

State Agency Energy Savings Program Energy Conservation Plan – Resource Efficiency Program Plan

Texas Parks and Wildlife Department



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Table of Contents

DEFINITION 3

 OVERVIEW 3

 PURPOSE 4

SCOPE 6

 GOALS 6

 DELIVERABLES 7

 DURATION 7

ASSUMPTIONS & CONSTRAINTS 8

 ASSUMPTIONS: 8

 CONSTRAINTS: 9

SUB PROJECTS 11

Energy Conservation Plan Resource Efficiency Program Plan (REP)

Statewide, TX

DEFINITION

Overview

While the impetus for the Texas Parks and Wildlife Resource Efficiency Program (REP) specifically addresses building-design and a reduction of energy costs, this project is green in the “greenest” sense. Consideration of green thinking (e.g., sensitivity to humanity’s impact on the environment, ecosystems¹, and a reduction of global emissions²) is paramount. Such thinking and specific planning vigorously addresses the mission of the agency:

*to manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.*³

The Resource Efficiency Program provides a framework and governance to ensure energy and resource conservation throughout the Texas Parks and Wildlife Department (TPWD). The TPWD Infrastructure division’s role in designing and enhancing the agency’s structures is a crucial piece of the plan, but the potentials in alternative fuels, recycling, employee awareness, public education, financial benefits, and the maintenance/impact on capital assets will involve all personnel in the agency.

¹ Jane Lubchenco – Oregon State University. National Geographic Magazine. *State of the Planet*. (Sept 2002). *The benefits of ecosystem services: cleansing of air and water, partial climate regulation, making of fertile soils, provision of habitat, and control of pests and pathogens*. p. 114

² National Geographic Magazine. *State of the Planet*. (Sept 2002). *NOAA reported that the average temperature for the continental US from Nov 2001 to Jan 2002 (39.8 F) was the warmest for the three month period since measurements began in 1895*. p. 108.

³ Texas Parks & Wildlife Department. (July 2, 2004). Natural Agenda: 2005-2009. p. 5.

The components of the Program include sub-programs, projects and reports:

- *The Green Team Program* – a program for employee awareness
- *Resource Audits Program* – a program to enhance energy efficacy
- *Fleet Management Program* – program to manage agency’s fleet(s)
- *Energy Conservation Plan* – a report(s) of success toward conservation goals
 - *Resource Efficiency Plan* (facilities report)
 - *Fleet Fuel Management Plan* (vehicles report)

This REP Program Plan is an update from its 2008 counterpart.

Purpose

The purpose of this program is to focus on, manage and conserve the energy/resource use at the agency. This program **directly** or tangentially addresses:

State of Texas

- State Natural Resources and Agriculture Priority Goal: *To ensure a clean environment for all Texans, enhance agricultural markets and production, and to conserve and protect the state’s natural resources with sustainable economic development and prudent stewardship.*⁴
- Executive Order RP49 - State Agency Energy Savings Program: *Each state agency shall develop a plan for conserving energy and shall set a percentage goal for reducing its usage of electricity, gasoline, and natural gas.*⁵
- Appropriations Rider HB 1 (78R), Article IX, Section 6.17 (k) (2) and (3):
- 34 TAC §19.14:
- Mission of the State Energy Conservation Office: *Promote and provide for the efficient use of energy, while protecting human health and safety, and the environment.*⁶
- HB 2293 (80R), Government Code, Section 1, Subchapter A., Chapter 2158, Section 2158.009: *Not less than 10% of passenger and general use ground transportation vehicles shall be purchased meeting or exceeding EPA Tier II, Bin 3, Greenhouse Gas score of 8.*

⁴ Texas Parks & Wildlife. (revised August 2002). Natural Agenda: 2003-2007. Relevant Statewide Goals & Benchmarks, p. 3.

⁵ Rick Perry, Governor of Texas. Governor’s Executive Order RP-49. (October 27, 2005). <http://www.governor.state.tx.us/divisions/press/exorders/rp49>

⁶ State Energy Conservation Office. Mission Statement. (2002). Web-site.

