



# CLIMATE FRIENDLY PARKS PROGRAM GUIDANCE:

*Instructions for Participating in the Climate Friendly Parks Program  
and Using the Climate Leadership in Parks (CLIP) Tool*

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## ABOUT THE CLIMATE FRIENDLY PARKS PROGRAM

### What is the Climate Friendly Parks Program?

The Climate Friendly Parks (CFP) Program began as collaboration between the National Park Service (NPS) and the U.S. Environmental Protection Agency (EPA). Now run solely by the NPS, the program aims to provide national park units with comprehensive support, management tools and resources to address sustainability and climate change aspects, within park boundaries and in partnership with surrounding communities.

The program follows a three-tiered approach which focuses on the following goals:

1. Measure park-based greenhouse gas (GHG) emissions.
2. Educate park staff and the public about climate change and demonstrate ways individuals and groups can take action to address the issue.
3. Develop strategies and specific actions to address sustainability challenges, reduce greenhouse gas emissions, and anticipate the impacts of climate change on park resources.

### What does the Climate Friendly Parks Program offer?

- Staff training and/or a Climate Friendly Parks workshop designed for your park needs
- Park Specific Greenhouse Gas Emissions Inventory – a carbon management inventory tool designed specifically for national parks, called the Climate Leadership in Parks (CLIP) tool
- Technical assistance developing park-specific action ideas to be placed in either a comprehensive EMS or an Action Plan, including tools to help develop action items such as the CLIP Module 2 (Action Planning Module).
- Assistance in identifying, implementing, and complying with Green Parks Plan goals.
- Environmental Management System (EMS) expertise
- Membership to Climate Friendly Parks Program, a nationally recognized program

### Why is the Climate Friendly Parks Program important?

The Climate Friendly Parks (CFP) Program provides a context in which parks have the ability to become more sustainable, teach visitors about climate change while using parks as classrooms, and communicate to park visitors the steps they can take in their own lives to make a difference.

*In September of 2010, NPS released the Climate Change Response Plan, and in response to the latest federal legislation, such as E.O. 13514 and S.O. 3289, the NPS Green Parks Plan will soon be released. These plans, as well as a the May 25<sup>th</sup>, 2011 memo from the DOI Secretary, emphasis the role of Environmental Management Systems (EMS) in the planning, prioritizing, and tracking of federal sustainability efforts. In an effort to ensure that the Climate Friendly Parks Program supports these directives in a concise, simple manner, the requirement for a Climate Action Plan has been replaced with the option to incorporate action items directly into a park's existing EMS. A draft EMS table of contents is included in this handbook which highlights the elements required to fulfill CFP certification requirements. (Additional information on EMS is included in the certification section)*

With the establishment of the National Park Service in 1916, responsibility was given to the Service to preserve and protect the resources within the parks for the enjoyment of future generations. National Parks, because of their location and unique, protected resources, are places where the effects of climate change are particularly visible to a wide audience. **In 2010, over 281 million people visited National Parks providing NPS with the opportunity to share the story of climate change and to provide visitors with an understanding about how their choices can make a difference.**

## HOW TO BECOME A CLIMATE FRIENDLY PARK

Becoming a Climate Friendly Parks (CFP) Member Park entails completing the following four milestones. At the completion of the 4<sup>th</sup> milestone a park officially becomes a Member Park. To maintain this status, Member Parks are requested to continuously engage in three “Ongoing Activities” listed below.

- \* **MILESTONE 1** – Speak with your Regional Point of Contact and/or Submit a CFP Application
- \* **MILESTONE 2** – Baseline Data Collection – GHG Inventory and Identifying Key Challenges
- \* **MILESTONE 3** – Workshop/Training
- \* **MILESTONE 4** – Certification - Complete a ‘Comprehensive’ EMS or an Action Plan
  
- \* **ONGOING ACTIVITY 1** – Workshop Follow-up Assistance and Ongoing Activities
- \* **ONGOING ACTIVITY 2** – Implement and Continue Developing your EMS Yearly Workplan or implement your Action Plan
- \* **ONGOING ACTIVITY 3** – Monitor progress and report results yearly

### MILESTONE 1 – SUBMIT A CFP APPLICATION

**Speak with your Regional Point of Contact and/or Submit a CFP Application.** After submitting a CFP application, the park unit will be contacted by WASO CFP program leads. The application can be found in [Appendix A](#) or on the website at [www.nps.gov/climatefriendlyparks](http://www.nps.gov/climatefriendlyparks) .

### MILESTONE 2 – COMPLETE A GHG INVENTORY & COLLECT BASELINE DATA

This milestone consists of three portions and is designed to identify a park unit’s specific greenhouse gas (GHG) emissions, identify key sustainability challenges and review a park’s existing Environmental Management System (EMS) for CFP compliance. **Ideally, the park’s Environmental Management or Green Team will participate in the data collection phase and will remain part of the planning efforts for the workshop and EMS revitalization or action planning.** This is also a great opportunity to ensure that all departments are represented on your Environmental Management or Green Team.

#### Portion 1: Greenhouse Gas (GHG) Emissions Inventory Using the CLIP Tool

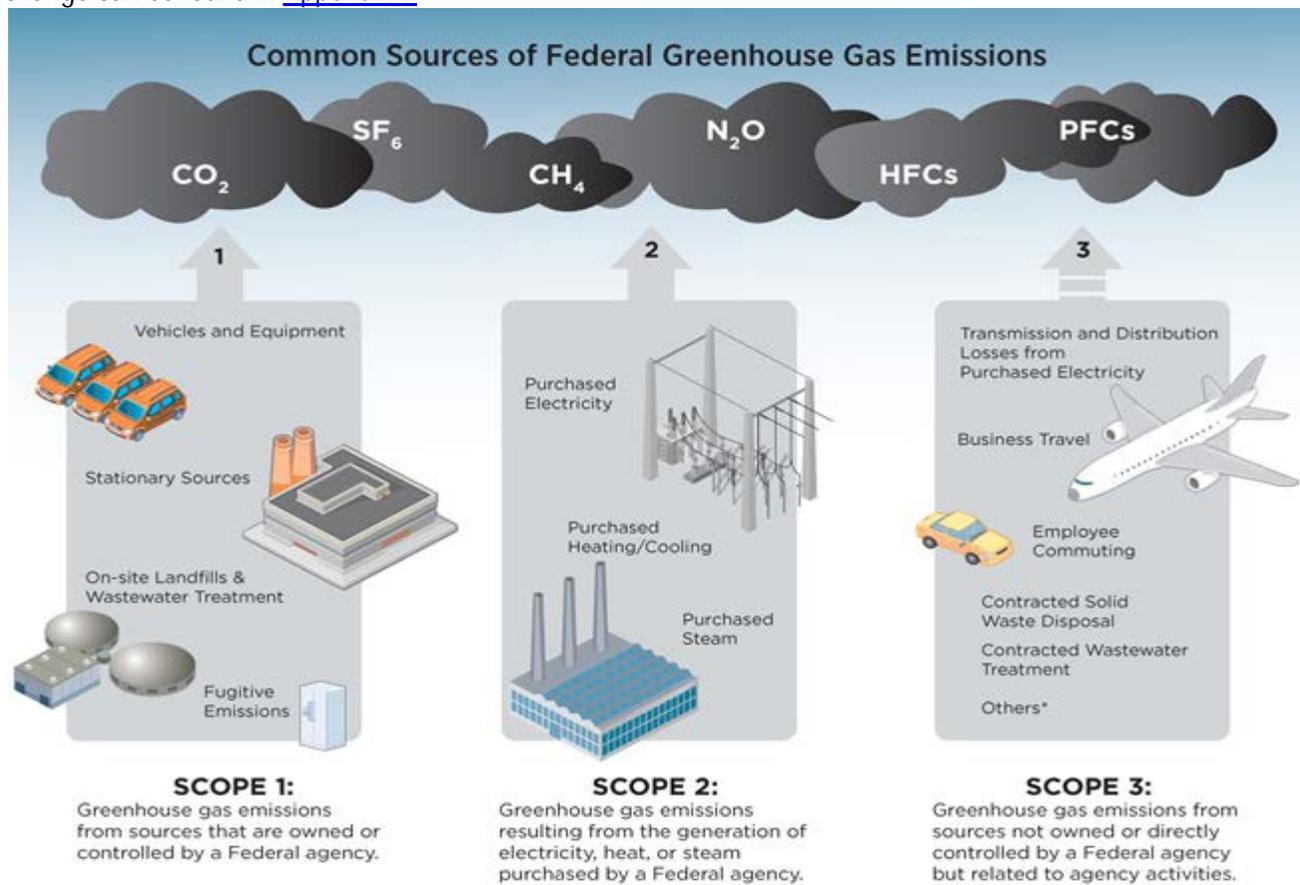
Similar to an energy audit before retrofitting a building, an emission inventory helps parks identify and measure GHG emissions and sources by activity. The CFP program has developed the Climate Leadership in Parks (CLIP) Tool to help your park develop its emissions inventory. This tool takes the data you regularly collect on

activities within the park that produce emissions (e.g., energy consumption and waste production) and converts those numbers into an emissions estimate (the compilation of all emission estimates produces an emission inventory). Detailed guidance for using Module 1 of the CLIP Tool is provided on the Climate Friendly Parks website and technical support is always available at [CLIPTool@nps.gov](mailto:CLIPTool@nps.gov). Webinar-based training is offered throughout the year; please register at [http://www.surveymonkey.com/s/CLIP\\_training\\_request](http://www.surveymonkey.com/s/CLIP_training_request)

### Greenhouse Gas Emissions – Scopes 1, 2, and 3

In response to EO 13514, the document *Federal Greenhouse Reporting and Accounting Guidance* was written. This document follows the guidance developed by the International Panel on Climate Change (IPCC), and explains greenhouse gas emissions, the various scopes, guidelines for conducting a federal inventory, and other pertinent information. The graphic below further illustrates the various emission scopes. The CLIP tool will automatically sort your emissions according to scope once your data has been entered, and will provide you with total GHG numbers according to scope.

Before completing a baseline emission inventory, individuals responsible for the inventory should familiarize themselves with emissions, emission sources, and factors that influence the scope of the emission inventory (e.g., baseline year, entities and sources included, data required, etc.). A primer on the science of climate change can be found in [Appendix B](#).



\*Additional, significant Scope 3 emission sources exist beyond the examples provided.

Source: *Implementing Executive Order (EO) 13514, Federal Greenhouse Gas Reporting and Accounting Guidance*

Preparing a baseline emission inventory requires the coordination of park stakeholders, including park staff, concessioners and those responsible for other permitted activities within park boundaries. Producing a baseline emission inventory generally follows the following six steps:

1. Understand your Boundaries
2. Collect Activity Data
3. Produce a Draft Emission Inventory using Module 1 of the CLIP Tool
4. Two Person Park Review and Draft Baseline Emission Inventory Submittal
5. Revise, Finalize, and Submit the Final Baseline Emission Inventory
6. Update Baseline Emission Inventories and Produce Subsequent Inventories

**1. Understand your Boundaries**

Understand that your park boundaries include anything that occurs within your designated park boundaries, as well as activities outside of park boundaries which contribute to the success of overall park operations. For example, a leased headquarters building located in a nearby town needs to be included in your inventory. Please collaborate with your Concessionaires and partners to best extent possible to include this information in your CLIP tool.

