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Earth Day 2022: Invest in our Planet



Friday, April 22 marks the 52nd anniversary of Earth Day, the largest civic observance in the world that the Department of Defense (DoD) actively participates in.

Climate change is altering our planet right now - from contributing to severe weather events like the flooding at Naval Air Station Sigonella last fall to Naval Station Rota, Spain facing the driest start to the year since 2000, it creates conditions that are challenging nation states and proving catastrophic for communities around the world. Since 2010, the Department of Defense has acknowledged that the planet's changing climate has a dramatic effect on our missions, plans and installations.

Carlos Del Toro, Secretary of the Navy, issued his "One Navy-Marine Corps Team: Strategic Guidance" last October. The document articulates his vision to build, train, and equip the world's most powerful naval force to meet both today's operational demands and the warfighting needs of the future. He characterizes the most pressing challenges facing the Department of the Navy as the "Four Cs": China, Culture, Climate Change and COVID.



SECNAV Del Toro directs our Department to stand as a global leader in taking action on and adapting to climate change. NAVFAC EURAFCENT has energy managers and environmental staff at each of our public works departments leading our efforts to ensure we are doing all we can to operate in the most environmentally friendly manner and this commitment is

evident in everything we do.

We are improving stormwater drainage systems to mitigate flooding. Constructing solar energy fields to reduce our demand for commercial electricity. Replacing outdated and inefficient heating, cooling and lighting systems to conserve energy. Designing new construction and renovation projects to maximize efficiency and minimize environmental impacts, etc.



Outside of our efforts and accomplishments as an organization, remember that every one of us plays a part in combating the impacts of climate change. Science, innovation and human

ingenuity can make Earth resilient to climate driven changes at home and abroad.

Earth Day 2022: Invest in our Planet.



NAVFAC Earth Day Events



Redzikowo, Poland

- Tree planting & bunker clean-up

Deveselu, Romania

- Base beautification to plant flowers & install cisterns to collect rainwater for the garden boxes
- Trash pickup day with the Romanian military

Rota, Spain

- Coastal cleanup at Admiral's Beach & Rio Salado

Naples, Italy

- Base cleanup at Naval Support Site & "5k Run for the Planet"

Bahrain

- Base cleanup, symbolic tree planting and info booth

Souda Bay, Greece

- Kicking off a solar microgrid project on April 6



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Since we operate on land owned by our host nations, NAVFAC Public Works Departments and our installations have a special environmental stewardship responsibility. Our host nation partners count on us to preserve their natural and cultural resources and to operate in an environmentally friendly manner. It is an important part of our mission - and a responsibility that we take seriously.

In addition to our efforts aimed at reducing carbon emissions, minimizing waste, developing and executing water and energy efficiency projects, improving recycling methods, etc., we are also doing all that we can to occupy our installations in an environmentally conscious manner. Protecting the flora, fauna, archaeological sites and culturally significant properties are another aspect of how we are investing in our planet.

This issue of our newsletter is intended to illustrate just a fraction of the initiatives, projects and activities our NAVFAC EURAFCENT Public Works Departments are involved in. NAVFAC is on the front lines at the installations as we combat climate change and protect our environment.

Below is a list of frequently used terms you may find helpful while reading this newsletter:

- **Energy Saving Performance Contract (ESPC)** - a partnership between a federal agency and an energy service company (ESCO). After being selected for a potential award, the ESCO conducts a comprehensive facility energy audit and identifies improvements to save energy. In consultation with the agency, the ESCO designs and constructs a project that meets the agency's needs and arranges financing to pay for the project. The ESCO guarantees that the improvements will generate sufficient energy cost savings to pay for the project over the term of the contract. After the contract ends, all cost savings accrue to the agency. The agency is responsible for contract administration for the entire term of the contract.
- **Carbon emissions**—Carbon dioxide (CO₂) makes up the vast majority of greenhouse gas emissions, but smaller amounts of methane (CH₄) and nitrous oxide (N₂) are also emitted. These gases are released during the combustion of fossil fuels, such as coal, oil, gas and natural gas.
- **Carbon footprint**—the total amount of greenhouse gases that are generated by our actions.
- **Carbon emission measurements**— Measuring 27' x 27' x 27' is a Carbon dioxide (CO₂) Cube which represents one metric ton of carbon dioxide. The structure reflects the carbon footprint that an average citizen in an industrialized country produces in one month.
- **Energy resilience**—the ability to avoid, prepare for, minimize, adapt to and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including mission essential operations related to readiness, and to execute or rapidly reestablish mission essential requirements.
- **Fauna and Flora**—the animals and plants of a particular region, habitat or geological period.
- **Megawatt—(MW)** is 1 million watts. A watt is often used to describe the peak or maximum capacity of an electric device, like a light bulb or a power generator.
- **Tri-generation Plant**—co-generation produces electricity and heating, whereas tri-generation produces electricity, heating and cooling. Benefits include using the heat by-produce of combustion to decrease energy costs and increase efficiency to up to 80% lower CO₂ and greenhouse gas emissions.

