

Appendix F

Sustainability Initiative Evaluation Matrices

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| ID | Primary Goal Category | Primary Sustainability Objective* | Initiative | Description of Initiative | Which Sustainability Goals categories does this strategy contribute to meeting? (bold indicates primary goal area the objective helps meet) | | | | Overall Relative Ability of Initiative to Advance Sustainability (1-5) 1 = Low Effect 5 = High Effect | What are the costs to implement the initiative? (High, Medium, Low) High = \$100,000+ Med = \$10,001+ Low = <\$10,000 | What are the annual costs to maintain the initiative? (High, Medium, Low) High = \$100,000+ Med = \$10,001+ Low = <\$10,000 | What level of staff effort is required to maintain the initiative? (High, Medium, Low) High = 1+ FT Med = 1 PT Low = minimal staff effort | Return on Investment (if available) (years) | Overall Relative Cost/ Staff Level of Effort of Initiative (1-5) 1 = Low cost/staff effort 5 = High cost/staff effort | Implementation Timeframe | Comments | Additional Resources / Tools | Source |
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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 1 | Energy Efficiency | E-O-1 - Maintenance Building | Install Programmable Thermostat in the Maintenance Building. Lifetime Savings - \$8,291 | Replace the existing thermostat in the Maintenance Building with a simple weekday/weekend (also known as 5 day/2 day) programmable thermostat to automatically set the office temperature back to reduce the amount of time the heating and cooling operates. During the heating season, set back the thermostat back to 60°-62°F after 5 pm. In the cooling season, set the thermostat up to 80°-82°F after 5 pm. | X | X | X | | 2 | \$700 | Low | Low | 0.8 | 1 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the Maintenance Building. | Energy Management Plan and Audit Analysis - University Park Airport - Aircraft Maintenance Facility (October 2013) |
| 2 | Energy Efficiency | E-O-1 - Maintenance Building | Replace incandescent, halogen and metal halide lamps with LED or high efficiency equivalent lighting in the Maintenance Building. Lifetime Savings - \$25,944 | The following lighting changes are recommended in the Maintenance Building: replace all incandescent and halogen lamps with LED equivalent, replace exterior 400W metal halide high bay fixtures with 78W RAB LED floodlights, retrofit all 2-lamp, 96W 8ft T12 fixtures to 4-lamp, 32W T8 fixtures, and replace 400W metal halide high bay fixtures with 6-lamp, 4ft T5 high bay fixtures. • Replace incandescent & halogen lamps with LED lamps (ROI is 1.9 years) • Replace exterior metal halide with LED floodlight (ROI is 8.4 years) • Retrofit all 2-lamp T12's with 4-lamp electronic ballasts (ROI is 4.2 years) • Replace metal halide high bay fixtures with 6 lamp T5 fixtures (ROI is 5.2 years) | X | X | X | | 3 | \$13,693 | Low | Low | 1.9 - 8.4 (See Description) | 2 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. Initial Costs to Implement: \$1,196 - Replace incandescent & halogen lamps with LED lamps \$6,613 - Replace exterior metal halide with LED floodlight \$2,677 - Retrofit all 2-lamp T12's with 4-lamp electronic ballasts \$3,207 - Replace metal halide high bay fixtures with 6 lamp T5 fixtures | This was identified during the ASHRAE Level II Energy Audit of the Maintenance Building. | Energy Management Plan and Audit Analysis - University Park Airport - Aircraft Maintenance Facility (October 2013) |
| 3 | Energy Efficiency | E-O-1 - Maintenance Building | Install propane infrared heaters for the hangar in the Maintenance Building. Lifetime Savings - \$193,578 | Install propane infrared heaters at 30' above the work floor to provide primary heat to the Maintenance Building. Install programmable thermostats and take maximum advantage of potential setback temperatures during unoccupied periods. Two key factors provide energy cost savings -- the lower cost of propane as a fuel compared to current Fuel Oil prices (on an effective Btu heat basis, electric resistance heat is about 45% less expensive than fuel oil) and the potential for unoccupied setbacks. In a large open building such as the hangar with large infiltration amounts, a great deal of energy is lost heating the building when it is not being used. Consider setting the temperature back to 55°F at nights and on weekends with an override if occupied. | X | X | X | | 3 | \$24,340 | Low | Low | 1.8 | 2 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the Maintenance Building. | Energy Management Plan and Audit Analysis - University Park Airport - Aircraft Maintenance Facility (October 2013) |
| 4 | Energy Efficiency | E-O-1 - Maintenance Building | Improvements the building envelope in the Maintenance Building. Lifetime Savings - \$62,248 | The following envelope improvements are recommended in the Maintenance Building to increase energy savings: 1) Remove the hangar ridge vent and replace with a continuous roof cap. 2) Install brush seals to hangar doors. 3) Install gaskets on man doors. | X | X | X | | 2 | \$26,730 | Low | Low | 6.4 | 3 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the Maintenance Building. | Energy Management Plan and Audit Analysis - University Park Airport - Aircraft Maintenance Facility (October 2013) |
| 5 | Energy Efficiency | E-O-1 - Maintenance Building | Improve insulation of the office walls in the Maintenance Building. Lifetime Savings - \$17,409 | The following improvements are recommended in the Maintenance Building to reduce energy savings: 1) Insulate and air seal parapet walls. 2) Install 3.5" foil faced foam board or fiberglass board insulation as approved by local building jurisdiction for a minimum R-value or R-14 (the insulation should cover the entire exterior wall). 3) Air seal at the parapet cap with closed-cell foam or caulking as allowed by code. | X | X | X | | 2 | \$9,360 | Low | Low | 8.1 | 2 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the Maintenance Building. | Energy Management Plan and Audit Analysis - University Park Airport - Aircraft Maintenance Facility (October 2013) |
| 6 | Energy Efficiency | E-O-1 - General Aviation Terminal Building | Replace all incandescent and metal halide lighting with LED equivalent in the General Aviation Terminal. Lifetime Savings - \$21,102 | The following lighting updates are recommended in the GA Terminal to increase energy savings: 1) Replace all 19W CFL, 50W incandescent and 75W incandescent with 8W A19 LED (ROI is 4.2 years). 2) Replace 70W metal halide accent lighting with 20W RAB LED wall packs (ROI is 22.4 years). 3) Replace 120W incandescent spot lights with 15W PAR30 LED (ROI is 3.5 years). 4) Replace all pole mounted exterior lighting with 78W RAB LED wall pack (ROI is 8.7 years). | X | X | X | | 3 | \$14,033 | Low | Low | 3.5 - 22.4 (See Description) | 2 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. Initial Costs to Implement: \$4,086 - Replace all incandescent with LED lamps \$1,469 - Replace metal halide with LED lamps \$634 - Replace incandescent spot lights with LED lamps \$7,844 - Replace pole mounted exterior lighting with LED lamps | This was identified during the ASHRAE Level II Energy Audit of the General Aviation Terminal. | Energy Management Plan and Audit Analysis - University Park Airport - General Aviation Terminal (October 2013) |