<b>CLIP Tool Data Collection Checklist</b>	
<i>Required</i> GHG Emissions Data from PARK OPERATIONS & EMPLOYEES	
Stationary combustion (natural gas, diesel fuel, propane, bio-diesel, kerosene, etc.)	<input type="checkbox"/>
Purchased electricity	<input type="checkbox"/>
Mobile combustion (cars, light duty trucks, heavy/medium duty vehicles, motorcycles, etc.)	<input type="checkbox"/>
Non-Road Equipment (fuel use for agriculture, construction, etc.)	<input type="checkbox"/>
Fertilizer Application (synthetic, organic, manure)	<input type="checkbox"/>
Water Consumption (potable, irrigation)	<input type="checkbox"/>
Waste Water Treatment	<input type="checkbox"/>
Municipal Solid Waste Disposal	<input type="checkbox"/>
Refrigerant Use (refrigerated appliance, A/C units, etc.)	<input type="checkbox"/>
Employee commuting	<input type="checkbox"/>
Other Sources of GHG Emissions, e.g. boats, cattle, horses.	<input type="checkbox"/>
<i>Recommended</i>	
GHG emissions inventory from concessioners (including stationary and mobile combustion, water consumption, waste, etc.)	<input type="checkbox"/>
GHG emissions inventory from partners (including stationary and mobile combustion, water consumption, waste, etc.)	<input type="checkbox"/>

**2. Collect Activity Data**

Proper data collection techniques are fundamental to producing a complete and accurate emission inventory because the results of the emission inventory will only be as valid as the data used to produce the emission estimates. A full listing of all activity data needed to produce a complete emission inventory is contained within CLIP Tool Module 1 on the "Printable Activity Data Sheet." A more concise list of the most relevant data needs is provided in [Appendix D](#).

Most data requested by the CLIP Tool is commonly collected for other purposes and should be readily available through the appropriate contacts. Common contacts include the facilities manager, chief of maintenance, air quality or natural resource specialists, transportation and/or fleet managers, GIS specialists, fire or forest management personnel, and administrative staff. Common data resources include Energy Management Data reports, FAST and GSA fleet reports, Integrated Solid Waste Alternatives Program (ISWAP) plans, Environmental Management System (EMS) plans, transportation studies or Transportation Management Plans, General Management Plans, data housed by the GIS team, even monthly energy bills.

**IMPORTANT: Individuals collecting the data should record any assumptions and data gaps in the Notes/Summary section of Module 1 of the CLIP Tool, and provide contact information for individuals who have supplied activity data in the Contact Information Sheet. This information should be maintained for validation or certification processes, and to assist individuals conducting future emissions inventories.**

### ***3. Produce a Draft Baseline Emission Inventory Using Module 1 of the CLIP Tool***

After collecting activity data, the individual conducting the inventory will enter the activity data into the CLIP Tool by emission source, according to the instructions provided on the Climate Friendly Parks website. Users should enter activity data for all sources included in the inventory and for all park entities (e.g., park operations, concessioners, other permitted activities) participating in the inventory.

### ***4. Two Person Park Review and Draft Baseline Emission Inventory Submittal***

After completing a draft emission inventory, another NPS employee must review the CLIP data and agree with any assumptions the person conducting the inventory used during the process. Once the inventory has been reviewed by both the person conducting the inventory and a secondary staff member, the completed Module 1 file along with remaining questions and a list of data gaps and assumptions should be emailed to [CLIPTool@nps.gov](mailto:CLIPTool@nps.gov). **Please note that all required sections for the CLIP Tool 1 listed in the chart above must be completed.** When possible, the CLIP tool results should also be reviewed by additional park personnel, such as superintendent, concessioner management, and green team members.

### ***5. Revise, Finalize, and Submit the Final Baseline Emission Inventory***

A CFP contractor will then review your submitted CLIP inventory and correspond with you to resolve any data quality issues or gaps in your inventory. After this review process, your CLIP inventory will be resubmitted to [CLIPTool@nps.gov](mailto:CLIPTool@nps.gov) with the subject line "Ready for WASO Review". The WASO CFP team will provide comments on the draft CLIP inventory within two weeks of receipt. If the inventory is complete and accurate, it will then become final. If changes need to be made, the park will have the opportunity to revise the emission inventory.

### ***6. Update Baseline Emission Inventories and Produce Subsequent Inventories***

After completing a baseline emission inventory, CFP Member parks are asked to produce emission inventories each subsequent year. CFP Member parks should work to fill any data gaps identified and improve assumptions made during the baseline emission inventory year.

If data are acquired for activities that occurred during the baseline year that wasn't available when the baseline inventory was developed, the baseline emission inventory should be updated to account for the recently acquired data. As an example, if the baseline emission inventory did not include emissions for non-road

equipment despite the park's use of this equipment because data were unavailable, but data are found during subsequent inventories, the baseline inventory should be updated to account for non-road equipment.

If the park takes on new activities that produce emissions that did not occur during the baseline emission inventory year, these emission activities should be included in subsequent emission inventories. Emission reduction goals the park establishes based on the baseline emission inventory year apply to new activities. As an example, if a park that has chosen to reduce its baseline emissions of 100 MTCE by 10 percent builds facilities that increase their baseline emissions by 20 MTCE, they will have to reduce their emissions by 25 percent to reach the emission reduction goal of 90 MTCE.

## Portion 2: Identify Key Sustainability/Climate Change Challenges

After gaining an understanding of your park's total GHG emissions, it is important to search for the key sustainability issues in order to leverage funding and develop meaningful priorities. Although park units have many of the same challenges, each park unit will differ as to their top challenges. For example, an urban park unit might be connected to public transportation and an extensive bike trail system, while a more remote park unit may only be visited if a person has their own vehicle.

**Developing proper solutions requires a complex understanding of baseline conditions and challenges.** In this way, actions can be prioritized to provide the largest Return on Investment (ROI) and overall sustainability benefit at the park. In order to further identify each park unit's key challenges a checklist has been provided, and a conference call will focus on reviewing the CLIP tool, the sustainability assessment checklist, and park feedback. **Once the key challenges are identified, they will be used to tailor the workshop agenda to address the park unit's specific needs.**

## SUSTAINABILITY ASSESSMENT CHECKLIST

Yes?	<b>PROGRAM DOCUMENTS</b>	Year	Description / Contact
<input type="checkbox"/>	ISWAP (or waste management plan)		
<input type="checkbox"/>	Fleet Management Plan		
<input type="checkbox"/>	Alt. Transportation Study/Plan		
<input type="checkbox"/>	Energy Data Management Report		
<input type="checkbox"/>	Environmental Management System (EMS) Plan		
<input type="checkbox"/>	Cultural/Resource Management Plan		
<input type="checkbox"/>	Education and Outreach Plan		
<input type="checkbox"/>	Most Recent Environmental Audit		
<input type="checkbox"/>	Energy Audit		
<input type="checkbox"/>	GMP/DCP - Other Planning Documents		
<input type="checkbox"/>	Inventory & Monitoring Data / Reports		
<input type="checkbox"/>	Climate Change Vulnerability Information for Natural and Cultural Resources		
<input type="checkbox"/>	Transportation Study		
<input type="checkbox"/>	Visitor Use Study		
<input type="checkbox"/>	Other: Sustainability/ Climate Change Interpretation Projects or Programs		

Review the list of sustainability questions. For those that may apply within your park, check the box at the left of the question. Then indicate when the issue was last assessed and who is responsible for that aspect at your park.

Yes?	<b>CLIMATE CHANGE</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Has the park completed any climate change monitoring of their resources?		
<input type="checkbox"/>	Are there any strategies to address current or potential climate change impacts?		
<input type="checkbox"/>	Do you have a list of natural resources being affected by climate change?		
<input type="checkbox"/>	Are there programs in place to facilitate the migration of species threatened by climate change?		
<input type="checkbox"/>	Do you have a list of cultural resources being affected by climate change?		
<input type="checkbox"/>	What is the park doing to protect these cultural resources?		
<input type="checkbox"/>	How are you communicating with visitors the work the park is doing around sustainability/ climate change and the ideas of 'live and visit green'?		
<input type="checkbox"/>	What are the top 3 sustainability/ climate change messages your park could share with visitors?		

Yes?	<b>ENERGY MANAGEMENT</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Have you conducted an energy evaluation or audit?		
<input type="checkbox"/>	Have efforts been taken to conserve energy and reduce energy intensity?		
<input type="checkbox"/>	Are meters deployed per building to help track energy usage?		
<input type="checkbox"/>	Do you have programs in place that address how behavior and the use of a building affect its efficiency?		
<input type="checkbox"/>	Are renewable energy systems being used in the park or is the electricity being purchased from a renewable site?		
<input type="checkbox"/>	Are vegetation and/or building components being used to help shade and cool buildings?		

Yes?	<b>WATER MANAGEMENT</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Where does your potable and non-potable water originate?		
<input type="checkbox"/>	Describe the potable water system? (municipal, well water, etc.)		
<input type="checkbox"/>	Describe the non-potable water system? (municipal, well water, etc.)		
<input type="checkbox"/>	How and where is water being used? Can you measure consumption?		
<input type="checkbox"/>	Are conservation strategies currently being used? any future plans?		
<input type="checkbox"/>	Is stormwater being properly managed?		
<input type="checkbox"/>	Describe efforts to reuse wastewater?		
<input type="checkbox"/>	Describe efforts to reduce wastewater contaminants?		

Yes?	<b>FLEET AND TRANSPORTATION MANAGEMENT</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Have you right-sized your fleet?		
<input type="checkbox"/>	Does the park have high-efficiency and low emitting vehicles?		
<input type="checkbox"/>	Does your park have alternative fueled vehicles?		
<input type="checkbox"/>	Is business travel assessed for need and environmental effects?		
<input type="checkbox"/>	Are there opportunities for alternative modes of transportation (e.g., mass transit, bike paths, walking paths)?		
<input type="checkbox"/>	Are there tours or does the concessioner offer public or group transportation?		
<input type="checkbox"/>	Are there programs in place to encourage ridesharing to work and within the park?		

Yes?	<b>GREEN PROCUREMENT AND WASTE</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Is there a purchasing policy or strategy at your park to address buying 'green'?		
<input type="checkbox"/>	Does your park have a strategy to determine which product is more sustainable, including lifecycle and material components?		
<input type="checkbox"/>	Are sustainable materials used in construction?		

<input type="checkbox"/>	What is being done to report and reduce the generation of chemicals / hazardous materials in the park?		
<input type="checkbox"/>	Are sustainability requirements reflected in all new contracts?		
<input type="checkbox"/>	Are you measuring your landfill diversion rate?		
<input type="checkbox"/>	Have you characterized the solid waste generation at the park?		
<input type="checkbox"/>	Do you have staff engagement programs to decrease or eliminate solid waste in the park?		
<input type="checkbox"/>	Do you have visitor programs in place to decrease or eliminate solid waste in the park?		
<input type="checkbox"/>	What active waste management programs do you have in place? (for composting, recycling, disposing of e-waste and propane cylinders, etc.)		

Yes?	<b>ADDITIONAL SUSTAINABILITY ELEMENTS</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Are the lights in the park dimmed or turned off at night?		
<input type="checkbox"/>	Are computers, electronics, and HVAC systems turned down or off at night?		
<input type="checkbox"/>	Are strategies to minimize sound pollution employed?		
<input type="checkbox"/>	Do you participate in the Night Skies or Soundscapes programs? If so, which ones?		
<input type="checkbox"/>	What is being done to minimize heat island effect and paved surfaces?		
<input type="checkbox"/>	Is sustainability promoted in facility site selection and preservation?		

