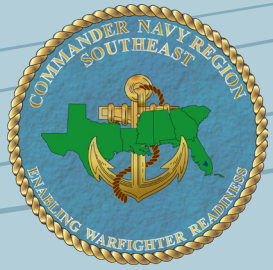
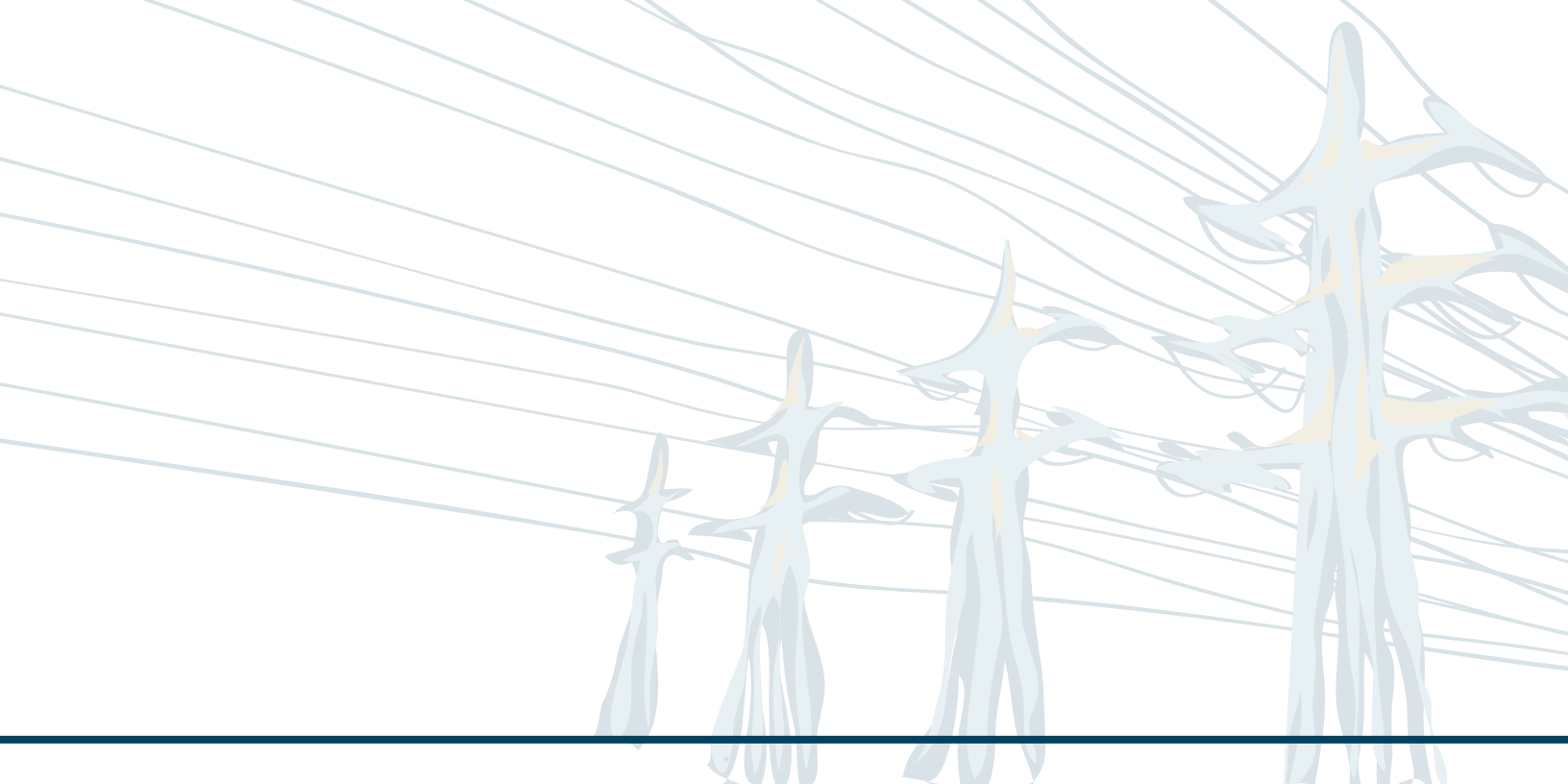



