

DON Shore Energy Business Plan



NAVY / MARINE CORPS
**ENERGY
EFFICIENCY**



2001



U.S.S Fife, SECNAV energy award winner.

Mission Statement

The Department of the Navy's (DON) Shore Energy Establishment integrates resources and policy to promote strategic reduction in energy costs, utilization and associated greenhouse gases while maintaining and operating reliable energy services to the fleet through:

- † Life cycle cost effective utilities management
- † Energy efficient construction and retrofit
- † Conservation of resources
- † Emerging, proven technology application
- † Innovative financing and contracting methods
- † Awareness and training

Vision Statement

Proactive DON Shore installation energy efforts have created a modern, cost effective, efficient, environmentally sound, and reliable energy infrastructure continually updated through new technologies and operational improvements.

INTRODUCTION

The DON Energy Program has successfully met interim energy cost and consumption reduction targets. The Program avoids millions of dollars in annual commodity costs by investing in energy efficient technologies, innovation, and increasing community awareness and staff training. We will strive to exceed the goals in the Energy Policy Act of 1992 and Executive Order 13123 for energy efficiency and for reducing energy use, water use, and greenhouse gas emissions. To achieve our current success, we relied on significant central funding and invested in the most cost effective solutions. Future savings will be more difficult but achievable if we aggressively implement this business plan.

This Business Plan is our long-term strategy to accomplish these goals while maintaining or improving mission readiness and support to our personnel. This Plan provides the direction and impetus for realizing improvements in the way we plan and deliver solutions and alternatives for the DON. We have organized this Plan into three focus areas - Management, Innovation, and Execution

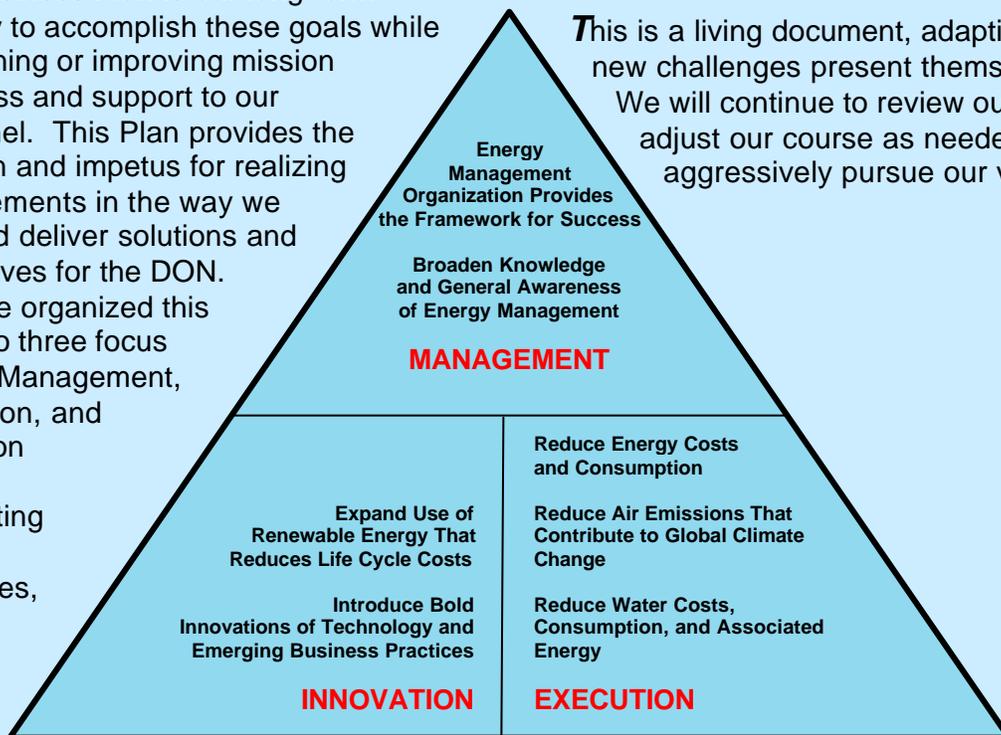
Supporting Goals, Strategies, Key Actions and

Measures of Success, stated in this Business Plan, move us toward improving mission accomplishment and achieving our vision. Each year we will develop an annual execution plan with specific short-term goals for each of the focus areas.

All DON activities can develop their own energy program plans that align with this Business Plan. Our success will be greatly enhanced if we are all working together.

By pursuing our vision, we enhance our ability to determine our future and achieve our mission. Achievement will be neither quick nor easy, making our implementation process all the more important. Our process for accountability will assure we stay the course.

This is a living document, adapting as new challenges present themselves. We will continue to review our plan, adjust our course as needed, and aggressively pursue our vision.



ACRONYMS

ASN	Assistant Secretary of the Navy
ASN (I&E)	Assistant Secretary of the Navy, Installations and Environment
CCB	Construction Criteria Base
CECOS	Civil Engineer Corps Officers School
CEM	Certified Energy Manager
CINCLANTFLT	Commander in Chief, U.S. Atlantic Fleet
CINCPACFLT	Commander in Chief, U.S. Pacific Fleet
CINCUSNAVEUR	Commander in Chief, U.S. Naval Forces, Europe
CMC (LF)	Commandant of Marine Corps, Code LF
CNET	Commander, Naval Education and Training
CNO	Chief of Naval Operations
DASN (I&F)	Deputy Assistant Secretary of the Navy, Installations and Facilities
DOE	Department of Energy
DON	Department of the Navy
DONSEPB	Department of the Navy Shore Energy Policy Board
DSM	Demand Side Management
DUERS	Defense Utilities Energy Reporting System
EO	Executive Order
ECIP	Energy Conservation Investment Program
EFD	Engineering Field Division
EPAct	Energy Policy Act
EPSS	Energy Project Status System
ESPC	Energy Savings Performance Contract
FEMP	Federal Energy Management Program
FLDSUPPACT	Field Support Activity
FYDP	Future Year Defense Plan
GSA	General Services Administration

HVAC	Heating, Ventilating and Air Conditioning
IMC	Installation Management Claimants (including Marine Corps)
IPT	Integrated Project Team
Ksf	Thousand Square Feet
MTCE	Metric ton carbon equivalents
NAWC CHINA LAKE	Naval Air Warfare Center-Weapons Division China Lake
NAVAIR	Naval Air Systems Command
NAVFAC (NPW)	Naval Facilities Engineering Command (Navy Public Works)
NAVFAC HQ	Naval Facilities Engineering Command, Headquarters
NAVFACCO	Naval Facilities Command Contracting Office
NAVRESFOR	Naval Reserve Forces
NSCSCOL	Naval Supply Corps School
NAVSEA	Naval Sea Systems Command
NAVSUP	Naval Supply Systems Command
NFESC	Naval Facilities Engineering Service Center
O&M	Operations and Maintenance
OPNAV	Chief of Naval Operations, code designator
OSD	Office, Secretary of Defense
POM	Program Objective Memorandum
PPV	Public Private Venture
PWC	Public Works Center
PWD	Public Works Department
ROI	Return on Investment
SIR	Savings to Investment Ratio
TCR	Transportation Cost Report
TEMC	Transportation Equipment Management Centers
TREC	Tri-Services Renewable Energy Committee

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SECNAV Energy Award winners at annual recognition ceremony, Navy Memorial, Washington DC.

FOCUS AREA I: MANAGEMENT

Current State:

- Successful program in need of some adjustments to provide continuous coordination and realignment of goals and execution, throughout the chain of command. Adjustments are needed to address DON reorganization and meet new challenges in energy management.
- Communication of program effectiveness exists at some levels.
- Reactive to fluctuating resources.

Future State:

- Program is well organized, successful, proactive, communicated and aligned with congressional and executive mandates and energy management challenges, throughout the chain of command.
- Balanced and stable funding strategy to achieve cost savings and energy goals while maintaining acceptable alternative financing debt levels.

GOAL – M-1: ENERGY MANAGEMENT ORGANIZATION PROVIDES THE FRAMEWORK FOR SUCCESS

Strategies:

1. Optimize the DON Energy Program management structure to accelerate positive change.
2. Program sponsors pursue necessary legislative, regulatory, and financial initiatives.
3. Ensure program is adequately resourced and financing tools are used to achieve goals.
4. Recognize and provide greater incentives for exceptional performance.

GOAL - M-2: BROADEN KNOWLEDGE AND GENERAL AWARENESS OF ENERGY MANAGEMENT

Strategies:

1. Increase awareness and knowledge of program goals, tools, and progress at three organizational levels: Headquarters, claimant, and activity.
2. Provide training in prudent energy conservation techniques.



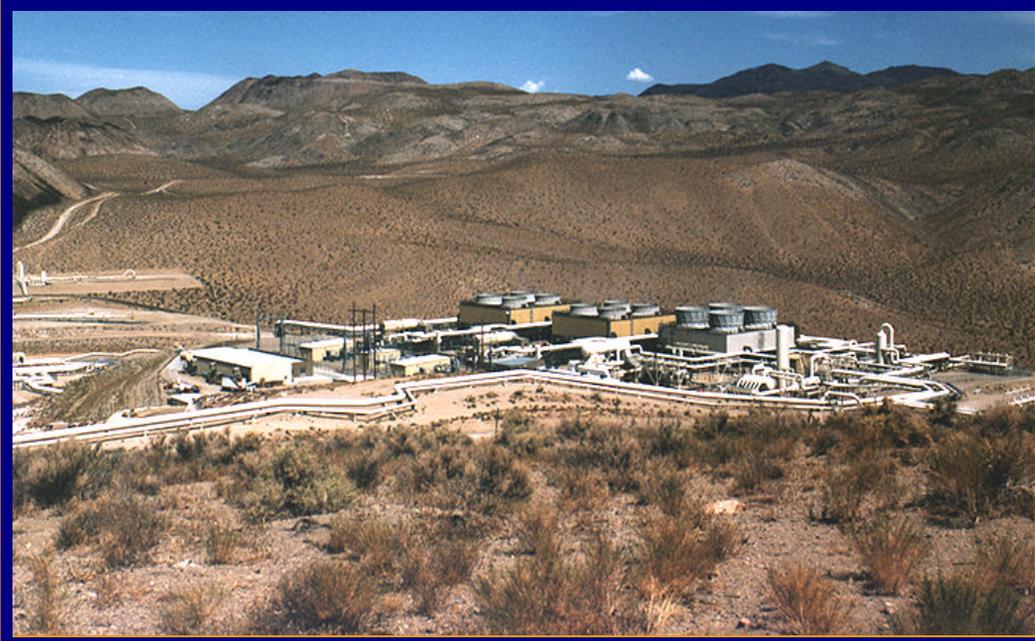
Solar hot water systems, family housing, Pearl Harbor, HI.



Solar powered lighting at Marine Corps Recruit Depot, Parris Island, SC.



675 kW wind power plant, Naval Auxiliary Landing Field, San Clemente Island, CA.



180 MW geothermal power plant, Naval Air Warfare Center, China Lake, CA.

FOCUS AREA II: INNOVATION

Current State:

- Specify primarily traditional energy solutions.

Future State:

- Deliver innovative energy solutions in partnership with other Government agencies and private industry.

GOAL - I-1: EXPAND USE OF RENEWABLE ENERGY THAT REDUCES LIFE CYCLE COSTS

Strategies:

1. Implement renewable energy projects that reduce life cycle costs (EO 13123).
2. Purchase electricity from renewable energy sources that reduce life cycle costs.

GOAL I-2: INTRODUCE BOLD INNOVATIONS OF TECHNOLOGY AND EMERGING BUSINESS PRACTICES

Strategies:

1. Identify, evaluate, and implement promising best commercial practices.
2. Include energy performance criteria in statements of work for acquisition of products and services such as construction, service contracts, leases, privatized utilities contracts, and Government owned/contractor operated facilities.
3. Expand the development and sale of DON's natural energy resources.



Energy efficient boiler system at NAS Pensacola, FL.



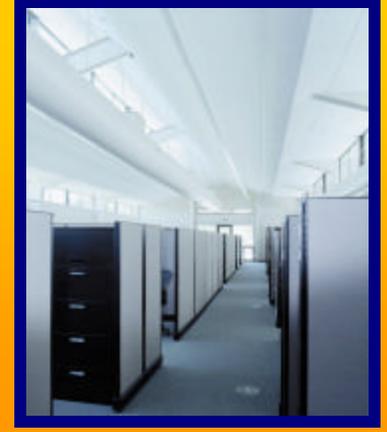
3 MW cogeneration plant, Parris Island, SC.



80-ton natural gas chiller, Naval Air Station, Joint Reserve Base, Willow Grove, PA.



DON energy efficient lighting retrofits.



Natural daylighting, Ventura County Naval Base, Port Hueneme, CA.



Sustainable development at Building 33, Navy Yard, Washington, DC.



Electric vehicle charging station, Ventura County Naval Base, Port Hueneme, CA.



Skylights in warehouse at Marine Corps Logistics Base, Barstow, CA.

FOCUS AREA III: EXECUTION

Current State:

- We have reduced costs and met energy conservation goals to date using conventional management techniques, traditional funding sources, and increasing reliance on third party financing.

Future State:

- We have met or exceeded energy, water, and air emissions cost and consumption goals while maintaining quality of service and acceptable budget levels.

GOAL - E-1: REDUCE ENERGY COSTS AND CONSUMPTION

Strategies:

1. Identify, prioritize, and implement all life cycle cost effective energy retrofit projects (EO 13123).
2. Obtain favorable energy rates through competition, negotiation, and load aggregation.
3. Operate and maintain energy systems at efficient levels.
4. Purchase life cycle cost effective energy efficient products.
5. Use best value sustainable development principles in new construction and major renovations (EO 13123).

GOAL - E 2: REDUCE AIR EMISSIONS THAT CONTRIBUTE TO GLOBAL CLIMATE CHANGE

Strategies:

1. Identify and implement cost effective opportunities to reduce hydrocarbon fuel use.
2. Acquire alternative or dual fuel vehicles and supporting infrastructure.

GOAL - E-3: REDUCE WATER COSTS, CONSUMPTION, AND ASSOCIATED ENERGY USE

Strategies:

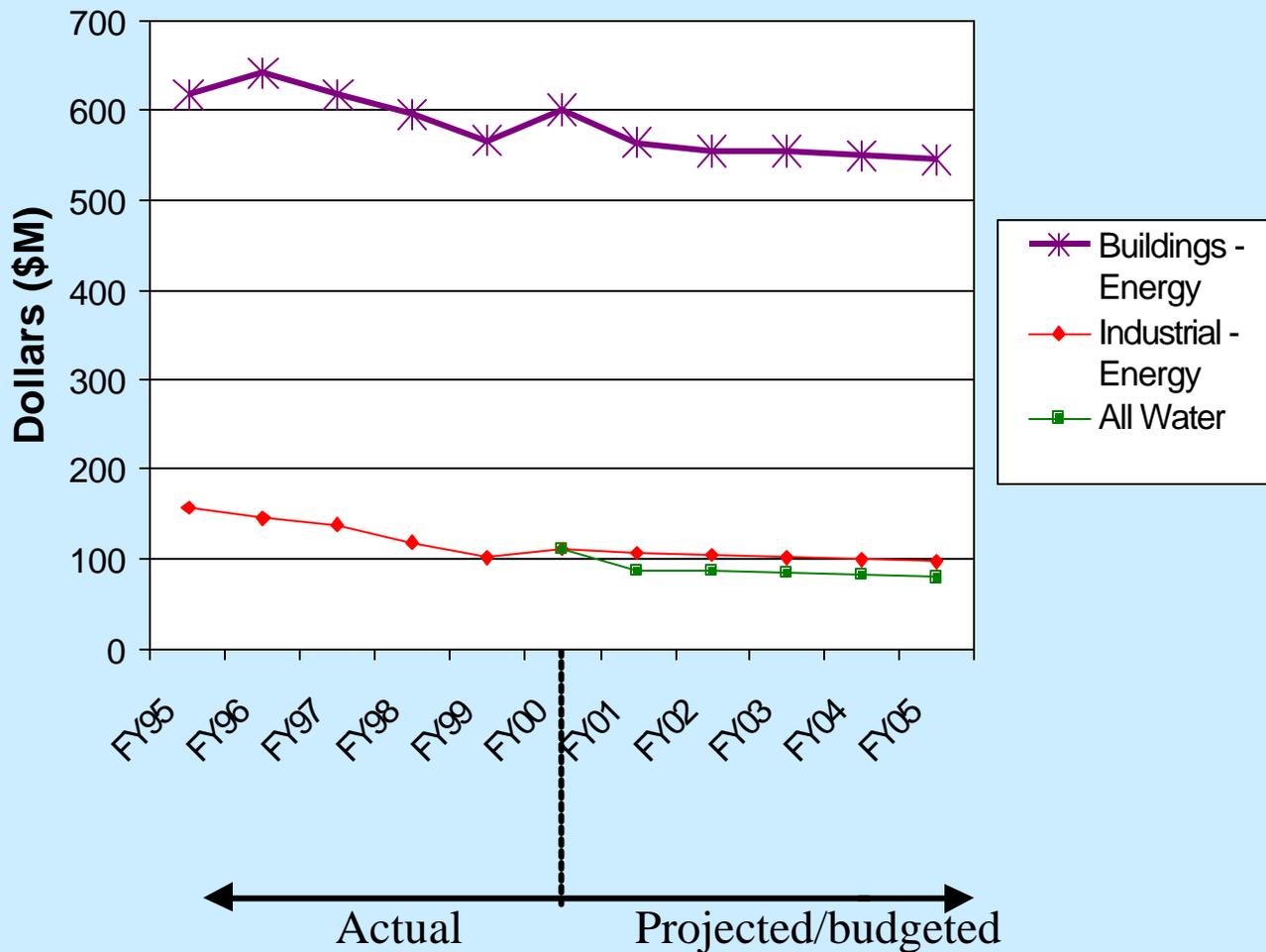
1. Identify and implement best water management practices.