Yes?	<b>EDUCATION, INTERPRETATION, &amp; OUTREACH</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Have you focused on the role of behavioral changes to help staff become more sustainable?		
<input type="checkbox"/>	Have you implemented programs to educate park staff, including seasonal, on sustainability/climate change?		
<input type="checkbox"/>	Have you implemented interpretation and education programs with sustainability/climate change to share with visitors, school groups, & partners? If so, what programs?		
<input type="checkbox"/>	Are you sharing any success stories with visitors? How?		
<input type="checkbox"/>	What is being done to educate youth in the park?		

Yes?	<b>SUSTAINABILITY MANAGEMENT</b>	Year	Where can it be found? Who is the contact?
<input type="checkbox"/>	Does your management team encourage sustainability principles amongst park staff?		
<input type="checkbox"/>	Is the park's EMS system active and current?		
<input type="checkbox"/>	Does the park have an active green team? Is your green team interdepartmental?		
<input type="checkbox"/>	What are some current topics of focus for the green team?		
<input type="checkbox"/>	Describe some of the environmental action plans (EAP) underway?		
<input type="checkbox"/>	Are there plans in place for sustainability projects going forward? If so, is there a plan to finance them?		
<input type="checkbox"/>	Is the park tracking costs for the sustainability actions described in this checklist?		

## Portion 3: EMS Overview, Review, & Pre-workshop Preparation

In cases where park units choose to revitalize their EMS to include CFP requirements in lieu of an Action Plan, it is important to review the elements of the existing EMS to determine if or which elements need to be added. Please see [Appendix E](#) for a sample table of contents and review the underlined elements required to receive CFP certification.

### **What Value Does An Environmental Management System Add?**

An Environmental Management System (EMS) provides an organization with a structured approach to manage its environmental aspects. An approach that recognizes the importance of interdisciplinary collaboration and frequent communication between staff, management, and the Environmental Management or Green Team to produce on-the-ground results. The EMS framework is built upon the common management cycle of Plan-Do-Check-Act, which provides a solid platform to implement and monitor Climate Friendly Park Action Items. **The goal of streamlining the CFP Action Plan with an EMS is to reduce workload, ensure action items become part of a prioritized workplan, and use the EMS to track and monitor improvements.**

## **MILESTONE 3 – WORKSHOP OR TRAINING**

In order to accommodate the unique needs of each park unit, the workshop length and scope will be developed with the guidance of park staff. For example, in some cases, a cluster workshop consisting of a few adjacent parks will be efficient while at other times a workshop with one park will be necessary. The material provided below is oriented to a WASO-led CFP workshop with the understanding that 4 months is needed to plan a workshop. However, changes can be made to accommodate park and regional specific needs. Below is a draft outline of a workshop planning process and a logistics checklist. Please see [Appendix F](#) for sample workshop agendas.

### **Workshop Summary**

During the CFP workshop, a contractor will take notes each day, including a summary of each presentation, action items developed during the break-out action planning sessions (including flip charts and other group notes), and a summary of the 2<sup>nd</sup> day voting results. This workshop summary will be sent to park staff two weeks after the workshop and is a great resource to include in your EMS appendices. Sample workshop summaries can be found on the [CFP SharePoint](#) site.

*Note: A WASO-led workshop is not required in order to become a CFP certified park; however, some form of training needs to occur. However, holding a CFP workshop provides a park unit with help in facilitating the development of the best mitigation strategies for your park, and additional technical support. Additional support is available for those interested in another form of training. In time, the goal is to build regional support to more efficiently and effectively host CFP workshops across the nation.*

*Planning a workshop requires coordination in order to have all the needed components ready on the date of the workshop. The schedule below is approximate, but don't underestimate the time needed to plan a really good workshop. We recommend that you start planning at least 4 months in advance.  
Conference calls have been highlighted in light green.*

## WORKSHOP LOGISTICS CHECKLIST & CONFERENCE CALL SCHEDULE

### approximately 16 weeks (4 months)

Orientation Call(s) – <i>Overview of CFP program, identify park's expectations and goals, develop a conference call schedule, and identify point of contacts (WASO, region, park, &amp; contractors).</i>	<input type="checkbox"/>
Submit CFP Application – <a href="http://www.nps.gov/climatefriendlyparks/involved/index.html">http://www.nps.gov/climatefriendlyparks/involved/index.html</a>	<input type="checkbox"/>
Establish a CFP workshop planning team with park representatives & management – provide this to list to CFP team	<input type="checkbox"/>

### approximately 14 weeks

<b>Identify Key Sustainability/Climate Change Challenges-</b> <i>review data from CLIP, EMS, and sustainability checklist. Identify any missing information or data, and select the park unit's primary focus areas for the workshop and action planning, e.g. energy, water, and etc.</i>	<input type="checkbox"/>
Begin working on the Climate Leadership in Parks (CLIP) tool. <i>Training and help is available via <a href="mailto:CLIPtool@nps.gov">CLIPtool@nps.gov</a></i>	<input type="checkbox"/>

### approximately 12 weeks

<b>Preliminary Agenda Discussion(s)</b> – <i>review agenda template, identify invitees, begin to develop invitations, begin to discuss session timeframes, designate a location for the workshop (reserve if necessary), and consider lunch options. Identify guest speakers and subject matter.</i>	<input type="checkbox"/>
<b>EMS: Status &amp; Role</b> – <i>Overview of how to incorporate CFP program elements into the existing EMS. Suggest elements include requirements and goals found within the Green Parks Plan and Climate Change Response Strategy to the extent that is applicable. Review the park unit's current EMS against the CFP elements.</i>	<input type="checkbox"/>
Complete the park's greenhouse gas inventory utilizing the CLIP tool and submit to <a href="mailto:CLIPtool@nps.gov">CLIPtool@nps.gov</a> for review	<input type="checkbox"/>
Develop a list of potential attendees	<input type="checkbox"/>
Identify potential meeting locations and assess for cost and seating capacity. Plan for a plenary, plus 3-4 break-out rooms (1 can be the plenary; secure rooms are ideal).	<input type="checkbox"/>
Draft and review invitation	<input type="checkbox"/>

### approximately 10 weeks

<b>Ongoing Calls: Logistics &amp; Agenda</b> – <i>These on-going calls will focus on the status of the agenda, workshop logistics, and updates on which guest speakers have accepted the initiation to speak.</i>	<input type="checkbox"/>
<b>Ongoing Calls: Speaker Call or Meeting</b> – <i>One or a few members of the planning team will either meet or have a conference call with each confirmed speaker to ensure the speaker understands the goals of a CFP workshop and the subject matter we would like them to present. At times this might include a tour of a specific aspect of a park unit to provide the speaker with more specific information.</i>	<input type="checkbox"/>
Recruit park representatives to produce a park introduction presentation for the workshop, (CLIP results, EMS focus areas, team introduction, and other sustainability initiatives underway).	<input type="checkbox"/>
Request that park superintendent or their designee prepare an opening welcome presentation to initiate the CFP workshop.	<input type="checkbox"/>
Finalize meeting space, and establish main contact for space	<input type="checkbox"/>
Finalize and send invitation – <i>include note for participants to bring their own name tag or one will be provided.</i>	<input type="checkbox"/>

approximately 8 weeks

<b>Ongoing Calls: Logistics &amp; Agenda</b> – <i>These on-going calls will focus on the status of the agenda, workshop logistics, and updates on which guest speakers have accepted the initiation to speak.</i>	<input type="checkbox"/>
<b>Ongoing Calls: Speaker Call or Meeting</b> – <i>One or a few members of the planning team will either meet or have a conference call with each confirmed speaker to ensure the speaker understands the goals of a CFP workshop and the subject matter we would like them to present. At times this might include a tour of a specific aspect of a park unit to provide the speaker with more specific information.</i>	<input type="checkbox"/>
If park management is interested, arrange for a gift, such as re-usable coffee mugs or water bottles with CFP and park logo, to be handed out to participants and/or speakers.	<input type="checkbox"/>

approximately 6 weeks

<b>Ongoing Calls: Logistics &amp; Agenda</b> – <i>These on-going calls will focus on the status of the agenda, workshop logistics, and updates on which guest speakers have accepted the initiation to speak.</i>	<input type="checkbox"/>
<b>Ongoing Calls: Speaker Call or Meeting</b> – <i>One or a few members of the planning team will either meet or have a conference call with each confirmed speaker to answer any questions the speaker might have, to ensure the speaker understands the goals of a CFP workshop, and to talk about the content of their presentations. At times this might include a tour of a specific aspect of a park unit to provide the speaker with more specific information.</i>	<input type="checkbox"/>
<b>Revisit the EMS: Status</b> – <i>Further review the park unit's current EMS, and discussion about any pre-workshop work that was completed or needs to be completed. Any further questions about the role of EMS?</i>	<input type="checkbox"/>
Morning and Afternoon Breaks (any special dietary needs) - focus on sustainable food and no disposables	<input type="checkbox"/>
Lunch each day (order in, any special dietary needs, etc.) - focus on sustainable food and no disposables	<input type="checkbox"/>
Consider a park tour for visiting participants of the workshop (speakers, WASO and/or regional personnel)	<input type="checkbox"/>

approximately 4 weeks

<b>Ongoing Calls: Logistics &amp; Agenda</b> – <i>These on-going calls will focus on the status of the agenda, workshop logistics, and updates on which guest speakers have accepted the initiation to speak.</i>	<input type="checkbox"/>
<b>Ongoing Calls: Speaker Call or Meeting</b> – <i>Completed</i>	<input type="checkbox"/>
Determine what materials will be helpful for each break-out group to have during their session.	<input type="checkbox"/>
Assure facilitators are assigned for each break-out group during action planning – meet with facilitators prior to workshop, either conference call or in-person meeting before/during first day of workshop.	<input type="checkbox"/>
Collect RSVP's and final list of attendees	<input type="checkbox"/>
Work with meeting site to ensure a glass of water is available for speakers at podium (no disposable bottles)	<input type="checkbox"/>

approximately 2 weeks

<b>Ongoing Calls: Logistics &amp; Agenda</b> – <i>any last minute ideas or changes?</i>	<input type="checkbox"/>
Create name tags for guest speakers & attendees, suggest NPS staff bring their NPS name badges	<input type="checkbox"/>
Print final CFP workshop resources for attendees, (agenda, vision card, attendee list, evaluation forms, etc.) Contractor	<input type="checkbox"/>
Check equipment list to make sure what needs to be brought/shipped to meeting site	<input type="checkbox"/>
Assign someone to take photos of the event, if desired.	<input type="checkbox"/>
Meet with facilitators prior to workshop, either conference call or in-person meeting before/during first day of workshop.	<input type="checkbox"/>

### Equipment list

Tables and chairs set up in classroom style ideally, otherwise theater style will suffice	<input type="checkbox"/>
2 LCD projectors with screen/blank wall	<input type="checkbox"/>
All wires and connections needed for power and hook-up from LCDs to laptops	<input type="checkbox"/>
6 flip charts with markers	<input type="checkbox"/>
1-2 six-foot tables with chairs for speakers at the front of the room <i>(if applicable – panel)</i>	<input type="checkbox"/>
1 six-foot tables for hand-out materials on the program and the park	<input type="checkbox"/>
2-3 easels for posters/signs	<input type="checkbox"/>
3 outlet strips	<input type="checkbox"/>
Podium for speakers	<input type="checkbox"/>