| 7 | Energy Efficiency | E-O-1 - General Aviation Terminal Building | Install residential class refrigerator in place of commercial refrigerator in the General Aviation Terminal. Lifetime Savings - \$2,864 | The GA Terminal has an industrial-grade refrigerator for intermittent use by caterers. Evaluate the use of the refrigerator and determine if a large residential unit can accommodate refrigeration demands as a industrial unit uses considerably more energy per unit volume than a residential Energy Star certified unit. | X | X | X | | 2 | \$1,500 | Low | Low | 7.9 | 1 | Long-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the General Aviation Terminal. | Energy Management Plan and Audit Analysis - University Park Airport - General Aviation Terminal (October 2013) |

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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 8 | Energy Efficiency | E-O-1 - General Aviation Terminal Building | Replace faucet aerators to 1 gpm in the General Aviation Terminal. Lifetime Savings - \$2,592 | Existing sink aerators are 2.5 gallons per minute (gpm) in the GA Terminal. Install 1 gpm sink aerators to save on water and electricity for water heating. | X | X | X | | 3 | \$200 | Low | Low | 0.8 | 1 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the General Aviation Terminal. | Energy Management Plan and Audit Analysis - University Park Airport - General Aviation Terminal (October 2013) |
| 9 | Energy Efficiency | E-O-1 - General Aviation Terminal Building | Install vending miser in the General Aviation Terminal. Lifetime Savings - \$1,154 | Installing a control device such as the Vending Miser will power down the vending machine whenever there is no foot traffic in front it for a determined amount of time. It does this through the use of a motion sensor. Other controls in the Vending Miser periodically power up the refrigeration system to maintain product temperature and to sense machine operation so that the vending machine is only powered down when the compressor is not operating (in order to prevent adverse impacts on compressor life). | X | X | X | | 2 | \$400 | Low | Low | 3.5 | 1 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the General Aviation Terminal. | Energy Management Plan and Audit Analysis - University Park Airport - General Aviation Terminal (October 2013) |
| 10 | Energy Efficiency | E-O-1 - General Aviation Terminal Building | Repair fiberglass insulation and install vapor barrier in the General Aviation Terminal. Lifetime Savings - \$42,883 | The following improvements are recommended to reduce energy use in the GA Terminal: 1) Repair holes and missing batts of fiberglass insulation. 2) Install a new foil skim craft or similar pressure and vapor barrier. 3) Tape seams with heavy-duty seaming tape. 4) Spray foam may be used to seal seams and utility penetrations if the product selected meets smoke and fire code requirements. | X | X | X | | 2 | \$9,000 | Low | Low | 6.4 | 2 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the General Aviation Terminal. | Energy Management Plan and Audit Analysis - University Park Airport - General Aviation Terminal (October 2013) |
| 11 | Energy Efficiency | E-O-1 - General Aviation Terminal Building | Update HVAC controls to restore zoning in the General Aviation Terminal. Lifetime Savings - \$94,883 | The existing GA Terminal system's efficiency can be improved based on new controls. New controls that are recommended include: 1) Install non-proprietary controls to tie each of the boxes together for optimization of operation and increased comfort. 2) Configure controls to allow zone set point limits, have unoccupied setback temperatures, and optimize duct supply air temperature and pressure for energy savings. 3) Confirm economizer is enabled at favorable outdoor temperatures. 4) Install exhaust fan on occupancy sensor to run for 15 minutes from last motion in either restroom. | X | X | X | | 3 | \$25,000 | Low | Low | 6.6 | 3 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the General Aviation Terminal. | Energy Management Plan and Audit Analysis - University Park Airport - General Aviation Terminal (October 2013) |
| 12 | Energy Efficiency | E-O-1 - General Aviation Terminal Building | Upgrade rooftop units (RTUs) to heat pump RTUs in the General Aviation Terminal. Lifetime Savings - \$64,493 | The GA Terminal rooftop units should be scheduled for replacement in the next 5-7 years based on standard equipment life. Install high efficiency units with heat pump option and backup propane heat. During 90% of heating load hours (the hours above 30°F) the heat pump will carry the heating requirements more cost effectively than propane. | X | X | X | | 2 | \$76,650 | Low | Low | 29.7 | 3 | Long-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the General Aviation Terminal. | Energy Management Plan and Audit Analysis - University Park Airport - General Aviation Terminal (October 2013) |
| 13 | Energy Efficiency | E-O-1 - Snow Removal Equipment Facility | Installing occupancy sensing thermostats and infrared (IR) tube heating units in the Snow Removal Equipment Facility. Lifetime Savings - \$18,516 | Install occupancy-based thermostats to control the propane heaters based on occupancy of the SRE Facility. Set the unoccupied temperature set point to a minimum tolerance of equipment and materials stored in the space. Occupied set point should be a minimum that allows a comfortable work environment. Consider combining occupancy based thermostats with a lighting control solution to maximize the benefit of the installation. For the IR tube heating units the following actions can be taken to increase the efficiency and decrease energy costs. Once per year, have one or two employees perform recommended maintenance procedures such as cleaning and inspection. • Install occupancy sensing thermostats has a 2.0 year ROI • IR Tube heating units maintenance program has a 0.7 year ROI | X | X | X | | 2 | \$3,575 | Low | Low | 0.7 - 1.9 (See Description) | 1 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. Initial Costs to Implement: \$3,375 - Install occupancy sensing thermostats \$200 - IR Tube heating units maintenance program | This was identified during the ASHRAE Level II Energy Audit of the Snow Removal Equipment Facility. | Energy Management Plan and Audit Analysis - University Park Airport - Snow Removal Facility (October 2013) |
| 14 | Energy Efficiency | E-O-1 - Snow Removal Equipment Facility | Install waste oil furnace in the Snow Removal Equipment Facility. Lifetime Savings - \$45,738 | Install a waste oil heater in the SRE Facility to provide base heat load for the building when unoccupied. The success of this measure is dependent on the ability to collect enough waste oil. | X | X | X | | 3 | \$13,650 | Low | Low | 4.5 | 3 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. | This was identified during the ASHRAE Level II Energy Audit of the Snow Removal Equipment Facility. | Energy Management Plan and Audit Analysis - University Park Airport - Snow Removal Facility (October 2013) |