CORPORATE MEASURES OF SUCCESS

Total Energy and Water Cost (\$) – Energy and water commodity costs are a significant portion of the DON operating budget. Reducing these costs is one of the primary emphases of this Business Plan.

Target: Reduce total energy and water commodity expenditures.

DON Energy and Water Commodity Costs (\$M)

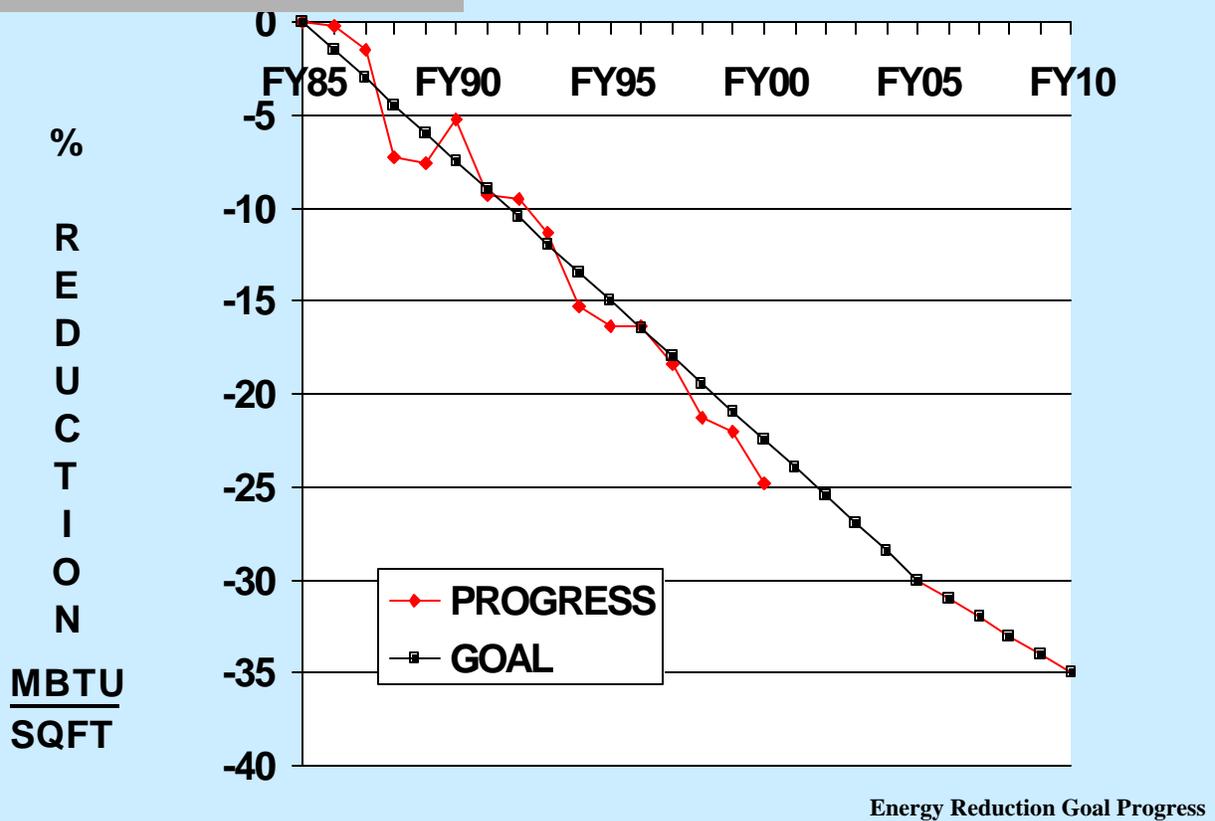


Projections assume consumption goals are met and unit costs of utilities follow published DOE price escalation.

Energy Consumption per Square Foot of Facilities (Mbtu/ksf) - This measures our progress toward energy consumption reduction goals specified in Executive Order 13123.

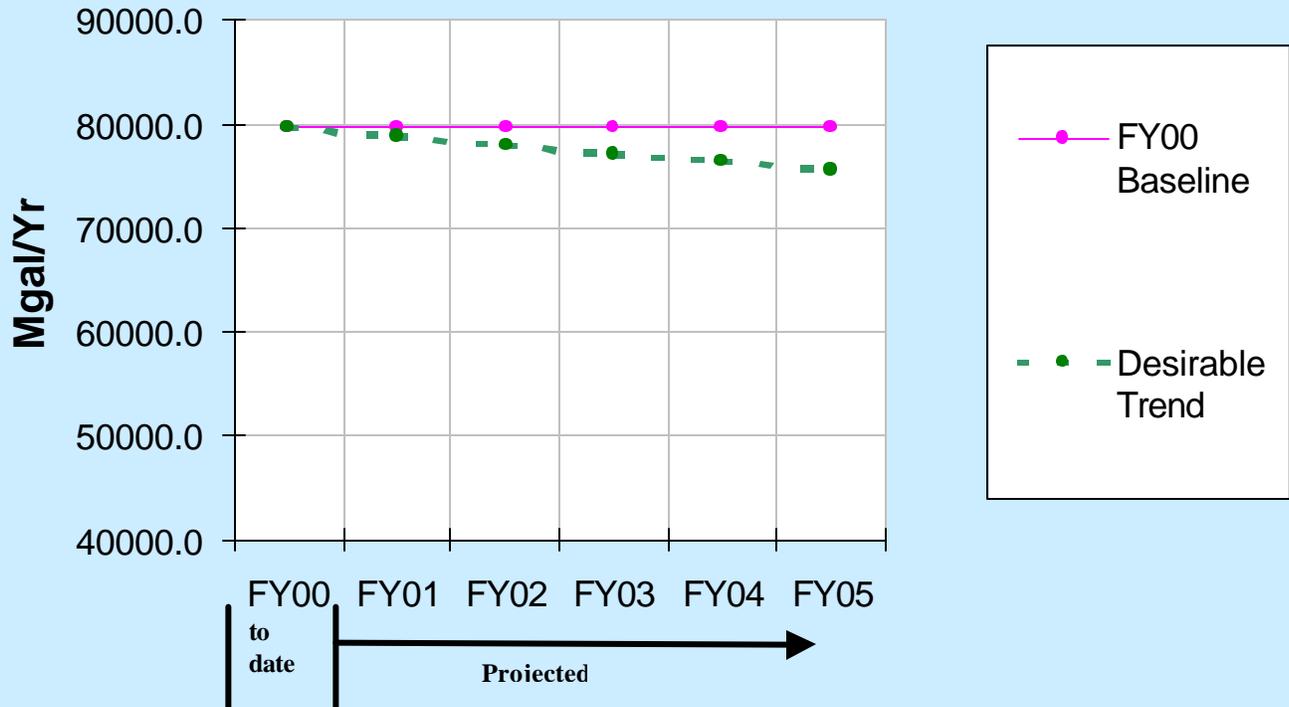
Target: From FY85 levels, reduce energy use per square foot in non-industrial facilities by 30 percent by 2005 and by 35 percent by 2010. For industrial and laboratory facilities, relative to OSD agreed upon baseline, reduce Mbtu/ksf or Mbtu/production unit by 20 percent by 2005 and 25 percent by 2010.

As of September 30, 2000, the DON has reduced energy consumption per sq.ft by 24.81%



DON water consumption compared to FY00 baseline – Implementing best water management practices will reduce water consumption. Federal water program goals focus on tracking the number of best water management practices implemented. There is no percentage reduction goal for water. However, water consumption will be tracked as a corporate measure for this Business Plan.

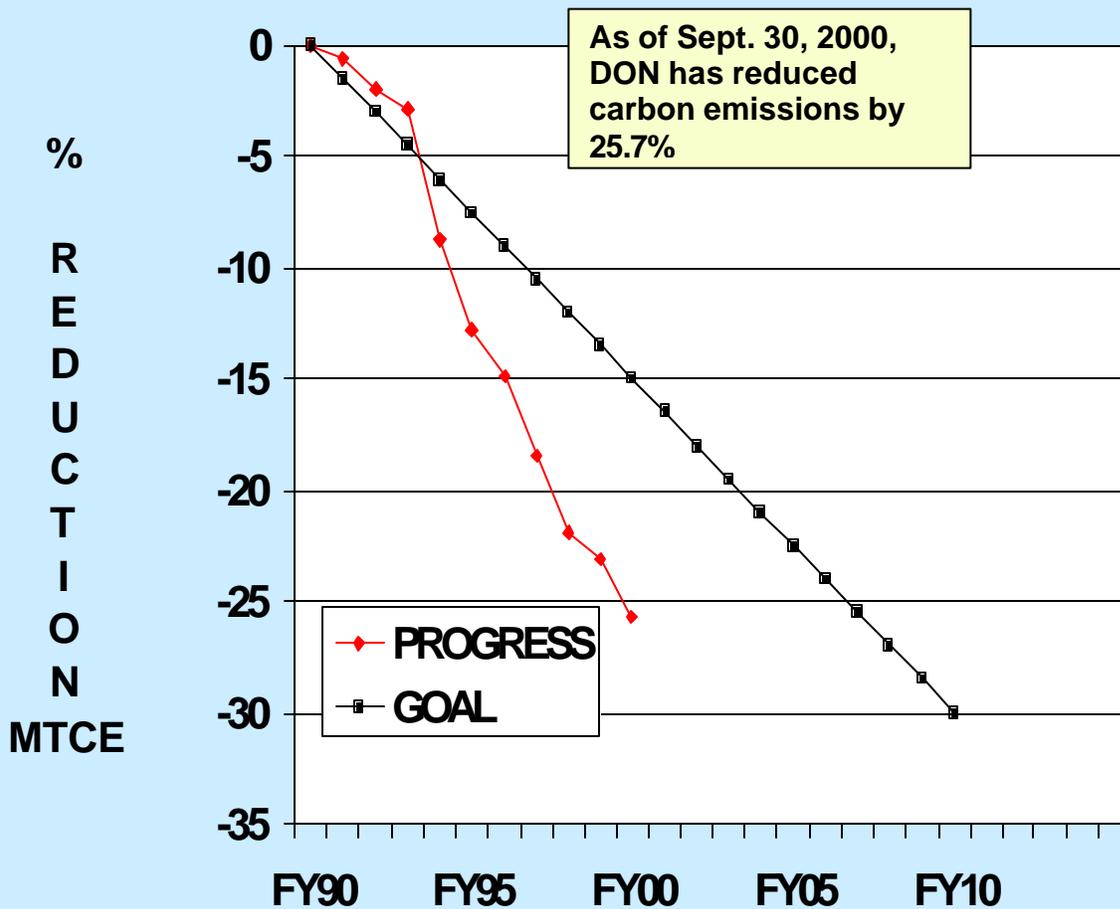
DON Water Consumption (Mgal/Yr)



Greenhouse Gas Emissions (MTCE) – This measures our progress toward reducing emissions that result from energy consumption, and contribute to global warming.

Target: From FY90 levels, reduce greenhouse gas emissions by 30 percent, by 2010, in both facility and non-facility use.

DON Carbon Reduction Progress 4th Quarter FY00 - All Facilities (90 Baseline)

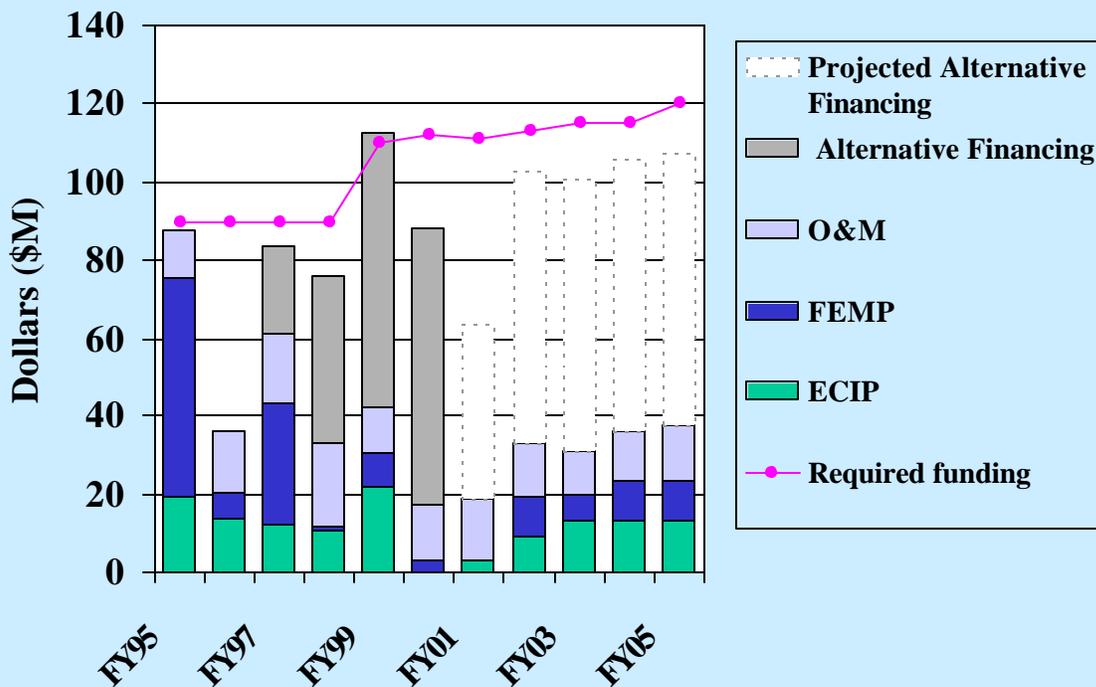


Resources (\$) – We can only achieve the goals of this Business Plan if resources are programmed to support the plan. Smart investments in energy efficient technology yield a return on investment of 300% to 400% over their life cycle.

This metric looks forward at resources programmed versus resources required to achieve the Business Plan goals.

Target: 100 percent of required funding.

Funding Required to Meet Business Plan Goals (\$M)



THE DON SHORE ENERGY POLICY BOARD

We are the Department of the Navy's Shore Energy Program Policy Board. Our primary goal is to minimize DON's cost by conserving energy and water resources at Navy and Marine Corps installations while maintaining and operating reliable energy services to the fleet.

