the academic and operations sectors of the university, this grant will be given to one student or student team per year to pursue a campus sustainability project within their intended course of study. The project must provide an educational and environmental benefit to the campus community and be sponsored by a faculty advisor. The award consists of project funding as well as a cash prize to be awarded to the author(s) of the winning proposal. To ensure timely completion, proposals must be submitted the spring prior to the project's scheduled implementation and include a draft budget.

An example of this type of project is the "Closing the Loop" solar project, recently completed at Otto Miller Hall. This student-designed project provides the electric grid with the amount of power withdrawn by our electric vehicle fleet. It also provides the engineering department with a physical example of renewable technology, especially valuable to the new Appropriate and Sustainable Engineering concentration.

- b.* Community: These activities are intended to raise the profile of sustainability issues on campus and encourage an ongoing discussion on how best to move towards a sustainable future.

- i.* Timeline of Annual Sustainability Programs/Events

- Campus Sustainability Day / Day of Common Learning: Campus Sustainability Day is usually proximate to the annual Day of Common Learning. It is recommended that an afternoon session applying sustainability to the Day of Common Learning topic take place every year. Additionally, it is recommended that sustainability or environmental stewardship be the common theme within the next five years.
- Recyclemania: This annual recycling competition between universities takes place during Winter Quarter.
- Earth Week: Usually the third week of April, Earth Week provides the campus community an opportunity to focus on and learn about a variety of environmental issues. Earth Week programming is sponsored by a coalition of student groups and support staff.
- National Day of Prayer for Creation Care
- Move Out

- ii.* Support for these and other events will require integrated partnership between departments and on-campus organizations: Communications, Facilities, University Ministries, Perkins Center, Residence Life, Career Center, ASSP, SPEN, etc. Going forward, the Sustainability Committee will act as a hub to coordinate these endeavors.

- iii.* Sustainable Steps campaign: Each quarter, two or three actions will be selected to emphasize using principles of community-based social marketing. These will provide the campus community with tangible steps to take in addressing what can sometimes appear an overwhelmingly large problem.

- c.* Communications: The following mechanisms will be used to share sustainability-related news and information with the campus community.

- i.* Sustainability blog

- ii.* Blurbs in Fac/Staff and Loopy e-bulletins
- iii.* Annual updates to deans/directors
- iv.* Pamphlet sent to incoming freshmen w/ other materials

IV. Financing

Although the combination of fluctuating energy prices and the rapid emergence of new technologies make it difficult to state the precise cost (or savings) of the plan throughout its 25-year course, we estimate a five-year cost of \$1.1 million and, more broadly, a twenty-five year cost of \$36 million.

Of the five-year cost, nearly half of it is projected to come from a proposed internal loan, to be paid back out of utilities savings over the course of seven years. The remaining costs will be addressed by applying sustainability filters to existing OBP budget parameters and submitting additional funding requests.

Over the course of the 25-year plan, the largest costs will come from substantially reducing natural gas use on campus, first by conservation and efficiency and eventually by integrating new means of heating into building projects. The technologies used will vary depending on the context (building location, occupant/program needs, etc.). Based on the cost estimate for a geothermal heat exchange system, it is estimated that replacing natural gas as a primary means of campus heating will cost in the ballpark of \$25 million. This cost may vary by technology selected. It is recommended that this type of project be integrated into major renovations and new construction as much as possible.