| 15 | Energy Efficiency | E-O-1 - Snow Removal Equipment Facility | Upgrade the lighting in the Snow Removal Equipment Facility. Lifetime Savings - \$3,588 | The following lighting improvements will reduce energy usage in the SRE Facility: 1) Replace 200W HPS high bay fixtures with 4-lamp, 4ft T8 High Output fixtures with electronic ballasts; this will provide the needed light at just under half of the energy. The light provided by the proposed fixtures will have much better quality than the yellow light provided by the HPS fixtures (ROI is 9.1 years). 2) Replace 310W HPS high bay fixtures with 4-lamp, 4ft T5 high output fixtures with electronic ballasts. This replacement will provide an increase in quality of light. The T5 fixtures will use 65% of the energy the existing system consumes (ROI is 16.8 years). | X | X | X | | 2 | \$7,928 | Low | Low | 9.1 - 16.8 | 2 | Long-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of specific initiatives as well as cost and payback periods are included in the report. Initial Costs to Implement: \$2,031 - Replace 200W HPS with 4ft T8 with electronic ballasts \$5,897 - Replace 310W HPS with 4ft T5 with electronic ballasts | This was identified during the ASHRAE Level II Energy Audit of the Snow Removal Equipment Facility. | Energy Management Plan and Audit Analysis - University Park Airport - Snow Removal Equipment Facility (October 2013) |

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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 16 | Energy Efficiency | E-O-1 - Exterior Lighting | Update lighting to LED equivalent in certain outdoor areas. Annual Savings - \$12,196 | The following lighting upgrades are recommended for exterior lighting: 1) Replace existing 175W metal halide wall packs located on bay doors with 25W RAB LED wall packs (ROI is 5.25 years). 2) Replace existing 250W metal halide wall packs located at end of hangars with 78W RAB LED wall pack; 78W RAB LED wall packs will operate for up to 100,000 hours compared to the 15,000 operating hours of the existing 250W metal halide (ROI is 8.11 years). 3) Replace existing 400W metal halides along entrance road with 78W LED (ROI is 5.4 years). 4) Replace existing 400W high pressure sodium floodlights and wall packs along tarmac and de-icing pad with 78W LED (ROI is 7.0 years). 5) Replace existing select 400W high pressure sodium floodlights at de-icing pad with T5 high-bay (ROI is 6.35 years). | X | X | X | | 3 | \$75,128 | Low | Low | 5.25 - 8.11 (See Description) | 3 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of cost and payback periods are included in the report. Initial Costs to Implement: \$23,656 - Replace 175W metal halide on bay doors with 25W LED \$3,800 - Replace 250W metal halide at end of hangars with 78W LED \$8,360 - Replace 400W metal halide along entrance roadway with 78W LED \$32,697 - Replace 400W HPS floodlights and wall packs along tarmac and de-icing pad with 78W LED \$6,615 - Replace 400W HPS floodlights at de- | This was identified during the Energy Audit of the Exterior Lighting. | Exterior Lighting Audit Analysis Report |
| 17 | Energy Efficiency | E-O-1 - Exterior Lighting | Install occupancy sensors at the ends of each hangar outside the East Hangars. Annual Savings - \$389 | Install occupancy sensors at the beginning of every row, in between each hangar. These sensors will turn on both rows of wall packs when tripped by a car or pedestrian. The installation of these sensors will provide further energy savings by lighting occupied space only. | X | X | X | | 2 | \$1,500 | Low | Low | 3.85 | 1 | Short-Term | The Airport would focus on those ECMs that have the highest payback in energy/cost savings, as funding becomes available or life-cycle requires it. Full list of cost and payback periods are included in the report. | This was identified during the Energy Audit of the Exterior Lighting. | Exterior Lighting Audit Analysis Report |
| 18 | Energy Efficiency | E-O-1 - ATCT | Optimize the building environmental systems in the ATCT. | Take advantage of Building Environmental Systems (BES) unoccupied setbacks and consider occupancy sensors. The ATCT is occupied for 16 hours per day and during this time it is usually lightly occupied. The existing BES provides opportunity to significantly reduce energy consumption by taking advantage of unoccupied setbacks to adjust the temperature set points, the fan operation, and ventilation air. In addition, in the spaces that are lightly used such as bathrooms, conference rooms, break rooms, and offices, occupancy sensors could be installed to allow the spaces to go into unoccupied mode when no one is present. Recommendations include: - Provide for unoccupied modes in all spaces except ATCT equipment room during the 8 hours when the building is unoccupied. o Set unoccupied Heating set point to 65F, with fans allowed to cycle. o Set unoccupied Cooling set point to 85F, with fans allowed to cycle. o Close outdoor air dampers o Turn off exhaust fans o Zones where no occupancy scheduling was observed - Allow fan to cycle and close OA damper at night for ATCT Equipment room - Install and utilize occupancy sensors in zones with intermittent occupancy to put zones in unoccupied mode: Conference Room | X | X | X | | 2 | Low | Low | Low | Cost Savings | 1 | Short-Term | Generalized recommendations from the Walk-Through Audit are included here. Full list of specific initiatives are included in the report. | This was identified during the Walk-Through Audit of the ATCT. | Walk Through Audit Analysis - University Park Airport - ATCT (October 2013) |
| 19 | Energy Efficiency | E-O-1 - ATCT | Balance the outdoor air flow in the ATCT. | Outdoor air for ventilation is provided individually to each zone water-source heat pump. Outdoor air heating and cooling is a significant energy cost. Outdoor air control dampers in the ATCT were observed to be fully open, indicating that the system may never have been properly balanced to design OA minimums. Outdoor air minimums indicated on design documents should be referenced for a system-wide outdoor air rebalancing effort. | X | X | X | | 2 | Low | Low | Low | Cost Savings | 1 | Short-Term | Generalized recommendations were identified during the Walk-Through Audit. Full list of specific initiatives are included in the report. | This was identified during the Walk-Through Audit of the ATCT. | Walk Through Audit Analysis - University Park Airport - ATCT (October 2013) |