Public Works Department Redzikowo, Poland

Naval Support Facility Redzikowo, Poland is the newest facility within Navy Region Europe, Africa, Central. The installation has been designed and built using energy and water efficient, low environmental impact technologies and materials.

In addition to building and facility conservation and resiliency efforts, PWD Redzikowo recently received approval for an Electric Vehicle Support Equipment (EVSE) project and will soon be installing three electric vehicle charging stations.

Throughout the construction process, PWD personnel have been active protecting wildlife and cultural resources as part of our commitment to be good stewards of our environment.



A Cultural Resources Management Plan is in development. There is a potential for architectural resources to be onsite from a former WWII German military airfield located there from 1935-1945.



Peacock Butterfly



Sand Lizard

Naval Air Station (NAS), Sigonella Public Works Department completed construction on an Energy Saving Performance Contract (ESPC) last October.

Part of the contract included the installation of LED lighting on the sports field on NAS 2 (right). This new lighting system provides higher quality lighting and cuts the energy consumption by 70%.

This is the largest ESPC project done in Sigonella. This contract included four different tasks: 1) Installing interior and exterior lighting systems; 2) Installing remote building controls; 3) Replacing or installing electric motors used in heating and cooling systems to more energy efficient models and; 4) Constructing three photovoltaic systems estimated to provide approximately 25% of the power demand on NAS 1 and NAS 2.

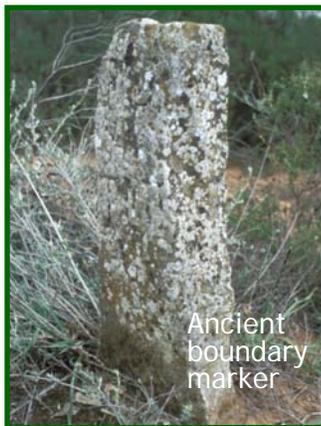
*****NAS Sigonella estimates approximately \$1.2 million in energy savings annually*****

As with all of our installations, NAS Sigonella is steeped in history and rich in biodiversity. All of the installations we support have different environmental considerations. In addition to bird surveys to detect species in need of protection, since NAS hosts aviation commands, the surveys also provide information for the Bird/Animal Aircraft Strike Hazard program.

Sigonella is home to red foxes (lower left) and yellow wagtails (upper right). There are ancient boundary markers around the installation (left) and a large copse of Cork Oak Trees along with many other flora, fauna and historically significant items our PWD Environmental staff watch over.



New high efficiency lighting on the baseball field



Ancient boundary marker



Yellow Wagtail



Red Fox



Cork Oak Trees



Green Toad



European Souslik



Naval Support Facility Deveselu is another of the newer installations in the Region constructed with water and energy efficiency, resiliency and conservation as a priority of design and construction.

As standard practices, prior to any peacetime military construction, a site assessment is done to locate and identify flora, fauna and artifacts that should be considered, and possibly mitigated for, during site layout and construction. Above are just two examples of native wildlife species we share the installation with. A Cultural Resources Management Plan is also in development. The photo above shows areas where there is potential for archaeological and historical resources as there are numerous known sites throughout the surrounding areas.