# Commander Navy Region Southeast Energy Strategy 2011 - 2013



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Wind Turbines

NS Guantanamo Bay

# Forward

RADM T.G. Alexander

A limited supply and increased worldwide demand for energy resources challenges each of us to make more responsible decisions in the way we do business. Navy Region Southeast has developed an Energy Management Program to assist in energy and water conservation. This program is outlined in CNRSEINST 4101.1 and references national energy policies, as well as other directives and memorandums that will guide us to become more efficient in the use of our resources.

This instruction provides a "way ahead" that focuses on three pillars: instilling a culture of conservation, encouraging innovation and use of technology, and increasing our production of renewable energy. We will achieve our vision by allocating our resources across six specific strategies, described in this plan, that support our pillars to success.

As a Region, we have to make energy management our focus and mission, whether through the use of green technology to enhance new construction and refurbishment, or when considering our own personal energy usage. Each kilowatt of electricity and gallon of water we save today will be resources that are available tomorrow.

I encourage your feedback as we tackle this challenge. We can make a difference in the future of our installations and our Navy. We will conserve not only scarce energy resources, but dollars that can be directed to other vital installation or Navy programs. We will recognize innovation and conservation by rewarding those who succeed in reducing consumption or developing new ways to reach our conservation goals.

Communication is key. Without communication, it will be hard to activate our greatest energy saving enabler: every Sailor, civilian, contractor, and family member. Everyone is an "energy saver." Everyone has a responsibility to conserve our vital resources.

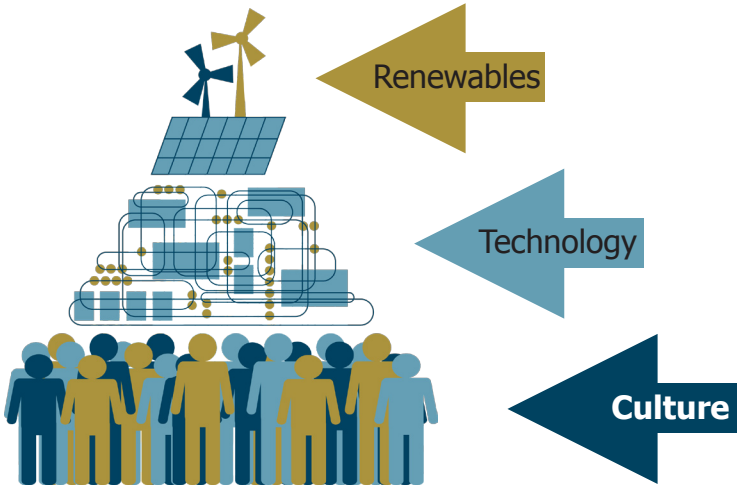
The way ahead is clear. I know we have the finest team in the world, and with your help, we will be successful. I know I can count on your support to meet this challenge and save our valuable resources.

Rear Admiral T.G. Alexander
Commander Navy Region Southeast

LED Exterior Light

NSB Kings Bay

# Introduction




The Energy Strategy identifies ends, ways, and means for increasing energy security for Navy Region Southeast.

Commander Navy Region Southeast (CNRSE) has worked to develop and execute a comprehensive and robust Energy Strategy. This strategy has three guiding principles or pillars. These pillars have been arranged in an **Energy Strategy Pyramid**. At the base of the Pyramid is the first pillar, creating a **culture** of energy awareness. We will make the most impact by raising personal awareness of all Installation personnel, training key personnel, and recognizing exceptional performance. The

middle of the Energy Strategy Pyramid is the second pillar, **technology**. We must look for a technologies that will help eliminate the need for fossil fuels and help bolster energy production in a safe reliable manner. At the top of the Energy Strategy Pyramid is the final pillar, **renewables**. Renewable energy will further our mission of energy independence and reduced emissions.