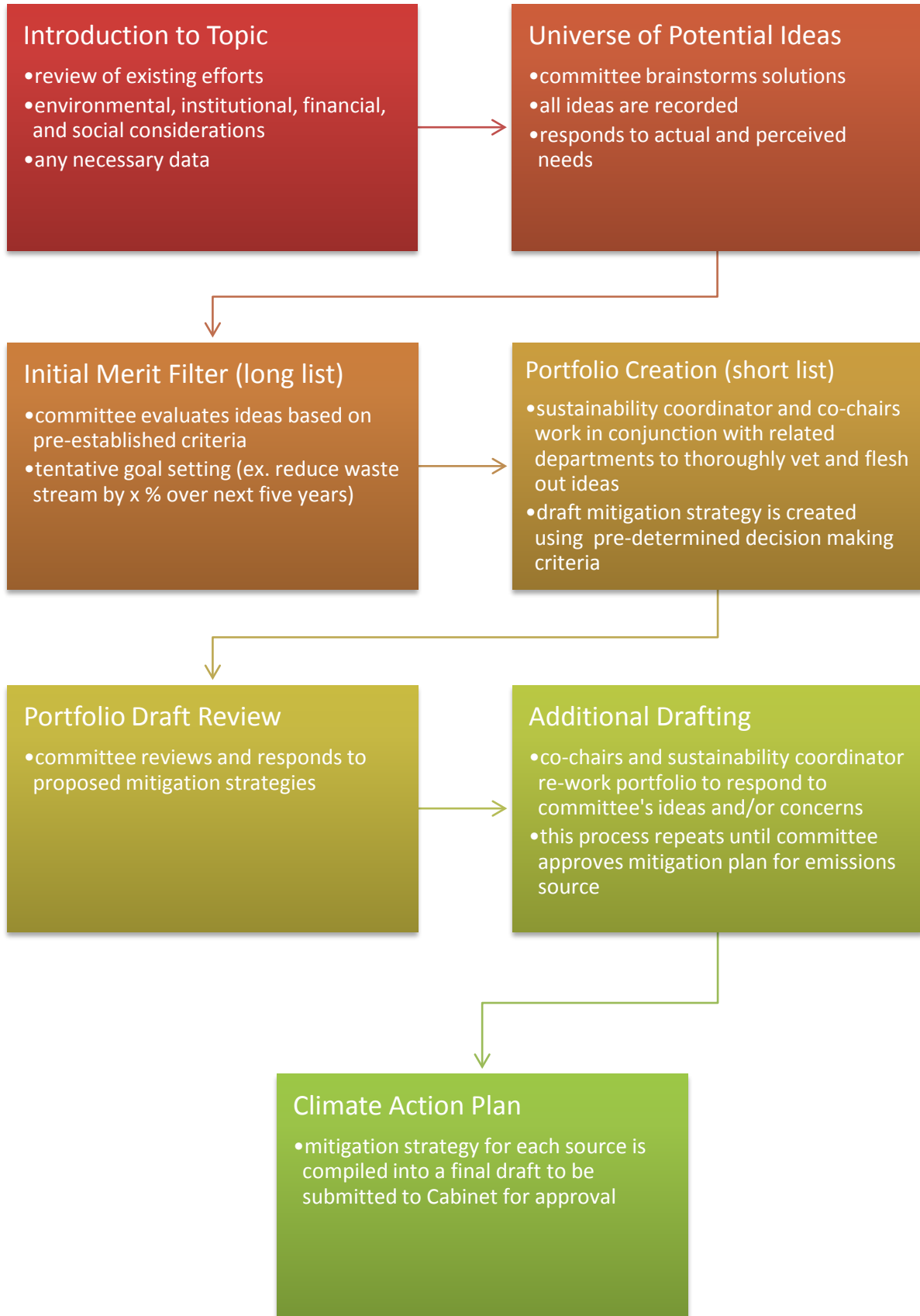
Even with aggressive reductions in natural gas use and other carbon-emitting behaviors, it would be virtually impossible to completely eliminate all carbon emissions within 25 years. The plan lists reduction targets for each emissions source; beyond that, the purchase of carbon offsets will be necessary to achieve net zero carbon emissions. Standards for reliable and meaningful offsets are still in the process of being developed, and it is recommended that the University develop its own set of standards to guide the purchase of offsets. If the emissions targets listed in the plan are met, it is estimated that the annual cost of offsets will be approximately \$31,000, beginning in the 2036-37 fiscal year. Should carbon offsets become a regulated commodity, this estimate may change.