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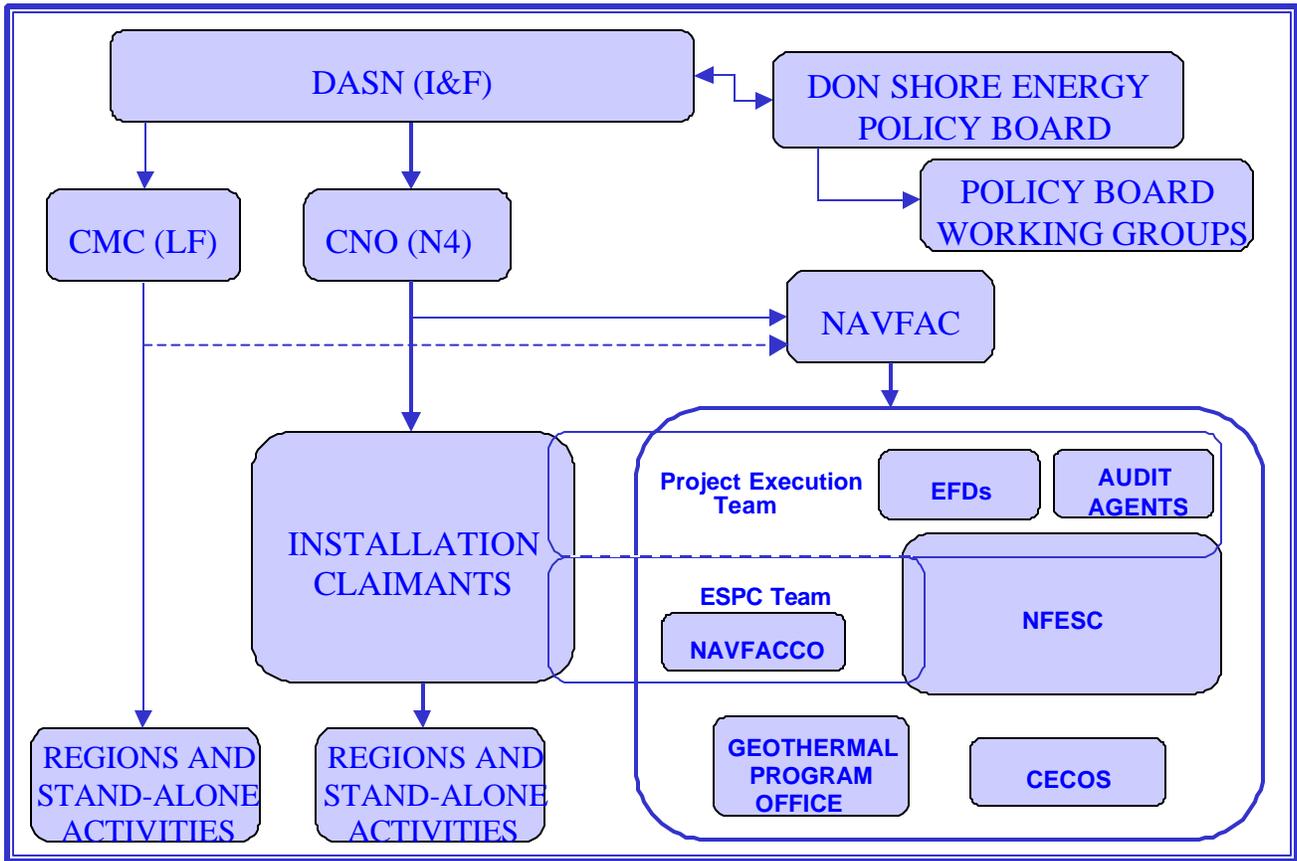
CAPT Joseph Lofaso, NAVRESFOR

NAVY / MARINE CORPS

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APPENDIX A
**Energy Program Organization,
 Roles, and Responsibilities**

DON Energy Management Community



Summary of Key Responsibilities – DON Energy Management

Assistant Secretary of the Navy for Installations and Environment (ASN (I&E))

- Issues DON's energy policy.
- Coordinates major initiatives with Office of the Secretary of Defense (OSD), Department of Energy (DOE), General Services Administration (GSA), and other agencies.
- Advises Secretary of the Navy on all shore energy related matters.

Deputy Assistant Secretary of the Navy, Installations and Facilities (DASN (I&F))

- Chairs the DON's Shore Energy Policy Board.
- Prepares DON's shore facilities energy policy.
- Key liaison for legislative issues related to shore energy.
- Ensures DON's Shore Energy Conservation Program is properly resourced.
- Provides guidance and oversight for program execution.
- Compiles energy data and prepares annual report to ASN (I&E).
- Recognizes exceptional performance at shore installations.

DON Shore Energy Policy Board (membership comprised of DASN (I&F), CNO (N4), CMC (LF), claimants, and NAVFAC (NPW))

- Recommends DON's energy policy and legislative proposals to DASN (I&F).
- Advocates program.
- Establishes working groups.
- Endorses program execution plan and budget.
- Provides guidance and oversight for program management and execution.
- Provides feedback on program successes and areas of concern.
- Updates the DON business plan annually.

DON's Shore Energy Policy Board Working Group (membership as tasked by the DON Shore Energy Policy Board, comprised of representatives from CNO, Installation Management Claimants, and NAVFAC)

- Teams accomplish tasks as assigned by the DON Shore Energy Policy Board.
- Develops the Energy Business Plan.

Chief of Naval Operations (CNO (N4))

- Provides support to DASN (I&F) in administration of the Navy's Shore Installation Energy Program.
- Issues Navy guidance for the management of shore installation energy program.
- Designates CNO representatives to serve on the DON Shore Energy Policy Board.

-
- Plans, programs, budgets, and executes energy management and RDT&E programs.
 - Informs all installation management claimants of energy management plans and actions.
 - Prepares energy reporting information as required by higher authority.

Commandant of the Marine Corps (CMC (LF))

- Designates CMC representatives to serve on the DON Shore Energy Policy Board.
- Provides and implements energy guidance for the Marine Corps.
- Plans, programs, budgets, and executes energy management programs.
- Informs all shore commands of energy management plans and actions.
- Promotes implementation of energy conservation and cost reduction by all available means at reporting regions and installations.
- Selects Marine Corps energy projects for implementation.
- Develops Marine Corps portion of the DON annual energy report.
- Recognizes exceptional performance at CMC activities.

Installation Management Claimants (IMC)

- Participate on the DON Shore Energy Policy Board.
- Promote implementation of energy conservation and cost reduction by all available means at reporting regions and installations.
- Identify resources needed and available to support energy efficient operations.
- Responsible for completing comprehensive energy audits of all Class II property within their claimancy.
- Prioritize and submit energy projects for implementation.
- Recognize exceptional performance at shore installations.

Naval Facilities Engineering Command (NAVFAC)

- Provides program development, management, and execution support to ASN (I&E), CNO, CMC, and IMCs. Prepares plans, reports, and budgets to support the DON energy program.
- Participates on the DON Shore Energy Policy Board.

Naval Facilities Engineering Service Center (NFESC)

- Provides program planning, execution, reporting and financial analysis support to NAVFAC. This includes the Awareness, Awards, Projects, Renewable Energy, and Technology Demonstration programs.
- Provides technical support to all levels of the Navy Energy Management Community.
- Maintains the Navy's Energy website and central databases of energy projects, energy consumption, and cost.
- Leads the Project Execution Team.
- Leads DON's Energy Savings Performance Contract Team.

Project Execution Team (comprised of IMC, NAVFAC, NFESC, EFDs, and audit agents)

- Develops proposed Navy project plan across the FYDP for execution in support of the DON Shore Energy Policy Board guidance and Energy Program goals.
- Recommends policy changes to the DON Shore Energy Policy Board.
- Coordinates facility audits to develop energy projects.
- Provides execution support for energy projects.
- Provides forum for lessons learned and areas in need of improvement.

NAVFAC Engineering Field Divisions (EFD) (part of Project Execution Team)

- Provide technical validation of cost and savings estimates for proposed energy projects.
- Serve as contracting agents with utility companies for rates and alternatively financed projects.
- Execute energy audits and projects.

Audit Agents (part of Project Execution Team)

- Perform audits and develops energy projects as directed by Installation Claimants.

Naval Facilities Command Contracting Office (NAVFACCO) (part of DON ESPC Team)

- Serves as contracting agent for energy savings performance contracts and the Geothermal Program Office.

Geothermal and Energy Program Offices, Naval Air Warfare Center, China Lake

- Adjunct staff to NAVFAC for research, analysis, and implementation of photovoltaic energy systems.
- Operates and maintains geothermal plant at China Lake.
- Provides DON representation to the Tri-Services Renewable Energy Committee.

Civil Engineer Corps Officers School (CECOS)

- Administers and evaluates the Shore Energy Management Training Program.

Regional Commanders/Installations (Responsibilities will depend on organization chain of command.)

- Identify resources needed and available to support energy efficient operations.
- Implement energy conservation and cost reduction by all available means.
- Develop and prioritize energy projects for implementation in the region/installation.
- Ensure energy conservation awareness at all levels.

APPENDIX B

Implementation Plan

An important component of our plan is our Implementation Process. Implementation makes our plan truly a management process and not merely a planning system.

Our Implementation Process outlines how we will:

1. Create and update our Business Plan
2. Facilitate Execution
3. Assess Progress
4. Manage Change
5. Report Progress
6. Implement Annual Program Execution Plan

1. **Create and Update the Strategic Business Plan.** The DON Shore Energy Policy Board meets as needed to affect programming, budget, reporting, and execution. The DON Shore Energy Policy Board will evaluate progress, assess changing conditions, and revise the plan annually.

2. **Facilitate Execution.** The DON Shore Energy Policy Board is actively involved in providing oversight for each Focus Area. Key roles and responsibilities have been established to facilitate action.

- **Business Plan Sponsor.** The Deputy Assistant Secretary of the Navy, Installations and Facilities (DASN (I&F)) is the Business Plan Sponsor, responsible for providing guidance and focus, reporting progress, and removing barriers to success.
- **Key Action Leads.** Each Key Action has a designated lead responsible for timely implementation. These individuals are responsible to facilitate implementation of the action items, manage changing conditions, and periodically report on their progress to NAVFAC. Accountability is key to our success.

3. **Assess Progress.** During periodic telephone conferences, the DON Shore Energy Policy Board will discuss areas of concern and determine if there are topics that need further evaluation during the next policy board meeting. During periodic progress reviews, Key Action Leads will provide a progress report to NAVFAC. NAVFAC in turn will provide the DON Shore Energy Policy Board with progress reports and recommend additional resources or guidance that may be needed.

4. **Manage Change.** Ongoing monitoring and periodic reporting on progress will be accomplished by the Key Action Leads. The DON Shore Energy Policy Board will determine appropriate course corrections based on the insight and recommendations of the Key Action Leads. The Business Plan Sponsor will provide guidance and change of direction from Headquarters.

5. **Report Progress.** The Performance Measurement Plan outlines metric information requirements. Responsible parties designated in the Performance Measurement Plan will gather data and forward applicable updated metrics to NFESC for consolidation and forwarding to NAVFAC. Periodic progress reports will be provided to the DON Shore Energy Policy Board at the semi-annual meetings.

6. **Implement Annual Program Execution Plan**. The Annual Program Execution Plan provides detailed information on each key action, the corresponding energy program element, and funding required. It is a working level document, maintained by NAVFAC, and separate from this business plan, that addresses how each Business Plan key action is accomplished.

APPENDIX C

Key Actions

The key actions add more detail to execution of the Business Plan goals and strategies. It identifies the requirement for the action, assigns action leads, and sets time frames to accomplish the actions. DON claimants and activities can use this Appendix to develop more specific energy program plans customized and focused for their needs. By aligning with the DON Business Plan, we will all be working together to achieve the Business Plan's goals.

FOCUS AREA I: MANAGEMENT

GOAL – M-1: ENERGY MANAGEMENT ORGANIZATION PROVIDES THE FRAMEWORK FOR SUCCESS

Measure of Success M-1. PROGRAM ADEQUATELY RESOURCED TO MEET REQUIREMENTS.

- ↪ **Metric M-1a – Program Funding.** Total DON's funding required, programmed, and received including only central and third party financing sources (e.g., ECIP, Geothermal, DSM, ESPC, etc.).
- ↪ **Metric M-1b – Project Funding.** Total DON's project funding required, programmed, and received including only central and third party financing sources (e.g., ECIP, Geothermal, DSM, ESPC, etc.).

Strategy – M-1.1: Optimize the DON Energy Program management structure to accelerate positive change.

Key Actions – What/How:	When	Lead	Requirement
1. Create an organizational structure to develop the policy and guidance necessary to execute the program.	FY01-FY02	DONSEP B	SECNAVINST 4100.1A
2. Provide guidance concerning energy management position descriptions, roles and responsibilities.	FY01	IMC, CMC, activities	EO 13123
3. Make energy a part of personnel performance evaluations.	FY01	IMC, CMC, activities	EO 13123
4. Maintain regional energy management positions at a level sufficient to support and execute Business Plan goals locally.	Continuously	IMC, CMC	

Strategy – M-1.2: Program sponsors pursue necessary legislative, regulatory, and financial initiatives.

Key Actions – What/How:	When	Lead	Requirement
1. Pursue enabling legislation	As needed	DONSEP B	
2. Update energy instructions.	FY01	All, as appropriate	

Strategy – M-1.3: Ensure program is adequately resourced and financing tools are used to achieve goals.

Key Actions – What/How:	When	Lead	Requirement
1. Develop and annually update program requirements.	Annually 1 Nov (for FY+1)	DONSEPB, CNO, CMC, IMC, NAVFAC	
2. Be strong advocate for central funding. Document and publicize program success, obligation rates, and estimated potential savings.	In accordance with POM submission schedule	DONSEPB, CNO, CMC, NAVFAC	
3. Identify financial programming requirements.	Annually	CNO, CMC,	EO 13123 EPAAct 1992
4. Commit to alternative financing contracts.	Continuously	CNO, CMC, IMC	EO 13123
5. Include energy efficiency and cost reductions in claimant funded special projects.	Continuously	Activities	

Strategy – M-1.4: Recognize and provide greater incentives for exceptional performance.

Key Actions – What/How:	When	Lead	Requirement
1. Present awards and have recognition programs designed to reward successes. Sponsor SECNAV Awards program. Participate in DOE's Federal awards program	Annually	ASN, CMC, CNO, IMC, NAVFAC	EO 13123
2. Publicize the awards programs and winner's accomplishments. Post winners on Internet, newsletters, articles, video, CECOS class.	Monthly	NFESC	
3. Update awards program. Consider the tri-level award criteria. Consider individual and support team recognition via FEMP. Provide claimant level recognition.	FY01	DONSEPB	

GOAL - M-2: BROADEN KNOWLEDGE AND GENERAL AWARENESS OF ENERGY MANAGEMENT

Measure of Success M-2. WORKFORCE PROPERLY TRAINED.

- ↪ **Metric M-2a – Training (Personnel Type).** Total DON annual funding received and programmed; number and type trained per year.
- ↪ **Metric M-2b – Training (CEMs).** Total DON required funding received and programmed; number of CEMs in DON.
- ↪ **Metric M-2c – Training (Hours Funded).** Total DON required funding received and programmed; number of hours of training provided.

Strategy M-2.1: Increase awareness and knowledge of program goals, tools, and progress at three organizational levels: Washington D.C, claimant, and activity.

Key Actions – What/How	When	Lead	Requirement
1. Publicize program successes.	Ongoing	NFESC	
2. Brief ASN (I&E), CNO, CMC, and DONSEPB on program effectiveness and successes. Provide annual plans and reports.	As required. Minimum - annually	DASN (I&F), CNO, CMC, NAVFAC	EO 13123 (plans and reports)
3. Maximize use of information technology for improved decision making, e.g., DON Energy web site, e-mail, Internet, displays, reports, newsletters, handbooks, and guidance.	Ongoing	NFESC	

Strategy - M-2.2: Provide training in prudent energy conservation techniques.

