

U.S. Army Reserve: Leading the Way in Energy and Sustainability

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Chief Executive Officer

U.S. Army Reserve Command

Presented to the Association of Climate Change Officers

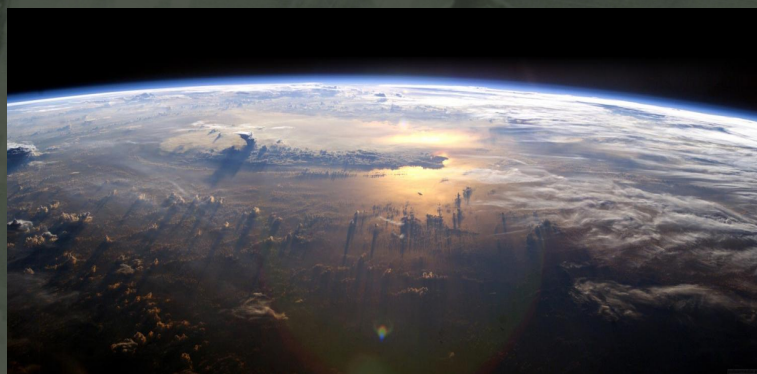


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25 June 2012

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“There’s something happening here...What it is ain’t exactly clear....” *Buffalo Springfield, 1967*



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The Challenge

Supply of life-supporting resources
Declining



Rising
Consumption of life-supporting resources



Consequences:

- Mission constraints
- Resource scarcity
- Resource degradation
- Resource competition
- Security threats
- Public concerns
- Reduced well-being



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Strategic Implications: International

- Climate change may act as a *threat multiplier* for instability in some of the most volatile regions of the world
- Demand for Humanitarian Assistance/Disaster Relief operations is likely to increase amid state failures and insurgency, mass migrations, disease and increased competition for limited resources
- The Army Reserve must be trained and ready to respond to both these, and traditional security concerns



Littoral Populations at Risk

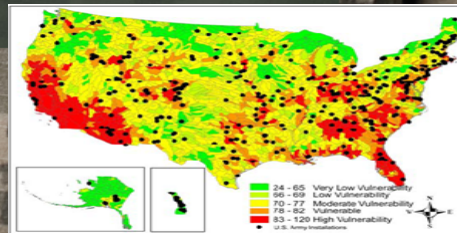


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Strategic Implications: Domestic

- Regional implications of climate change
- Availability of natural and manmade resources could affect the ability to support soldier training
- Effects may exacerbate existing stresses on fragile ecosystems increasing threatened and endangered species impacts to military training
- Sea level rise and loss of permafrost could impact Army coastal and cold region infrastructure
- Changes in Federal, State and Local requirements in response to climate change

Drought-Vulnerable Watersheds



The Army Reserve...

...represents:

- more than 2/3 of the Army's Expeditionary Sustainment Commands
- nearly half of the Army's Supply Units
- 100% of the Army's Water Supply Battalions, Theater Engineer Commands

...is comprised of:

over 205,000 highly skilled Citizen-Soldiers with a broad range of specialties that are valuable in both the military and civilian sectors



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The Army Reserve – Who Are We?

VISION: As an enduring operational force, the Army Reserve is the premier force provider of America's Citizen-Soldiers for planned and emerging missions at home and abroad. Enhanced by civilian skills that serve as a *force multiplier*, we deliver vital military capabilities essential to the *Total Force*.

MISSION: Provide trained, equipped and ready Soldiers and cohesive units to meet global requirements across the full spectrum of operations.