The vision is for Navy Region Southeast to become the **leader in Navy ashore energy stewardship**. By using the Energy Strategy Pyramid to allocate our efforts, resources, and assign priority to the right areas first, we can achieve this goal. This document conveys strategic imperatives that align with Secretary of the Navy and Executive Order energy targets. It represents a commitment from CNRSE to foster a culture in which energy awareness is part of everyday actions and decision-making. Energy is an issue of national importance, and every individual has a role.

The entire process will be managed by a Regional Energy Council chaired by the Regional Commander. The Council meets monthly to review progress and discuss key issues which either support or reshape the current direction of the program. Installation commanders will lead all aspects of program execution.

NSB Kings Bay

Nano-filtration Tubes

# Goals

Building Integrated Photovoltaic Solar Power for Dive Pool

NSA Panama City

- Identify, recognize, and reward Region personnel to provide incentives for a more effective Energy Program with focus at the lowest possible level.
- 15% of facilities meet the Federal Leadership in High Performance and Sustainable Buildings MOU by 2015.
- By 2015, cut in half the amount of petroleum used in our commercial vehicle fleet.
- Reduce the energy consumption of DoN Shore Commands by 3%/year and 30% by 2015, relative to 2003 baseline.
- Reduce water consumption 2%/year or 16% by 2015, relative to 2007 baseline.
- Receive 50% of ashore energy from alternative sources by 2020.
- By 2020, one half of our installations will be net-zero energy consumers.

# Measurement

In order to measure the progress toward achieving our goals, CNRSE will use a Regional stop-light chart.

Energy Strategy Focus Teams from across Navy Region Southeast will be formed and aligned under each of the six strategies. Each of these established teams will work to advance the goals expressed in the guiding documents in order to ensure that the Secretary of the Navy and Executive Order goals are met.

The Focus Teams will shape the way forward and create specific metrics for each goal. These specific metrics for each goal will then be weighed against the actual savings for the Region. The comparison of the two values will measure the Region's success at obtaining the objectives. Actual percentages will then be color coded in the Regional stop-light chart. Red values are values that failed to meet the criteria. Yellow values are values that are close to meeting the criteria. Green values are those that meet and exceed criteria.

Having measurements in place will keep us on track and moving forward toward our goal for Navy Region Southeast to become the leader in Navy ashore energy stewardship.

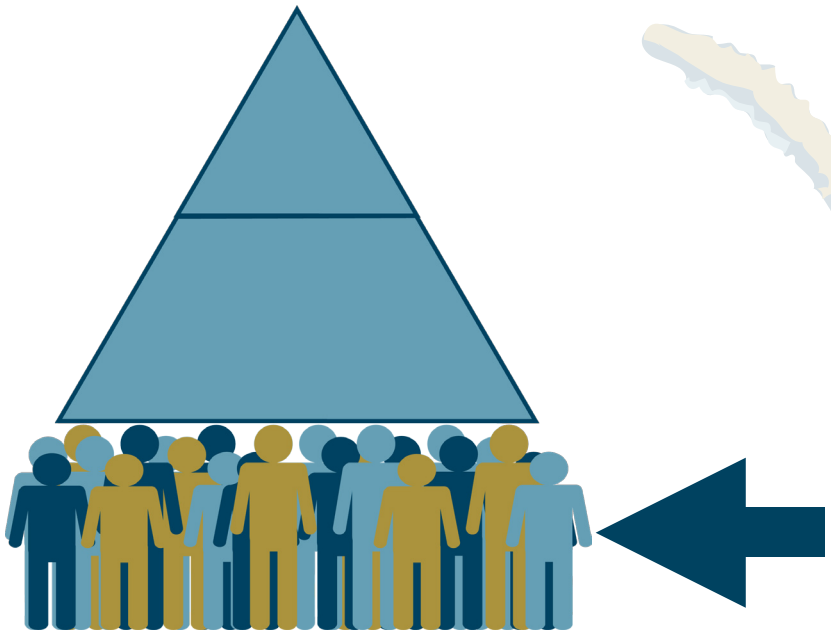
NS Guantanamo Bay

Solar Powered Wharf Light

# Pillar 1

Solar powered sewage lift system

NSB Kings Bay



# Culture

**Instill a culture of conservation.**

It is imperative that we conserve our resources. The greatest energy savings are achieved when every individual military member, dependent, civilian, and contractor understands and participates in energy management.