TPW Commission Policy

- CP-008 – Environmental Policy: *It shall be the policy of the Commission that the Department's activities be conducted and facilities managed to protect, conserve, and provide for the wise use and enjoyment of the resources for which the Department is responsible. Department activities shall be conducted and facilities shall be managed by sound principles of natural resource management. Consistent with this policy, maintaining Texas' unique biodiversity by management and conservation shall be one of the goals of the Department. Further, the Department shall serve as a model of compliance with the letter and spirit of environmental law and regulations*⁷.

TPW Chairman's Charges

- Charges to Ad Hoc Infrastructure Committee - #3: *When appropriate, incorporate sustainable design, construction, and energy conservation methods in repair and development projects. Develop an effective method to integrate an environmentally sensitive design approach to new repair and development projects that minimize consumption of resources and reduces harmful effects on the environment.*⁸

Natural Agenda

- TPWD Strategy 02.01.01: *Plan for the public use, visitor safety, conservation, maintenance and operation of existing state parks and historic sites.*⁹
- TPWD Strategy 03.02.01: *Manage programs to inform, educate and encourage Texans to enjoy and conserve the natural and cultural resources of the state.*¹⁰
- TPWD Strategy 04.01.01: *Implement capital improvement, major repair, and cultural and natural resource management programs for existing facilities and acquire identified priority natural, cultural and recreational resources.*¹¹

*Land & Water Resources Conservation and Recreation Plan*¹²:

2.1: Develop and implement plans for regular maintenance, conservation, restoration, and improvement of all agency facilities.

2.3: Develop interpretive, educational and recreational programs at agency sites that demonstrate and promote understanding of the importance of natural and cultural resource conservation.

2.7: Promote energy conservation with the use of alternative energy systems and programs.

2.8: Operate TPWD sites to increase public support, recreation participation, visitation, revenue, and promote the agency's core conservation message.

5.1: Manage and conserve (e.g., monitor, analyze, enhance, restore and protect) natural resources for healthy and sustainable ecosystems.

⁷ Texas Parks & Wildlife Commission. (Retrieved from website on September 7, 2005). CP-008: General Policies of the Environmental Policy.

⁸ TPWD. Chairman's Charges to Committees. (August 2003).

⁹ TPWD. Natural Agenda – A Strategic Plan for Texas Parks and Wildlife: 2005 – 2009. (August 2002). Goal 2 – Access to State and Local Parks, p. 49.

¹⁰ TPWD. Natural Agenda – A Strategic Plan for Texas Parks and Wildlife: 2005 – 2009. (August 2002). Goal 3 – Increase Awareness and Compliance, p. 50.

¹¹ TPWD. Natural Agenda – A Strategic Plan for Texas Parks and Wildlife: 2005 – 2009. (August 2002). Goal 4 – Manage Capital Program, p. 52.

¹² Texas Parks & Wildlife. (Revised January 2005). Land and Water Resources Conservation and Recreation Plan.

- 5.3: *Develop public/private partnerships to maintain, enhance, and restore ecosystems and promote outdoor recreational opportunities.*
- 6.3: *Make all relevant information readily accessible to internal and external stakeholders.*
- 6.5: *Evaluate and apply emerging technologies when possible.*
- 8.1: *Promote a work culture that fosters agency-wide understanding of resource and business management and a team approach to problem solving.*
- 8.2: *Provide quality customer service*
- 8.3: *Develop efficient and consistent processes that produce good financial systems and business outcomes*
- 8.4: *Balance conservation and good business practices to achieve the agency mission.*
- 8.7: *Develop effective internal and external communication processes.*

TPWD Plans

GREEN TEAM

- The Green Team WBS component of “Air, Water, Land, Energy, and Quality of Life”

RESOURCE AUDITS

- The Resource Audits Program, Implementation Plan component of the Resource Efficiency Plan

SCOPE

Goals

- Serve as a model of compliance with the letter and spirit of environmental and resource conservation law and regulations.
- Ensure the agency is a premier steward of the state’s tax dollars with “green thinking and implementation”
- Institutionalize design standards no less stringent than the “Texas Standard” within the agency
- Ensure research for economic and environmental benefits of renewable energy technologies and sustainability applicable in Texas
- Create and implement programs and projects to fulfill the goals for energy and fuel reduction set forth in the Energy Conservation Plan, Quality criteria
- Create an “energy awareness” campaign to increase the impact of the agency’s Resource Efficiency Plan into its employees’ and customers’ lives and beyond the purview of just the agency’s employees, facilities and vehicles
- Identify and share technology transferability
- Ensure efficient procurement and use of resources