### DURING THE WORKSHOP

#### Facilitating the CFP Workshop

Assign someone to serve as time keeper throughout the entire workshop and inform moderator as necessary - <b>Contractor Responsibility</b>	<input type="checkbox"/>
Record key ideas and action items through the entirety of the workshop, (including flip charts and other group notes) – <b>Contractor Responsibility</b>	<input type="checkbox"/>
Distribute a evaluation form to attendees – <b>Contractor Responsibility</b>	<input type="checkbox"/>

### POST WORKSHOP

#### Final CFP Workshop Products

Provide park unit with a CFP workshop summary that contains the following: final agenda, summary of presentations, specific questions asked during presentations and sessions, list of all action items developed during the break-out groups, and a summary of third day events, thoughts, and questions. (Contractor - 2 weeks after the scheduled CFP workshop)	<input type="checkbox"/>
Finalize participating parks' emission reduction goals (6 weeks after the scheduled CFP workshop)	<input type="checkbox"/>
Complete and submit a draft EMS or Action Plan	<input type="checkbox"/>
Implement and continue developing EMS yearly work plan or Action Plan	<input type="checkbox"/>
Submit the final an EMS or Action Plan	<input type="checkbox"/>
Become recognized as a Climate Friendly Parks Member Park	<input type="checkbox"/>
Monitor progress and report results (Ongoing)	<input type="checkbox"/>

#### Feedback and Wrap up

Summarize the workshop feedback forms (Contractor - 2 weeks after the scheduled CFP workshop)	<input type="checkbox"/>
Prepare and send thank you notes to guest speakers (3 weeks after the scheduled CFP workshop)	<input type="checkbox"/>

### **Who should be invited to a CFP workshop?**

Workshops are enhanced by the participation of a range of stakeholders in the park partners, gateway community organizations, and relevant federal agencies interested in the topic. Consider this your opportunity to hear from sustainability/climate change experts, deepen relationships with your gateway community, tribes/pueblos and affiliated organizations, as well as provide your community with an educational platform to learn more about sustainability and climate change. See [Appendix G](#) for a sample invitation.

## **MILESTONE 4 – CERTIFICATION: COMPLETE ‘COMPREHENSIVE’ EMS OR ACTION PLAN**

### **Developing Emission Reduction Goals & Using CLIP Data**

The CLIP tool focuses on the overall GHG emissions that your park unit generates and provides you with the baseline needed to identify, implement, and monitor GHG emission reductions. Specific reduction targets need to be contained in your action plan/EMS (Park will achieve \_\_\_% reduction by a designated year using an identified baseline from your CLIP Tool, e.g. 15% below 2005 levels by 2012).

In addition, CLIP Tool Module 2 provides assistance in determining emissions reduction goals for the park in relation to facilities related activities and can provide the foundation for some of your reduction target goals. Keep in mind, to have a robust framework for responding to climate change; it is important to include both quantitative and qualitative action items in the CFP Action Plan / EMS. Never underestimate the value and savings achieved as a result of behavioral change. A goal should be low enough to be achievable, yet high enough to stimulate creativity, innovation, and substantial reduce your GHG emissions. Parks around the country have used Executive Order 13423 (2007) and Executive Order 13514 (2009) as a framework for setting a goal.

For more information on setting an appropriate emission reduction goal, please contact your CFP team.

### **Complete an Action Plan / “Comprehensive” EMS**

The CFP Action Plan / EMS details the mitigation actions the park will take to reduce park emissions, prepare for changing climate, and outline education and outreach activities the park will engage in to educate park staff and the public about climate change. Often, this work is organized by an existing green team around the various topic areas. Each subset should consider the interrelations of these topic areas. For example, the park’s climate change adaptation strategies or actions to reduce emissions should be presented in educational materials to inform the public of the efforts the park is making to address climate change. After the CFP Program receives and accepts an Applicant Park’s final CFP Action Plan / EMS, the Applicant Park will officially enter the CFP Program as a CFP Member Park.

### **Submit your Action Plan / EMS**

After completing your CFP Action Plan / EMS, email your document to the CFP Program at [CFP@nps.gov](mailto:CFP@nps.gov). For a list of required CFP elements in your EMS, please see [Appendix E](#). The CFP team will respond with suggested changes within a 3 week period. Upon completing all changes and modifications, the document should be resubmitted via the above email. Once the CFP Program has reviewed and accepted the CFP Action Plan / EMS, the park is considered a CFP Member Park.

### **Become Recognized as a Climate Friendly Member Park**

Once an EMS or an Action Plan has been reviewed and approved by WASO CFP leads, your park will receive a letter announcing you are now recognized as a Climate Friendly Parks Member Park. At this point, a

webpage highlighting your previous climate friendly accomplishments, your inventory and portions of your EMS or Action Plan will be developed and posted to the Climate Friendly Parks Website. Your park will also be featured on our listserv. You will be able to link to your CFP page from your park home page, as well.

## **ONGOING ACTIVITY 1 – Workshop Follow-up Assistance & Other Activities**

### **Follow-up Support**

Being recognized as a Climate Friendly Park is just the beginning of the journey towards becoming a truly sustainable park. Keep in mind that WASO and regional support is available to help with overall project planning, technical aspects, EMS integration, and communicating sustainability and climate change. Please feel free to contact us and share how we can further assist you in achieving your CFP goals.

### **Build Staff Engagement**

Inspiring and educating your park staff is a key focus of the CFP program, and capitalizing on the energy generated during this process is invaluable. Please contact us to find out about best practices at parks from across the region and incentive programs to reward sustainability actions. In the near future, a staff engagement website called My Green Parks will be launched to facilitate the sharing of best practices across regions.

### **Building Stakeholder and Community Support**

The CFP Program encourages its member parks to commit to ongoing conversations between the park, surrounding community, and other stakeholders to support the development of shared mitigation options and build climate change awareness. Where possible, parks should look to share resources and support sustainable business practices in its gateway communities.

### **Develop an interpretation strategy**

Focus on how your park unit plans to communicate your CLIP inventory, CFP action items, overall sustainability, and the impacts of climate change to visitors and park staff. Focus on a sustainability messages using ideas, projects, and natural and cultural resources that are unique to your park unit. For assistance and park examples please contact Ryan Scavo with Sustainable Operations and Climate Change or Angie Richman with the Climate Change Response Program.

## **ONGOING ACTIVITY 2 – Implement & Continue Developing EMS Yearly Workplan**

After completing an EMS, the Green Team should ensure that actions are completed within the timeline and by the individuals identified in the yearly workplan. Prioritize your action items and select a few each year that you anticipate will be accomplished. The CFP workshop will most likely have generated enough action items to keep your park unit busy for 15-20 years. Establish focal areas and approach action items one by one to increase your productivity and decrease the potential of feeling overwhelmed.

The Green Team should agree upon a schedule for updating the yearly workplan based on progress made by the park to reduce emissions. Additionally, using the CLIP Tool to develop new emission inventories will help you better understand your successes and areas of concern.

### ONGOING ACTIVITY 3 – Update CLIP Tool & Report Results Yearly

After completing your initial baseline emission inventory, CFP Member Parks should produce emission inventories each subsequent year in time to report them in the CFP annual survey which will be sent to all Member Parks July 1<sup>st</sup> via a survey monkey link and replies are requested by the end of August.

The survey will ask questions related to your emissions goals, your success stories, any barriers you have encountered, and questions you might have for the CFP program team. This information will be used to describe the status of the CFP Program, collect results of CLIP emission inventories, and summarize actions CFP Member Parks are taking to reduce emissions in NPS, DOI, and OIG required reporting. This is important to complete in order to maintain membership in the program.

If data is acquired for activities that occurred during the baseline year that were not available when the baseline inventory was developed, the baseline inventory should be updated to account for those data. For example, if the baseline emission inventory did not include emissions for non-road equipment (despite the park's use of this equipment) because of a lack of data, the baseline inventory should be updated to account for non-road equipment once those data do become available.

If the park takes on new activities that produce emissions that **did not occur** during the baseline emission inventory year, these emission activities **should be included** in subsequent emissions inventories. The emission reduction goals that the park establishes based on the baseline year **apply** to new activities. **As such, if a park has chosen to reduce its baseline emissions of 100 MTCO<sub>2</sub>E by 10%, but then builds facilities that increase their baseline emissions by 20 MTCO<sub>2</sub>E, they will have to reduce their emissions by 25% to reach the original emission reduction goal of 90 MTCO<sub>2</sub>E.**

## SUPPORTING PROGRAM MATERIAL

### Appendix A – Climate Friendly Parks Application

#### CLIMATE FRIENDLY PARKS APPLICATION

Through this application, \_\_\_\_\_ is expressing their interest in beginning the process of becoming a United States National Park Service (NPS) Climate Friendly Park, with all of the associated benefits and requirements of the Climate Friendly Parks Program. For a complete list of program requirements visit: [www.nps.gov/climatefriendlyparks](http://www.nps.gov/climatefriendlyparks).

#### 1. PRINCIPLE CONTACT

An individual needs to be identified who will be the main point of contact for the Climate Friendly Parks team. This individual will be responsible for understanding and meeting all of the program requirements.

Last Name	First	
Position		
Street Address		
City	State	ZIP
Phone	E-mail Address	

#### 2. INVENTORY CONTACT

An individual needs to be identified who will work with the CFP team to collect the needed information to perform an inventory for your park. The individual can be the principle contact and/or a member of the green team.

Last Name	First	
Position		
Phone	E-mail Address	

#### 3. ENVIRONMENTAL MANAGEMENT OR GREEN TEAM CONTACTS

In order to ensure follow-through and implementation of the creative strategies developed during your involvement with the Climate Friendly Parks Program, a group of individuals needs to be identified that have the interest and authority to promote climate friendly actions within the park. At a minimum, these individuals need to represent the following departments: facilities (waste management), facilities (fleet management and transportation planning), facilities (buildings and grounds), education and interpretation, and resource management (cultural and natural). These individuals need to be prepared to meet on a regular basis to work on implementing your action items.

Waste Management	
Last Name	First
Position	

Energy Management	
Last Name	First
Position	

Water Management	
Last Name	First
Position	

Transportation Management	
Last Name	First
Position	

Education and Interpretation	
Last Name	First
Position	

Cultural Resource Management	
Last Name	First
Position	

Natural Resource Management	
Last Name	First
Position	

**Appendix B – The Science of Greenhouse Gas Emissions & Accounting**  
*coming soon ... in the process of being updated*

**Appendix C - The Climate Leadership in Parks (CLIP) Tool**  
*coming soon ... in the process of being updated*

## Appendix D – Appendix D – CLIP Tool Data Needs

The information below provides a general overview of the data you will need to complete a GHG emission inventory using the Climate Leadership in Parks (CLIP) Tool. The information contained in this Appendix covers only the most relevant sources. For a comprehensive list of data needed to produce a full inventory, please refer to the inventory data needs sheet or the source sheets in Module 1 of the CLIP Tool.

The Emission Inventory Module of the CLIP Tool is designed to estimate emissions according to those entities within the park that produce emissions (e.g., park staff and facilities, visitors, concessioners, etc.). For the purposes of the emission inventory, these entities are referred to as park units and are listed in the table below. While the Emission Inventory Module is primarily constructed for completion by park operations and visitor emissions, the module can be similarly populated by concessioners participating in the inventory.

Park Unit	Description
Park Operations	Park staff, facilities, etc.
Visitors	Park visitors
Primary Concessioner	The park's main concessioner
Other Concessioners	The park's remaining concessioners
Other Permitted Activities	Other activities that occur in the park such as mining or natural gas transmission

## Energy Management

### *Stationary Combustion*

In the spaces provided in the table below, please enter the fuel consumed by stationary devices (e.g., boilers, heaters, generators, etc.) by fuel type and in the units provided.