Energy reduction through energy awareness is only effective as long as personnel are cognizant of their own energy usage behavior and how that affects overall resource usage.

We must influence operations to execute our missions at the lowest possible energy usage and cost. Operations must be reviewed for alternatives in how and when energy is used.

Securing equipment when not needed and delaying high energy use activities outside "peak" usage hours have significant impacts on reducing usage and cost respectively. Both activities also relieve the pressure on the local utilities systems.

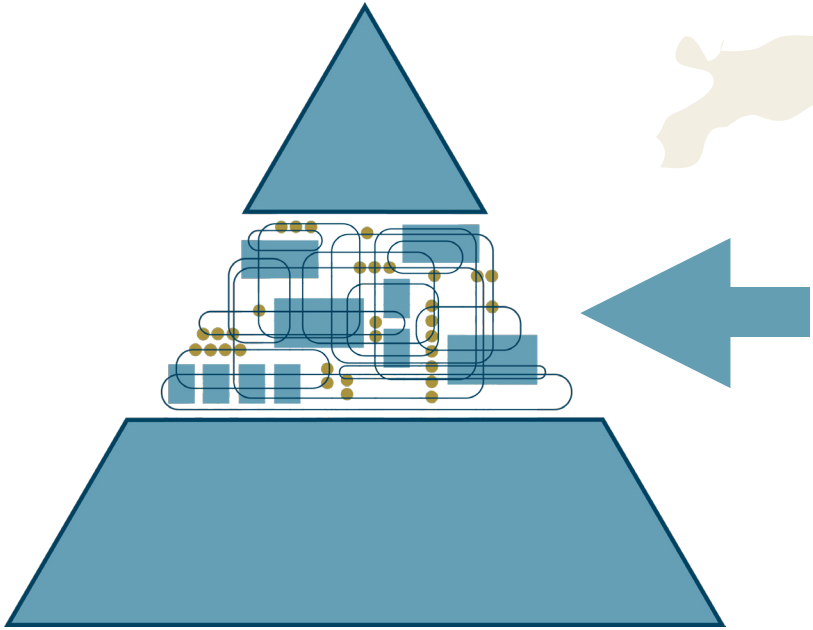
Region Southeast's first Advanced "Smart" Meter

NAS Kingsville

# Pillar 2

Chiller Upgrade

NSA Panama City



# Technology

**Invest in technology.**

Reliance on petroleum-based energy technology is escalating cost and exceeding our financial resources, impacting the environment, and increasing our vulnerability to mission interruption.

We must identify areas of vulnerability where commercial power grid disruptions can leave an installation without power at a critical juncture in military operations. Where possible, this vulnerability can be decreased by the use of renewable energy and higher efficiency technology.

Technology investment is critical in meeting the Navy Region Southeast goals.