Naval Station Rota Public Works Department completed a photovoltaic (PV) power plant last October as part of an Energy Savings Performance Contract (ESPC). The PV (solar) power plant provides a total of 5 megawatts (MW) of power to the installation. The energy provided by this PV plant is expected to reach approximately 12,000 megawatt-hours (MWh) on average annually. This should reduce the annual electric bill by over \$1 million and carbon dioxide (CO2) emissions by over 2,000 tons, which is similar to what approximately 400 average American cars emit into the atmosphere in one single year.



Lt. Shane Thames, David Barbosa, Installation Energy Manager, Lt. Andy Lee and Lt. Brent Frazer gather in front of the 5 MW photovoltaic power plant operational since last October onboard NAVSTA Rota

In addition to this completed alternative energy project, NAVSTA Rota has recently awarded a contract for the construction of an additional 1 MW PV plant and is in the planning phase for an energy security project that will enhance the resiliency of the installation as well as improve the control of all generated and consumed energy onboard the installation. The project, if funded, will provide energy storage to the PV plants in operation, centralized controls of all generating assets, different industrial control systems (ICS) and several utility improvements that will make NAVSTA Rota more resilient to electrical outages. The project will also include two PV carports.



Protecting cultural resources including ceramics found from a 5th century B.C. Punic (Phoenician) site with possible Roman artifacts, such as this pottery from 185 BC-385 AD



Protection of Common Chameleon



Protection of the oldest stands of Stone Pine trees on the Iberian Peninsula

Camp Lemonnier, Djibouti (CLDJ) has an Enhanced Energy Security and Control Systems Project planned for award in 2023. The project will reduce the energy consumed over a period of time by installing more efficient lighting, controls and building envelope upgrades. Estimates are the project will reduce Carbon Dioxide (CO2) emissions by 10,816,258 lbs over the next 20 years with a total of 216,325,169 lbs saved over the life of the project.

Also in the planning stage is a new power plant programmed for FY24. The plant will provide 27 MW of electrical power (current demand is 20 MW.) The use of ultra-low sulfur diesel fuel, the provision of Selective Catalytic Reduction systems, the use of Diesel Exhaust Fluid systems, and emissions monitoring and control systems will greatly reduce greenhouse gas emission.

Last on the current list of future energy projects is a Power Purchase Agreement under development for FY24 that will supply the camp with 5 MW of solar energy with the use of a Battery Energy Storage System.

In addition to electrical/power improvements, PWD CLDJ, located in a harsh, dry environment with a long history of human civilizations, is constantly seeking innovative methods to conserve, reuse and manage water while also protecting culturally sensitive items and sites.



Expanding use of reclaimed water



Habitat enhancement with native plantings



Protecting archaeologically sensitive areas

Naval Support Activity Public Works Department Naples is nearing completion on a \$21 million Energy Saving Performance Contract (ESPC) that includes five main components:

- 1) Upgrade or replace the existing temperature regulators in the buildings;
 - 2) Replace all interior lighting to LED fixtures, including occupancy and dimming sensors;
 - 3) Install a new Tri-generation plant;
 - 4) Replace all faucets with new automatic low-flow water fixtures and;
 - 5) Improve the data center cooling system.
- This project will provide energy resiliency and is estimated to save the Navy approximately \$70 million over the cost of the project life (up to 2043.)

In addition to reducing carbon emissions, saving water and energy and lowering costs, PWD Naples personnel are also protecting breeding birds in Carney Park and protecting and maintaining archeological sites in Gricignano to name just a few ways the Navy is being a good steward of the environment in Italy.



European Turtle Dove



Roman burial shafts



Eurasian Scops-owl
(Photo by Maurizio Fraissinet)

Naval Support Activity Souda Bay Public Works Department recently completed an Air Emission Inventory which included gathering data and validating information in order to assemble an air emissions inventory report. The report will include recommendations for actions needed to insure the installation does not exceed Navy and Greek greenhouse gas emission levels.

As part of ongoing efforts to improve installation resiliency, a project to replace generators at the Backup Generator Plant is underway. The generators will be sized to feed all existing and possible near-future electrical power needs within the installation to ensure that all critical facilities operate during any outages. Another resiliency project for an Advanced Microgrid is in conceptual design. A "microgrid" is a local energy grid with control capability, which means it can disconnect from the traditional grid and operate autonomously. New electrical power lines and repairing electrical distribution substations are projects also underway that will contribute to greater installation resiliency.