Fuel	Consumption	Unit
Natural Gas	_____	cubic feet
Diesel Fuel	_____	gallons
Propane	_____	gallons

In addition to the fuel types listed above, CLIP also allows for estimating emissions from biodiesel (gallons), kerosene (gallons), wood (cords), and coal (short tons). Please also include fuel consumption for these fuel types if applicable. These activity data will be used to calculate GHG emissions from stationary combustion.

To complete a criteria air pollutant inventory, the devices in which this fuel is combusted is also needed (e.g., commercial boiler, residential furnace). Please consult the stationary source sheet in Module 1 to identify those data needs.

### *Purchased Electricity*

Please enter an electricity provider and amount of electricity purchased from this provider in kilowatt hours (kWh). CLIP allows you to estimate emissions from up to two electricity providers.

	Electricity Provider Name	kWh purchased
Primary Provider	_____	_____
Secondary Provider	_____	_____

In order to keep track those individuals collecting data, it is important to document their contact information in the table below. This table will provide continuity in data collection efforts from year to year, and in turn reduce data collection time.

**Energy Management Data Collection Contact Information and User Notes**

Contact Name	Contact Title	Phone #	Email Address	Data Type/File Name	Date Acquired
<b>Notes:</b>					

**Transportation Management**

***Mobile Combustion***

In the spaces below, please enter the fuel consumption or vehicle miles traveled (VMT) by vehicle type for each vehicle listed. A space is also provided to enter the average fuel efficiency (miles per gallon) for these vehicles; however, CLIP provides national averages if park-specific fuel efficiencies are unavailable.

Vehicle Type	Fuel Consumption (gallons)	OR	Vehicle Miles Traveled	Miles Per Gallon (optional)
Gasoline Car	_____		_____	_____
Gasoline Truck	_____		_____	_____
Gasoline Bus	_____		_____	_____
Gasoline Heavy Duty	_____		_____	_____
Gasoline Motorcycle	_____		_____	_____
Diesel Car	_____		_____	_____
Diesel Truck	_____		_____	_____
Diesel Bus	_____		_____	_____
Diesel Heavy Duty	_____		_____	_____

Module 1 can also estimate emissions from hybrid and Alternative Fueled Vehicles (AFVs) - including cars, trucks, buses, and heavy-duty vehicles that consume liquified petroleum gas (LPG), compressed natural gas (CNG), 20 percent Biodiesel (Bio20), 100 percent Biodiesel (Bio100), ethanol, and methanol. If your park operates these vehicles, please also record fuel or miles traveled information for those vehicle types.

Module 1 also allows you to estimate emissions from non-road equipment (e.g., ATVs, snowmobiles) and watercraft. Data needs for these equipment include total hours of use and horsepower (defaults provided) by equipment type. Please consult the mobile source sheets for specific data needs.

A critical data need is the total miles traveled by all visitors to the park - visitor vehicle miles traveled (VMT). This value is often obtained through transportation studies or by approximating visitor vehicle totals from vehicle counts and multiplying the value by the average distance traveled by a visitor vehicle.

The table below provides space to document contact information of those individuals contributing to the transportation data collection efforts.

Transportation Management Data Collection Contact Information and User Notes

Contact Name	Contact Title	Phone #	Email Address	Data Type/File Name	Date Acquired
<b>Notes:</b>					

**Waste Management**

***Wastewater Treatment***

For wastewater treatment, the most critical input required is the total wastewater sent to the wastewater treatment plant (gallons). Additionally, there is an area within the wastewater treatment section where the amount of methane recovered (in cubic feet) can be entered.

***Landfilled Solid Waste and Waste Incineration***

The amount of waste landfilled (tons) is necessary for calculating emissions from solid waste. In order to accurately reflect the practices at the landfill, Module 1 provides input cells for quantifying

methane flaring and landfill gas to energy projects. In addition, the amount of waste incinerated (in tons) is also an input for this source.

The table below provides space to document contact information of those individuals contributing to the waste management data collection efforts.

**Waste Management Data Collection Contact Information and User Notes**

Contact Name	Contact Title	Phone #	Email Address	Data Type/File Name	Date Acquired
<b>Notes:</b>					

**Other Management Activities**

***Refrigeration and Air Conditioning***

Please enter the number of refrigeration or air conditioning units maintained that contain either HFC-134a or R-410.

	<i>HFC-134a</i>	<i>R-410</i>
Refrigerated Appliances	_____	_____
Air Conditioning Units	_____	_____
Window Units	_____	_____
Residential	_____	_____
Small Commercial	_____	_____
Large Commercial	_____	_____
Packaged Terminal	_____	_____

The table below provides space to document contact information of those individuals contributing to the other management data collection efforts.

**Other Management Activities Data Collection Contact Information and User Notes**

Contact Name	Contact Title	Phone #	Email Address	Data Type/File Name	Date Acquired

<b>Notes:</b>

### **Additional Information**

The data items addressed above are the core data needed to begin a GHG emission inventory. Please consult Module 1 of the CLIP Tool for additional data needed to complete a full GHG emission inventory as well as a CAP inventory. These data include, but are not limited to:

- Cords of wood combusted in visitor campfires and park fireplaces, stoves, etc.,
- Park solvent, pesticide, fertilizer and other chemical use,
- Information on petroleum and natural gas activities in the park (e.g., transmission and storage),
- Hours of use or fuel consumption for park non-road equipment, aircraft, and watercraft, and
- Fuel throughput and tank size for park aboveground and underground fuel storage tanks.

The CFP Program also houses several calculators that address emission sources that occur within some parks, but are not provided in Module 1 (e.g., cruise ships, animal management). Please contact the CFP Program to discuss data needs and obtain calculators for emission sources not included in Module 1.

While not necessary to complete an emission inventory, the following additional items are valuable when completing an Action Plan:

- Stationary device (e.g., boilers, heaters) list with all devices, their efficiencies, and fuel consumption,
- Vehicles and non-road equipment list, their fuel efficiencies, mileage, and fuel consumption,
- Information on renewable energy generation or purchasing (e.g., kWh, renewable type), and
- Information on waste streams and recycled materials.

## Appendix E – Sample EMS Elements

Elements in red font are those that are required by the Climate Friendly Parks Program in order to attain certification. The other elements are either part of a standard EMS or are suggestions which will help to further incorporate goals and ideas from the Climate Change Response Strategy and the soon-to-be-released Green Parks Plan.

### I. Table of Contents

### II. Environmental Commitment Statement

- \* commitment to environmental compliance and pollution prevention
- \* reference to continuous improvement and how this will be achieved
- \* identify a reduction target for greenhouse gas emissions using a FY 2008
- \* identify ways you will communicate sustainability and climate change to visitors and park staff using your EMS as the method to further sustainability efforts within your park.
- \* commitment to federal executives and policies (refer to SLBE)
- \* how does this process support your park's specific mission and enabling legislation.

### III. Sustainability Long-Term Goals – Identify goals for each of the aspects or sustainability elements specific to your EMS. Remember to consider required EMS elements (environmental compliance, water, energy...), as well as cultural and natural resources, vulnerable resources due to climate change, soundscapes, nightskies, NPS staff communication, partnership opportunities and interpretation. These should be comprehensive goals and include the park's sustainability vision. Each year the park can select from these goals to determine what targets they would like to focus on for the year.

### IV. Park Environmental & Sustainability History

- a. **EMS** – Explain your park's EMS efforts. When was your EMS first developed, and what has happened since its development? Have you had a recent environmental audit? What process have you been using to implement and monitor your EMS?
- b. **Sustainability** – What has your park been doing to further sustainability efforts? When did your efforts begin? Any specific projects that should be included, i.e. resources, interpretation, greenhouse gas emission reductions.

### V. Aspects and/or Key Sustainability Metrics – This would include a summary of the current status or baseline of each identified aspect or metric, as well as a bullet point list of the suggested action items. Each year action items for various aspects would then be selected to form the yearly action plan. The following are aspects that should be considered:

- Greenhouse Gas Emissions (the aggregate of the following; however, in this section include the results of your FY 08 greenhouse gas inventory using the Climate Leadership in Parks (CLIP) tool, as well as any CLIP inventories from another year):
  - ⊗ NPS Fleet Management and Fossil Fuel Reduction
  - ⊗ Visitor Transportation – alternate modes of transportation
  - ⊗ Building - Energy Intensity
  - ⊗ Employee Commuting
  - ⊗ Business Travel
  - ⊗ Refrigerants
  - ⊗ Wastewater
  - ⊗ Solid Waste – recycling, landfill, & composting

- Water Quality and Conservation Measures
- Air Quality
- Hazardous Materials Management & Reduction
- Fuel Storage Requirements
- Purchasing & Contracting – includes construction materials & green procurement
- Environmental Disposal Liability Sites / Location of Concerns
- Pest Management
- Fire Management
- Law Enforcement
- Natural Resources
- Cultural Resources
- Climate Change Vulnerabilities – natural & cultural resources, as well as facilities
- Night Skies
- Soundscapes
- Visitor Experience & Services
- Sustainability/Climate Change Education – internal
- Sustainability/Climate Change Interpretation – external
- Tribal Involvement – government to government relationship
- Community Outreach
- Partnership Opportunities – concessions & cooperating associations

#### VI. **Roles, Responsibilities, & Accountability**

- Roles and responsibilities for the overall EMS
  - Identify the lead person for each aspect or sustainability metric
  - Identify specific record keeper(s) for the EMS process and documentation.
  - Identify who is responsible for annual NPS and DOI environmental reporting.
- Organizational structure & role of the Environmental Management Team, i.e. Green Team
  - who is responsible for maintaining EMS
  - who is responsible for reporting to management and staff, ideally every month

VII. **Operational Controls & Monitoring** – What management or operational controls does the park have in place to evaluate and track overall EMS progress? Who is responsible for ensuring that progress is monitored and recorded in a transparent way? What preventative measures can be implemented to help the park more proactively address current or future environmental compliance violations?

VIII. **Documentation & Recordkeeping** - Keep an updated list of where supporting sustainability documents are located and who is responsible for each document. Identify a process by which the EMS and the yearly action plan will be updated, recommended quarterly.

IX. **Training** – Identify NPS, federal, and non-governmental training opportunities for park staff. Provide staff with a yearly list, including summary of topic and who might find the training relevant. Keep track of required training, which staff members have fulfilled this training, and develop a plan to stay up to date all training requirements.

X. **Communication Policy & Strategy**- This section will contain information on how the EMT or Green Team plans to share contents, actions, & processes found in the EMS with the rest of the park unit, visitors, and

partners. The second portion will further elaborate on the identified Interpretation/Education strategy developed to communicate sustainability/climate change with park staff, visitors, and partners.

- XI. **Yearly Workplan** – Create an annual workplan that pulls from the aspects and action items identified in the body of the EMS. Select 3-6 focused priorities for each year and develop an action plan containing the following: roles, responsibilities, program area, prioritization, funding, estimated level of effort, and timeline for completion of action items.