| 20 | Energy Efficiency | E-O-1 - ATCT | Add a ground loop to the existing water source heat pump system in the ATCT. | The water-source heat pump system combined with a cooling tower in the ATCT can be a relatively efficient arrangement during the cooling season. However, during the heating season, the heat pumps are effectively getting all of their heat from the propane boiler. By adding a geothermal loop to the arrangement the heat pumps would be able to source heat from the ground for most of the year. To reduce costs, the propane boiler could be kept online to supplement a smaller well field during the coldest days. A geothermal loop would also reduce costs on the cooling side by increasing cooling efficiency with lower water temperatures and limiting the amount of time that the fan tower is running. | X | X | X | | 3 | High | Low | Low | Cost Savings | 1 | Long-Term | Generalized recommendations were identified during the Walk-Through Audit. Full list of specific initiatives are included in the report. | This was identified during the Walk-Through Audit of the ATCT. | Walk Through Audit Analysis - University Park Airport - ATCT (October 2013) |
| 21 | Energy Efficiency | E-O-1 - Passenger Terminal | Update the system to allow setback of temperatures during unoccupied times (such as when concessions are closed) in the Passenger Terminal. | Though the Passenger Terminal is occupied 24/7 there are several spaces that are unoccupied for part of the day. The BAS system has the capability to allow set point temperatures to be setback during unoccupied times. In addition, outdoor air supplied to zones can be closed or reduced if unoccupied and supply fans can be set to cycle to meet space set points instead of being on constantly. | X | X | X | | 2 | Low | Low | Low | Cost Savings | 1 | Short-Term | Generalized recommendations were identified during the Walk-Through Audit. Full list of specific initiatives are included in the report. | This was identified during the Walk-Through Audit of the Passenger Terminal. | Walk Through Audit Analysis - University Park Airport - Passenger Terminal (October 2013) |
| 22 | Energy Efficiency | E-O-1 - Passenger Terminal | Implement demand controlled ventilation to reduce ventilation rates when the occupation is low in the Passenger Terminal. | Demand Controlled Ventilation (DCV) systems only ventilate where needed. Sensors in each room of the Passenger Terminal measuring CO2 and temperature regulate the indoor climate and make the ventilation system dynamic and intelligent, saving from 33% to 80% of energy for ventilation, cooling, and heating. | X | X | X | | 2 | Low | Low | Low | Cost Savings | 1 | Short-Term | Generalized recommendations were identified during the Walk-Through Audit. Full list of specific initiatives are included in the report. | This was identified during the Walk-Through Audit of the Passenger Terminal. | Walk Through Audit Analysis - University Park Airport - Passenger Terminal (October 2013) |

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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 23 | Energy Efficiency | E-O-1 - Passenger Terminal | Switch to a water-to-water heat pump (linking into existing geothermal system) to provide hot water to restrooms, janitorial, and kitchens in the Passenger Terminal. | Hot water for restrooms, janitorial, and kitchens is provided by electric storage heaters in the Passenger Terminal. Direct electric resistance is an expensive heat source. In a building that already has a geothermal water loop, a water-to-water heat pump may be used to instead provide hot water. During the cooling season the heat pump will actually be pulling heat from the water loop; operating at higher efficiency and boosting the performance of all other heat pumps in the system. | X | X | X | | 3 | Medium | Low | Low | Cost Savings | 3 | Long-Term | Generalized recommendations were identified during the Walk-Through Audit. Full list of specific initiatives are included in the report. | | Walk Through Audit Analysis - University Park Airport - Passenger Terminal (October 2013) |
| 24 | Energy Efficiency | E-O-1 - Passenger Terminal | Install High-Efficiency Equipment and Controls as replacement becomes necessary. | Examples of controls which can be used in the Passenger Terminal include: heating, ventilation, and air-conditioning equipment, food service, equipment, appliances, commercial and industrial equipment, stand-by power equipment, office equipment, and plumbing equipment. | X | | X | | 2 | Low/Medium | Low | Low | N/A | 3 | Long-Term | This could include Energy Star computers and appliances, as well as other high-efficiency equipment. | This was identified during the Walk-Through Audit of the Passenger Terminal. https://www.energystar.gov/ | https://www.energystar.gov/ and ACRP Report 56: Greenhouse Gas Emission Reduction Strategies (EM-21) |
| 25 | Energy Efficiency | E-O-1 - Passenger Terminal | Develop Project-Specific LEED Credits for New Developments, consistent with PSU's Design & Construction Standards. | Establish policy designating which LEED credits should be pursued, at a minimum, for every development project. | X | | X | X | 5 | Low | Low | Low | N/A | 1 | Short-Term | The Airport is located within the Spring Creek Canyon Conservation Overlay District, which has certain land development provisions. This includes incentives for developing LEED certified buildings, which could be pursued by the Airport. | | |
| 26 | Energy Efficiency | E-O-3 | Partner with PSU and/or students to consider renewable energy projects on residual lands to increase use of renewable energy sources. | Work with PSU faculty and students and/or renewable energy experts to identify renewable energy projects that can be implemented at the Airport | X | X | X | X | 4 | Low (Not including implementation of future projects) | Low | Low | N/A | 2 | Short-Term | This initiative would create a partnership that provides educational opportunities, as well as help further the use of technology and renewable energy at the Airport. | | |
| 27 | Energy Efficiency | E-O-3 | Install Pre-Conditioned Air and gate electrification to new jet bridges in the Passenger Terminal. | Outfit new jet bridges with preconditioned air and ground power. This would reduce aircraft auxiliary power unit (APU) usage, which would reduce air and GHG emissions. | X | | X | | 2 | Medium | Medium | Low | N/A | 4 | Long-Term | In the Master Plan, recommendations may include the addition of jet bridges to the terminal. The addition of pre-conditioned air and gate electrification should be considered if the jet bridges are built. | May be eligible for FAA funding, or it can be part of terminal improvements that FAA funds. | |
| 28 | Energy Efficiency | E-O-3 | Post No-Idling Signs. | Post no idling signs in prominent locations to reduce idling and associated emissions. Provide exceptions to idling limits based on temperature (e.g., lengthen or remove idling limits for temperatures below 32° or above 100°) | X | | X | | 2 | Low | Low | Low | N/A | 1 | Short-Term | No idling near the terminal would help reduce local emissions. | | |
| 29 | Energy Efficiency | E-O-3 | Install Solar Energy-powered Roadway Signs. | Solar lighting is energy-efficient and a reliable source for powering roadway signs. When combined with LED lighting, there are significant savings in energy and maintenance costs. Using solar energy instead of conventional electricity also decreases emissions. | X | | X | | 3 | Medium | Low | Low | Cost Savings | 3 | Long-Term | Solar powered signs and lighting could be used. This initiative would need to be examined within the context of the Exterior Lighting Audit and the recommended measures outlined in that report. | | |