Appendix A: Sustainability Committee Members

Area of Representation		2008-2009	Title	2009-2010	Title
President's Office	President's Office	Jennifer Perrow	Assistant to the President for Communication	Jennifer Perrow	Assistant to the President for Communication
Academic Affairs	Faculty	Kathleen Braden	Professor of Geography	Kathleen Braden	Professor of Geography
	Faculty	John Lindberg	Associate Professor of Physics	John Lindberg	Associate Professor of Physics
	Faculty	Elaine Scott	Director, Engineering Department	Elaine Scott	Director, Engineering Department
	Dean's Cabinet	Bruce Congdon	Dean, College of Arts and Sciences	Bruce Congdon	Dean, College of Arts and Sciences
	Office of Student Life	Jacqui Smith-Bates	Director, Center for Career and Calling	Jacqui Smith-Bates	Director, Center for Career and Calling
	Seattle Pacific Environmental Network	open		Jason Clapp	President
	ASSP	Joel VanderHoek	President	Ben Wynant	Treasurer
	ASSP	Cory Deppe	Senator	Christina Radecki	Senator
Advancement	Advancement/Staff Council	Kristi Nelson	Senior Gift Officer	Kristi Nelson	Senior Gift Officer
Business and Planning	Facility and Project Management	Dave Church	Assistant VP, Facility and Project Management	Dave Church	Assistant VP, Facility and Project Management
	Finance	Craig Kispert	Associate VP, Business and Finance	Craig Kispert	Associate VP, Business and Finance
	Computer and Information Systems	Dave Tindall	Assistant VP, Technology Services	Dave Tindall	Assistant VP, Technology Services
	Facility and Project Management	Bethany Walrad	Sustainability Coordinator	Bethany Walrad	Sustainability Coordinator
	Human Resources	Gary Womelsduff	Director, Human Resources	Gary Womelsduff	Director, Human Resources
University Relations	Athletics	Erika Daligcon	Cross Country Coach	Erika Daligcon	Cross Country Coach
	University Ministries/Center for Worship	Deb Nondorf	Minister of Christian Community Formation	Deb Nondorf	Minister of Christian Community Formation
	University Communications	Bryan Mazzarello	Web Designer	Tracy Norlen	News and Media Relations Manager
	University Communications	Tracy Norlen	News and Media Relations Manager		
	Perkins Center	Owen Sallee	Coordinator for Urban and Global Involvement	Owen Sallee	Coordinator for Urban and Global Involvement

Appendix B: Climate Action Planning Process and Project Evaluation Criteria

Climate Action Planning Process



Decision-making criteria

Operational

- **Any legal restrictions or requirements?**
- **Timeline to study**
- **Cost required to assess project's feasibility, including staff time, consulting fees and other one-time costs**
- **Timeline to implement**
- **Initial 'one time' cost to implement**
- **Ongoing cost/savings, taking into account:**
 - *Current budget*
 - *Potential budget increases, both in operations and staffing*
 - *Potential savings*

Institutional

- **Does it fit SPU's mission and identity, as set forth in the University's Signature Commitments?**
- **How does it fit with:**
 - *Ongoing operations*
 - *Short and long term planning*
- **Does it have additional educational value or merit?**

Environmental

- **Potential reduction in greenhouse gases emitted**
- **Other quantifiable environmental benefits (i.e. x less gallons of water used, reduced particulate pollution)**

Individual

- **Is it culturally and physically feasible?**

Appendix C: Timeline of Emissions Reduction Strategies

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Planning and Development	Adopt SPU Priority LEED-NC credits			Update SPU Priority LEED-NC credits as needed				
	Develop Campus Outdoor Environment Plan			Require large-scale renewable energy sources to be integrated into new building projects whenever feasible				
	Adopt "No Net Canopy Loss" Tree Policy							
	Consolidate evening classes							
Energy Infrastructure	Campus building retrocommissioning and initial energy improvements			Biennial campus energy audits				
	Install natural gas submeters			Develop web-based energy monitoring for end users				
	Apply sustainability filter to all energy-related deferred maintenance projects (roofing, windows, insulation, HVAC, lighting, etc)							
	Adopt campus-wide ENERGY STAR purchasing policy			Participate in Seattle City Light's Green Up renewable electricity purchase program				
	Develop and implement campus-wide energy conservation policy							
Transportation Options	Replace University fleet with electric or alternative fuel vehicles							
	Increase number of bike racks on campus							
	Increase number of discounted transit passes available for students							
	Develop online carpool match for SPU commuters							
	Assess potential for increased online learning and implement where feasible							
	Implement air mile tracking for business and athletics trips							
	Integrate environmental stewardship considerations into travel policy							
Education for a Sustainable Future	Conduct and publish inventory of sustainability-related course offerings							
	Award annual Sustainable Campus grant and implement winning project proposals							
	Sustainability related Day of Common Learning theme (once)							
	Implement sustainability communications plan							
Offsets						Develop carbon offset selection criteria		

2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Update campus green building standards as needed								
Require large-scale renewable energy sources to be integrated into new building projects whenever feasible								
Biennial campus energy audits								
Apply sustainability filter to all energy-related deferred maintenance projects (roofing, windows, insulation, HVAC, lighting, etc)								
			Replace Brougham and Otto Miller boiler and chiller systems with geothermal system					
Participate in Seattle City Light's Green Up renewable electricity purchase program								
Replace University fleet with electric or alternative fuel vehicles								
Match supply and demand for discounted student transit passes								
Award annual Sustainable Campus grant and implement winning project proposals								
Implement sustainability communications plan								
Implement voluntary offsets for specific items and/or events								