Deliverables

The following deliverables are expected for this Program:

1. Approved and updated Program Plan
 - a. Completed (annual and quarterly) [Energy Conservation Plan/Resource Efficient Plan Report\(s\)](#)
 - i. Facility report
 - ii. Vehicle report
 - iii. Utility report
 - iv. Fuel report
 - v. Public report (web)
2. Approved program Financial Strategies
3. Completed inventory/database production
4. Completed REP implementation (schedule)
 - a. Completed approved projects
 - b. Defined research tasks
 - c. Complete Resource Audit Program
 - i. Compiled Priority List
 - ii. Compiled “Cookbook”
 - iii. Completed PEA pilots
 - d. Approved Green Team program

Duration

The development of the Plan, the Work Breakdown Structure (WBS), and the subsequent schedule (Implementation Plan) will dictate the duration. The agency approved Program Plan (REP) began in January 2004 and was updated in January 2008.

The primary deliverable [the annual *Energy Conservation Plan* (report)] of the program is updated quarterly and posted on TPWD’s web site. The Program schedule will use a “rolling wave planning¹³” schedule.

Sub-projects of the Program have individual schedules and individual project designations.

¹³ Rolling Wave Planning. A form of *progressive elaboration* planning where the work to be accomplished in the near term is planned in detail at a low level of the work breakdown structure (WBS), while the work far in the future is planned at a relatively high level of the WBS, but the detailed planning of the work to be performed within another one or two periods in the near future is done as work is being completed during the current period. (PMBOK® Third Edition, Glossary, p. 249).

ASSUMPTIONS & CONSTRAINTS

Assumptions:

- The REP will address the intent of resource and energy conservation laws rather than merely seek to comply with the “letter of the law.”
- The REP budget will use operational funds while specific REP sub-projects might use TPFAs bond funds, LoneSTAR program funds or other financial methods.
- The TPWD Resource Efficiency Plan, Energy Conservation Plan will address
 - Governor’s Executive Order RP-49 goals for reduction of utility and fuel consumption and reporting requirements
- The TPWD Resource Efficiency Plan will address
 - All divisions, all facilities, and all utilities/resource consumption
 - How TPWD shall cooperate with SECO to address utility management in the agency’s buildings.¹⁴
 - A Long Range Utility Service Plan component as required by SECO.¹⁵
 - An agency process to review and audit utility billings and contracts to detect billing errors.¹⁶
 - An agency process for semiannual and quarterly reporting to the Governor’s Office, Legislative Budget Board, and State Energy Conservation Office (SECO) that discusses the progress that the agency has made in the implementation of its Resource Efficiency Plan and in the reduction of utility costs through adherence to the Resource Efficiency Plan.¹⁷
 - No lesser design standards than those required by SECO.¹⁸
 - The application of applicable design standards for those new buildings or major renovations of existing buildings where the assignment of design has been entered into after the effective date of this rule on August 13, 2002.¹⁹
 - Before beginning construction of a new state building or a major renovation project, the agency submits to the State Energy Conservation Office (SECO), a copy of the certification by the design architect or engineer verifying that the construction or renovation complies with the standards, including engineering documentation.²⁰
 - An employee awareness campaign to expand resource efficiency beyond the agency and into the employee’s personal life.
- The TPWD Resource Efficiency Plan will use the State Energy Conservation Office Strategic Energy Plan Outline

14 Subchapter B. STATE FACILITY ENERGY AND WATER MANAGEMENT 34 TAC §19.12. Application. (2) Using agencies.

15 Subchapter B. STATE FACILITY ENERGY AND WATER MANAGEMENT 34 TAC §19.16. Long Range Utility Services Plan

16 Subchapter B. STATE FACILITY ENERGY AND WATER MANAGEMENT 34 TAC §19.17. Utility Bill Review.

17 Subchapter B. STATE FACILITY ENERGY AND WATER MANAGEMENT 34 TAC §19.18. Semiannual Reporting.

18 Subchapter B. STATE FACILITY ENERGY AND WATER MANAGEMENT 34 TAC §19.31.(a). Requirement to use design standard

19 Subchapter B. STATE FACILITY ENERGY AND WATER MANAGEMENT 34 TAC §19.31.(b). Requirement to use design standard

20 Subchapter B. STATE FACILITY ENERGY AND WATER MANAGEMENT 34 TAC §19.34. Submission of Certification and Compliance Documentation

- There are no sacred cows! Everything and all alternatives should be considered when looking for ways to make improvements in the consumption and saving of the earth's resources.