| 30 | Energy Efficiency | E-O-1 | Continue to replace airfield and taxiway lighting with new LED lighting. | Install LED airfield and taxiway lighting for new lights and as replacement is required. | X | | X | | 2 | Medium | Low | Low | N/A | 4 | Short-Term | | | |
| 31 | Energy Efficiency | E-O-1 | Install Solar Window Reflectors. | Solar inflectors (i.e., solar window reflectors or insulators) installed in windows can be reversed seasonally to either absorb or reflect solar energy. | X | | X | | 2 | Medium/High | Low | Low | Cost Savings | 4 | Short-Term | | | |

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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 1 | Economic Vitality | EV-O-1 | Advertise the socioeconomic benefits of the UNV airport to the surrounding community. | Develop an awareness campaign to show the benefits of the Airport, such as the airport acts as an economic engine for the community. Billboards, banners, signs, etc. can be placed in strategic places close the airport, on or near PSU, and in the center of town. | | X | | | 2 | Low | Low | Low | N/A | 2 | Short-Term | | | Baseline Assessment |
| 2 | Economic Vitality | EV-O-2 | Obtain economic development grants and offer to match the cost of construction of new facilities to encourage new development on airport property. | Partner with the Chamber of Business and Industry of Centre County (CBICC) to secure economic development grants. Grants could be used to help new airport tenants which will provide jobs and increase economic activity in State College. | | X | | X | 3 | Low | Low | Low/Medium | Varies | 3 | Long-Term | | | |
| 3 | Economic Vitality | EV-O-2 | Increase advertisements of space available for rent. | Advertisements of available space (e.g., terminal, hangar, or airport buildings) can lead to increased revenue and income for UNV. Advertisements may include providing the real estate sale sheets on the Airport's website, or advertising on billboards, newspapers, radio, etc. To increase the incentive, offer promotions/reduced rates and charges to attract new tenants to sign long-term leases. | | X | | | 1 | Low | Low | Low | Varies | 2 | Short-Term | | | |
| 4 | Economic Vitality | EV-O-1 | Conduct monthly press releases to increase visibility. | Small airports use press releases to attract media attention, and airport managers report that this is a particularly effective and inexpensive way to market the airport. Press releases prompt local newspapers, magazines, and radio and television stations to provide coverage both through their primary medium and on the internet. The additional coverage could lead to additional business and growth of the general aviation and commercial air services offered by UNV. | | X | | X | 2 | Low | Low | Low | N/A | 2 | Short-Term | | | |
| 5 | Economic Vitality | EV-O-1 | Continue to educate the community by conducting annual open houses, air shows, and/or educational programs such as UNV's Aviation Awareness Day. | These events provide an opportunity for the airport to showcase its facilities and services to draw in more business and promote growth in general aviation and commercial air service. These events also allow the opportunity for the airport to educate the community on how they generate revenue and what kind of economic engine they are for the region. Air shows showcase outstanding talent and can draw large crowds. Air shows provide media opportunities, which helps raise public awareness about their presence in the community. Open houses are events where the public is invited to see and learn more about the airport. Open houses take on many different forms depending on the resources and time available to plan and manage them. Educational opportunities could include programs such as working with the Young Eagles, educational programs (tours, activities, career information) for students through the State College Area School District. | | X | | X | 3 | Low/Medium | Low/Medium | Low | N/A | 3 | Short-Term | | | |
| 6 | Economic Vitality | EV-O-2 | Continue to consider adaptive reuse strategies for vacant airport facilities. | Consider reusing the existing SRE building for equipment storage after a new SRE building is constructed. Reusing facilities prolongs the life of a building and increases opportunities for revenue. Adaptive Reuse involves the process of modifying old structures for new purposes/uses. Future vacant facilities could be modified to attract new tenants (e.g., a vacant hangar could be converted to an MRO facility). | | X | X | X | 4 | Low | Low | Low | N/A | 2 | Long-Term | | | |
| 7 | Economic Vitality | EV-O-2 | Encourage Aeronautical and Non-Aeronautical Development Projects. | Encourage non-aeronautical development projects such as the development of an industrial park to bring in tenants and ultimately added income to the Airport. | | X | | X | 3 | Medium | Low | Low/Medium | Varies | 4 | Long-Term | | | |

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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 1 | Environmental Stewardship | Env-O-2 | Incorporate native/low maintenance vegetation in landscaping plans. | Native vegetation is well adapted to the local environment, resulting in less maintenance and water needs once established. Consider such plantings in future and refurbish landscaping plans. Landscape plans should be reviewed by a wildlife biologist for their potential to attract hazardous wildlife. | | | X | | 2 | Low | Low | Low | N/A | 2 | Short-Term | NOTE: NFIA's prairie garden is an example of an effective landscaped place that utilizes native plantings. | | ACRP Synthesis 10: Airport Sustainability Practices |
| 2 | Environmental Stewardship | Env-O-2 | Collect rainwater for use in landscaping and other non-potable uses. | Cisterns can be used to collect rainfall to use for landscaping, wash-down, and other non-potable uses. Water reuse refers to the process of using treated wastewater (reclaimed water) for a beneficial purpose with degree of treatment depending on the proposed use for the water. The initiative is to look for opportunities to implement such systems in future facilities where feasible and when replacement of current systems are needed. | | | X | | 2 | Low | Low | Low | N/A | 1 | Long-Term | | | ACRP Report 80: Incorporating Sustainability into Traditional Airport Projects |
| 3 | Environmental Stewardship | Env-O-3 | Develop Airport-specific environmentally preferable purchasing procedures | PSU has environmentally preferable purchasing procedures for recycled/bio-based content, materials with low toxicity, and other environmentally-friendly products. Develop similar guidelines for Airport-specific purchases, such as purchasing a bio-based deicing agent. | | | X | | 1 | Low | Low | Low | N/A | 1 | Short-Term | | | Baseline Assessment |