## Appendix F – Sample Agendas



### FLAGSTAFF NATIONAL MONUMENTS CLIMATE FRIENDLY PARKS WORKSHOP

April 5 – 6, 2011

NAU – ARD Building, 1298 S. Knoles Dr. (corner of S. Knoles and University Dr.)  
Flagstaff AZ 86001

## AGENDA – Day One – April 5, 2011

7:30 AM – 8:00 AM	<b>Coffee &amp; Registration</b>	
8:00 AM – 8:30 AM	<b>Welcome &amp; Introduction</b>	<b>Diane Chung,</b> <i>Flagstaff National Monuments Superintendent</i>
8:30 AM – 9:00 AM	<b>Overview of Climate Friendly Parks Program &amp; IMR Sustainability Efforts</b> <i>An explanation on how NPS sustainability programs and initiatives align. An explanation on IMR's ideas on how to synthesize the various sustainability initiatives and programs.</i>	<b>Shawn Norton, NPS Branch Chief for Sustainable Operations and Climate Change,</b> <i>Washington D.C.</i>  <b>Margaret McRoberts, NPS Intermountain Region Sustainability Coordinator</b>
9:00 AM – 9:25 AM	<b>Sustainability 101 &amp; Systems Thinking</b> <i>What is behind all the buzz words? Why is it important to approach sustainability using systematic thinking?</i>	<b>Margaret McRoberts, NPS Intermountain Region Sustainability Coordinator</b>
9:25 AM – 10:00 AM	<b>Western United States Natural Resource Climate Change Impacts</b> <i>What is climate change, and why is it happening? What are current and potential climate change impacts to the regional ecosystem?</i>	<b>Dr. Matthew Hurteau, NAU School of Earth Sciences and Environmental Sustainability</b>
10:00 AM – 10:30 AM	<b>Human Mobility as Portended by Climate Change</b> <i>A consideration of the future prosperity of humanity must include a careful examination of climate change and its accompanying complexities and uncertainties: the potential scale of climate-induced migration is dependent on a host of variable factors.</i>	<b>Dr. Dean Howard Smith, NAU Professor of Economics and Applied Indigenous Studies</b>
10:30 AM – 10:45 AM	<b>Break</b>	
10:45 AM – 11:15 AM	<b>Flagstaff National Monuments Overview</b> <i>Summary of Flagstaff Monument projects &amp; key sustainability issues</i>	<b>Flagstaff Monuments staff</b>
11:15 AM – 12:00 PM	<b>Greenhouse Gas Emissions 101</b> <i>How are greenhouse gas emissions calculated? What are the federal guidelines and requirements? What are carbon</i>	<b>Hillary Nussbaum, Environmental Resources Management, Sustainability &amp; Climate Change consultant</b>

	<i>neutral and other ghg accounting definitions? Summary of FLAG inventory.</i>	
12:00 PM – 12:45 PM	<b>Lunch</b> <i>Provided for participants and served in conference room</i>	
12:45 PM – 1:35 PM	<b>Energy Management &amp; Renewable Energy</b> <i>Using the Walnut Canyon Maintenance Shop as a case study, this presentation will explore how to use energy more efficiently through conservation and passive techniques. As a final step, appropriate renewable energy technologies will be examined.</i>	<b>Joseph Costion</b> , <i>Construction Technology Dept. Chair, Coconino Community College, Flagstaff</i>
1:35 PM – 2:25 PM	<b>Water Management</b> <i>Presenting some guiding principles of natural, hydrological systems and lead a discussion of options for water use and conservation at park facilities.</i>	<b>John Neville</b> , <i>President, Sustainable Arizona</i>
2:25 PM – 2:40 PM	<b>Break</b>	
2:40 PM – 3:10 PM	<b>ZION Best Practices – Green Procurement &amp; Beyond</b>	<b>Alexander Barajas</b> , <i>Zion National Park, Environmental Protection Specialist</i>

## AGENDA – Day One – April 5, 2011 ... continued ...

3:10 PM – 3:40 PM	<b>Understanding and Respecting Your Environment. Hopi Principles of Life and Earth Stewardship</b> <i>Since time immemorial, the Hopi people have utilized knowledge gained through respective clan and tribal life experiences. This understanding of human relationships with its environment shaped the Hopis' social and religious behavior and today is embodied in its religious philosophy and practices.</i>	<b>Leigh Kuwaniswma</b> , <i>Director, Hopi Cultural Preservation Office</i>
3:40 PM – 4:15 PM	<b>Flagstaff Sustainability Initiatives &amp; Behavioral Change</b>	<b>Nicole Woodman</b> , <i>Flagstaff Sustainability Manager</i>
4:15 PM – 5:00 PM	<b>Closing &amp; Vision</b> <i>How have today's presentations shaped your vision for Flagstaff National Monuments? Any ideas or thoughts you would like to share or discuss further as a group?</i>	<b>Julie Thomas McNamee &amp; Margaret McRoberts</b> , <i>co-facilitation</i>

## AGENDA – Day Two – April 6, 2011

8:00 AM – 8:20 AM	<b>Opening &amp; Vision</b> <i>Any further thoughts about your vision of sustainability?</i>	<b>Julie Thomas McNamee &amp; Margaret McRoberts</b> , <i>co-facilitation</i>
8:20 AM – 8:35 AM	<b>Climate Leadership in Parks (CLIP) Tool – Module Two</b>	<b>Julie Thomas McNamee</b> , <i>NPS Air Resources Liaison, Washington D.C.</i>
8:35 AM – 8:55 AM	<b>EMS – Sustainability Plans</b> <i>What are the components of a robust EMS? Does this change EMS? What is the role of a green team?</i>	<b>Jay Boisseau</b> , <i>NPS Intermountain Region Environmental Program Manager</i>
8:55 AM – 9:15 AM	<b>Financing Sustainability</b> <i>How are other parks 'making the case' for sustainability. Learn how to sell your sustainability project. How can you calculate lifecycle, return on investment, and other important aspects using energy costs at Flagstaff National Monuments as an example.</i>	<b>Shawn Norton</b> , <i>NPS Branch Chief for Sustainable Operations &amp; Climate Change, Washington D.C.</i>  <b>Margaret McRoberts</b> , <i>NPS Intermountain Region Sustainability Coordinator</i>
9:15 AM – 11:30 AM	<b>Breakout Group Discussions</b> <i>Each group will focus on developing action items from the groups listed below. Each group will have an appointed facilitator &amp; recorder.</i> <ul style="list-style-type: none"> <li>✓ energy management</li> <li>✓ water management</li> <li>✓ education &amp; outreach</li> <li>✓ climate change impacts to natural and cultural resources</li> <li>✓ behavioral change – including employee commuter, fleet</li> </ul>	<b>Julie Thomas McNamee &amp; Margaret McRoberts</b> , <i>co-facilitation</i>

	<i>management &amp; business travel</i> ✓ <i>waste management, hazardous materials &amp; chemicals, &amp; green procurement</i>	
11:30 AM – 12:00 PM	<b>Any Questions or Thoughts</b> <i>Reconvene in large group to answer any questions before lunch.</i>	<b>Shawn Norton</b> , NPS Branch Chief for Sustainable Operations & Climate Change, Washington D.C.
12:00 PM – 1:30 PM	<b>Lunch on your own and Optional Building Tour</b> <i>Those interested in a building tour will meet in lobby at 1:00 PM</i>	
1:30 PM – 2:30 PM	<b>Continue ... Breakout Group Discussions</b>	
2:30 PM – 3:30 PM	<b>Sharing Action Items</b> <i>Each group will share their top 5 sustainability action items and why. Each presentation will be followed by Q&amp;A time.</i>	<b>Julie Thomas McNamee &amp; Margaret McRoberts</b> , co-facilitation
3:30 PM – 3:45 PM	<b>Break</b>	
3:45 PM – 4:30 PM	<b>Continue ... Sharing Action Items</b>	
4:30 PM – 5:00 PM	<b>Determining Next Steps, Comments &amp; Closing Remarks</b> <i>How can a support network be established? What are some potential partnerships? How will these action items be implemented? What are your concerns and any obstacles that you perceive? What are the next steps, and what info is still needed?</i>	<b>Diane Chung, Julie Thomas McNamee &amp; Margaret McRoberts</b>

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## SHENANDOAH NATIONAL PARK CLIMATE FRIENDLY PARKS WORKSHOP

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September 14-15, 2011  
Mimslyn Inn, Blue Ridge Room  
401 West Main Street, Luray, VA 22835  
<http://www.mimslyninn.com>

### AGENDA – Day One – September 14, 2011

7:30 – 8:00 AM	<b>Coffee &amp; Registration</b>	
8:00 – 8:20 AM (20-min)	<b>Welcome &amp; Introduction</b>	<b>Martha Bogle</b> , <i>Superintendent, Shenandoah National Park</i> <b>Jim Schaberl</b> <i>Acting Chief, Natural and Cultural Resources, Shenandoah National Park</i>
8:20 – 8:45 AM (25-min)	<b>Regional Overview &amp; Efforts</b> <i>EMS &amp; NER Climate Change Strategy</i>	<b>Kristoffer Hewitt</b> <i>Environmental Program Manager, Northeast Region, NPS</i> <b>Holly Salazer</b> <i>Air Resources Coordinator, Northeast Region, NPS</i>
8:45 – 9:05 AM (20-min)	<b>Overview of Climate Friendly Parks Program, the Green Parks Plan, &amp; other NPS Sustainability Initiatives</b> <i>An explanation of how NPS sustainability programs and initiatives align: Climate Friendly Parks, Green Parks Plan, and Environmental Management Planning.</i>	<b>Shawn Norton</b> <i>Branch Chief, Sustainable Operations and Climate Change (SOCC) NPS, Washington DC (WASO)</i> <b>Margaret McRoberts</b> <i>IMR Sustainability Coordinator—on detail to NPS SOCC</i>
9:05 – 9:20 AM	<b>Break -15 minutes</b>	
9:20 – 9:45 AM (25-min)	<b>Sustainability 101 &amp; Systems Thinking</b> <i>What is behind all the buzz words? Why is it important to approach sustainability using systematic thinking? Group</i>	<b>Margaret McRoberts</b> <i>IMR Sustainability Coordinator—on detail to NPS SOCC</i>