Constraints:

- No new FTEs are allowed for this project.
- TPWD facilities identified as a priority to modify to improve resource efficiency shall be “sub-projects” from this overall TPWD Resource Efficiency Plan (those projects will be managed as sub-projects of this project).
- No agency Energy Conservation Official or official energy management program currently exists.
- The diversity and state-wide distribution of the agency's facilities/buildings poses challenges for implementation of this project.
- The FMS (Facility Management System) and IFS (Integrated Financial System) are not complete in the area of energy.
- TPWD does not currently capture utility consumption information, only cost. Reporting utility use cannot be measured accurately on cost alone.

SUB PROJECTS

Quality

Quality:

The program's deliverables must meet the following “minimum quality” criteria:

1. Decrease the annual kilowatt consumption by 5% for identified priority sites.
2. Decrease the annual water consumption by 5% for identified priority sites.
3. Decrease the annual Natural Gas consumption by 5% for identified priority sites.
4. Decrease the agency's annual unleaded and diesel fuel consumption by 5%.
5. Replace 5% of the agency's eligible vehicles with alternative fuel vehicles
6. Decrease the agency's annual utility expenditures by 5%.
7. Perform PEAs on 5% of facilities annually
8. No more than 15% variance in planned time from baseline schedule.
9. The Annual/Quarterly Reports may contain the following measures:
 - a. Data collected for insertion into National Recycling Coalition's Recycling Benefits Calculator.
 - b. Electricity:
 - i. Number of electric accounts purchasing Green Power vs. regular accounts
 - ii. Number of kilowatts produced via wind
 - iii. Number of kilowatts produced by photovoltaic
 - iv. Number of kilowatts produced via biomass
 - v. Number of kilowatts produced via hydrogen cell or other
 - vi. Number of kilowatts purchased

- c. Design
 - i. Number of sites with fenestration (energy) improvements
 - ii. Number of sites with skylight improvements
 - iii. Number of sites with HVAC improvements
 - iv. Number of sites with geothermal installations
 - v. Number of sites with gray water use
 - vi. Number of sites with condensate recycling features
- d. Gasoline (includes diesel)
 - i. Number of *Live Meetings* (telecommunication conference) annually
 - ii. Number of employees and hours worked via telecommuting
 - iii. Number of gas gallons purchased (dollars will vary with price of gas)
 - iv. Number of alternative vehicles vs. standard vehicles replaced (may include bicycles, propane, natural gas, hybrids, electric, utility and ATVs)
 - v. Number of fuel-saving devices pilot tested
 - vi. Number of non-vehicular gasoline powered equipment replaced with electric or other
 - vii. Number of gallons of bulk fuel purchased
 - viii. Number of vehicles shared in motor pools
 - ix. Number of vehicles reduced from the fleet, fleet cap reduction
- e. Natural Gas
 - i. Number of natural gas accounts
 - ii. Number of natural gas gallons purchased
- f. Propane Gas
 - i. Number of propane gas accounts
 - ii. Number of propane gallons purchased
- g. Water
 - i. Number of water gallons purchased
 - ii. Number of gallons of rainwater collected
 - iii. Number of gallons of condensate recycled
 - iv. Number of water recycling systems installed
 - v. Percentage of wetlands acres on agency property
- h. Air
 - i. Amount of carbon sequestration

Sub-Projects Quality

The Program's Projects' deliverables must meet the Programs minimum quality criteria, as well as the following project-specific quality criteria:

1. Distributed Lessons Learned meeting notes to at least the Advisory Committee(s)
2. A final average rating of 3.5 on the Infrastructure Customer Satisfaction Survey (amended as appropriate for this project)
 - i. All members of the Advisory Committee(s)
 - j. Gary Teeler, Law Enforcement representative

- k. Robert Crossman, State Parks representative
- l. Dennis Gissell, Wildlife representative
- m. Gene McCarty, Deputy Executive Director of Administration
- n. Scott Boruff, Deputy Executive Director of Operations

And all (sub) Project Managers at the time of annual closure of this program.