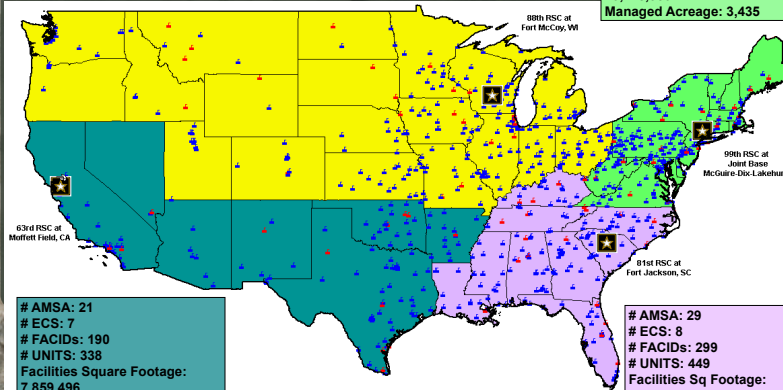
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The Army Reserve – Where Are We?

AMSA: 40
ECS: 7
FACIDs: 336
UNITS: 654
Facilities Square Footage:
15,643,277
Managed Acreage: 11,468

Bldg Avg. Age
39.2 years

AMSA: 25
ECS: 6
FACIDs: 286
UNITS: 472
Facilities Square Footage:
10,218,980
Managed Acreage: 3,435



AMSA: 21
ECS: 7
FACIDs: 190
UNITS: 338
Facilities Square Footage:
7,859,496
Managed Acreage: 3,416

AMSA: 29
ECS: 8
FACIDs: 299
UNITS: 449
Facilities Sq Footage:
8,241,024
Managed Acreage: 1,515



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Sustainability and Energy Initiatives

- Climate change is linked to sustainability, energy use, economic realities and the resulting green house gas emissions
- The DOD is the largest single energy consumer in the nation
- Converging risks of climate change and our energy posture pose a significant security threat
- The Army Reserve is seeking to diversify our energy sources and pursuing energy alternatives to reduce the threat
- The Army Reserve is seeking to reduce the Army's *Carbon Boot Print*



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Army Reserve Sustainability

LOOKING THROUGH THE LENS OF THE
TRIPLE BOTTOM LINE ...



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“Economic Impact”

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Army Reserve – Metering



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Army Reserve – Sustainable Construction



Armed Forces Reserve Center Middletown, CT June 2011



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Army Reserve – Solar



REC SOLAR

PROPOSED SOLAR ARRAY
ARMED FORCES RESERVE CENTER - TELETYPE CENTER

Array Type	Carport, High clearance
SW-DC	163.98
SW-AC	89.96
Production Approx kWh	127,000 (kWh)
Indicative Price per Watt	\$7.04
Project Price	\$799,000

SYSTEM EQUIPMENT

INVERTER	1000000
MONITORING	1000000
WARRANTY	1000000
CONCRETE	1000000
PERMITS	1000000
LABOR	1000000
TRANSPORT	1000000
DESIGN	1000000
NET METER	1000000
INTERCONNECT	1000000
SALES TAX	1000000
TOTAL	10000000

SYSTEM INFORMATION

REC SOLAR, INC.	ARMED FORCES RESERVE CENTER	1000000
1000000	1000000	1000000
1000000	1000000	1000000
1000000	1000000	1000000

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Army Reserve – Wind



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Army Reserve – Hydrogen Fuel Cells



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Army Reserve – Net-Zero



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Army Reserve – Net-Zero



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Army Reserve – Operational Energy



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The Way Ahead

- Army Reserve senior leadership is dedicated to embracing alternative energy and sustainable practices, making the Army Reserve an example for the rest of the military
- Our Citizen Soldiers will have the energy resources required for training, deployment or support to civil authorities in any future contingency. This will enable the Army Reserve to remain an operational force—standing ready to respond to domestic emergencies while protecting national security interests abroad
- Civilians in our communities will be ensured reliable access to energy resources
- The Army Reserve will coordinate interdependent resources, harmonizing functions and sharing information to implement mature technologies and develop emerging ones
- Army Reserve Citizen Soldiers will gain advanced skills that will give them a competitive advantage in the job market



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"Yes, there are two paths you can go by, but in the long run, there's still time to change the road you're on..."

Led Zeppelin, 1971



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**“Do what you can, with what you have,
where you are.”** *Theodore Roosevelt*



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Questions?

www.armyreserve.army.mil



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