



Tracking Energy Performance for the National Park Service (NPS)

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The Sustainable Operations and Climate Change Branch tracks and reports the bureau's energy and water performance

- Currently collecting data to track performance in meeting federal energy mandates and NPS sustainability goals including:
 - Energy Independence and Security Act of 2007 (EISA)
 - Energy Policy Act of 2005 (EPACT)
 - Executive Orders 13514 and 13423
 - *Green Parks Plan*
- The SOCC uses a customized web-based database called the Energy Management Data Reporting System (EMDRS) to collect energy data from the field
 - Energy metrics tracked in EMDRS are directly aligned to those listed on DOE's Annual Energy Management Data Report template
 - Each park unit has a unique account
 - Data is entered only once a year



| FY 2006 ENERGY MANAGEMENT DATA REPORT | | | | | | | |
|--|-----------------------|--------------------|------------------------|----------------------|------------------------------------|-----------------------------|---------|
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| PART 1: ENERGY CONSUMPTION AND COST DATA | | | | | | | |
| 1.1. EPACT Goal Subject Buildings | | | | | | | |
| Energy Type | Consumption Units | Annual Consumption | Annual Cost (Thou. \$) | Unit Cost (\$) | Site Delivered (Btu (Billion)) | Est. Source (Btu (Billion)) | |
| Electricity | MWh | 248,888.6 | \$27,742.2 | \$0.112/MWh | 342.4 | 2,925.9 | |
| Fuel Oil | Thou. Gal | 1,552.3 | \$3,206.0 | \$2.07/gallon | 215.3 | 215.3 | |
| Natural Gas | Thou. Cubic Ft. | 192,966.7 | \$3,049.0 | \$15.80/Thou Cub Ft. | 198.9 | 198.9 | |
| LPG/Propane | Thou. Gal | 2,085.3 | \$3,856.5 | \$1.84/gallon | 200.1 | 200.1 | |
| Coal | TS Tons | 437.2 | \$38.6 | \$89.99/TS Ton | 19.7 | 19.7 | |
| Purch. Steam | MBtu | 69.7 | \$1,107.6 | \$15.89/MBtu | 69.7 | 96.9 | |
| Other | MBtu | 0.3 | \$4.4 | \$16.30/MBtu | 0.3 | 0.3 | |
| Total Costs: | | | \$38,409.4 | | Total | 1,537.4 | 3,647.9 |
| Goal Subject Buildings (Thou. Gross Square Feet) | | 20,841.4 | | | Btu/GSP | 69,496 | 141,163 |
| | | | | | Btu/GSP w/ RE | 57,917 | 135,682 |
| | | | | | Btu/GSP w/ RE & Gen. SDCen. Credit | 57,917 | 135,682 |



Parks are responsible for collecting and reporting energy data to the SOCC who develops the bureau's energy reports



| Parks | Headquarters/SOCC |
|--|--|
| <ul style="list-style-type: none">• Parks collect utility data through the year using a variety of approaches• Aggregate data and report once a year in the EMDRS• Parks required to submit data by the end of October• Regional energy coordinators are main POCs with parks | <ul style="list-style-type: none">• SOCC aggregates reported data from parks and completes a detailed review of the data• Data is used to populate the Annual Energy Management Data Report• Coordinate with NPS construction program to get high performance building data• Final report sent to DOI for further aggregation into the department's report to DOE |



The SOCC has an established data review and analysis process to ensure accurate and consistent energy reporting

- **Step 1: Export all reported data into a basic template listing all park units that are required to report**
 - By establishing this list and using each year, the NPS ensures data can be accurately compared from year-to-year
- **Step 2: Conduct analysis of reported data to identify abnormalities and non-reporting parks**
 - SOCC compares reported data to each park's average energy consumption (BBTUs) to identify any abnormalities
 - Follow-up with parks that are flagged or did not report
- **Step 3: Model consumption for non-reporting parks**
 - Using a state specific energy intensities, the SOCC models energy consumption for non-reporting parks to ensure a complete data set (not used for covered facilities)
 - NPS data used to derive energy intensity benchmarks
- **Step 4: Use the new dataset to completed the annual energy report**



The SOCC uses utility data for additional purposes beyond mandatory reporting



Performing energy and water audits at 190 parks



Establishing and validating baselines



Inventorizing GHG emissions



The SOCC has identified next steps to further improve its ability to track and improve energy performance

- **Enhance the data collection capabilities of the EMDRS**
 - Fix data input issues (units of measures, number formatting)
 - Enable reporting throughout the year as opposed to once at the end of the FY
 - Enable automated data input into the system from advanced meters

- **Provide energy management tools to park facility managers**
 - Create an automated report and scorecard to provide back to parks that shows historical trends and progress in meeting mandates and goals
 - Provide meters to parks to improve metering coverage and to target inefficient facilities

- **Centralize all sustainability reporting databases**