A project aimed at reducing energy use includes the integration of an Energy Management Control System at 19 facilities for measuring, monitoring and optimizing energy and water usage.

PWD Environmental is actively engaged in multiple projects including their ongoing bat surveys to determine which species, including protected species, use the installation throughout the year.



Preserving Marathi Cave (Marathosplio) cave entrance.



European Free-tailed bat



Little Ringed Plover nest

Protecting native species



Olive Trees

Using grey water for irrigation

Public Works Department, Naval Support Activity Bahrain, is currently engaged in a proposal for a major Energy Saving Performance Contract that will include eight technology categories: 1) Chiller plant improvements; 2) Building Automation Systems (BAS) / Energy Management Control Systems (EMCS); 3) Heating, Ventilating, and Air Conditioning (HVAC) improvements; 4) Lighting Improvements; 5) Building envelopment improvement; 6) Electric Motors and Drives; 7) Renewable Energy Systems and: 8) Power factor corrections. If approved, the main project in the proposal will replace/update existing inefficient systems and new construction will only be for Photovoltaic (PV) panels and renewable energy technologies.

Projects on ISA Air Base include the replacement of aging reverse osmosis units and constructing multiple lift stations to lead to one centralized collection system in order to save fuel and time for water/wastewater pickup. PWD recently replaced ceiling panels/insulation at the galley with materials and products with low or no pollutant emissions to improve the efficiency of the insulation system significantly reducing energy use. The team also replaced an outdated HVAC system with energy star rated equipment greatly reducing energy consumption in one of their larger buildings.



Ms. Hawra Abuldress and Mr. Mohamed Fairouzaddin, PWD Environmental, distributed Earth Day information and freebies earlier this week from their info booth set up outside the NEX



Continuing to seek more ways to use the abundance and reliability of sunlight in Bahrain, the team repaired all 123 existing solar light poles on Isa Air Base to work as efficiently as possible. Installation environmental encourages all commands and individuals to only plant native flowers, plants and trees on the compound promoting native, drought tolerant desert vegetation to prevent soil erosion, protect ecosystem function and local biodiversity.

CONGRATULATIONS ARE IN ORDER....

NAVFAC EURAFCENT SAILORS OF THE QUARTER (1st Quarter, FY22):

The Sailor of the Quarter program recognizes the superior performance of enlisted personnel and emphasize outstanding achievement, exemplary personal conduct, exceptional military bearing, and superb initiative.

- Blue Jacket of the Quarter: CMCN Harper Cressman, PWD Naples
- Junior Sailor of the Quarter: CE2 Quenniemay Galarpe, PWD Bahrain
- Senior Sailor of the Quarter: NC1 Pedro Samame, Core Staff, Naples (right photo).



Capt. Harder presents NC1 Pedro Samame, Career Counselor, NAVFAC EURAFCENT, with a certificate announcing his selection as the Senior Sailor of the Quarter, 1st Quarter, FY 22. (photo by YN1 Ryheem Maxie, FEC, Naples)

MERITORIOUS ADVANCEMENT PROGRAM:

The Meritorious Advancement Program (MAP) was implemented by the Navy to empower CO's to immediately advance E5 and below Sailors who have demonstrated that they are the best and most fully qualified through their superb skills, knowledge, competency and capability. Most sailors will go through their entire careers "making rate" through the annual advancement exams. The Sailors selected for meritorious advancement have demonstrated their character and competency are running faster than the standard Navy advancement process can support. The following sailors were selected and are identified with their advanced rank:

- BU3 Tyler Dovayak, PWD Sigonella
- BU3 Armend Berisha, PWD Souda Bay
- EO2 Trevor Sanders, PWD Naples
- UT2 Brandon Salmon, PWD Souda Bay
- CE1 Arthur Bernal, PWD Rota
- UT1 Matthew Swyers, PWD Souda Bay



Cmdr. Adam Kushner, left, PWO, Naval Support Activity Bahrain presents BUCN Jainandpal Singh with a Navy and Marine Corps Achievement Medal April 14 for his superior performance serving as a crewmember of PWD Bahrain from April 2021 to April 2022. (photo by CE2 Quenniemay Galarpe, PWD Bahrain)