| 4 | Environmental Stewardship | Env-O-3 | Increase the rate of recycling by incorporating PSU's Mobius program. | Increase recycling and partnering with PSU to implement the Mobius waste management program at UNV. The Mobius program will assist with reducing the amount of landfill waste that UNV deposits of daily, which will also reduce greenhouse gas emissions. PSU conducted a study and determined 600-800 tons of food waste and 30% of recyclables were going to the landfill. The Mobius program was developed to renew the PSU recycling/composting program, which includes aesthetic signage that should be used at UNV. The Mobius program is implemented through the Office of Physical Plant. | | | X | X | 3 | Low | Low | Low | N/A | 2 | Short-Term | This is a renewed recycling/composting program for PSU. It includes aesthetic signage which have been posted in appx. 70 buildings around campus, with the ultimate goal of 250+ buildings. Previously, 600-800 tons of food waste and 30% of other waste could be recycled. There has been an increase of 20-25% in the buildings with the new signage and updated programming. | http://sustainability.psu.edu/mobius | |
| 5 | Environmental Stewardship | Env-O-1 | Continue to enhance innovative stormwater BMPs implemented at the Airport and evaluate which will be used to improve water quality for new projects. | BMPs could include natural treatment systems or treatment trains (BMPs in series), including baffling on inlet structures, sumps on storm sewer structures, sand filtration devices, and grassland swales. Specify requirements in design contract documents. | | | X | | 2 | Low | Low | Low | N/A | 2 | Short-Term | | | |
| 6 | Environmental Stewardship | Env-O-2 | Install water efficient fixtures in new and retrofit projects | This initiative would ensure new or replacement water fixtures be highly efficient to conserve water use. | | | X | | 2 | Low | Low | Low | N/A | 2 | Long-Term | | | ACRP Report 80: Incorporating Sustainability into Traditional Airport Projects |
| 7 | Environmental Stewardship | Env-O-3 | Continue to incrementally switch airport-owned vehicles to alternative fuel vehicles (AFVs). | Continue to convert to electric vehicles used on the airfield. Identify those vehicles that use the most fuel or are in the most need of replacement or repair and begin the conversion with these vehicles. Work with the rental car companies to offer fuel efficient vehicles. In addition, limit idling of all vehicles (see energy initiative 28). | X | | X | | 3 | Medium | Low | Low | N/A | 3 | Long-Term | There is a CNG station in State College, PA (http://www.afdc.energy.gov). | | ACRP Report 56: Greenhouse Gas Emission Reduction Strategies (GT-14) |
| 8 | Environmental Stewardship | Env-O-3 | Continue to proactively evaluate environmental resource conditions during the planning process of proposed projects. | Performing a pre-NEPA analysis of environmental resources during the planning process could help identify potential environmental impacts early on in the process. Identifying environmental issues early on gives planners an opportunity to tailor development to minimize environmental impacts. Identifying environmental issues early on can also result in reduced time and costs to complete the development project. | | | X | | 2 | Low (Medium if a Consultant is hired) | Low | Med | N/A | 3 | Short-Term | | | ACRP Report 43: Improving Environmental Performance at Small Airport |
| 9 | Environmental Stewardship | Env-O-3 | Use electric lawn mowers versus gas-powered ones. | Use electric lawn mowers to reduce noise and air pollution that would be generated from a gas-powered mower. Use one with a replaceable, rechargeable battery to avoid the need for extension cords. | X | | X | | 3 | Low | Low | Low | N/A | 2 | Long-Term | | | |
| 10 | Environmental Stewardship | Env-O-3 | Institute a voluntary Fly Green, Fly Clean, Fly Quiet program. | This program would seek to minimize noise impacts and also greenhouse gas emissions. Hold meetings periodically (quarterly) to give interested community members a chance to participate in an open-forum discussion concerning noise levels in and around their community. Work with the FAA and airlines to determine the most efficient flight paths while using continuous descent approaches. | X | | X | X | 3 | Low | Low | Low | N/A | 2 | Long-Term | | | |
| 11 | Environmental Stewardship | Env-O-3 | Integrate sustainability language into new and renewing contracts. | While drafting new contracts or renewing contracts include sustainability language and initiatives that tenants must practice. | | | X | | 3 | Low | Low | Low | N/A | 2 | Short-Term | | | |
| 12 | Environmental Stewardship | Env-O-1 | Continue to comply with the Spring Creek Canyon Conservation Overlay Ordinance, as able, unless FAA or Airport requirements conflict. | The Spring Creek Canyon Conservation Overlay sets out specific land use and land use development goals within the Spring Creek Canyon Overlay. It identifies sensitive and ecologically diverse natural and cultural resources and recommendations to help safeguard these resources. The goals outlined in the ordinance would be met to the extent feasible and practicable within the context of existing airport and FAA requirements. | | | X | X | 2 | Low | Low | Low | N/A | 2 | Short-Term | | | Spring Creek Canyon Conservation Overlay Zone, Benner Township. |

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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 1 | Partnerships | P-O-2 | Coordinate with the Office of Physical Plant and College of Agriculture to Utilize Anaerobic Digesters to manage/divert organic waste from landfills; consider storing deicing fluid to assist the digestion process. | UNV is coordinating with PSU, which is considering the purchase of an anaerobic digester. The digester diverts a portion of organic waste from landfills which can provide a significant contribution toward achieving EPA, state and local mandated solid waste diversion goals. Anaerobic digestion has been successfully used for many years to stabilize municipal organic solid waste, and to provide beneficial end products, i.e., methane gas and fertilizer. The Airport could consider using the fertilizer as a bird deterrent. Diverting waste from landfills prevents uncontrolled emissions of its breakdown products, including methane—a potent greenhouse gas. Currently, only about 2.5% of organic waste is recycled nationwide, and the principal technology is composting. While composting provides an alternative to landfill disposal of organic waste, it requires large areas of land; produces volatile organic compounds (smog precursors), which are released into the atmosphere; and consumes energy. Consequently, better recycling alternatives to composting food waste should be explored. Deicing fluid has been used to speed up the anaerobic process. | | | X | X | 4 | Medium (Assuming partnership with PSU) | Medium (Assuming partnership with PSU) | Low | N/A | 4 | Short-Term | PSU has conducted several feasibility studies/analyses. Coordinate with the Office of Physical Plant - reach out to Steve Maraszewski or Jeanie Waugh. | General Mitchell International Airport | |