Key Actions – What/How	When	Lead	Requirement
1. Review and issue training curriculum. Identify training requirements and provide central funding.	FY01	CECOS	EO 13123
2. Train energy managers and related supervisors in six key areas of energy applications and management defined in EAct 1992 and CECOS course.	Annually	CECOS	EAct 1992
3. Update and maintain DOD energy manager handbook and energy monitor training materials.	FY01 and every 3 years	CECOS, NFESC	
4. Encourage certification for full-time energy managers.	Ongoing	IMC, CMC	
5. Provide training to purchasing agents on purchase of energy efficient products. Incorporate into NSCSCOL, Athens, GA.	FY01-FY02	CECOS	EO 13123
6. Train O&M personnel in energy efficient O&M procedures.	Ongoing	CECOS	EO 13123
7. Train EFD and activity level designers in sustainable developments.	FY01-FY02	NAVFAC	EO 13123

FOCUS AREA II: INNOVATION

GOAL - I-1: EXPAND USE OF RENEWABLE ENERGY THAT REDUCES LIFE CYCLE COSTS

Measure of Success I-1. OPTIMIZE RENEWABLE ENERGY APPLICATIONS

- ↪ **Metric I-1a – Renewable Technologies.** Percent annual renewable energy consumed within DON compared to overall DON energy consumption. Also cost per Mbtu for renewable energy compared to conventional sources.
- ↪ **Metric I-1b – Percent Green Power.** Annual power purchased from renewable sources (green); compared to total electricity purchased by DON.

Strategy I-1.1: Implement renewable energy projects that reduce life cycle costs (EO 13123).

Key Actions – What/How	When	Lead	Requirement
1. Partner with DOE, environmental program managers, and the private sector to demonstrate emerging renewable energy technologies at DON sites.	Ongoing	TREC, NFESC	EO 13123
2. Conduct surveys and ROI analysis to determine potential DON applications.	Ongoing	TREC, NFESC	

Strategy I-1.2: Purchase electricity from renewable energy sources that reduce life cycle costs.

Key Actions – What/How	When	Lead	Requirement
1. Pursue contracts with “green” electricity providers where cost effective.	Ongoing – review annually	NAVFAC EFDs	EO 13123

GOAL I-2: INTRODUCE BOLD INNOVATIONS OF TECHNOLOGY AND EMERGING BUSINESS PRACTICES

Measure of Success I-2. PROGRESS TOWARD INCORPORATING BEST BUSINESS PRACTICES

 **Metric I-2a – Return on Investment of Energy Resource Sales.** Annual dollars of resources sold, divided by annual dollars spent on program, measured in percent.

Strategy – I-2.1: Identify, evaluate, and implement promising best commercial practices.

Key Actions – What/How	When	Lead	Requirement
1. Initiate new technology evaluation programs.	Ongoing	NFESC	
2. Partner with DOE and private sector to evaluate state-of-the-market energy technologies and business practices at DON sites.	Continuously	NAVFAC, NFESC	
3. Conduct surveys and ROI analysis to determine potential DON applications for best commercial practices.	Ongoing – plan and review annually	NFESC	
4. Provide activities with technical information and with sources for information on best commercial practices. Provide criteria to assist in proper installation and O&M for new technology.	Ongoing	NFESC	
5. Identify showcase facilities/projects within each claimant.	Ongoing – review annually	IMC, CMC	EO 13123

Strategy – I-2.2: Include energy performance criteria in statements of work for acquisition of products and services such as construction, service contracts, leases, privatized utilities contracts, and Government owned/contractor operated facilities.

Key Actions – What/How	When	Lead	Requirement
1. Develop standard business practices, contract clauses, and guidance.	FY01- FY03	NAVFAC	EO 13123

Strategies – I-2.3: Expand the development and sale of DON's natural energy resources.

Key Actions – What/How	When	Lead	Requirement
1. Develop a DON plan. Develop and support legislative proposals.	Continuous	DONSEPB	
2. Use existing geophysical information and conduct new surveys, if necessary, to target opportunities.	FY02	TBD	
3. Invite contractor proposals on development of resources (e.g., PPV contracts).	FY03-FY08	NAVFACCO	
4. Award contracts that include provisions to share revenues.	FY03-FY08	NAVFACCO	

FOCUS AREA III: EXECUTION

GOAL - E-1: REDUCE ENERGY COSTS AND CONSUMPTION

Measure of Success E-1. REDUCE DON'S ENERGY COSTS AND CONSUMPTION

- ↪ **Metric E-1a – Total Energy Cost.** Total DON's shore facilities energy costs.
- ↪ **Metric E-1b – Energy Efficiency.** DON's consumption per ksf goals directed by EO 13123.
- ↪ **Metric E-1c – ECIP Project Execution.** Total DON ECIP obligation rate.
- ↪ **Metric E-1d – Project Savings.** Backlog of anticipated savings associated with backlogged projects.
- ↪ **Metric E-1e – Audits (progress toward goals).** Total square footage eligible for auditing, annual audit plan, annual square footage audited for past 10 years.
- ↪ **Metric E-1f – Audits (annual execution).** Square footage audited annually, dollars spent annually on audits, dollar savings of projects identified by audits in a given year.
- ↪ **Metric E-1g – Electric Rates.** Average electrical rates for the DON and similar private sector by region.
- ↪ **Metric E-1h – Sustainable Development Savings.** Impact of sustainable development practices on DON's savings goals.

Strategy - E-1.1: Identify, prioritize, and implement all life cycle cost effective energy retrofit projects (EO 13123).

Key Actions – What/How	When	Lead	Requirement
1. Conduct energy audits. Audit about 10% of facilities annually.	Ongoing-plan and review annually	IMC, CMC, Navy projects team	EO 13123
2. Develop and prioritize projects based on condition readiness, SIR, and NPV.	Annually	IMC, CMC, Navy projects team	
3. Centrally and/or locally fund projects and utilize DSM and ESPC.	Ongoing	NFESC, IMC, CMC	EO 13123

Strategy - E-1.2: Obtain favorable energy rates through competition, negotiation, and load aggregation.

Key Actions – What/How	When	Lead	Requirement
1. Intervene on rate increase proposals.	Ongoing	NAVFAC	
2. Negotiate with utility providers. Compete natural gas and electricity in deregulated markets.	Ongoing	EFDs	EO 13123
3. Encourage cooperation and load aggregation with other Federal agencies and services where cost effective.	Ongoing	EFDs	EO 13123

Strategy - E-1.3: Operate and maintain energy systems at efficient levels.

Key Actions – What/How	When	Lead	Requirement
1. Develop metric to capture O&M programming requirements (should costs) versus funding received.	FY01	CNO (N46)	
2. Maintain effective inspection program, use of automated monitoring and controls, fund O&M at appropriate levels.	Continuously	IMC, CMC activities	

Strategy - E-1.4: Purchase life cycle cost effective energy efficient products.

Key Actions – What/How	When	Lead	Requirement
1. Work with acquisition force to develop methods and implement changes.	FY01-FY02	NAVFAC, NFESC	EPAct 1992, EO 13123

Strategy - E-1.5: Use best value sustainable development principles in new construction and major renovations (EO 13123).

Key Actions – What/How	When	Lead	Requirement
1. Provide guidance, training, and sustainable development criteria on DON energy web site, NAVFAC criteria web site, CCB.	FY01 – review and update as needed	NAVFAC	EO 13123
2. Hold workshops at EFDs and gather lessons learned.	FY01	NAVFAC	
3. Review and approve projects to ensure sustainable development compliance.	Ongoing	NAVFAC	EO 13123
4. Ensure building commissioning and follow-on O&M practices follow sustainable development practices.	FY01 and continuously thereafter	NAVFAC	

GOAL – E 2: REDUCE AIR EMISSIONS THAT CONTRIBUTE TO GLOBAL CLIMATE CHANGE

Measure of Success E-2. **REDUCE GREENHOUSE GAS EMISSIONS.** Reduce DON's greenhouse gas emissions to meet executive order goals. This includes tracking and reporting the reduction of petroleum fuel usage.

 **Metric E-2a – Greenhouse Gas Reductions.** Net DON reduction in greenhouse gases expressed as a percentage.

Strategy – E-2.1: Identify and implement cost effective opportunities to reduce hydrocarbon fuel use.

Key Actions – What/How	When	Lead	Requirement
1. Switch from oil and coal to other cleaner burning fuels when life cycle cost effective.	FY01-FY08	IMC, CMC, activities	EO 13123
2. Construct energy efficient facilities and install energy efficient products, and equipment.	FY01-FY08	IMC, CMC, EFDs, activities	EO 13123
3. Utilize renewable energy sources where cost effective.	FY01-FY08	IMC, CMC, Navy project team, activities	EO 13123

Strategy – E-2.2: Acquire alternative or dual fuel vehicles and supporting infrastructure.

Key Actions – What/How	When	Lead	Requirement
1. Purchase/lease light duty vehicle w/alternative or dual fuel capability within U.S. (GSA leases, install fueling stations, and communication with acquisition personnel).	Ongoing	NAVFAC, IMC, CMC	EPAct 1992, EO 13031

GOAL - E-3: REDUCE WATER COSTS, CONSUMPTION, AND ASSOCIATED ENERGY USE

Measure of Success E-3. REDUCE WATER COSTS, CONSUMPTION, AND ASSOCIATED ENERGY

 **Metric E-3a – Water Consumption and Cost.** DON’s potable water consumption and cost compared to FY00 baseline.

Strategy – E-3.1: Identify and implement best water management practices.

Key Actions – What/How	When	Lead	Requirement
1. Work with DOE’s water working group to develop water reduction goals, practices, and measurement methods.	Completed	NFESC	EO 13123
2. Conduct audits to identify the best opportunities.	Ongoing – plan and review annually	CMC, Navy energy projects team	EO 13123
3. Develop and prioritize projects based on condition readiness and SIR.	Ongoing – prioritize annually	IMC, CMC, Navy energy projects team	
4. Centrally and/or locally fund projects and utilize alternative financing contracts.	Ongoing	IMC, CMC, Navy energy projects team	EO 13123

APPENDIX D
Performance
Measurement Plan

Our goal in developing a Performance Measurement Plan is to create a system that provides managers with a comprehensive look at the value of the DON Energy Program. We focused on effectiveness, not just efficiency increases. Our Plan provides a process for evaluating how DON is doing in meeting our mission and taking steps toward achieving our vision of the future. It is intended to demonstrate how we are meeting our internal and external goals to help plan for the future.

Our plan contains metrics linked to the Goals in the body of the Business Plan. These metrics provide indications on how well DON is performing. Performance measures, however, provide data that, in and of itself, does not create change. Change and improvement come from acting on information received through measurement. The Policy Board will interpret the data and focus the collective energy and resources of the organization toward making things better.

We realize that the process of measuring must not become a product itself and overburden the organization. Therefore, our measurements are simple, easy to understand, cost effective, and limited to those vital to our success. This will allow timely action in making positive change and improvement.

Our performance measurement plan consists of the following:

1. Goals	Identifies the major areas that define success for the organization.
2. Metric Information	Identifies the vital indicators that must be monitored and provides specifics on the formula for computing.
3. Definition	Defines terms and provides information and background on metrics.
4. Source	Identifies where to locate information needed to produce metric.
5. Responsibility	Identifies party responsible for gathering required information.
6. Frequency	Identifies when submission is required.
7. Goals	Identifies what we are striving for.
8. Example	Sample charts provide indication of final metric formats.

Measurement information will be forwarded to NFESC for consolidation and submission to the Policy Board, Focus Area Managers, NAVFAC, ASN and OSD as appropriate.

The highest level measures are considered corporate measures of success and are specially marked.

METRICS SUMMARY

Metric	Goal/Depiction	Frequency	
Management:			
M-1a: Program Funding	Program adequately resourced	Annual	*
M-1b: Project Funding	Projects adequately funded to meet reduction goals	Quarterly	
M-2a: Training (Personnel Type)	Trained workforce	Annual	
M-2b: Training (CEMs)	Trained workforce	Annual	
M-2c: Training (Hours Funded)	Trained workforce	Annual	
Innovation:			
I-1a: Renewable Technologies	Continued growth in renewable energy produced and consumed	Annual	
I-1b: Percent green power	Continued growth in purchase of electricity purchased from "green" sources	Annual	
I-2a: Return on Investment of Energy Resource Sales	Continued growth in net revenue	Annual	
Execution:			
E-1a: Total Energy Cost	Reduce costs	Quarterly	*
E-1b: Energy Efficiency	Meet Executive Order 13123 goals	Quarterly	*
E-1c: ECIP Project Execution	Obligate all received ECIP funds in a timely manner	Quarterly	
E-1d: Project Savings	Potential savings for fully funded project execution	Semi-annual	
E-1e: Audits (progress toward goals)	10% of total DON ksf/year	Semi-annual	
E-1f: Audits (annual execution)	Project savings identified compared to audit costs	Semi-annual	
E-1g: Electrical Rates	Navy average less than national average	Annual	
E-1h: Sustainable Development Savings	Continued growth in savings attributable to sustainable practices	Annual	
E-2a: Greenhouse Gas Reductions	30% reduction by 2010 compared to 1990 baseline	Quarterly	*
E-3a: Water Consumption and Cost	Reduce water consumption and costs	Quarterly	*

* indicates Corporate level measures of success.

FOCUS AREA: MANAGEMENT

Measure of Success M-1. PROGRAM ADEQUATELY RESOURCED TO MEET REQUIREMENTS.

Metric M-1a – Program Funding. Total DON's funding required, programmed, and received including only central and third party financing sources (e.g., ECIP, Geothermal, DSM, ESPC, etc.).

Definition: The graph of dollars versus FY documents the total annual funding required to meet all requirements and goals as identified in EAct 92 and the Executive Order 13123. It also documents actual annual funding used to fund energy programs including all sources, and includes annual anticipated revenue streams associated with Geothermal, ECIP, FEMP, and any other programmable funding. This is a corporate level measure of success. Activity level and special funding is not included.

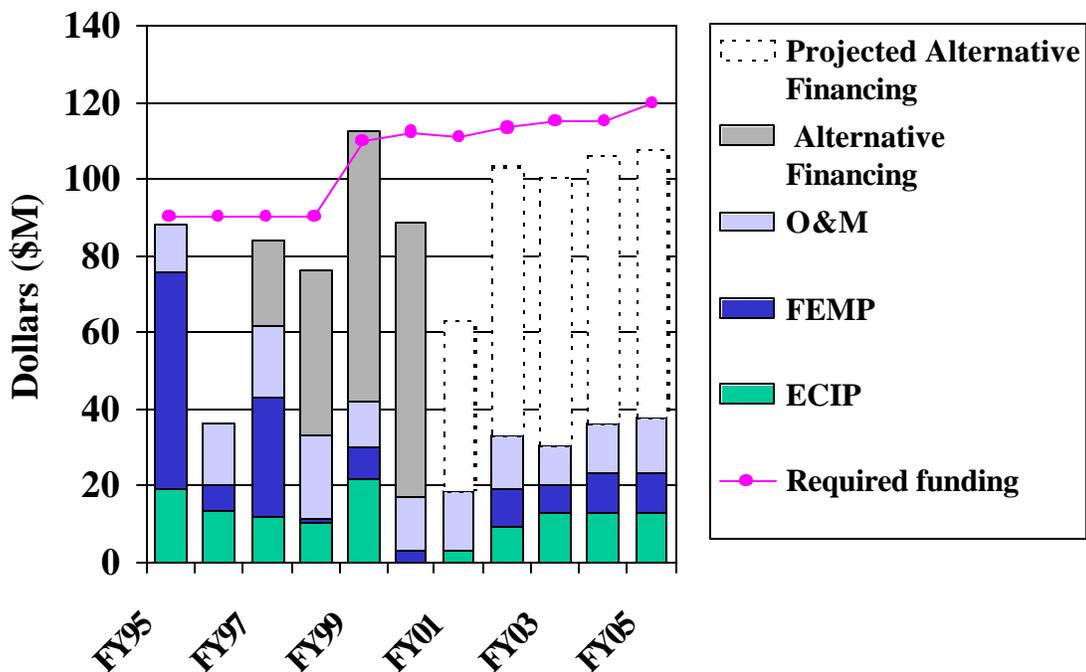
Source: NAVFAC, CMC, Major Claimants (third party financing)

Responsibility: NAVFAC Energy Office

Frequency: Annually

Goal: To document and track overall program resource requirements and actual shortfall between available sources and the requirements. This is a tool for securing future program funding.