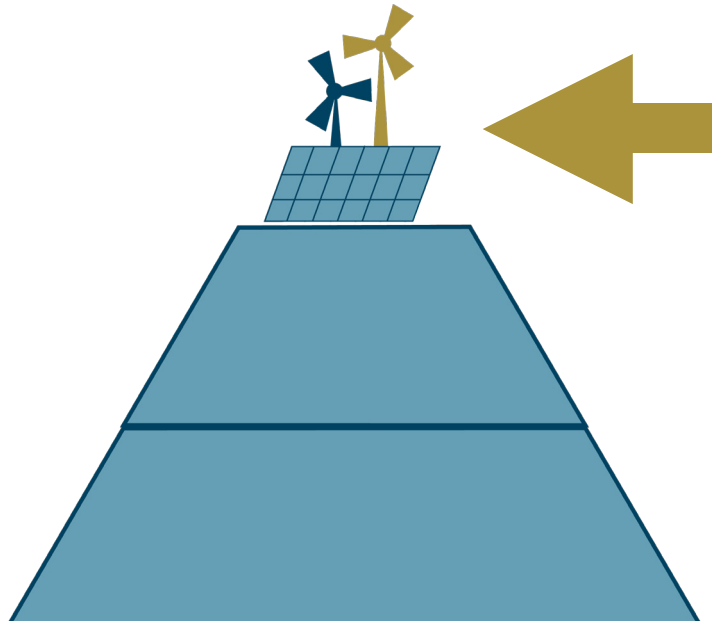
Solar Power Flashing LED Stop sign

NAS Jacksonville

# Pillar 3

High efficiency Boilers

NAS Meridian



# Renewable

**Enable use of renewable energy.**

The top pillar in the energy pyramid is the smallest. The importance of renewable resources is not to be underestimated. By successfully implementing pillars 1 and 2, the renewable energy required to be produced on-site will cover a higher percentage of our total energy use.

We will continue to review the deployment and use of renewable energy technologies such as wind, solar photovoltaics, solar water heating, biomass, and more.

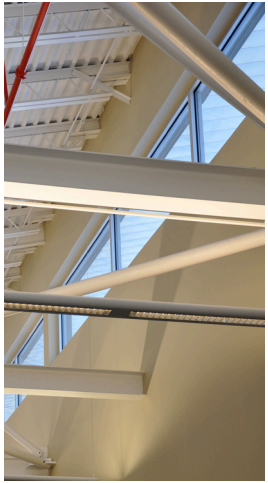
Working with higher echelons, we will focus on life cycle cost effective renewable energy sources with rates of return neutral to conventional prevailing "brown power" rates.

By researching and maintaining a healthy stock of potential plans, we will execute renewable energy projects as funds become available.

Rooftop Solar Array for Pool Heating

NAS Jacksonville

# Strategy 1



Natural Light

NAS Jacksonville

## Create a Culture of Conservation

We will change our culture by raising personal awareness of all Installation personnel, training key personnel, and recognizing exceptional performance.

We can change the energy culture of personnel and organizations occupying Region facilities and reduce CNRSE's energy and water consumption by modifying individual and workspace practices and habits.

# Strategy 2

## Reduce Petroleum Consumption

We will replace nearly 800 of our gas burning vehicles with slow moving solar electric cars, trucks, and vans and find more efficient ways to produce power at Naval Station Guantanamo Bay, Cuba (GTMO). Navy Region Southeast consumes approximately 11 million gallons of fuel per year; 10 million are consumed in GTMO alone.

We will focus on reducing petroleum consumption in power production at GTMO and reducing petroleum use in our transportation fleet.

Solar Powered Slow Moving Vehicle

NSB Kings Bay

# Strategy 3

Solar Powered Occultation Pumping Waste Clarification Pond

NSB Kings Bay

## Integrate Energy and Water Efficiences into Contracts

We will require the use of the energy technology Federal Energy Management Program-list and the Environmental Protection Agency's WaterSense-list with regards to all of our Federal procurements, and we will incorporate energy and water efficiency requirements into all BOS contracts awarded after the beginning of Fiscal Year 2011.

# Strategy 4

## Decrease the Total Cost of Ownership

We will apply life cycle cost principles to existing buildings to evaluate the appropriate energy and water technology applications. Additionally, we will develop a plan to meet sustainable buildings requirements that is focused on utilities cost per square-foot, per year.

The result of addressing those facilities with the greatest energy and water consumption per square foot will lead to the best use of our limited fiscal resources.