2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36
Update campus green building standards as needed								
Require large-scale renewable energy sources to be integrated into new building projects whenever feasible								
Biennial campus energy audits								
Apply sustainability filter to all energy-related deferred maintenance projects (roofing, windows, insulation, HVAC, lighting, etc)								
Participate in Seattle City Light's Green Up renewable electricity purchase program								
Match supply and demand for discounted student transit passes								
Award annual Sustainable Campus grant and implement winning project proposals								
Implement sustainability communications plan								
Update offset selection criteria and identify campus-scale offset mechanisms and/or projects							Begin annual purchase of offsets	

Appendix D: Seattle Pacific Priority LEED-NC Credits

Credit	Title	Possible	Regional	SPU
SS PR 1	Construction Activity Pollution Prevention	-	-	-
SS PR 2	Environmental Site Assessment	-	-	-
SS 1	Site Selection	1	1	1
SS 2	Development Density and Community Connectivity	5	-	-
SS 3	Brownfield Redevelopment	1	-	-
SS 4.1	Public Transportation Access	6	-	-
SS 4.2	Bicycle Storage and Changing Rooms	1	-	-
SS 4.3	Low-Emitting and Fuel Efficient Vehicles	3	-	-
SS 4.4	Parking Capacity	2	-	-
SS 5.1	Protect or Restore Habitat	1	1	1
SS 5.2	Maximize Open Space	1	-	-
SS 6.1	Stormwater Design--Quantity Control	1	1	1
SS 6.2	Stormwater Design--Quality Control	1	-	-
SS 7.1	Heat Island Effect--Nonroof	1	-	-
SS 7.2	Heat Island Effect--Roof	1	-	1
SS 8	Light Pollution Reduction	1	-	-
WE PR 1	Water Use Reduction	-	-	-
WE 1	Water Efficient Landscaping	4	-	-
WE 2	Innovative Wastewater Technologies	2	-	-
WE 3	Water Use Reduction	4	-	-
EA PR 1	Fundamental Commissioning of Energy Systems	-	-	-
EA PR 2	Minimum Energy Performance	-	-	-
EA PR 3	Fundamental Refrigerant Management	-	-	-
EA 1	Optimize Energy Performance	19	19	15
EA 2	On-site Renewable Energy	7	7	1
EA 3	Enhanced Commissioning	2	-	2
EA 4	Enhanced Refrigerant Management	2	-	-
EA 5	Measurement and Verification	3	-	3
EA 6	Green Power	2	-	2

Credit	Title	Possible	Regional	SPU
MR PR 1	Storage and Collection of Recyclables	-	-	-
MR 1.1	Maintain Existing Walls, Floors, and Roof	3	-	-
MR 1.2	Maintain Interior Nonstructural Elements	1	-	-
MR 2	Construction Waste Management	2	-	-
MR 3	Materials Reuse	2	-	-
MR 4	Recycled Content	2	-	-
MR 5	Regional Materials	2	-	-
MR 6	Rapidly Renewable Materials	1	-	-
MR 7	Certified Wood	1	1	1
IEQ PR 1	Minimum Indoor Air Quality Performance	-	-	-
IEQ PR 2	Environmental Tobacco Smoke Control	-	-	-
IEQ PR 3	Minimum Acoustical Performance	-	-	-
IEQ 1	Outdoor Air Delivery Monitoring	1	-	-
IEQ 2	Increased Ventilation	1	-	-
IEQ 3.1	Indoor Air Quality Management--Construction	1	-	-
IEQ 3.2	Indoor Air Quality Management--Pre-Occupancy	1	-	-
IEQ 4.1	Low-Emitting Materials--Adhesives and Sealants	1	-	-
IEQ 4.2	Low-Emitting Materials--Paints and Coatings	1	-	-
IEQ 4.3	Low-Emitting Materials--Flooring Systems	1	-	-
IEQ 4.4	Low-Emitting Materials--Composite Wood and Agrifiber Products	1	-	-
IEQ 5	Indoor Chemical and Pollutant Source Control	1	-	-
IEQ 6.1	Controllability of Systems--Lighting	1	-	-
IEQ 6.2	Controllability of Systems--Thermal Comfort	1	-	-
IEQ 7.1	Thermal Comfort--Design	1	-	-
IEQ 7.2	Thermal Comfort--Verification	1	-	-
IEQ 8.1	Daylight and Views--Daylight	1	-	1
IEQ 8.2	Daylight and Views--Views	1	-	-
ID	Innovation in Design	6	-	-
RP	Regional Priority Credits	4	4	4

Total

110 34 33

Certified 40+ points, Silver 50+ points, Gold 60+ points, Platinum 80+ points