	<i>discussion.</i>	
9:45 – 10:25 AM (40-min)	<b>Eastern Mountains &amp; Forests Natural Resource Climate Change Impacts</b> <i>What is climate change, and why is it happening (in simplified terms)? What are current and potential climate change impacts to the regional ecosystem?</i>	<b>Chris Burkett</b> <i>Wildlife Action Plan Coordinator, Virginia Department of Game &amp; Inland Fisheries</i>
10:25 – 10:35 AM	<b>Break -10 minutes</b>	
10:35 – 11:00 AM (25-min)	<b>Shenandoah National Park's Sustainability Overview</b> <i>Summary of projects &amp; key sustainability issues at Shenandoah National Park.</i>	<b>Jim Schaberl &amp; Park EMS Team</b> <i>Acting Chief, Natural and Cultural Resources Division, Shenandoah National Park</i>
11:00 – 11:40 AM (40-min)	<b>Greenhouse Gas Emissions 101</b> <i>What emits GHGs? How are greenhouse gas emissions calculated? What does carbon neutral and other GHG accounting terms mean?</i>  <b>Shenandoah's Climate Leadership in Parks (CLIP) Greenhouse Gas Inventory</b> <i>Summary of key findings from the CLIP inventory</i>	<b>Julie Thomas McNamee</b> <i>Air Resources &amp; Climate Change Liaison, NPS WASO</i>  <b>Liz Garcia</b> <i>Air and Water Quality Technician, Shenandoah National Park</i>
11:40 – 12:40 PM	<b>Lunch at Mimslyn Inn (A buffet will be offered for \$10 per person or feel free to bring your own lunch)</b>	
12:40 – 1:15 PM (35-min)	<b>Six Americas &amp; Communicating Climate Change</b> <i>Understanding how people within the United States interpret and respond to climate change.</i>	<b>Karen Akerlof</b> <i>Doctoral Student, Environmental Science &amp; Public Policy, George Mason University</i>
1:15 – 1:35 PM (20-min)	<b>Case Study: New River Gorge National River &amp; Communicating Climate Change</b>	<b>Michael Hartsog</b> <i>Maintenance Specialist, New River Gorge National River, NPS</i>
1:35 – 2:15 PM (40-min)	<b>Historic Preservation &amp; Energy Efficiency</b> <i>Comparison of present day expectations for building performance in relation to historic structures. Lessons learned from the Northeast Region in relation to energy intensity and renewable energy.</i>	<b>Stephen Spaulding</b> <i>Chief, Architectural Preservation, Engineering &amp; Maintenance Division, Northeast Region, NPS</i>
2:15 – 2:45 PM (30-min)	<b>Historic Preservation</b> <i>A quick look at the potential to make sustainability improvements at the Shenandoah Administration Building.</i>	<b>Mark Rodman and Lynn Cowan,</b> <i>Lynmar Group, Burlington, NC</i>
2:45 – 3:00 PM	<b>Break-15 minutes</b>	
3:00 – 3:45 PM (45-min)	<b>How to Effectively Communicate Climate Change – A Panel Discussion</b> <i>An overview of different strategies and efforts to communicate climate change.</i>	<b>Julie Thomas McNamee, Moderator</b> <b>Jeff Olson, Public Affairs, WASO NPS</b> <b>Stephanie Juchs, Climate Change Communication Intern, National Capital Region, NPS</b> <b>Karen Scott, Environmental Educator, EPA</b> <b>Sally Hurlbert, Interpretive Specialist, Shenandoah National Park</b>
3:45 – 4:15 PM (30-min)	<b>Climate Change Vulnerability Assessments</b> <i>Identifying natural and cultural resources that are vulnerable to the effects of climate change will better inform our decision making and efforts to build resilience.</i>	<b>Austin Kane</b> <i>Policy Specialist, National Wildlife Federation</i>
4:15 – 4:30 PM (15-min)	<b>Adaptive Management in the Face of Climate Change - Shenandoah Salamander</b> <i>Actions within the park to monitor species vulnerable to climate change.</i>	<b>Jeb Wofford</b> <i>Fish and Wildlife Biologist, Shenandoah National Park</i>
4:30 – 5:00 PM (30-min)	<b>Closing &amp; Vision</b> <i>How have today's presentations shaped your vision for Shenandoah?</i>	<b>Julie Thomas McNamee</b> <i>Air Resources &amp; Climate Change Liaison, WASO NPS</i>

	<i>Any ideas or thoughts you would like to share or discuss further as a group?</i>	<b>Margaret McRoberts</b> <i>IMR Sustainability Coordinator - on detail to SOCC, NPS</i>
<b>AGENDA – Day Two – September 15, 2011</b>		
8:00 – 8:10 AM (10-min)	<b>Welcome</b>	<b>Julie Thomas McNamee</b> <i>Air Resources &amp; Climate Change Liaison, WASO NPS</i>
8:10 – 8:25 AM (15-min)	<b>Climate Leadership in Parks (CLIP) Tool – Module Two, and Action Planning in General</b>	<b>Julie Thomas McNamee</b> <i>Air Resources &amp; Climate Change Liaison, WASO NPS</i>
8:20 – 8:40 AM (20-min)	<b>EMS – Sustainability Plans</b> <i>How can effective planning and group collaboration benefit your sustainability efforts?</i>	<b>Kristoffer Hewitt</b> <i>NER Environmental Program Manager, NPS</i>
8:40 – 9:00 AM (20-min)	<b>Financing Sustainability</b> <i>How can you use existing fund sources to accomplish your sustainability projects? What is the future of sustainability and funding in NPS? How are other parks 'making the case' for sustainability?</i>	<b>Shawn Norton</b> <i>Branch Chief, Sustainable Operations and Climate Change, WASO NPS</i>
9:00 – 9:20 AM	<b>Break-20 minutes</b>	
9:20 – 9:45 AM (25-min)	<b>Sustainability Issues &amp; Human Health</b> <i>An overview of how various sustainability/ climate change issues affect our human health and daily life ranging from chemical pollution to a changing climate.</i>	<b>Jerome A. Paulson, MD, FAAP</b> <i>Associate Research Professor of Pediatrics &amp; Public Health, George Washington University</i>
9:45 – 10:00 AM (10-min)	<b>Introduce Breakout Groups</b>	<b>WASO Representatives</b>
10:00 – 12:00 (2 hrs)	<b>Breakout Group Discussions</b> <i>Each group will focus on developing action items from the groups listed below.</i> 1. <b>Energy &amp; Transportation</b> <i>(facilitated by Shawn Norton and Roberto Piccioni)</i> 2. <b>Water &amp; Waste Water</b> <i>(facilitated by Margaret McRoberts and SHEN)</i> 3. <b>Waste Management &amp; Green Procurement</b> <i>(facilitated by Kristoffer Hewitt)</i> 4. <b>Education and Outreach</b> <i>(facilitated by Holly Salazer and Ryan Scavo)</i> 5. <b>Influencing Behaviors</b> <i>(facilitated by Julie Thomas McNamee)</i>	<b>WASO, Northeast Region, and ERM</b>
12:00 – 1:00 PM	<b>Lunch at Mimslyn Inn (A buffet will be offered for \$10 per person or feel free to bring your own lunch)</b>	
1:00 – 2:00 PM (60-min)	<b>Continue ... Breakout Group Discussions</b>	
2:00 – 4:00 PM  (2 hours with 15 minute break at ~3:00)	<b>Sharing Action Items</b> <i>Group presentations – 20 minutes per group. Each group will share their top 3 – 5 sustainability action items and why in 15-minutes. Each presentation will be followed by a 5-min Q&amp;A. Meeting participants are invited to challenge and reinforce ideas presented associated with implementation. Consider how can these ideas fit into your EMS?</i>	<b>Shawn Norton</b> <i>Branch Chief, SOCC, WASO NPS</i>  <b>Roberto Piccioni</b> <i>Sustainability &amp; Compliance Manager, ERM</i>
4:00 – 4:30 (30-min)	<b>Multi-Voting for Best Projects</b> <i>Participants will review suggested action from each of the other break-out teams and affix 'colored dots' to indicate their preference for suggestions. In this way, everyone has a chance to help identify the most meaningful and practical CFP projects.</i>	<b>Roberto Piccioni</b> <i>Sustainability &amp; Compliance Manager, ERM</i>  <b>Jim Schaberl</b> <i>Acting Chief, Natural and Cultural Resources Division, Shenandoah National Park</i>
4:30 – 4:50 PM (20-min)	<b>Shenandoah GHG Goal Development</b> <i>What are the next steps and ideas to develop an information-based GHG reduction targets for Shenandoah?</i>	<b>Shawn Norton</b> <i>Branch Chief, SOCC, WASO NPS</i>  <b>Jim Schaberl</b>

		<i>Acting Chief, Natural and Cultural Resources Division Shenandoah National Park</i>
4:50 – 5:15 PM (25-min)	<b>Determining Next Steps, Comments, &amp; Closing Remarks</b> <i>How has this workshop shaped your vision for Shenandoah? Any ideas or thoughts you would like to share or discuss further as a group? How can a support network be established? What are some potential partnerships? How will these action items be implemented? What are your concerns and any obstacles that you perceive?</i>	<b>Martha Bogle &amp; Jim Schaberl</b> <i>Shenandoah National Park</i>  <b>Shawn Norton &amp; Julie Thomas McNamee</b> <i>NPS Climate Friendly Parks Program</i>
<b>AGENDA – Day Three – September 16, 2011</b>		
<i>Shenandoah National Park Training Room</i>		
8:00– 9:00 AM (60-min)	<b>Merging the Climate Friendly Parks Program With Your Existing EMS</b> <i>Review of what’s needed for CFP certification and a discussion about Shenandoah’s EMS. What do you think is needed?</i>	<b>Margaret McRoberts</b> <i>IMR Sustainability Coordinator - on detail to SOCC, NPS</i>
9:00– 10:00 AM (60-min)	<b>Group Discussion - Establishing Priorities &amp; Incorporating CFP Action Items</b> <i>How to effectively use the limited time and available resources to maximize sustainability gains.</i>	<b>WASO &amp; NER Facilitation</b>
10:00 –10:15AM (15-min)	<b>Break</b>	
10:15 AM –12:00 Noon (60-min)	<b>Continued Discussion about Prioritizing CFP Action Items –</b> <i>Decide whether to continue discussions about the prioritization of CFP action items and existing EMS action items – Breakout groups?</i>	<b>WASO &amp; NER Facilitation + Group Work</b>
12:00– 1:00 PM (60-min)	<b>Lunch</b>	
1:00 PM – 3:00 PM (90-min)	<b>What Are the Next Steps?</b> <i>Walk through CFP EMS elements that are applicable to the park and determine how park staff plans to incorporate these into the existing EMS. How can WASO and the NER office support your efforts? Identify any necessary follow-up.</i>	<b>WASO &amp; NER Facilitation</b>

## Appendix G – Sample Invitations



You are cordially invited to a National Park Service:  
***Climate Friendly Parks Workshop***  
Flagstaff Area National Monuments  
Sunset Crater Volcano, Walnut Canyon & Wupatki  
Tuesday & Wednesday, April 5th & 6th, 2011  
NAU ARD Building

Founded in 2003, the Climate Friendly Parks (CFP) program is one component of the National Park Service *Green Parks Plan*, an integrated approach by the NPS to address climate change through implementing sustainable practices in our operations. The National Park Service *Green Parks Plan* sets ambitious goals for greenhouse gas emission reductions, much of which is accomplished through energy conservation and reduction in energy use, recycling, composting, technology upgrades and other actions that CFP Member Parks address in their climate action plans. The CFP program provides the tools and technical and financial support for parks to assess and decrease their emissions and to educate staff and visitors about climate change. Through the program, parks develop sustainability/climate action plans that involve improving energy efficiency, using renewable energy resources, reducing waste, and managing wastewater and runoff. They also begin envisioning how they will adapt to future climatic scenarios. These actions help preserve America's treasures for future generations by demonstrating environmentally sound behavior to NPS's more than two hundred and seventy-five million annual park visitors.

The Flagstaff Area National Monuments (Sunset Crater Volcano, Walnut Canyon and Wupatki) would like to invite you to participate in our Climate Friendly Park Workshop. The workshop will take place on Tuesday, April 5th, and Wednesday, April 6, 2011 at Northern Arizona University's Applied Research and Development (ARD) Building. Registration and coffee is from 7:30 – 8:00 am Tuesday morning and leads into introductions and presentations. The topics being presented include: Sustainability, Climate Change, Greenhouse Gas Emissions, Energy Management, and Water Management. Please see the attached draft agenda for more information on the topics covered.

Lunch will be provided on Tuesday. Please let us know if you have any food allergies or special dietary needs. During the lunch break on Wednesday from 1-1:30 pm, an opportunity to take a tour of the ARD building, a 'Platinum' rated Nationally Certified LEED building, will be provided.

Please RSVP by Friday, March 25<sup>th</sup> to Tim McKinley, Environmental Protection Assistant. You can RSVP either by phone (928) 526-1157 x274, or by email, Tim\_McKinley@nps.gov. With your RSVP, please indicate whether you will be attending both days, or Tuesday only.