Solar Array for Pool Heating

NAS Meridian

# Strategy 5

Nano-filtration Storage Tank

NSB Kings Bay

## New Policy Initiatives

We will identify a limited number of high-value initiatives that, as they present themselves, will become focus areas for taking on and further supporting Total Cost of Ownership and identified Executive Order, DoD, and DoNs goals.

# Strategy 6

## Increase use of Renewable Energy

We will continuously review the potential to use renewable energy to the fullest extent possible and work with the higher echelons within the organization that are tasked with focus in this specific area. We will investigate and maintain potential plans that may be executed as funds become available. Our approach at this time is one of cost neutrality to prevailing energy rates.

Future site of First Ground Power Solar Array (2011)

NAS Kingsville

# Acronyms

| | |
|---|---|
| AFV | Alternative Fuel Vehicle |
| BAMF | Biomass and Alternative Methane Fuels |
| BEM | Building Energy Monitor |
| CAC | Common Access Card |
| CEM | Certified Energy Manager |
| DDC | Direct Digital Control |
| DSM | Demand Side Management |
| ECIP | Energy Conservation Investment Program |
| ECM | Energy Conservation Measure |
| EEM | Energy Efficiency Manager |
| EMCS | Energy Management Control System |
| EO | Executive Order |
| EPA | Environmental Protection Agency |
| ESCO | Energy Services Company |
| ESPC | Energy Savings Performance Contract |
| EUL | Enhanced Use Lease |
| EWRP | Energy and Water Reduction Plan |
| FEMP | Federal Energy Management Program |
| LED | Light Emitting Diode |
| LEED | Leadership in Energy and Environmental Design |
| M&V | Measurement and Verification |
| MOU | Memorandum of Understanding |
| NAVFAC | Naval Facilities Engineering Command |
| NOSC | Naval Operation Support Center |
| NREL | National Renewable Energy Laboratory |
| PV | Photovoltaic |
| RCx | Retro-Commissioning |
| REM | Resource Efficiency Manager |
| SMV | Slow Moving Vehicle |
| UEM | Utilities and Energy Manager |
| UESC | Utility Energy Services Contract |
| USGBC | US Green Building Council |