Example:



Metric M-1b – Project Funding. Total DON’s project funding required, programmed, and received including only central and third party financing sources (e.g., ECIP, Geothermal, DSM, ESPC, etc.).

Definition: The graph of dollars versus FY documents the total annual project funding required to meet the energy consumption reduction goals identified in the Executive Order 13123. It documents actual annual funding used for energy projects from all sources. Also includes annual anticipated revenue streams associated with Geothermal, ECIP, FEMP and any other programmable funding.

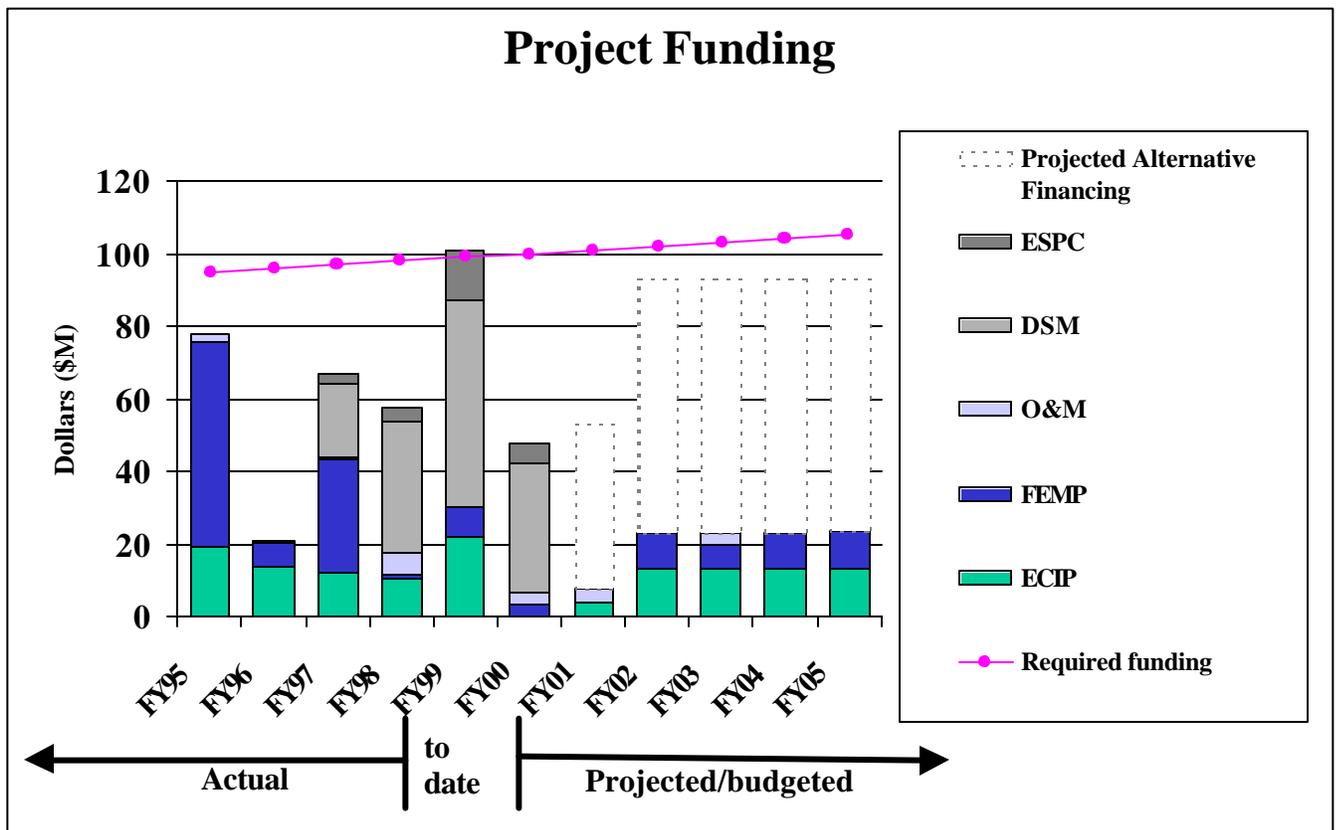
Source: NAVFAC, Major Claimants (third party financing), NFESC EPSS Database, CMC

Frequency: Annually

Responsibility: NFESC

Goal: To document and track overall program resource requirements and actual shortfall between available sources and the requirements. This is a tool for securing future program funding.

Example:



Measure of Success M-2. WORKFORCE PROPERLY TRAINED.

Metric M-2a – Training (Personnel Type). Total DON annual funding received and programmed; number and type of people trained per year.

Definition: Annual dollars spent includes only centrally funded training costs. Number and types of people include all training using central funding sources. People are to be categorized by CECOS from their records and activity provided information off the Energy Annual Report.

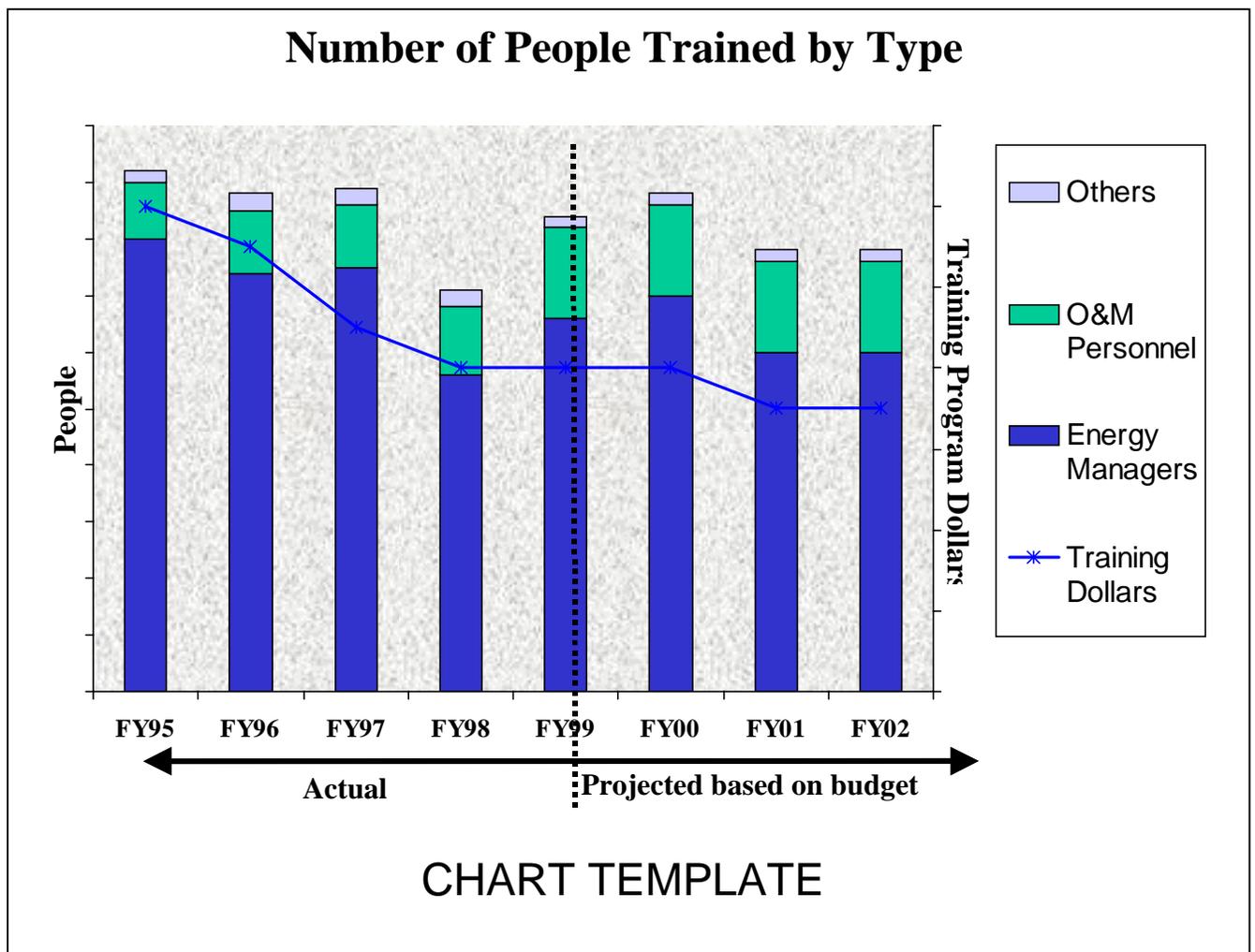
Source: CECOS, Energy Annual Report

Responsibility: CECOS (Gil Sequiedo)

Frequency: Annually

Goal: Document and track overall training data to be able to determine if our training dollars are well spent.

Example:



Metric M-2b – Training (CEMs). Total DON required funding received and programmed; number of CEMs in DON.

Definition: Annual dollars spent includes only centrally funded training costs. Number of CEMs to be collected from CECOS data and Annual Energy Reports.

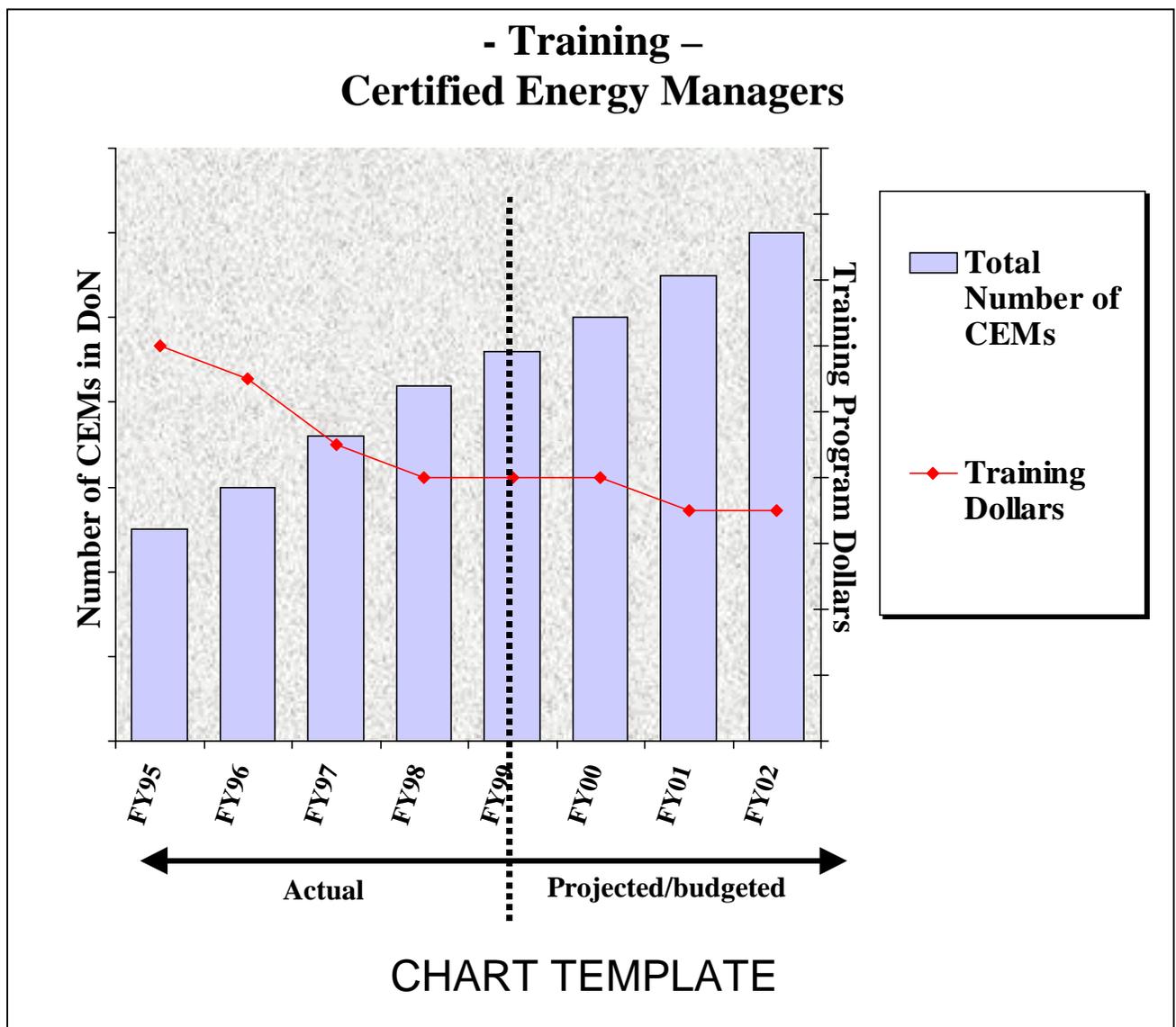
Source: CECOS, Annual Energy Reports

Responsibility: CECOS

Frequency: Annually

Goal: To document and track overall training data to be able to determine training dollar effectiveness.

Example:



↪ **Metric M-2c – Training (Hours Funded).** Total DON required funding received and programmed; number of hours of training provided.

Definition: Annual dollars spent, and number of hours of training includes only centrally funded Training costs. Number of hours to be collected from CECOS data and Annual Energy Reports.

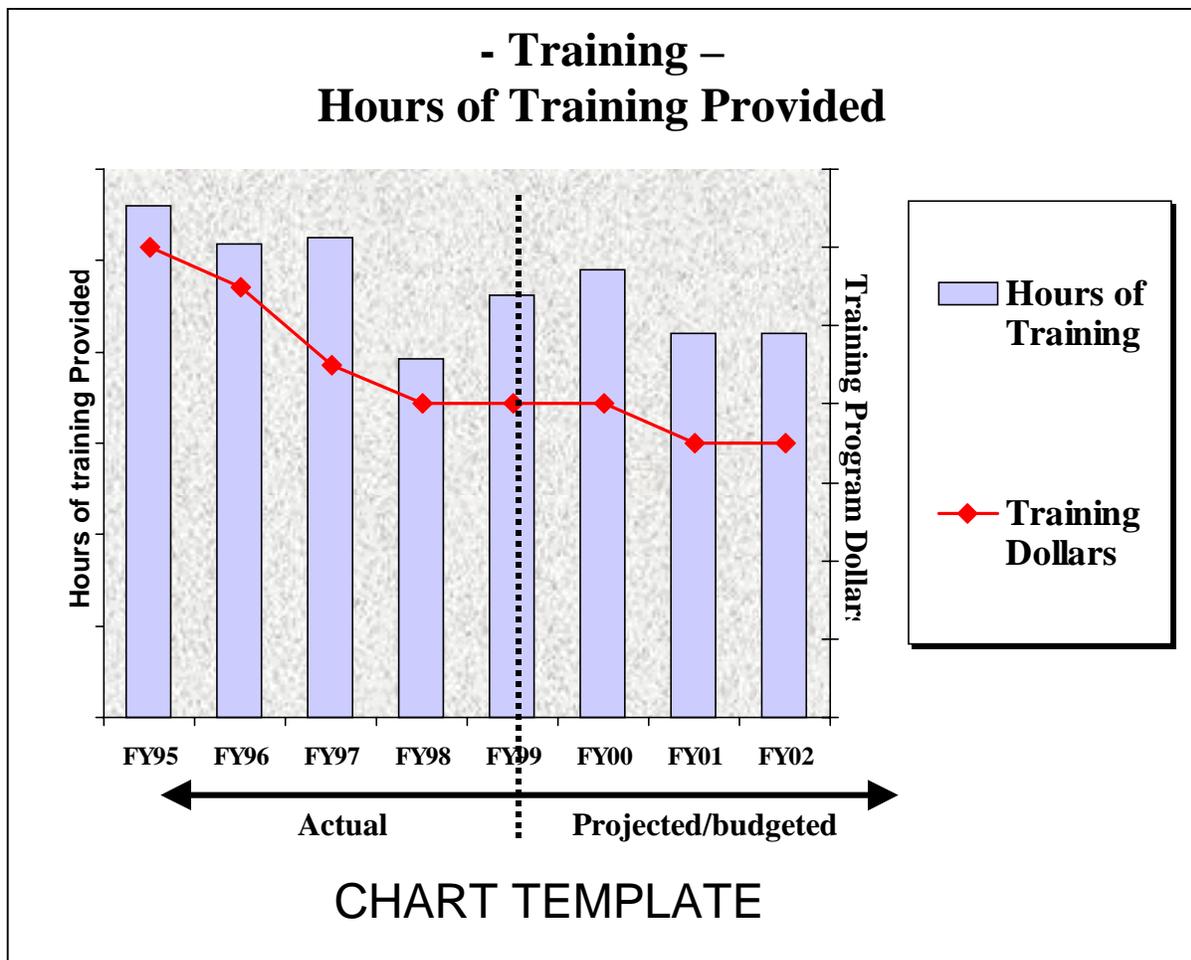
Source: CECOS, Energy Annual Reports

Responsibility: CECOS

Frequency: Annually

Goal: To document and track overall training requirements and execution to ensure DON training funds are well spent.