| 2 | Partnerships | P-O-2 | Create and develop airport sustainability internship, co-ops, stewardships, and/or educational programs for PSU students. | Focus programs on PSU students to foster an improved working relationship. Provide internship opportunities for PSU students each semester. This would introduce aviation career opportunities to students. Internships come at a low cost, as interns are inexpensive and in some cases unpaid, which provides low-cost labor to assist staff at UNV. Frequently, companies hire previous interns as part- or full-time employee, which also reduces expenses associated with training new employees. | | | | X | 2 | Low | Low | Low | N/A | 2 | Short-Term | Internships, Work Study, and Class Projects can be coordinated through Erik Foley, Director of Sustainability Planning and Operations. | | |
| 3 | Partnerships | P-O-1 | Organize a Green Team with representatives from all functional areas of the Airport to participate in the Green Paws sustainability program at PSU. | Currently the Airport participates in the Auxiliary Business Services Green Paws team. Consider creating an Airport team with stakeholders from all functional areas at the Airport (management, maintenance, operations, administration, etc.) and continue to participate in the Green Paws program. Strive for Level 4 Certification in the Green Paws program. | X | X | X | X | 5 | Low | Low | Med | N/A | 3 | Short-Term | | | |
| 4 | Partnerships | P-O-2 | Partner with the PSU Sustainability Institute to use UNV as a laboratory for studying the potential for new sustainability initiatives. | Invite students and professors to research different sustainability practices that could be used at UNV. Using UNV as a place to try new sustainability ideas allows for the opportunity of these initiatives being implemented at low or no cost. Provide a space (an office or cubicle) for students and faculty to work/research and provide any information needed as well as any oversight to help them determine if an initiative is feasible based on UNV's budget and available resources. "Living Lab" | X | X | X | X | 5 | Low/Medium | Low/Medium | Low | N/A | 3 | Short-Term | Larson Institute is good as long as it's not interrupting airport operations. Students were involved in the energy audit at UNV. | | |
| 5 | Partnerships | P-O-1 | Encourage vendors to participate in UNV's Sustainability Program. | Communicate airport sustainability goals and objectives to tenants and vendors as well as require participation by new vendors. Encourage existing vendors to participate in meeting UNV's goals and objectives. Conduct regular meetings to encourage participation in the Sustainability Program. Requiring participation can be accomplished by including a clause stating that participation in UNV's Sustainability Program is mandatory in new and renewed contracts. In the interim, encourage all vendors to start participating to make the transition easier. | | | | X | 3 | Low | Low | Med | N/A | 2 | Short-Term | | | |
| 6 | Partnerships | P-O-1 | Encourage the use of local vendors/suppliers. | Encourage tenants to procure and purchase goods (e.g., paper products, food) from local vendors/suppliers, to benefit the community and reduce emissions. When developing new or renewed contracts, consider requiring tenants to use local vendors and suppliers to keep the local economy thriving. | | X | | X | 3 | Low | Low | Low | N/A | 1 | Long-Term | | | |
| 7 | Partnerships | P-O-2 | Engage with PSU student organizations to develop and implement sustainability initiatives to increase collaboration between UNV and PSU. | Work with aviation, community service, and/or sustainability student organizations at PSU to identify and implement new sustainability initiatives and other improvements at UNV. If PSU pays for the materials and students are willing to donate their time, the cost to implement initiatives significantly decreases. Address the student organizations during major campus functions such as at football games, ask for ideas and support to improve UNV's sustainability. Partner with student organizations to implement suggested initiatives. | X | | X | X | 4 | Low | Low | Low | N/A | 2 | Short-Term | Coordinate with Rob Andrejewski in the Sustainability Institute. He has the best connection with student organizations; at PSU there are 40 sustainability-related clubs. | | At Kent State 15-20 students volunteered their time to pick up litter and spread mulch and Kent State paid for the necessary materials. |
| 8 | Partnerships | P-O-2 | When Passenger demand increases, work with the Centre Area Transportation Authority and other transit agencies to develop a route with a stop directly at UNV. | The Airport should communicate with the Centre Area Transportation Authority (CATA) to advance transit connection opportunities at the Airport. Coordinate with the CATA to develop a route that stops at the airport which can reduce the number of vehicle miles driven and ultimately reduce emissions. Also, work with local planners and transit agencies to coordinate long term regional and local transportation plans. These entities should be aware of future growth scenarios and redevelopment plans at the airport so they can anticipate the transportation needs of employees and customers. | | | X | X | 3 | Low | Low | Low | N/A | 1 | Long-Term | | | ACRP Report 43: Improving Environmental Performance at Small Airport |

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| 9 | Partnerships | P-O-2 | Partner with PSU's student body and other local universities and community colleges and offer programs at the airport geared towards developing aviation-related careers. | Offer programs to students, current employees, or others seeking employment at an airport or employer at an airport which illustrate and teach the students about aviation related careers. For example the program can cover types of aviation careers available, education and experience requirements to start their career, etc. This program can also offer mentorship assistance to students such as reviewing and writing resumes, interview prep, and mock interviews. The partnership with the local universities and communities colleges will encourage students to pursue aviation careers and assist with career development and advancement; such as with Penn College Larson Institute Airport Management Degree Program. Partner with local businesses that operate at the airport to expand the knowledge offered in the program. | | | | X | 1 | Low | Low | Low | N/A | 2 | Long-Term | Coordinate with the Office of Career Services and the College of Engineering | | ACRP Synthesis 18: Aviation Workforce Development Practices |