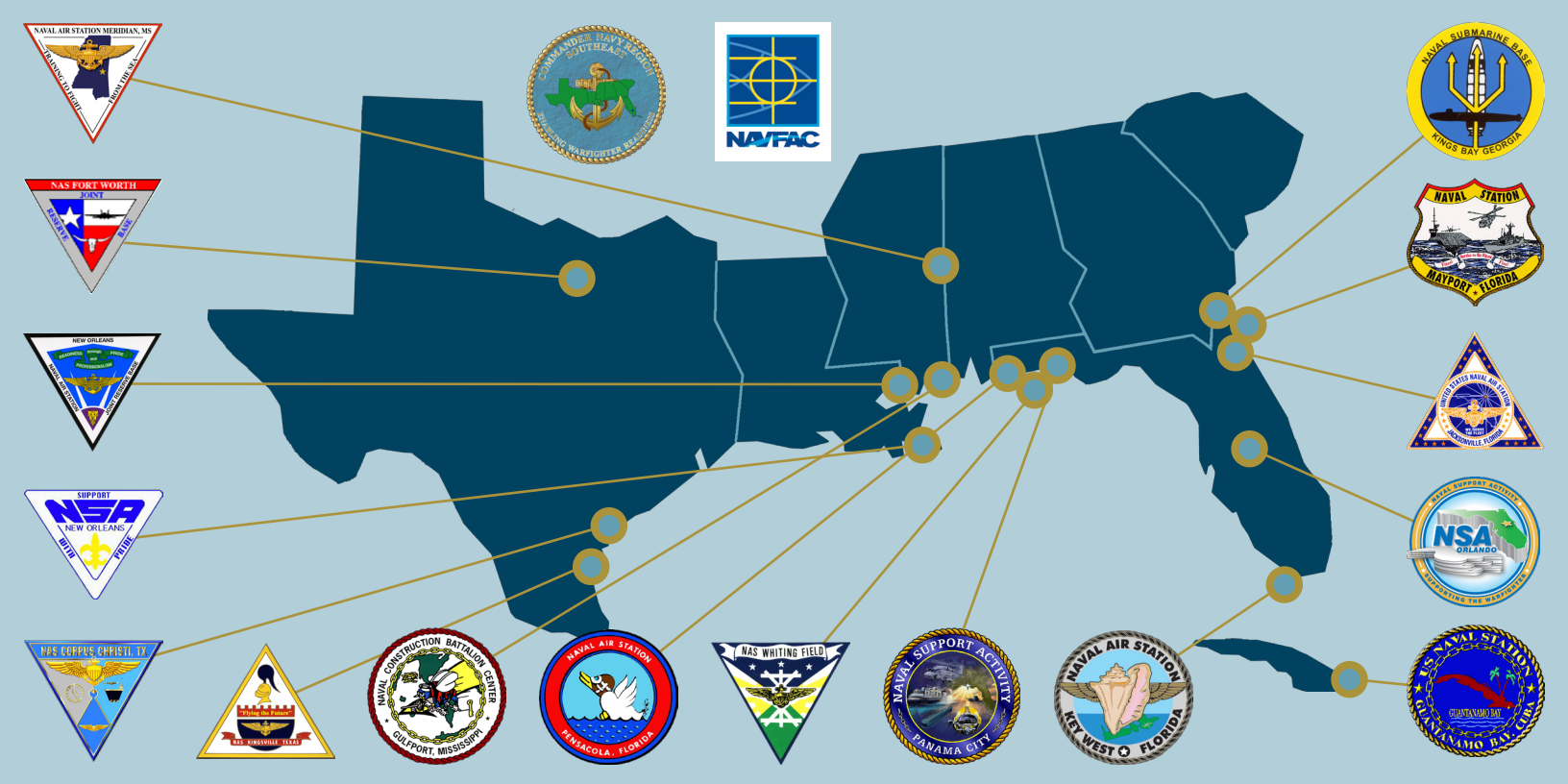
# What you can do

Remember, the greatest energy saving device is you. The most monumental changes will come from conserving our resources and changing our attitudes and actions. Top 10 things you can do to conserve:

1. Replace burned out light bulbs with energy efficient lamps.
2. Before you leave for the day, turn off lights, office equipment, monitors, and computers.
3. Use ceiling fans instead of air conditioning when possible.
4. When you leave your desk, pull your CAC card and turn off your monitor.
5. Set your air conditioner for 76°F when space is occupied and 85°F when unoccupied.
6. Purchase Energy Star, FEMP-designated or WaterSense products where available.
7. Do not use space heaters.
8. Keep windows and doors closed when heating or cooling interior spaces.
9. Don't use a water hose to clean floors, sidewalks, or parking lot areas.
10. Know and support your Building Energy Monitor! Report malfunctioning or energy and water-wasting equipment to the BEM.

Brite

BRITE the 7-foot Compact Florescent Light bulb


NAVAL AIR STATION MERIDIAN, MS
COMMANDER NAVY REGION SOUTHEAST
NAVFAC
NAVAL SUBMARINE BASE
KINGS BAY GEORGIA
NAS FORT WORTH
JOINT
NAVAL STATION
MAYPORT
FLORIDA
NEW ORLEANS
SUPPORT
NSA
NEW ORLEANS
NSA
ORLANDO
NAS CORPUS CHRISTI, TX
NAVAL CONSTRUCTION BATTALION CENTER
GULFPORT, MISSISSIPPI
NAVAL AIR STATION
PENSACOLA, FLORIDA
NAS WHITING FIELD
NAVAL SUPPORT ACTIVITY
PANAMA CITY
NAVAL AIR STATION
KEY WEST
FLORIDA
U.S. NAVAL STATION
GUANTANAMO BAY
CUBA