Example:



FOCUS AREA: INNOVATION

Measure of Success I-1: OPTIMIZE RENEWABLE ENERGY APPLICATIONS

↪ **Metric I-1a – Renewable Technologies.** Percent renewable energy consumed within DON compared to overall DON energy consumption on an annual basis. Also cost per Mbtu for renewable energy compared to conventional sources.

Definition: Total DON renewable energy consumption divided by total DON energy consumption. Cost per Mbtu of renewable power, not including electricity purchases (which are covered in a separate metric).

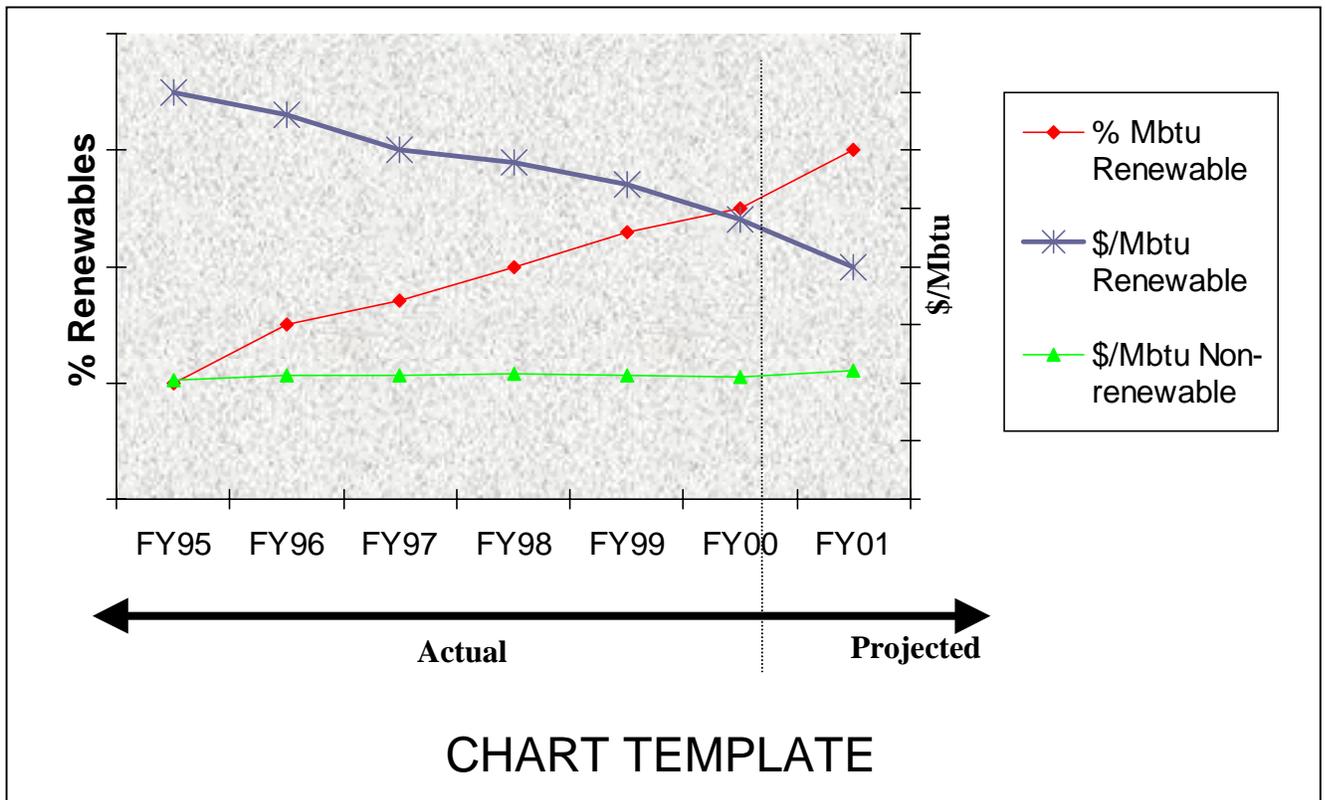
Source: NFESC (DUERS)

Responsibility: NFESC

Frequency: Annually

Goal: Seek continued growth in percentage of renewable energy consumed.

Example:



↪ **Metric I-1b – Percent Green Power.** Annual power purchased from renewable sources (green); compared to total electricity purchased by DON.

Definition: Green sources are defined as: Electricity from renewable energy sources (wind, solar, geothermal and biomass “fuels” specifically requested in utilities agreements). Metric includes Navy produced renewable electricity that we consume (self-generation). Ratio of annual Mwh consumed annually which includes renewable energy to total DON Mwh consumed.

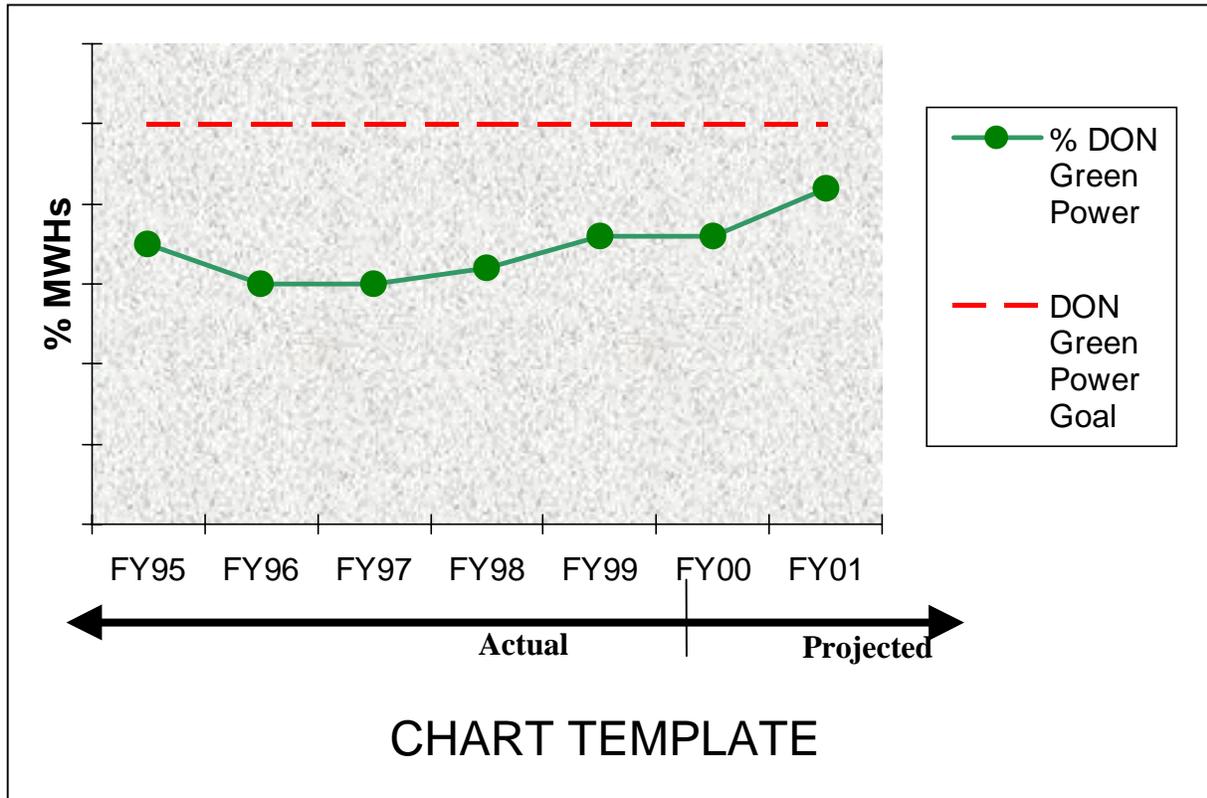
Source: EFDs

Responsibility: NFESC

Frequency: Annually

Goal: 2.5 percent by 2005

Example:



Measure of Success I-2: PROGRESS TOWARD INCORPORATING BEST BUSINESS PRACTICES

↪ **Metric I-2a – Return on Investment of Energy Resource Sales.** Annual dollars of resources sold, divided by annual dollars spent on program, measured in percent.

Definition: Gross income in dollars from resources sold, multiplied by 100, and divided by program cost, plotted over time.

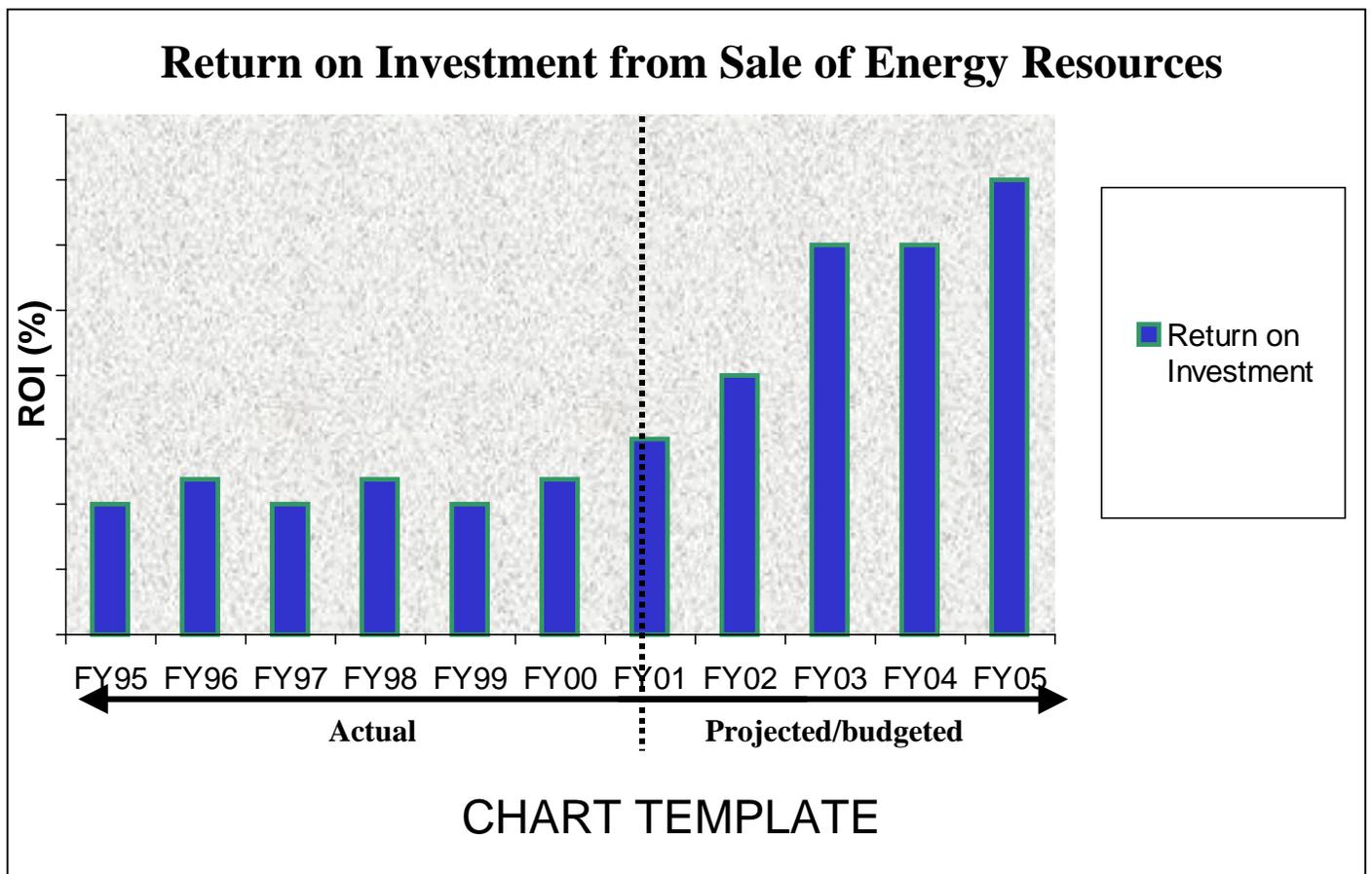
Source: NATC China Lake

Responsibility: NATC China Lake

Frequency: Annually

Goal: Continued growth in revenue.

Example:



FOCUS AREA: EXECUTION

Measure of Success E-1. REDUCE DON'S ENERGY COSTS AND CONSUMPTION

↳ **Metric E-1a – Total Energy Cost.** Total DON's shore facilities energy costs.

Definition: Costs are all energy dollars reported via DUERS. Includes cost Navy pays for all utility commodities, e.g., gas, oil, steam, electricity, etc. Does not include PWC/PWD distribution or overhead costs. Does not include cold iron or other consumption exempt from energy goals. This is a corporate level measure of success.

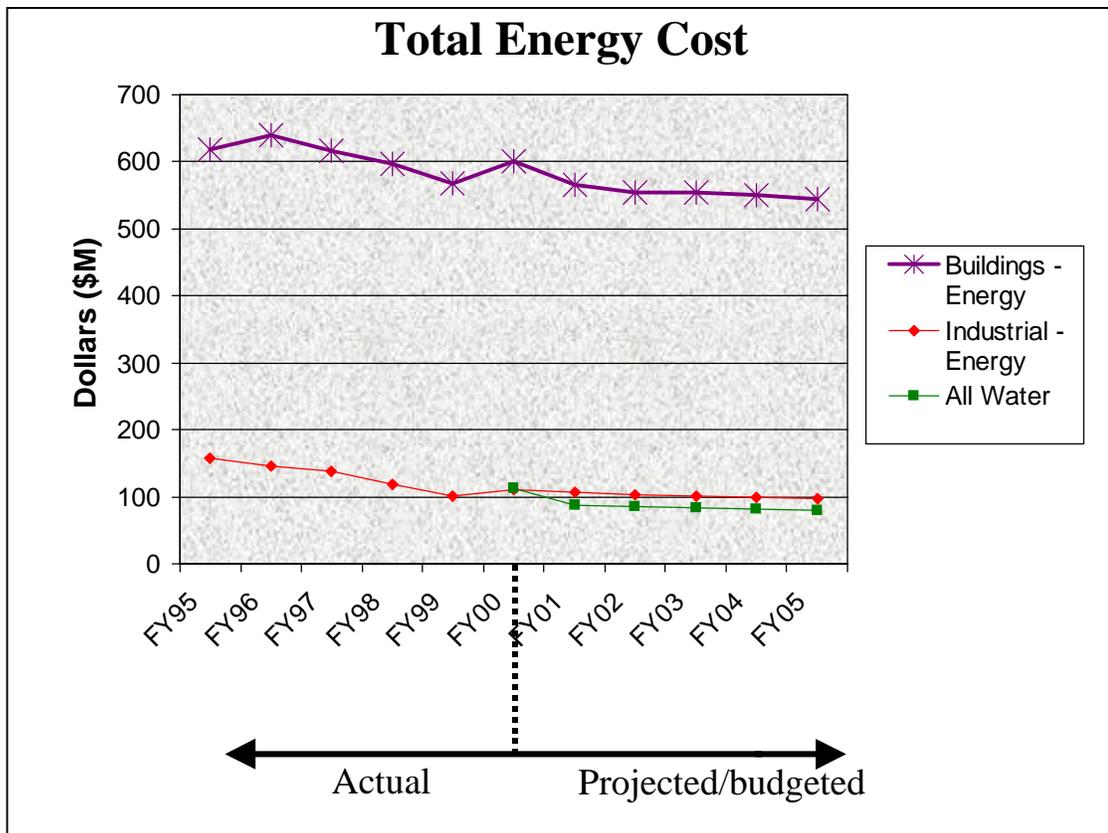
Source: DUERS Data (NFESC)

Responsibility: NFESC

Frequency: Annually

Goal: Continued reduction in overall DON's utility costs through energy cost reduction.