| 10 | Partnerships | P-O-2 | Employ PSU students at the airport as part of a work study program. | Train work study students in professional areas such as line service, customer service, engineering, planning and administration. Work study students are valuable in that they are only part-time employees and are constantly engaging and learning new ideas. Utilizing students with Work Study financial aid funds will significantly reduce cost of regular labor, as they are only allowed to work part-time in the fall and spring semesters, plus typically a student who receives work study money their first year at PSU will receive it their second year, which will cut back on the amount of training required from year to year. | | | | X | 2 | Low | Low/Medium | Low | N/A | 2 | Short-Term | Students already work on line service with airplanes and ground handling. See initiative P-2. Work Study programs can be coordinated through Erik Foley, Director of Sustainability Planning and Operations. | | |
| 11 | Partnerships | P-O-2 | Work with the PSU industry advisory board. | This board should include representatives from PSU, airport senior staff, local businesses, and aviation department heads. The primary mission of a board is to guide the colleges in developing and maintaining the aviation curricula for meeting the needs of the aviation industry. This board would assist in developing more relationships with industry representatives in the Centre County Area. The Industry Advisory Board should meet a several months before each new semester (fall, spring, and summer) to discuss any potential changes to the industry that could affect and ultimately | | | | X | 1 | Low | Low | Low | N/A | 2 | Short-Term | PSU has a Sustainability Advisory Board; coordinate with John Dietz, Associate VP for development and alumni (and corporate foundation relations). Also coordinate with the College of Engineering. | | ACRP Synthesis 18: Aviation Workforce Development Practices |
| 12 | Partnerships | P-O-2 | Continue to partner with PSU Engineering Departments to assist with implementation of sustainability initiatives for senior design projects. | Every year, senior engineering students are required to complete a senior design project in order to graduate. These projects are typically completed as a team and are determined by the students. UNV should work with PSU to present their problem/task to the engineering student body to generate interest as a potential senior design project. Work with PSU to encourage senior design projects to support UNV. Project assignments could include designing lighting systems for facilities, parking lots, runways, and roadways; designing electrical powered systems (such as HVAC) to reduce lifetime energy consumption; designing renewable energy options. These projects will keep costs down since the planning/labor completed by the students is free. UNV has participated in one senior design project previously, and would like to partner more frequently. | X | X | X | X | 4 | Low | Low | Low | N/A | 2 | Short-Term | See initiative P-2. Class Projects can be coordinated through Erik Foley, Director of Sustainability Planning and Operations. | | |
| 13 | Partnerships | P-O-2 | Partner with the PSU Agricultural Department to consider agricultural development such as creating an apiary at UNV and using PSU's cows and other animals for an environmentally conscious way of clearing/mowing land in non-AOA areas. | Partner with the PSU Department of Agricultural Sciences to establish an apiary. This initiative connects the airport with the local community as well as providing important benefits to the region's biodiversity and local bee population. In addition, consider vegetation management techniques such as using cows, goats, and other animals to manage grass height, turf grass, and other brush in non-AOA areas that are difficult to reach or have invasive species. PSU runs a dairy farm and during the summer it could be economical to use the cows to 'mow'/eat the grass at UNV. Cows will keep the grass trim and goats will eat anything from brush to sticks to bark. This would have a cost savings from reduced labor and equipment as well as reduce air emissions. Additionally, this saves PSU money by reducing the required feed. | X | X | X | X | 5 | Medium | Medium | Low | Potential Savings | 4 | Short-Term | Contact Dean Barb Christ to identify the appropriate contact for coordination. Keep the Sustainability Institute aware of coordination and progress. | ORD, ATL, and SFO have used farm animals to keep their hard-to-reach areas clear by using goats, sheep, llamas, etc. to clear the grassy areas. | See ORD's article: http://www.flychicago.com/business/EN/media/news/stories/pages/NewsDetail.aspx?itemID=892 See ATL's Article: http://www.atlanta-airport.com/Airport/Newsroom/Press_Releases_Article.aspx?id=836 See SFO's article: http://media.flysfo.com/SF-01-goats.pdf |
| 14 | Partnerships | Primary Goal | Encourage UNV staff to volunteer their personal time for local charities and organizations. | Encourage staff members to volunteer personal time to local organizations, not limited to those sponsored by PSU, such as primary schools, charitable organizations, and community organizations. Ask each employee to join one organization of their choosing and when that organization has an event, show support through sponsorship or participation. Encouraging participation in volunteer activities illustrates UNV's commitment towards community good-will. Examples of activities currently supported by UNV staff include tours of the airport for school age children, hosting an Aviation Awareness Day with the local Eagles Chapter, collaborate with the EAA Chapter as well as collaborate with Pennsylvania on National Aviation Day. | | | | X | 2 | Low | Low | Low | N/A | 1 | Short-Term | | | |

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| | | | | | Energy | Economic Vitality | Environmental | Partnership | | | | | | | | | | |
| 15 | Partnerships | P-O-2 | Encourage a partnership between the CCAA and PSU College of Health and Human Development and College of Educational Psychology; TSA; and airline(s) to hold an annual event for families with autistic children to prepare them for flying. | This program would help families with autistic children adapt to new surroundings and the stress of flying. This would likely include taking the group of children and parents through security, waiting at a gate, boarding the aircraft, aircraft taxiing, and deplaning the aircraft. UNV could partner with the PSU Department of Educational Psychology, Counseling, and Special Education which runs the CEDAR Clinic. The Clinic is used to provide services to children, adolescent, and young adult from the surrounding community. The program could take place 1-4 times per year and could also be advertised throughout the state to provide the opportunity to any families needing this service. | | | | X | 2 | Low | Low | Low | N/A | 2 | Short-Term | Encourage CCAA to coordinate with the PSU College of Health and Human Development (start with Ann Crouter) and Educational Psychology (David Monk) | Massport Wings for Autism: http://www.massport.com/logan-airport/about-logan/airport-programs/wings-for-autism/ Philadelphia International Airport Guide: http://www.phl.org/passengerinfo/Accessibility/Documents/SocialStories.pdf | http://www.ed.psu.edu/educ/epcse/cedar-clinic |

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