We look forward to your participation in this upcoming event.

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Please respond with the following information:

- I will attend **BOTH** Tuesday and Wednesday, April 5<sup>th</sup> & 6<sup>th</sup>
- I will attend Tuesday, April 5<sup>th</sup> **ONLY**
- I will attend Wednesday, April 6<sup>th</sup> **ONLY**

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**ONLY NON GOVERNMENT VEHICLES NEED A PARKING PERMIT**

- I will need a parking permit for **BOTH** Tuesday and Wednesday
- I will need a parking permit for **Tuesday** only
- I will need a parking permit for **Wednesday** only

If you have any dietary restrictions or allergies please list them below.

Save the Date!

You are invited to join a 2-day  
Climate Friendly Parks Network Workshop, May 19-20, 2010

The Climate Friendly Parks (CFP) program is a Servicewide strategy to address the impacts of climate change at the park level. This workshop will build awareness for these issues within park boundaries as well as within the Cape Cod National Seashore Network. The workshop builds upon the GHG inventories completed for each park and will result in park action plans that identify activities and actions to reduce and/or mitigate GHG emissions.

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### Goals of the workshop:

- Introduce participants to the Climate Friendly Parks Program, including program milestones, support and requirements.
- Provide participants with a solid understanding of climate change science and impacts within and around the Cape Cod National Seashore Network.
- Using previously developed emissions inventories, develop Climate Action Plans for each park within the network and establish emission reduction goals.
- Develop a network of individuals that will share best practices, lessons learned, and resources to reduce GHG emissions while striving for carbon neutrality in park operations.

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**Participants:** National Park Service employees, Park Partners/Concessioners/Stakeholders, NGO's, Utility Companies' Representatives, and Other Invited Guests

**Dates/Time:** May 19-20, 2010 - 8:00 a.m. – 4:30 p.m.

**Host Park:** Cape Cod National Seashore

**Location:** May 19<sup>th</sup> Morning: *Salt Pond Visitor's Center*, 50 Nauset Road, Eastham, MA 02642  
Afternoon: *Wellfleet Library*, 55 West Main Street, Wellfleet, MA 02667  
May 20<sup>th</sup> All Day: *Wellfleet Library*

**RSVP:** By April 30<sup>th</sup>, 2010, to Holly Salazer, at [holly\\_salazer@nps.gov](mailto:holly_salazer@nps.gov) or 814-865-3100

## Appendix H: Glossary of Terms

**Adaptation:** Actions by individuals or systems to avoid, withstand, or take advantage of current and projected climate changes and impacts. Adaptation decreases a system's vulnerability or increases its resilience to impacts. <http://www.pewclimate.org/docUploads/climate101-adaptation.pdf>

**Carbon Dioxide (CO<sub>2</sub>):** CO<sub>2</sub> is a colorless, odorless, non-poisonous gas that is a normal part of the ambient air. Of the six greenhouse gases normally targeted, CO<sub>2</sub> contributes the most to human-induced global warming. Human activities such as fossil fuel combustion and deforestation have increased atmospheric concentrations of CO<sub>2</sub> by approximately 30 percent since the industrial revolution. CO<sub>2</sub> is the standard used to determine the "global warming potentials" (GWPs) of other gases. CO<sub>2</sub> has been assigned a 100-year GWP of 1 (i.e., the warming effects over a 100-year time frame relative to other gases). [http://www.pewclimate.org/global-warming-basics/full\\_glossary](http://www.pewclimate.org/global-warming-basics/full_glossary)

**Carbon neutrality**, or having a **net zero carbon footprint**, refers to achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount generated or offset. Basically, carbon neutrality means that you are producing the same amount of energy (through a clean, renewable source) that you are using, meaning there is a net zero impact on the environment.

The **carbon neutral concept** may be extended to include other greenhouse gases (GHG) measured in terms of their carbon dioxide equivalence—the impact a GHG has on the atmosphere expressed in the equivalent amount of CO<sub>2</sub>. The term **climate neutral** is used to reflect the fact that it is not just carbon dioxide (CO<sub>2</sub>), that is driving climate change, even if it is the most abundant, but also encompasses other greenhouse gases regulated by the Kyoto Protocol, namely: methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulphur hexafluoride (SF<sub>6</sub>). Both terms are used interchangeably throughout this article. [http://en.wikipedia.org/wiki/Carbon\\_neutral](http://en.wikipedia.org/wiki/Carbon_neutral)

**Climate:** The long-term average weather of a region including typical weather patterns, the frequency and intensity of storms, cold spells, and heat waves. Climate is not the same as weather. [http://www.pewclimate.org/global-warming-basics/full\\_glossary](http://www.pewclimate.org/global-warming-basics/full_glossary)

**Climate Change:** Refers to changes in long-term trends in the average climate, such as changes in average temperatures. In IPCC usage, climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. In UNFCCC usage, climate change refers to a change in climate that is attributable directly or indirectly to human activity that alters atmospheric composition. [http://www.pewclimate.org/global-warming-basics/full\\_glossary](http://www.pewclimate.org/global-warming-basics/full_glossary)

**Climate Change Response Strategy and the Green Parks Plan:** The *Climate Change Response Strategy* (CCRS) provides Servicewide direction to address the impacts of climate change. Strategic goals and objectives are presented in four integrated components: **science, adaptation, mitigation, and communication**. The *Green Parks Plan (GPP)* is an innovative vision for operational sustainability and represents an integral component of NPS's core conservation and education mission. The *GPP* supports the mitigation component of the CCRS while also fulfilling various federal mandates and requirements, such as E.O. 13514. The *GPP* formalizes numerous Servicewide objectives and performance targets. Implementation of the *GPP* will proceed in collaboration with CCRS implementation groups to ensure a synergistic and robust Servicewide effort to address the impacts of climate change and advance sustainability principles.

**Climate Friendly Parks Program:** The Climate Friendly Parks (CFP) Program provides National Parks with management tools and resources to address climate change. The program has a three-pronged approach:

- Measure and calculate GHG emissions
- Develop strategies to mitigate emissions and adapt to impacts
- Share successes and educate the public about what they can do in their own lives

**Climate Leadership in Parks (CLIP) Tool:** developed by EPA and NPS to allow parks to calculate their greenhouse gas emissions. Download the tool [here](#).

**DOI Strategic Sustainability Performance Plan:** The Department's "Strategic Sustainability Performance Plan" in coordination with sustainability plans prepared by other federal agencies in response to an October 2009 Executive Order 13514 from President Obama in which he directed each agency, for the first time, to submit such plans.

DOI's 91-page report, found at [http://www.doi.gov/greening/sustainability\\_plan/SSPP.pdf](http://www.doi.gov/greening/sustainability_plan/SSPP.pdf), sets out specific strategies for meeting the FY 2020 greenhouse gas (GHG) reduction goals of the Department, including:

- reducing building energy intensity and the use of fossil fuels in buildings and vehicle fleets;
- reducing purchased electricity and increasing use of renewable electricity;
- implementing on-site renewable energy generation projects;
- switching to natural gas where available;
- implementing lower-carbon travel alternatives;
- increasing recycling; and
- promoting use of mass transit. [http://www.doi.gov/greening/sustainability\\_plan/index.html](http://www.doi.gov/greening/sustainability_plan/index.html)

**DOI Environmental Management System (EMS):** EMS provides a systematic framework to identify and address environmental impacts of our activities, ensures compliance with regulatory requirements, and provides opportunities for continuous environmental improvement and innovation. See <http://www.doi.gov/greening/ems/index.html>

**Greenhouse Effect:** The insulating effect of atmospheric greenhouse gases (e.g., water vapor, carbon dioxide, methane, etc.) that keeps the Earth's temperature about 60°F warmer than it would be otherwise. [http://www.pewclimate.org/global-warming-basics/full\\_glossary](http://www.pewclimate.org/global-warming-basics/full_glossary)

**Greenhouse Gas (GHG):** Any gas that contributes to the "greenhouse effect." [http://www.pewclimate.org/global-warming-basics/full\\_glossary](http://www.pewclimate.org/global-warming-basics/full_glossary)

**Greenhouse Gas Mitigation:** Actions to reduce greenhouse gas (GHG) emissions. <http://www.pewclimate.org/docUploads/climate101-adaptation.pdf>

**NPS Climate Change Response Program:** Efforts of the NPS Climate Change Response Program are coordinated around four areas of emphasis:

- **Using science to help us manage** - The National Park Service will uncover and apply the best available climate science. By collaborating with scientific agencies and institutions, we can address the specific needs of park managers and park partners as they confront the challenges of climate change.

- **Adapting to an uncertain future** - Climate change will alter park ecosystems in fundamental ways. The National Park Service must remain flexible amidst a changing landscape and uncertain future; and swiftly address both natural and human systems when necessary. Scenario planning will be a key tool for adaptation.
- **Reducing our carbon footprint** - The most effective way to lessen the long-term effects of climate change is to reduce green house gas emissions. The National Park Service should be a leader in reducing its carbon footprint through energy efficient practices and integrating climate-friendly practices into administration, planning, and workforce culture.
- **Educating about climate change** - National parks are visible examples of how climate change can affect natural and cultural resources. Through clear communication, we will prepare park staff and connect visitors with information concerning the impacts to parks and steps the agency is taking to preserve our heritage.  
<http://www.nature.nps.gov/climatechange/index.cfm>

**Resilience:** The ability of a system to withstand negative impacts without losing its basic functions.  
<http://www.pewclimate.org/docUploads/climate101-adaptation.pdf>

**Sequestration:** Opportunities to remove atmospheric CO<sub>2</sub>, either through biological processes (e.g. plants and trees), or geological processes through storage of CO<sub>2</sub> in underground reservoirs.  
[http://www.pewclimate.org/global-warming-basics/full\\_glossary](http://www.pewclimate.org/global-warming-basics/full_glossary)

**Sustainability** is the capacity to endure. For humans, sustainability is the long-term maintenance of well being, which has environmental, economic, and social dimensions, and encompasses the concept of stewardship, the responsible management of resource use. In ecology, sustainability describes how biological systems remain diverse and productive over time, a necessary precondition for human well-being. Long-lived and healthy wetlands and forests are examples of sustainable biological systems.

Healthy ecosystems and environments provide vital goods and services to humans and other organisms. There are two major ways of managing human impact on ecosystem services. One approach is environmental management; this approach is based largely on information gained from earth science, environmental science, and conservation biology. Another approach is management of consumption of resources, which is based largely on information gained from economics.

Human sustainability interfaces with economics through the social and ecological consequences of economic activity. Moving towards sustainability is also a social challenge that entails, among other factors, international and national law, urban planning and transport, local and individual lifestyles and ethical consumerism. Ways of living more sustainably can take many forms from reorganizing living conditions (e.g., eco-villages, eco-municipalities and sustainable cities), to reappraising work practices (e.g., using permaculture, green building, sustainable agriculture), or developing new technologies that reduce the consumption of resources.  
<http://en.wikipedia.org/wiki/Sustainability>

**Vulnerability:** The potential for a system to be harmed by climate change, considering the impacts of climate change on the system as well as its capacity to adapt.  
<http://www.pewclimate.org/docUploads/climate101-adaptation.pdf>

**Weather:** Describes the short-term (i.e., hourly and daily) state of the atmosphere. Weather is not the same as climate.. [http://www.pewclimate.org/global-warming-basics/full\\_glossary](http://www.pewclimate.org/global-warming-basics/full_glossary)

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