Example:



Metric E-1b – Energy Efficiency. DON's consumption per ksf goals directed by EO 13123.

Definition: Tracked percentage reduction Mbtu per ksf compared to 1985 baseline. Report in accordance with DOE, OSD, and DON guidelines. This is a corporate level measure of success.

Source: DUERS Data (NFESC)

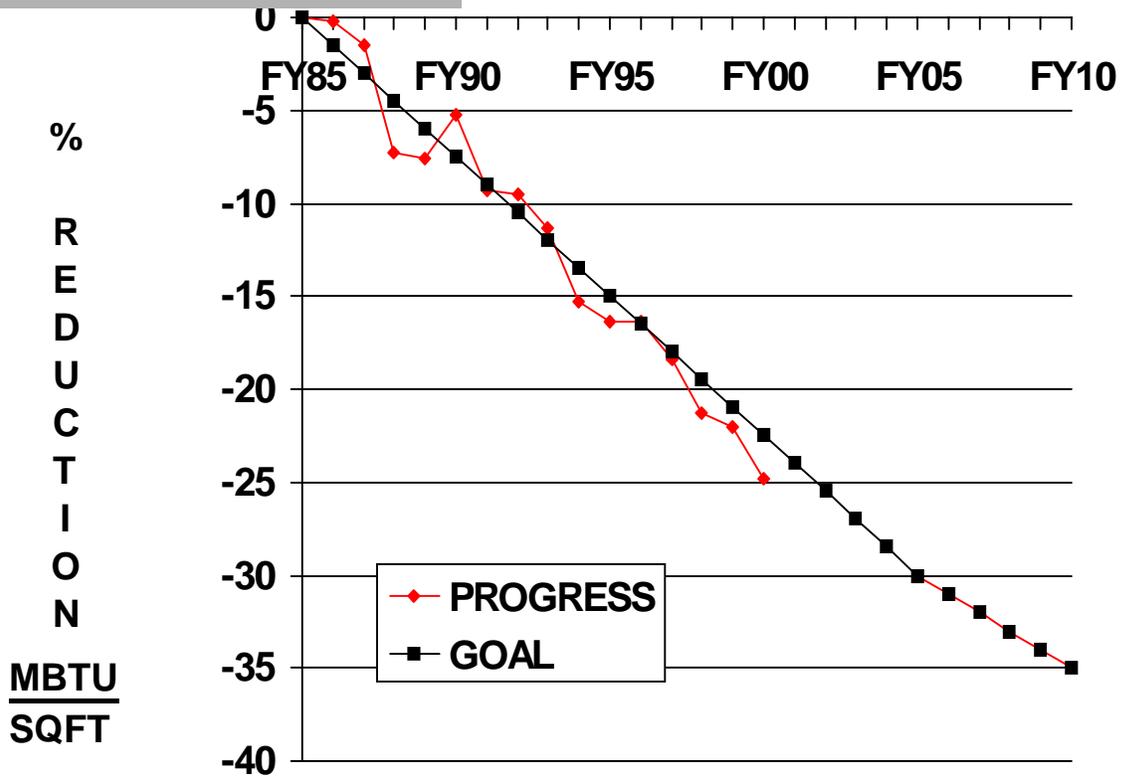
Responsibility: NFESC

Frequency: Quarterly

Goal: 30 percent reduction by 2005; 35 percent reduction by 2010.

Example:

As of September 30, 2000, the DON has reduced energy consumption per sq.ft by 24.81%



Energy Reduction Goal Progress

Metric E-1c – ECIP Project Execution. Total DON ECIP obligation rate.

Definition: The graph of dollars versus FY documents the total annual project funding received under the ECIP program and the total funding obligated. This typically has congressional level visibility. Numbers here are from Financial Information System (FIS).

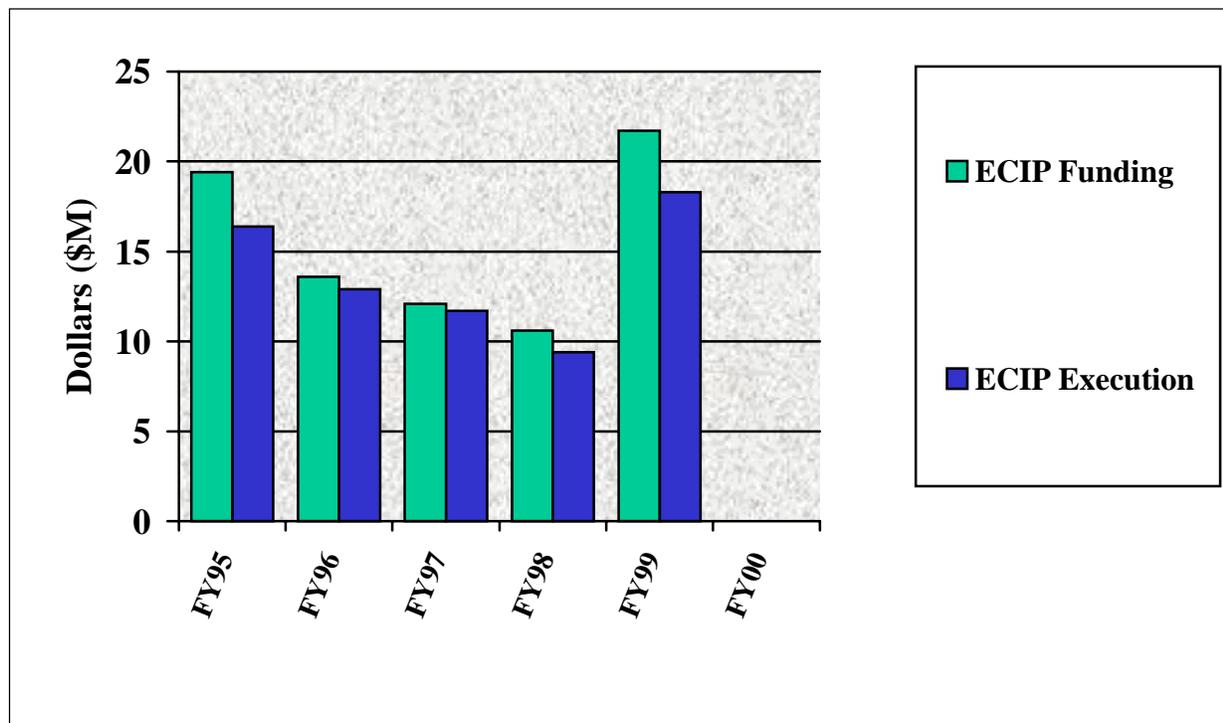
Source: Financial Information System (FIS tracks all Navy construction projects), CMC

Responsibility: NFESC

Frequency: Annually

Goal: Document and track obligation rate of ECIP funds for the purpose of monitoring and advertising our obligation rate. Obligation rate should approach 100 percent.

Example:



↪ **Metric E-1d – Project Savings.** Backlog of savings associated with backlogged projects.

Definition: Annual dollar savings of backlogged projects identified at beginning of the fiscal year. Annual dollar savings of projects executed during fiscal year; dollar savings of projected execution based on budget. Subtract loan payments when considering savings associated with financed projects.

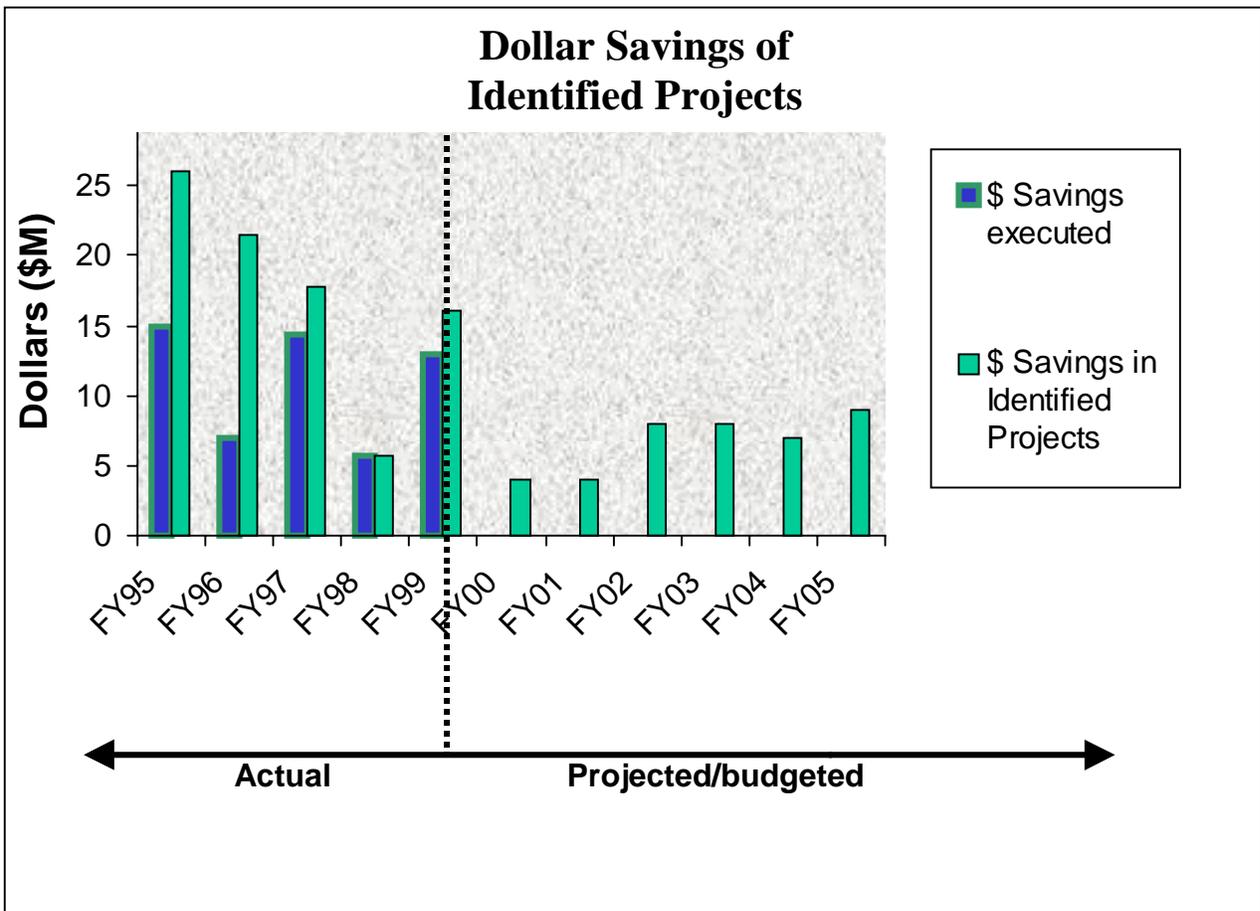
Source: NFESC database, activity, major claimant, CMC

Responsibility: NFESC

Frequency: Semi-annually

Goal: Illustrate the savings that can be realized if identified projects are fully resourced.

Example:



↪ **Metric E-1e – Audits (progress toward goals).** Total square footage eligible for auditing, annual audit plan, annual square footage audited for past 10 years.

Definition: Square footage is in ksf. “Eligible square footage” is all square footage that uses energy. It should be the same ksf as reported to DUERS. Sum annual square feet audited to get 10-year cumulative amounts. Audits include audits done by DSM and ESPC contracts. “Audit” means comprehensive audit as defined by NAVFAC Project Execution Team. Repeat audits performed over 5 years apart should be included in the “ksf Audited in FY” field. Repeat audits are not totaled in the “ksf 10 Year Cumulative” field.

Source: DON project execution team, activity annual report, major claimant, CMC.

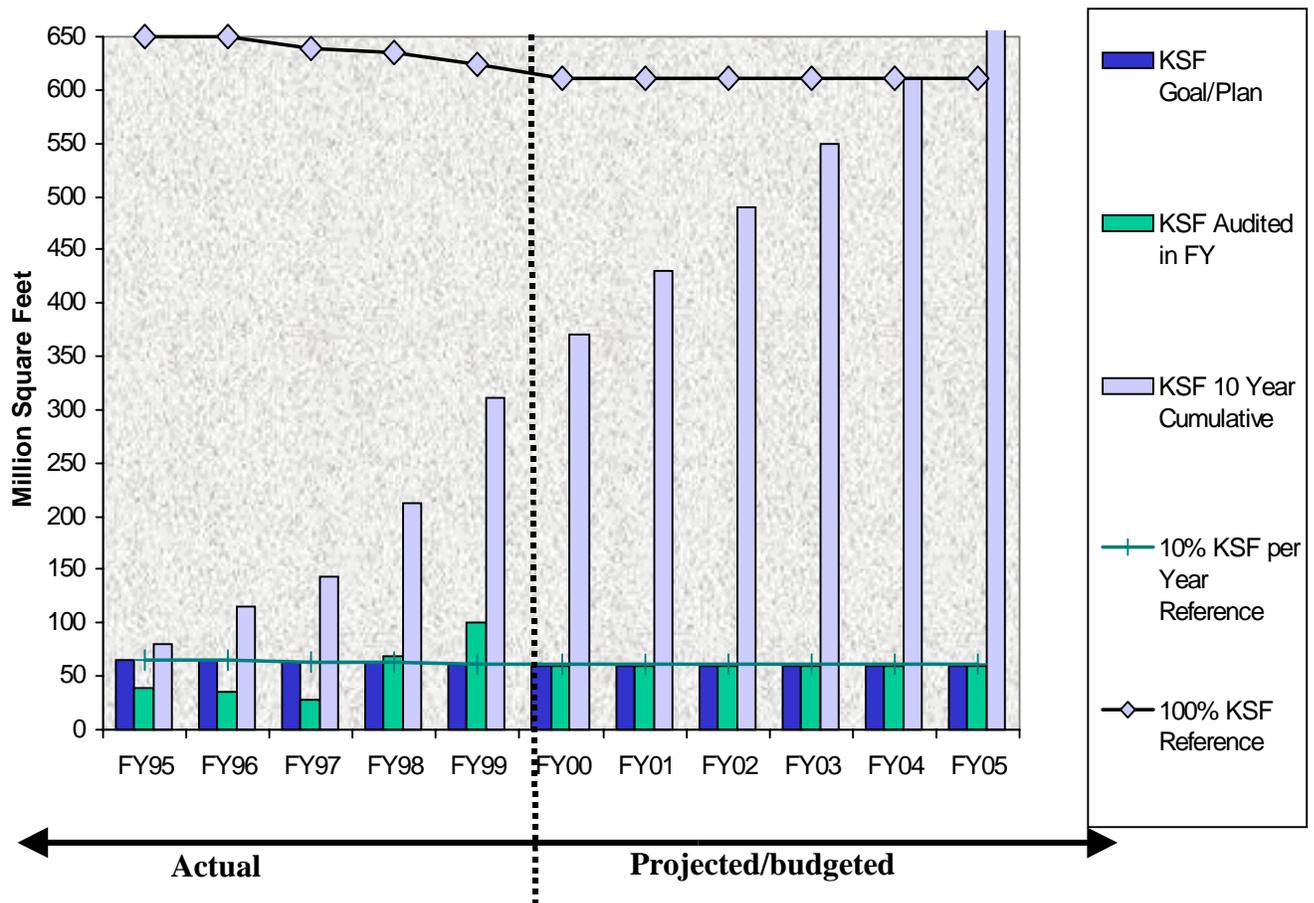
Responsibility: NFESC

Frequency: Semi-annually

Goal: Ten percent of all available square footage audited per year.

Example:

Energy Audits (Progress to Goals)



↪ **Metric E-1f – Audits (annual execution).** Square footage audited annually, dollars spent annually on audits, dollar savings of projects identified by audits in a given year.

Definition: Square footage is in ksf. Dollars are in thousands. Savings identified for alternatively financed projects are average annual savings to the Government. Audit ksf includes audits done by DSM and ESPC contracts, however, the cost of these audits is not included since it is often not identified separately from the project implementation cost. “Audit” means comprehensive audit as defined by NAVFAC Project Execution Team. Repeat audits performed over 5 years apart should be included!

Source: DON project execution team, activity annual reports, major claimant, CMC.

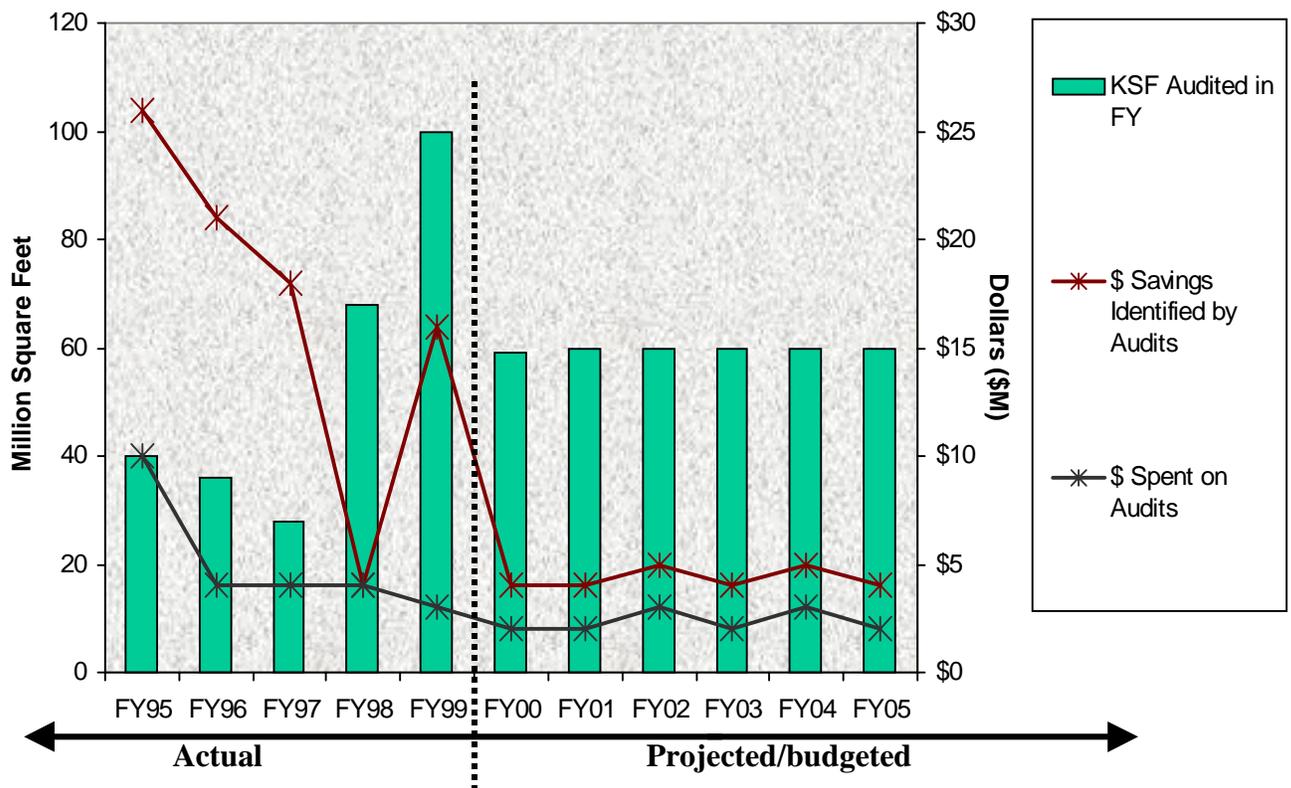
Responsibility: NFESC

Frequency: Semi-annually

Goal: Visually see fruitful relationship between audit funding and audit results.

Example:

Energy Audits (Annual execution)



↪ **Metric E-1g – Electrical Rates.** Average electrical rates for the DON and similar private sector by region.

Definition: Navy weighted average electric rates versus regional average commercial rates.

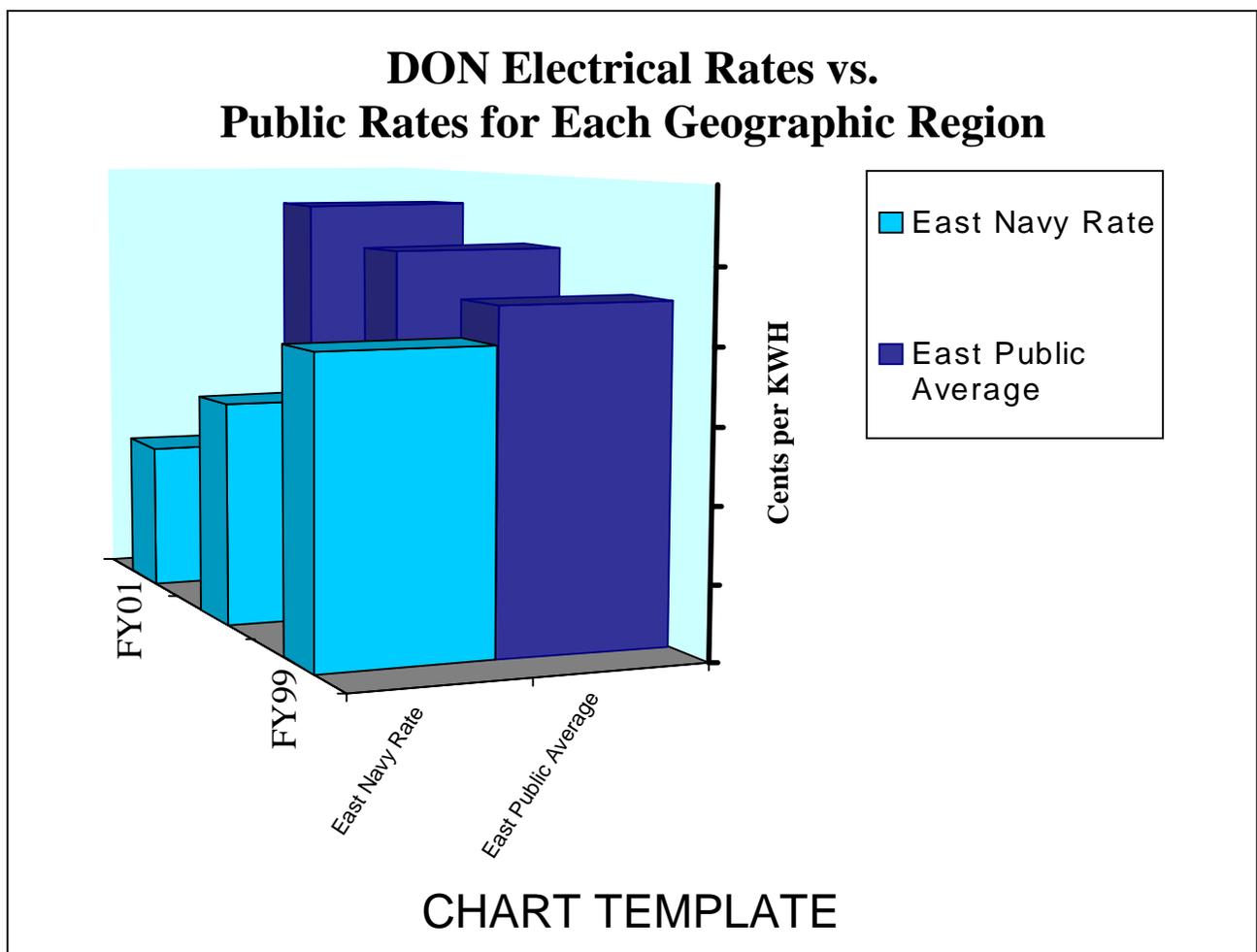
Source: Navy rate intervention team; DOE

Responsibility: NAVFAC

Frequency: Annual

Goal: Navy average rate lower than regional averages.

Example:



Metric E-1h – Sustainable Development Savings. Impact of sustainable development practices on DON's savings goals.

Definition: Estimated energy Mbtus and cost savings due to projects being developed using sustainable development practices.

Source: DON sustainable development team

Frequency: annual

Goal: Continued growth in cost and consumption savings attributable to sustainable development.

Example:

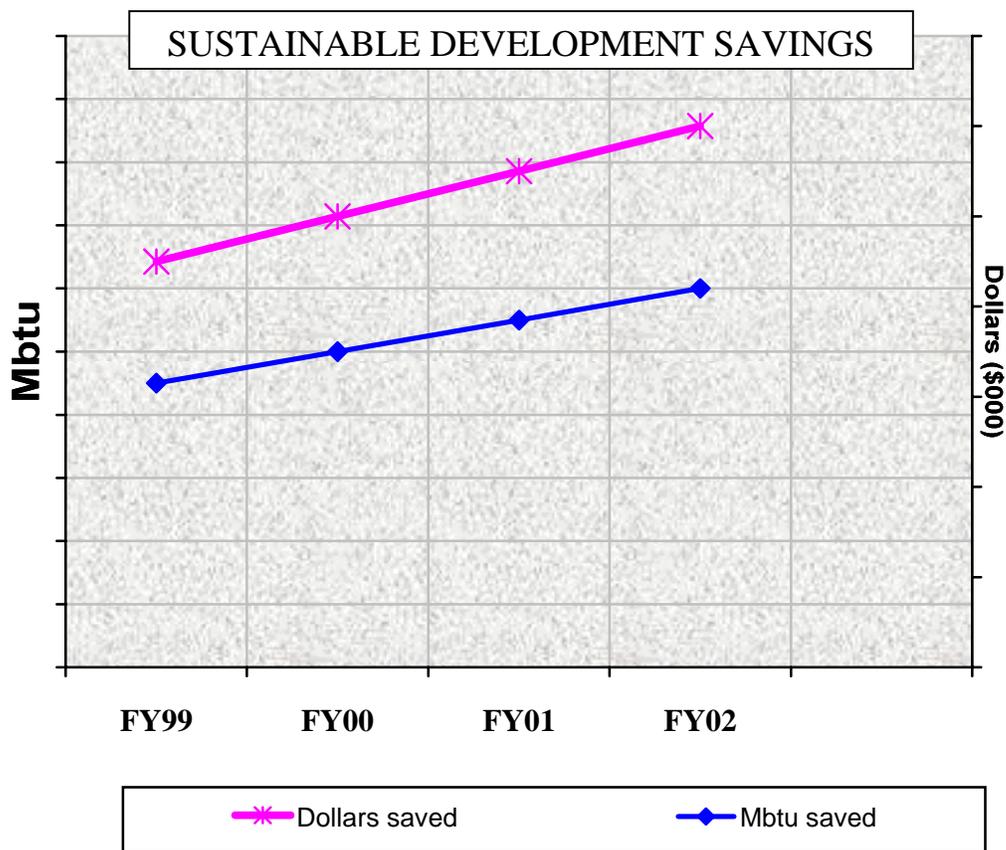


CHART TEMPLATE

Measure of Success E-2. REDUCE GREENHOUSE GAS EMISSIONS. Reduce DON's greenhouse gas emissions to meet executive order goals. This includes tracking and reporting the reduction of petroleum fuel usage.

↳ **Metric E-2a – Greenhouse Gas Reductions.** Net DON reduction in greenhouse gases expressed as a percentage.

Definition: The quantity of metric ton carbon equivalents (MTCE) for greenhouse gases as calculated from DUERS data and non-tactical fuel data collected from transportation cost reports from Transportation Equipment Management Centers (TEMCs). This includes the total consumption of petroleum energy products consumed in buildings and non tactical vehicles. This is a corporate level measure of success.

Source: DUERS (NFESC), TEMC TCRs

Responsibility: NFESC

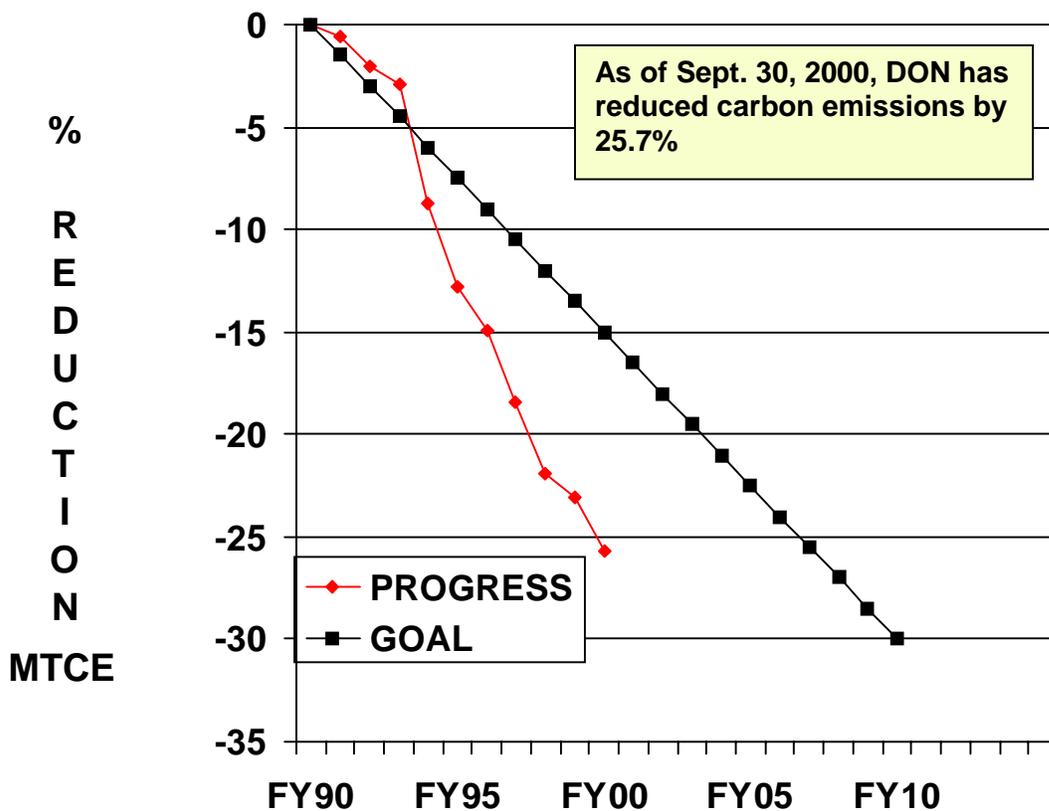
Frequency: Quarterly

Goal: Reduce greenhouse gas emissions by 30 percent by 2010 compared to 1990 baseline.

Example:

DON Carbon Reduction Progress

4th Quarter FY00 - All Facilities
(90 Baseline)



Measure of Success E-3: REDUCE WATER COSTS, CONSUMPTION, AND ASSOCIATED ENERGY

 **Metric E-3a – Water Consumption and Cost.** DON's potable water consumption and cost compared to FY00 baseline.

Definition: Potable water consumption in millions of gallons of water compared to FY00 baseline. Cost in \$M. This is a corporate level measure of success.

Source: DUERS (NFESC)

Responsibility: NFESC

Frequency: Quarterly

Goal: Continued reduction in water consumption and cost.

Example:

