



NATIONAL CONFERENCE  
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# STRENGTHENING MILITARY- COMMUNITY PARTNERSHIPS

LAND USE, CLEAN ENERGY AND MISSION CHANGE



# STRENGTHENING MILITARY- COMMUNITY PARTNERSHIPS LAND USE, CLEAN ENERGY AND MISSION CHANGE

By  
Christina L. Nelson  
and  
Larry Morandi



NATIONAL CONFERENCE  
*of* STATE LEGISLATURES  
*The Forum for America's Ideas*

William T. Pound  
Executive Director

7700 East First Place  
Denver, CO 80230  
(303) 364-7700

444 North Capitol Street, N.W., Suite 515  
Washington, D.C. 20001  
(202) 624-5400  
[www.ncsl.org](http://www.ncsl.org)

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- To ensure state legislatures a strong, cohesive voice in the federal system.

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# INTRODUCTION

The National Conference of State Legislatures (NCSL) appreciates the opportunity to partner with the Department of Defense (DoD) in a project to inform the department, its military branch personnel and state legislators of policy options for sustaining a military installation's operation through changing times. This report introduces the subject of defense community sustainability and the most pressing current issues surrounding it and offers background and examples of policy options and actions to address those issues.

Three particular areas are highlighted where sustainable practices may be employed to help develop foresight and flexibility to meet future challenges and strengthen the installation/community relationship. Included is a review of state legislative sustainability strategies with a focus on laws statehouses may pass to ensure compatible land use near military installations. Next, clean energy and environmental practices are highlighted that military installations may use to sustain their resources by transforming the energy supply and demand mix. Finally, the overall development of installation/community partnerships is examined to help plan and share the costs of a defense community's strategy for change.

## Sustainability Issues

### *Land Use Sustainability*

The rapid pace of urban growth into formerly undeveloped lands near military installations presents two potential problems: New residents may be concerned about safety issues in regard to nearby military activities, and installations may find that important training exercises are compromised because of proximity to the civilian population.

The responsibility for managing community growth and development rests with state and local governments that exercise land use authority. The first section of this report examines state sustainability practices, particularly state laws that may prevent encroachment into the buffer zone of undeveloped land surrounding an installation by a community that is experiencing rapid growth. Through state-mandated land use planning, the military can be assured that its practices are not compromised, while the community can continue to seek economic strength through growth and protection of valuable natural resources.

The issues facing the Department of Defense, military installation commanders, and state and local decision makers have expanded beyond encroachment to include broader sustainability concerns. This is particularly important in those states where military installations have been realigned and facilities face significant growth in personnel and operations. How these installations affect local communities—in terms of demand for additional transportation, water and energy infrastructure, housing and schools—may be as important as the land development issues that prompted encroachment concerns.

### *Energy and Environmental Sustainability*

The second section of this report focuses on military installation sustainability practices related to clean energy. When a defense facility commits to clean energy use—including energy efficiency and renewable resources—that facility helps safeguard its future energy needs in a landscape of ever-increasing demand. Becoming more energy independent secures an installation's overall mission, makes fiscal sense, and lessens the environmental effects on the community at large.

### *Community Sustainability*

The final section examines community sustainability through periods of change with installation/state/federal collaboration on planning and cost-sharing. As a military installation and its surrounding community become more dependent upon one another for support during transitional phases (growth, realignment or closure), a respectful and resilient relationship that fosters communication and cooperation is essential.

# 1. LAND USE SUSTAINABILITY PRACTICES

Encroachment is the cumulative effect of uncontrolled urban development that impedes the military's ability to carry out its testing and training missions on affected bases. The rapid pace of urban growth into rural areas around military installations and ranges presents two sets of encroachment problems. As residential and commercial development increases in areas near military bases, residents may be exposed to aircraft over-flights, dust and noise from military activities. In addition, important military training exercises may be compromised by the encroaching development. These potentially competing interests could result in incompatible use of land, air, water and other resources, but may be mitigated with state legislative intervention.

## **State/Military Encroachment Legislation—Policy Options**

State legislatures historically have used existing local comprehensive planning statutes that authorize or require counties and municipalities to adopt land use plans and regulations as the basis for new laws to address encroachment concerns. Encroachment policy options build upon these existing laws by:

- Requiring local governments to identify lands adjacent to military installations and adopt strategies to ensure that incompatible development does not occur; and
- Expanding existing requirements that the military installation commander be notified and offered an opportunity to submit comments on the proposed change prior to a public hearing or planning/zoning change.



In addition, state legislatures have set up special revolving loan and grant funds, appropriated general fund revenue, and authorized the use of bond proceeds dedicated to open space preservation to purchase title or development rights to lands that would serve as buffers between military bases and expanding urban growth. Other land conservation tools that build upon existing statutory strategies may be used to offer incentives to local governments and landowners to preserve open space and farmland near military installations. These tools include:

- Expansion of local government authority to purchase land for the continued operation of a military facility in addition to land conservation purposes;
- Transfer of development rights from rural lands adjacent to military bases to urban areas that can accommodate increased density; and
- Tax credits for the donation of conservation easements on lands with open space or agricultural values.

## State Encroachment Legislation Categories

State legislatures in recent years have passed laws designed to prevent or mitigate the effects of encroachment. At least 20 states have enacted land use-related laws to address encroachment concerns, and three-fourths of them have done so in the last three legislative sessions. The types of land use laws fall into three categories.

- **Land Use Planning.** Requires local governments to include in comprehensive plans criteria to be considered to ensure that land use adjacent to a military base is compatible with the military mission.
- **Notification of Military.** Creates or expands procedural requirements to provide planning and zoning information to the military and creates a specific mechanism for the military to comment on how the proposed development or planning change affects the military mission.
- **Land Conservation.** Allocation of state resources for open space protection such as acquisition of title or development rights to land, conservation easements or transfer of development rights to restore and preserve open space and farmland or protect land from incompatible development.

Table 1 contains statutory citations for legislation adopted in each of the 20 states with relevant land use laws.

<b>Table 1. State Encroachment Legislation</b>			
<b>State</b>	<b>Land Use Planning</b>	<b>Notification of Military</b>	<b>Land Conservation</b>
<b>Arizona</b>	Ariz. Rev. Stat. §§2-321, 2-335, 2-336, 9-461.05, 11-806, 28-8461, 28-8481	Ariz. Rev. Stat. §§9-461.06, 9-462.04, 11-829, 28-8461, 28-8481	Ariz. Rev. Stat. §28-8480
<b>Arkansas</b>	Ark. Code §14-56-426		
<b>California</b>	Cal. Govt. Code §65302	Cal. Pub. Res. Code §21098, Cal. Govt. Code §§65352, 65404, 65940	
<b>Colorado</b>		Colo. Rev. Stat. §29-1-207	
<b>Florida</b>	Fla. Stat. §163.3177	Fla. Stat. §163.3175	Fla. Stat. §§215.618, 259.105
<b>Georgia</b>	Ga. Code Ann. §36-66-6	Ga. Code Ann. §36-66-6	
<b>Illinois</b>	Ill. Rev. Stat ch. 620, §§52/1 et seq.		
<b>Indiana</b>	Ind. Code §§36-7-30.1 et seq.	Ind. Code §§36-7-30.1 et seq.	
<b>Kentucky</b>	Ky. Rev. Stat. §100.187	Ky. Rev. Stat. §100.187	
<b>Louisiana</b>		La. Rev. Stat. Ann. §§33.4734, 33.4780.51	
<b>Massachusetts</b>		Mass. Gen. Laws 40B §4C	
<b>Missouri</b>	Mo. Rev. Stat. §143.121		
<b>New Jersey</b>		N.J. Rev. Stat. §§40:55D-12.4, 40:55D-62.1	
<b>North Carolina</b>		N.C. Gen Stat. §§153A-323, 160A-364	2004 N.C. Sess. Laws, Chap. 179 §§2.2, 2.3
<b>Oklahoma</b>	Okla. Rev. Stat. §11-43-101.1		
<b>South Carolina</b>		S.C. Code §6-29-1530	
<b>South Dakota</b>	S.D. Codified Laws §§50-10-32 et seq.		
<b>Texas</b>	Tex. Local Govt. Code §397.001 et seq.		
<b>Virginia</b>	Va. Code §§15.2-2223, 15.2-2283, 2006 Va. Acts, Chap. 328	Va. Code §15.2-2204	Va. Code §§15.2-2316.1 et seq.
<b>Washington</b>	Wash. Rev. Code §36.70A.530	Wash. Rev. Code §36.70A.530	

**Source:** National Conference of State Legislatures, 2006.

## State Case Studies

Arizona, California, Florida, North Carolina and Virginia have been leaders in passing legislation to prevent or mitigate encroachment. The purpose and objectives of this legislation are highlighted in the following case studies.

### Arizona

#### *Land Use Planning*

- Requires counties and municipalities to include in the land use element of their comprehensive plans consideration of military airports or ancillary military facilities.
- Requires counties and municipalities to adopt land use plans and zoning regulations to ensure compatible development around military airports and ancillary military facilities.
- Requires counties and cities to identify high noise and accident potential areas within their comprehensive plans.
- Requires municipalities and counties to submit their comprehensive plans to the state attorney general before they are adopted for review and comment.

#### *Notification of Military*

- Requires municipalities and counties to notify a nearby military airport of any proposed changes to a local government's comprehensive plan or zoning regulations before adoption.
- Requests comments from the military airport on the proposed planning or zoning changes.

#### *Land Conservation*

- Authorizes a political subdivision of the state to acquire title or development rights to land for the continued operation of a military airport or ancillary military facility.
- Authorizes counties to approve transfer of development rights to prevent incompatible growth near a military airfield or ancillary military facility.

### California

#### *Land Use Planning*

- Requires municipalities and counties to include in the land use element of their general plans and zoning ordinances consideration of the effects of growth on military installations.

- Adds to the definition of open space within a local government general plan areas that are adjacent to a military installation, military training route and underlying restricted airspace.

### ***Notification of Military***

- Requires municipalities and counties to notify a military installation of any proposed changes to a local government's general plan that are within 1,000 feet of the military installation or within special use airspace or beneath a low-level flight path before the changes are adopted.
- Requires state and local government agencies to submit to a nearby military installation applications for development that fall within the boundaries cited above for military consultation with the agency and developer to discuss the potential effects on the military installation.

## **Florida**

### ***Land Use Planning***

- Requires local governments to include in their comprehensive plans criteria to ensure that land use adjacent or in close proximity to military installations is compatible with the military installation's use.
- Amended comprehensive plans must be submitted to the state Department of Community Affairs by June 30, 2006.
- Requires local governments to evaluate the successes of their amended plans in achieving compatible land use.

### ***Notification of Military***

- Requires municipalities and counties to notify a military installation within their jurisdiction of any proposed changes to a local government's comprehensive plan or zoning regulations that would affect the military installation before the changes are adopted.
- Provides an opportunity for the military to review and comment on the proposed changes and requires the local government to consider the military's comments before making a decision.
- Adds a military official to a local government's planning or zoning board to serve as an ex-officio, nonvoting member to provide input on land use decisions that might affect military installations in the area.

### ***Land Conservation***

“Florida Forever”—a \$3 billion bond program passed by the Legislature in 1999 for 10 years to acquire land for conservation purposes—is using funds to acquire military encroachment buffer lands in the Northwest Florida Greenway.

## **North Carolina**

### ***Notification of Military***

- Requires municipalities and counties to notify a military installation of any proposed changes to a local government’s zoning regulations that would affect land uses within 5 miles of the military installation before a public hearing on the proposed changes.
- Requires the local government to consider the military’s comments before making a decision.

### ***Land Conservation***

- Authorizes state bonds totaling \$20 million to acquire title or conservation easements to up to 17,000 acres of land near military bases; up to \$12 million of that amount may be expended by July 1, 2005.

## **Virginia**

### ***Land Use Planning***

- Authorizes municipalities and counties to include in their comprehensive plans the location of military installations and adjacent safety areas.
- Requires municipal or county zoning ordinances to give reasonable consideration to protecting military installations and adjacent safety areas from encroaching development.
- Requires a municipality or county in which a U.S. Navy Master Jet Base is located to (a) adopt zoning ordinances that follow Navy Air Installation Compatible Use Zone (AICUZ) guidelines in considering land development applications in high-noise level areas; (b) evaluate undeveloped properties in such areas to determine their suitability for rezoning to comply with AICUZ guidelines; and (c) adopt land use actions recommended in any Joint Land Use Study approved by the local government.

### ***Notification of Military***

- Requires municipalities and counties to notify a military installation of any proposed changes to a local government’s comprehensive plan or zoning regulations that would affect land

uses within 3,000 feet of the military installation and to invite submission of comments.

### ***Land Conservation***

- Requires a municipality or county in which a U.S. Navy Master Jet Base is located to establish programs to (a) purchase title or development rights to land beneath the flight path between the Master Jet Base and the auxiliary landing field; and (b) purchase or condemn property in the Accident Potential Zone 1 and Clear Zone areas to prevent incompatible development.
- Although not specific to land near military installations, establishes a program authorizing municipalities and counties to transfer the development rights to land within its jurisdiction to conserve land for appropriate uses and promote the public health, safety and welfare.

States have taken a variety of approaches designed to address encroachment concerns and meet the unique needs of their communities. Lawmakers and military officials in similarly situated states may benefit from these experiences as they implement proactive strategies for balancing the sustainability of local installations and healthy urban development.

## 2. ENERGY AND ENVIRONMENTAL SUSTAINABILITY PRACTICES

Just as a community can begin to encroach on the lands surrounding a military installation, so might the installation affect the limited resources and infrastructure of the surrounding community. The Department of Defense is the largest single consumer of energy in the nation, responsible for approximately 78 percent of federal government usage.<sup>1</sup> Because total U.S. energy demand is expected to increase by about one-third during the next two decades<sup>2</sup> and military facilities often rely on private energy markets, installations would be well-served to prepare today for future economic, security and environmental changes. States have taken the initiative to plan for a clean energy future, and many of their proven practices and policies may be replicated at the federal or local installation level.

### Department-Wide Efforts

At the department-wide level, many factors influence what steps DoD may take to plan for its energy needs over time. One factor is passage of congressional legislation that each fiscal year establishes laws such as the National Defense Authorization Act and the Department of Defense Appropriations Act. Through law, determinations are made on such matters as utility privatization at military installations and direct funding of The Energy Conservation Investment Program to support projects that save energy and water usage and reduce costs.

The president also may issue an executive order (EO) to regulate certain actions undertaken by the government. In 1999, President Bill Clinton issued EO 13123, *Greening the Government through Efficient Energy Management*. As the nation's largest energy consumer, the federal government sought to lead the movement toward "...energy efficiency, water conservation, and the use of renewable energy products....[to] help foster markets for emerging technologies.... save taxpayer dollars, and reduce emissions that contribute to air pollution and global climate change."<sup>3</sup>

Other department-wide decisions are issued as directives, instructions, guidelines or memoranda from the White House, department secretaries or military officials. These directives also require government or department-wide actions to meet an overall goal, such as a 2001 directive by President George W. Bush to reduce energy consumption at peak demand—to include energy conservation, energy power generation and investments in energy efficiency. Specific to installation requirements, the Department of Defense reissued Instruction 4170.11, “Installation Energy Management,” in November 2005 to adjust to guidance in the Energy Policy Act of 2005 and to implement a DoD energy commodities directive. Requirements under this instruction and other department-specific policies are highlighted throughout this report.

Offices within the Defense Department also encourage and support department-wide efforts toward energy sustainability.

- The Defense Energy Support Center (DESC), originally established to manage the military’s petroleum needs during World War II, has expanded to cover multiple energy sources, supply and demand. Its current mission is to provide DoD and related agencies with “comprehensive energy solutions in the most effective and economical manner possible.”<sup>4</sup>
- The Defense Environmental Network and Information eXchange (DENIX) provides the department and surrounding communities with an information clearinghouse for environment, safety and occupational health news. Its resources aim to assist installations with, among other things, achieving greater energy efficiency.
- The Installations Policy Board has been selected to run the DoD Agency Energy Team, tasked with breaking down existing barriers to compliance with the department’s energy goals.
- DoD representatives also sit on interagency working groups to coordinate and share government-wide energy conservation information and strategies.<sup>5</sup>

## Installation Efforts

It is Department of Defense policy that the Deputy Under Secretary of Defense for Installations and Environment serve as the central manager for military installation energy policy.<sup>6</sup> In general, however, department philosophy allows its agencies and installations the flexibility to manage their own energy programs according to individual needs, as long as they meet the overall goals to increase energy efficiency, reduce energy waste and maintain



utility reliability. DoD Instruction 4170.11 states that military installations are responsible for “maintaining awareness, developing and implementing energy projects, ensuring that new construction uses sustainable design principles, and meeting energy goals.”<sup>7</sup>

Installations may adopt energy and environmental sustainability practices above and beyond federal dictate at the “local level” to reduce costs, environmental impacts, and vulnerability of basic mission duties to energy disruptions. This portion of the report highlights state efforts to maximize “clean energy” use, which military installations may seek to emulate as appropriate or, in many cases, that already are encouraged by federal law or department directive.

“Clean energy” efforts include energy efficiency (reduced demand), use of renewable energy (nonfossil energy sources), CHP—combined heat and power (cogeneration of power and heating from a single source), and clean distributed generation (from smaller, decentralized sources).<sup>8</sup> Depending upon a particular military installation’s energy needs and financial resources, it may take steps to maximize use of clean energy on a sliding scale, from long-term comprehensive planning and investment to smaller-scale, short-term solutions.

## **Long-Term Planning**

Long-term planning requires completion of a broad technical assessment to evaluate demand and supply resources in the area. Once a clear picture of base needs and sources is established, the role of clean energy in the overall security and fiscal sustainability of an installation can be determined. This assessment can be privately contracted or completed in-house, depending on the technical expertise and funds available to the base. Federal law actually requires government agencies (including DoD) to perform facility energy audits on approximately 10 percent of their facilities each year. The Defense Department suggests its installations handle the associated costs with already appropriated funds, by seeking alternative financing (explained in the “Buildings” section below), and/or by using the Renewable and Energy Efficiency Planning and the Federal Energy Decision Screening software.<sup>9</sup>

For installations that determine that a comprehensive assessment will be an economical investment over the life of the mission, lessons learned from that assessment can be converted into a viable action plan with help from the host state’s energy office. State energy offices

gather information on actions they have taken—such as efficiency/renewable programs and citizen/industry incentives—and provide a valuable resource that can inform installation officials of successful implementation methods. The National Association of State Energy Officials maintains a website with links to each state energy office ([www.naseo.org](http://www.naseo.org)).

## Clean Energy Options

Energy is a critical factor for sustaining the livelihood of our communities, including the buildings we work in and the homes we live in, the appliances and tools that make our lives easier and our work more efficient, and the transportation modes by which we traverse our towns. Military installations may begin tackling high energy consumption today through base-wide facility and motor fleet energy standards and military personnel housing and transport conservation incentives.

### *Buildings*

When states decide that employing clean energy options in their public buildings is a priority, they consider operation and management of existing facilities; potential retrofits or upgrades; and design standards for new construction.

Modifying how a building is managed can significantly reduce energy use and cost without the need for additional investment. Even slight changes to the timing or levels at which a facility's heating and cooling systems operate, for example, can cut energy bills and maintain a comfortable working environment. Similarly, watering landscapes at low-heat hours (early morning or twilight) will reduce water use and wastewater without damaging the natural environment. A Defense Department directive requires that its facilities be staffed with qualified energy program managers, operators and maintenance personnel and that training programs be conducted when necessary to ensure that facilities are operated efficiently.<sup>10</sup>

In addition to operational changes, simple retrofits that do require an initial funding outlay greatly enhance energy savings over time. Examples may include:

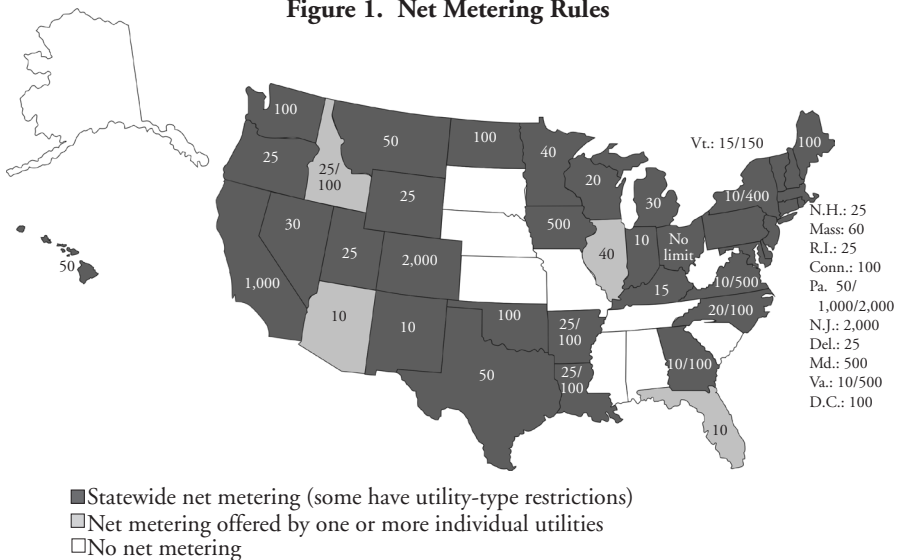
- Installing occupant sensors to ensure lights turn off when a room is empty.

- Replacing incandescent light bulbs with compact fluorescent ones, which can last 10 times longer and incur 75 percent lower operating costs over time.
- Weatherstripping and caulking windows to prevent escape of heat or cool air.
- Planting shade trees near homes and buildings in warmer climates to reduce air conditioning needs.

In 2006, the North Carolina legislature passed a bill (SB 402, Session Law 2006-190) that requires state and local governments to engage in energy and water conservation practices in the operation, maintenance and renovation of their facilities and equipment and in new design and construction. Operational and retrofit measures identified include installing storm windows, replacing lighting sources, and modifying operation of heating and cooling systems.

Larger-scale upgrades may include the installation of renewable energy systems on buildings. Depending upon the natural environment of the region, solar, wind or geothermal sources could help diversify a base's power and heating supply. Most states allow for some kind of "net metering" of these small systems, which allows the owner to sell back or gain credit for excess energy production (see figure 1). This energy then can be transmitted to the grid via interconnection rules and standards.

### Figure 1. Net Metering Rules



Number = system size limit in kilowatts; residential/commercial (if different)

**Source:** DSIRE—Database of State Incentives for Renewables and Efficiency, September 2006.

If investing in renewable energy systems or even simple retrofits seems beyond the fiscal means of an individual installation, alternative financing options are available that do not require monetary outlay. Some states contract with Energy Service Companies, which will finance energy assessments and retrofits. These companies recoup their investment and earn a negotiated profit by sharing in the energy cost savings. Once the contracted amount is met, often within two to 10 years, the state reaps the full monetary benefit of lower energy use.<sup>11</sup> Military installations also may enter into such contracts through the Energy Enterprise Office at the Defense Energy Support Center.

### *New Construction*

When some states experience community growth or need to replace aging structures, they now are required through state statute or executive order to ensure that new public buildings comply with national environmental standards—known as Leadership in Energy and Environmental Design (LEED)—created by the U.S. Green Building Council. LEED recognizes performance in five areas: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. LEED provides tools and standards not only for new construction, but also for a building's operation and maintenance, home design, and healthy community development, among others.<sup>12</sup>

In arid climates with limited freshwater supplies, water-cycle management and the adoption of water-sustainability practices are critical. LEED awards points toward certification levels for such water-saving practices as low-flow fixtures and sensor-driven automatic faucets inside the building and low water-use plant landscaping outside. LEED also encourages gray water reuse and rainwater harvesting.<sup>13</sup>

Some states require that LEED standards be met for all public buildings over a certain size (such as New Mexico at 15,000 square feet) or for publicly funded new construction or renovations over a certain cost (such as Michigan at \$1 million). Other states merely recommend adhering to LEED standards (Arkansas) or require it only when the standards can be met cost-effectively (Maine). This cost-effective guideline is similar to DoD requirements that a life-cycle cost analysis be performed when making most acquisition and investment decisions, including new construction design. The

directive requires that all new construction or major renovation meet the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) standards and strive for LEED-level performance.<sup>14</sup>

### *Appliances*

Energy efficiency standards also exist for household and commercial appliances. States tend to require efficiency for equipment that is commonly used and that requires the most energy input. Efficiency often is determined according to benchmarks provided by the Environmental Protection Agency's (EPA) and Department of Energy's (DOE) Energy Star program. This federal program asserts that compliance with its standards saved America \$12 billion in energy costs in 2005 and reduced greenhouse gasses by a degree equivalent to those expelled by 23 million cars. Energy Star labels products and management practices that meet strict energy efficiency and water conservation guidelines, and claims that use of its appliances (such as clothes dryers, refrigerators and dishwashers) consume 10 percent to 50 percent less energy and water than standard models.<sup>15</sup>

Even as federal law tightens appliance and water efficiency standards—such as those in the Energy Policy Act of 2005—some states have chosen to surpass them with additional product and compliance lists. At least eight states (most located on the west coast and northeast) have successfully passed and have begun to implement minimum energy efficiency standards for appliances that are not already covered by federal law. As with new construction projects, when life-cycle cost effective, the Defense Department requires its components to purchase “energy efficient standby power devices, Energy Star, Federal Energy Management Program (FEMP)-designated energy efficient products...and other products in the top 25 percent of energy efficiency.”<sup>16</sup>

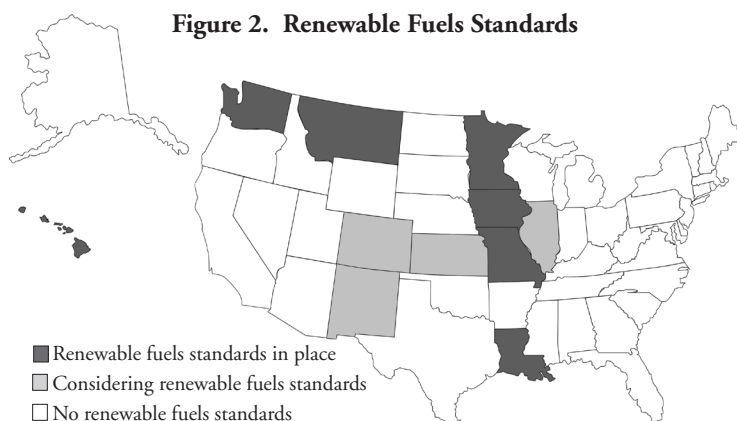
### *Transportation*

When strategists speak of U.S. energy independence and national security, they often target transportation fuels. In battlefield conditions, the military's designated fuel use obviously will depend upon readily available resources for the types of equipment operated in that theater. For daily use at installations around the country, however, multiple clean energy options exist.

Federal agencies and states currently are focusing clean energy transportation initiatives on “renewable fuels standards” for two main fuel sources: ethanol and biodiesel. Instead of using petroleum derived from fossil fuels, renewable fuels use oil extracted from crop seeds, such as corn and soybeans. Several states plan to mandate a certain percentage mix of ethanol in traditional gasoline in order to lower carbon emissions and reduce foreign oil demand without requiring new vehicle technology. Biodiesel also can be mixed (or used exclusively) to power current diesel engines.

The Energy Policy Act of 2005 included tax incentives for producers of ethanol and biodiesel and required a renewable fuels standard in the amount of 4 billion gallons in 2006, to rise to 7.5 billion by 2012. The EPA also issued a direct final rule in December 2005 that required a 2.78 percent nationwide renewable fuels mix by volume in 2006.<sup>17</sup>

Minnesota has been a leader in setting renewable fuels standards that supersede federally mandated levels. State law currently stipulates that all gasoline must contain 10 percent ethanol, elevated to 20 percent by 2013. Minnesota also requires that most diesel sold in the state include a 2 percent biodiesel mix.<sup>18</sup> Only a few other states have enacted renewable fuels standards (figure 2), but most states promote renewable fuel use and/or production with incentives such as tax credits or investment grants.<sup>19</sup>



**Source:** Green Car Congress, July 2006.

Another option for increasing fuel efficiency and reducing the effects of vehicles on the environment involves upgrading fleets. Some states are shifting their fleet acquisition strategy to include alternative fuel vehicles, such as hybrids or flex-fuel vehicles (that may run on a higher ethanol mix of up to 85 percent—E85). Many existing diesel trucks and equipment already may be capable of conversion to biodiesel use with simple and inexpensive modification. DOE's Energy Efficiency and Renewable Energy Office provides an online *Clean Fleet Guide* that features tools to help plan for green fleet or fuel conversion, including infrastructure development, cost calculators, and state and federal incentives and laws ([www.eere.energy.gov/fleetguide](http://www.eere.energy.gov/fleetguide)).

## Promoting Energy Conservation Programs

Conserving energy and water on a grand scale requires an enthusiastic group effort. For a comprehensive energy conservation program to be successful, base residents and employees, both military and civilian, must feel individually committed to the goal of maximizing clean energy use and preserving the environment. Promoting the benefits of energy and water efficiency and providing incentives to practice energy conservation can help motivate otherwise disinterested parties to contribute to the overall effort.

### *On-Site Publicity and Awards*

The Defense Department requires the heads of its various components to develop internal energy awareness programs to:

- Publicize energy conservation goals;
- Disseminate information about techniques to achieve them; and
- Promote energy efficiency awards and recognition.<sup>20</sup>

The department specifically recommends increasing awareness of energy goals and techniques through educational training courses and, more broadly, through publicity campaigns that use such resources as websites, handbooks and promotional displays.

Conservation awards are presented at various levels, from the White House and Department of Energy to DoD components, to recognize exceptional performance by an installation or particular individual. Each year, the federal government also highlights “showcase facilities” as models for the successful implementation of cost-effective energy efficiency, water conservation and renewable

energy technology.<sup>21</sup> One of the four 2006 winners was the 95<sup>th</sup> Air Base Wing Consolidated Support Facility at Edwards Air Force Base in California.<sup>22</sup>

### *Off-Site Incentives*

Clean energy practices need not cease when service members travel off-site. Respecting and preserving the surrounding community's energy sources and environmental quality will enhance goodwill among neighbors. One simple way an installation might promote consistent conservation efforts is through financial incentives for making clean energy choices.

Public transportation, for example, may not be the preferred mode of off-site travel for military personnel, but preferences can be swayed when competing benefits are added. Private employers who provide "transit commuter benefits" to their employees in the form of passes or vouchers have found a significant increase in public transportation use, and can deduct such costs as normal business expenses without federal payroll tax implications. The military is eligible for similar benefits, which vary according to local public transportation agency rules and are guided by federal law, such as the Transportation Equity Act for the 21<sup>st</sup> Century.<sup>23</sup>

A state's local or regional transit authority sometimes will provide promotional passes to active duty military personnel for complimentary travel during a certain time period or location range. As a "thank you" to its service members this year, Denver, Colorado's, Regional Transportation District offered free passes for November and December on any of its transportation modes to any of its locations.<sup>24</sup> Whether installation-paid or community-funded, public transportation incentives not only provide access and choice, but also reduce congestion, protect the environment and public health, and conserve fuels.

### *Resources*

The director of the Defense Logistics Agency is responsible for preparing an annual energy management report, using data from various department components collected under the Defense Energy Information System database and other resources. Federal law requires these reports to help the DOE and the Office of Management and Budget complete a government-wide analysis and implementation



plan, which also may help the Defense Department track and measure its performance from year to year. For installations and other components, the Defense Utility Energy Reporting System provides more frequent energy program updates for evaluation of performance against established goals. This knowledge will help installations emulate successful programs and learn from and avoid historically persistent obstacles.<sup>25</sup>

### **3. COMMUNITY SUSTAINABILITY PRACTICES: PLANNING AND COST-SHARING FOR A CHANGING MISSION**

Although the Base Realignment and Closure (BRAC) round of 2005 will result in installation closure or mission curtailment for many communities, others will experience unprecedented military growth. The 2005 BRAC strategy included consolidation actions, such as bringing between 60,000 and 70,000 overseas troops back to the United States,<sup>26</sup> which will significantly expand the mission and population of many defense installations across the country.

Close collaboration among affected parties in preparing for mission growth can safeguard sustainability through change. To ensure a smooth and accommodating transition, installations are best served to work with the local community to assess, plan, implement and help fund the changes necessitated by rapid population growth. Federal and state guidance can inform and support an installation and community partnership to successfully address and benefit from a new, augmented mission.

#### **Effects of Growth**

Communities usually seek growth opportunities to support and cushion the economic welfare of their citizens and to bolster their tax base to finance public projects. However, a sudden influx of military personnel and their families—perhaps by as much as 30 percent of the current base population—requires tremendous forethought and planning between the installation and its surrounding community. Various industry sectors—from schools and the housing market to transportation systems and basic infrastructure—will be affected, based on the type of mission enhancement and the number of new inhabitants.

Those communities that face great change under BRAC 2005 may take heart in the previous track record of successful military/

community transitions and in the considerable resources that are available to help in their planning and funding.

## **Federal Assistance**

The Office of Economic Adjustment (OEA) was created within the Department of Defense to assist communities that are affected by mission changes, from closure to expansion. OEA works with other federal agencies through the Defense Economic Adjustment Program and the President's Economic Adjustment Committee to provide procedural guidance and financial support for every stage of transition. OEA encourages an installation to begin any transition period by partnering with local representatives to establish a planning committee to assess community impacts. Members may come from each affected sector, including the Chamber of Commerce, school districts, private construction or development companies, and community leaders, among others.<sup>27</sup>

The U.S. Army also has a Community and Family Development Center, Installation and Management Agency to address the social welfare issues of its military personnel and families. A central focus of its mission related to BRAC 2005 is readying school systems around the country for new military-dependent students and helping those students achieve smooth transfers.<sup>28</sup>

The Association of Defense Communities (ADC) is a membership organization that brings together state government, private sector and military leaders to learn about and plan for transitional phases. It conducts seminars around the country to inform all affected parties about what to expect with regard to mission change and how to prepare for it, based on their own members' experiences and lessons learned from mission transitions in their communities. ADC also provides a website with publications and resource links that cover installation closure, realignment and growth issues ([www.defensecommunities.org](http://www.defensecommunities.org)).<sup>29</sup>

## **Federal Funding**

Federal government agencies supplied \$1.9 billion to assist in community transition efforts prior to the 2005 BRAC round.<sup>30</sup> Financing the planning and implementation of mission change can come from several sources, based on the particular sector need and level of growth.

## *Grants and Appropriations*

Grants often are targeted to a particular growth need. If the type of expansion at an installation is expected to bring service members or civilians with children, for example, the local community's school district may not be large enough to absorb the influx. The Military Impacted Schools Association may help a district acquire Department of Education Impact Aid or recommend congressional assistance through direct federal appropriation.<sup>31</sup> Funding for new off-base housing might be buttressed with a Community Development Block Grant from the U.S. Department of Housing and Urban Development. Most grants contain minimum requirements (or growth levels) for a community to qualify for assistance.<sup>32</sup>

OEA also offers several technical and grant programs, including community economic adjustment and planning assistance, joint land use studies, and growth management planning assistance. Its website ([www.oea.gov](http://www.oea.gov)) provides links to other online federal grant programs that may be available depending on the mission change of the installation.<sup>33</sup>

## **State Assistance**

Smart Growth planning occurs at all levels of state government when communities of any size are expecting rapid growth. "Smart" implies concentrating incoming populations into areas with substantial preexisting infrastructure to provide economic and environmental benefits. Also known as infill development, this strategy provides economic benefits by reducing local government investment in new infrastructure and environmental benefits by avoiding sprawl, which overtakes open spaces and increases transportation congestion and commute times. Some states have passed legislation that requires urban growth zoning for high-density development (Tennessee), while others fund smart growth projects, such as sustainable housing development (Massachusetts). Such programs may prove advantageous for an expanding defense community.<sup>34</sup>

Many states recognize the tremendous economic and community benefits of hosting federal sites such as defense facilities and installations and are willing to share in the planning and investment costs of retaining them and enhancing their value. Whether it is pre-BRAC investment/advocacy for closure avoidance or post-BRAC response to realignment or growth with matching grants,

state legislatures may appropriate public funds to bolster the military value of their installations and support the surrounding communities. This support often comes in the form of planning committees and infrastructure funding.

## State Case Studies

Many state legislatures considered bills prior to BRAC 2005 to enhance the military value of their facilities and in the wake of BRAC 2005 to coordinate installation/community response and cost-sharing. The following five state case studies provide examples of the various efforts states have made to organize community action around installation needs in the areas of transportation, education, general planning, and grant or loan funding.

### Florida

#### *Military Value Grants*

- The Defense Infrastructure Grant Program was created to support local infrastructure projects deemed to have a positive effect on the military value of installations within the state.
- Funds, to be used for projects that benefit both the local community and the military installation, may include infrastructure projects related to encroachment, transportation and access, utilities, communications, housing, environment and security.
- No limit is set for the amount of any grant awarded; however, a matching contribution from the county or local community may be required.

#### *Transportation Planning*

- The state must determine whether roads and other transportation infrastructure that connect military installations to the Strategic Intermodal System, the Strategic Highway Network, or the Strategic Rail Corridor are regionally significant and should be included in the Strategic Intermodal System Plan.
- The Statewide Intermodal Transportation Advisory Council must include one representative who has command responsibilities at a major military installation, since an assessment is required of effects on those installations.

**Illinois*****Planning Committee***

- The Interagency Military Base Support and Economic Development Committee was created to coordinate the state's activities and act as a communications center for issues related to its military bases.
- One of the committee's duties is to provide advice and recommendations to the Department of Commerce and Economic Opportunity on issues that affect current and former military bases in the state, including infrastructure requirements, environmental impact issues, military force structure possibilities, tax implications and property considerations.

**Missouri*****Planning Commission***

- The Missouri Military Preparedness and Enhancement Commission was created to design and implement measures intended to protect, retain and enhance the present and future mission capabilities of its military posts or bases.
- State law details the commission's duties, which include:
  - o Advising the governor and the General Assembly about military issues and related economic and industrial development;
  - o Making recommendations regarding policies and plans to support the long-term viability and prosperity of the military, including promoting strategic regional alliances that may extend over state lines;
  - o Helping defense-dependent communities design and execute programs that enhance a community's relationship with military installations and businesses;
  - o Serving as a clearinghouse for defense economic adjustment and transition information and activities and issues related to the operating costs, missions, and strategic value of the installations; and
  - o Preparing a biennial plan that develops strategies to protect the state's existing military missions and positions the state to be competitive for new and expanded military missions.

## **New Mexico**

### ***Planning Office***

- The Office of Military Base Planning and Support was created and attached to the state's Economic Development Department.
- The director of this office was tasked with:
  - o Informing the governor and the governor's homeland security advisor about issues that affect the state's military bases, including infrastructure requirements, environmental needs, military force structure possibilities, tax implications and property considerations; and
  - o Serving as a liaison with the community organizations that support the long-term viability of the military bases.

## **Texas**

### ***Educational Assistance***

- The Legislature determined that military dependents who move from one high school to another are faced with special challenges to learning and future achievement. Because of these challenges and the importance of military families to their communities and economies, the state dedicated its agencies to assist the transition by:
  - o Improving the timely transfer of student records;
  - o Developing systems to ease student transition during the first two weeks of enrollment at a new school;
  - o Promoting practices that foster student access to extracurricular programs;
  - o Establishing procedures to lessen the adverse effects of student moves to a new school after the end of the student's junior year of high school;
  - o Encouraging or maintaining partnerships between military bases and affected school districts; and
  - o Encouraging school districts to provide services for military students in transition when they apply for admission to postsecondary study and when they seek sources of funding for postsecondary study.

### ***Planning Commission***

- Entitled the Texas Military Preparedness Commission.
- Duties similar to Missouri's Military Preparedness and Enhancement Commission.

***Military Value Grants and Loans***

- Defense communities may submit a military value enhancement statement to the commission, whereby the commission analyzes the proposed projects based on criteria similar to that DoD uses in the BRAC process.
- The commission helps communities prioritize projects by those which most enhance a facility's military value.
- The commission then refers defense communities with approved projects to the appropriate state agency that has an existing program to provide financing. If no program exists to finance a project, the commission may provide a loan to the defense community for the project.
- State agencies also are encouraged to make military value assessments based on the commission's criteria. When an agency determines that an expenditure will enhance the military value of a federally owned or operated military installation, the agency should make that expenditure a high priority.

***Military Growth Funding***

- For communities facing growth after BRAC 2005, the commission may provide infrastructure loans to accommodate new or expanded military missions from the Texas Military Value Revolving Loan Account (in the general revenue fund).
- If a project is approved, the Texas Public Finance Authority is notified by the commission, which requests the authority to issue general obligation bonds.
- The commission also may solicit and receive gifts or grants from any source to finance a project.
- In addition to material projects, loans may be requested by communities to prepare strategic impact plans to:
  - o Control negative effects of future growth in the community on the installation and minimize encroachment;
  - o Enhance the military value of the base, while reducing operating costs; and
  - o Identify which property and services in a region can be shared by the installation and community.

***Base Authorities and Efficiency Projects***

- Texas code also defines "base efficiency projects" as those between a municipality and DoD to evaluate and demonstrate methods for more efficient operation of military installations. This may occur through improved capital asset management and greater reliance on the public or private sector for less costly base support services.



# CONCLUSION

Military installations across the country face changing missions as the Department of Defense reorganizes its infrastructure to become more efficient and adjust to a changing national security environment. State and local governments appreciate the numerous benefits defense communities bring and therefore are often willing to share in the planning and investment needs to sustain them. As a military installation and its surrounding community become more dependent upon one another for support during transitional periods (growth, realignment or closure), a durable partnership of open communication and cooperation is invaluable.

The intent of this report is to inform military personnel of state legislative sustainability practices and vice versa and to highlight strategies for dealing with base and community growth through encroachment prevention, resource conservation, and joint planning and cost-sharing for future mission changes.

# NOTES

1. U.S. Department of Defense, *Installation Energy Management*, Department of Defense Instruction 4170.11, Nov. 22, 2005, Section 5.3, [http://www.dtic.mil/whs/directives/corres/pdf/i417011\\_112205/i417011p.pdf](http://www.dtic.mil/whs/directives/corres/pdf/i417011_112205/i417011p.pdf).
2. U.S. Environmental Protection Agency, Office of Atmospheric Programs, Climate Protection Partnerships Division, *Clean Energy-Environment Guide to Action: Policies, Best Practices, and Action Steps for States* (Washington, D.C.: U.S. EPA, April 2006), ES-1.
3. *Greening the Government through Efficient Energy Management*, Executive Order 13123, *Federal Register* 64, 109 (June 8, 1999), Section 101, <http://www.ofee.gov/eo/eo13123.pdf>.
4. Defense Energy Support Center, *Introduction to DESC, History*, <http://www.desc.dla.mil/DCM/DCMPage.asp?LinkID=DESHISTORY>, Oct. 27, 2005; *Mission Statement*, <http://www.desc.dla.mil/DCM/DCMPage.asp?LinkID=DESCINTRO#MissionStatement>, June 30, 2006.
5. Defense Environmental and Information eXchange, *About DENIX*, <https://www.denix.osd.mil/denix/aboutDENIX.html>, Jan. 15, 2007.
6. U.S. Department of Defense, *DoD Management Policy for Energy Commodities and Related Services*, Department of Defense Directive 4140.25, April 12, 2004, Section 5.1.7, [http://www.dtic.mil/whs/directives/corres/pdf/414025\\_041204/414025p.pdf](http://www.dtic.mil/whs/directives/corres/pdf/414025_041204/414025p.pdf).
7. DoD Instruction 4170.11, Sections 5.2 and 5.3.3.
8. U.S. EPA, *Guide to Action*, ES-2.
9. DoD Instruction 4170.11, Section 5.2.2.1.1.2.
10. *Ibid.*, 4.4.2.1.5.
11. Satya Rhodes-Conway et al., *New Energy for States: Energy-Saving Policies for Governors and Legislators* (Madison, Wis.: Apollo Alliance, 2006), 35.

12. U.S. Green Building Council, Leadership in Energy and Environmental Design (LEED), <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>, Jan. 15, 2007.
13. Ibid.
14. DoD Instruction 4170.11, Section 5.2.2.1.1.3.
15. Energy Star, *About Energy Star*, [http://www.energystar.gov/index.cfm?c=about.ab\\_index](http://www.energystar.gov/index.cfm?c=about.ab_index), Appliances, [http://www.energystar.gov/index.cfm?c=appliances.pr\\_appliances](http://www.energystar.gov/index.cfm?c=appliances.pr_appliances), Jan. 15, 2007.
16. DoD Instruction 4170.11, Section 5.2.2.2.
17. U.S. Senate Committee on Energy and Natural Resources, *The Energy Policy Act of 2005 Anniversary Report* (summary, Aug. 8, 2006), [http://energy.senate.gov/public/\\_files/TheEnergyPolicyActof2005anniversaryreport5.doc](http://energy.senate.gov/public/_files/TheEnergyPolicyActof2005anniversaryreport5.doc).
18. Rhodes-Conway, *New Energy for States*, 8.
19. Pew Center on Global Climate Change, *What's Being Done, State and Regional Solutions, State Action Map, Mandates and Incentives Promoting Biofuels*, [http://www.pewclimate.org/what\\_s\\_being\\_done/in\\_the\\_states/map\\_ethanol.cfm](http://www.pewclimate.org/what_s_being_done/in_the_states/map_ethanol.cfm), July 2006.
20. DoD Instruction 4170.11, Sections 4.4.2.2.1, 2, and 4.
21. Ibid., Section 5.2.1.1, 2, and 3.
22. U.S. Department of Energy, *Energy Efficiency and Renewable Energy, Federal Energy Management Program, Services, Outreach, Federal Energy Saver Showcase Awards, 2006 Federal Energy Saver Showcases*, [http://www1.eere.energy.gov/femp/services/awards\\_fedshowcase2006.html](http://www1.eere.energy.gov/femp/services/awards_fedshowcase2006.html), Nov. 19, 2006.
23. American Public Transportation Association, *Congressional Action*, [http://www.apta.com/government\\_affairs/congress/](http://www.apta.com/government_affairs/congress/), Jan. 15, 2007.
24. "RTD Gives Military Ticket to Ride: Active Duty Members Get Free Pass for 2 Months," *ABC 7 News Channel*, Oct. 23, 2006, <http://www.thedenverchannel.com/news/10134652/detail.html>.
25. DoD Instruction 4170.11, Sections 5.1.1, 2.
26. Gerry Gilmore, "BRAC Positive for Affected Communities, Senior Official Says," *American Forces Press Service*, June 7, 2005, [http://www.defenselink.mil/news/Jun2005/20050607\\_1601.html](http://www.defenselink.mil/news/Jun2005/20050607_1601.html).
27. U.S. Department of Defense, Office of Economic Adjustment, *Programs, Growth*, <http://www.oea.gov/oeaweb.nsf/Growth?readform>, Oct. 06, 2006.
28. Peggy Tadej and Christina Leone, "Community Economic Development to Support Growth" telecast summary, Economic Development Administration and the National Association of Regional Councils, May 10, 2006, <http://narc.org/uploads/File/Telecasts/03May10TelecastArticle.pdf>.

29. Association of Defense Communities, *About ADC, Overview and Mission*, [http://www.defensecommunities.org/?p=Overview\\_and\\_Mission](http://www.defensecommunities.org/?p=Overview_and_Mission), Jan. 15, 2007.
30. U.S. Department of Defense, Office of Economic Adjustment, *Programs, BRAC, Program and Assistance, Federal Agency Assistance*, <http://www.oea.gov/oeaweb.nsf/otherFed?readform>, June 1, 2006.
31. Military Impacted Schools Association, *Funding, What Is Impact Aid?*, <http://www.militaryimpactedschoolsassociation.org/whatisimpactaid.html>.
32. U.S. Department of Housing and Urban Development, Office of Community Planning and Development, *Community Development, Programs*, <http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm>, Jan. 24, 2007.
33. U.S. Department of Defense, Office of Economic Adjustment, *eGrants, Other Federal Grant Links*, <http://www.oea.gov/oeaweb.nsf/Federal+Grant+Links?readform>, April 18, 2006.
34. Rhodes-Conway, *New Energy for States*, 24.



# STRENGTHENING MILITARY- COMMUNITY PARTNERSHIPS LAND USE, CLEAN ENERGY AND MISSION CHANGE

States and military installations have unique opportunities to work together to develop and implement proactive strategies to meet future challenges and strengthen the installation/community relationship.

This report highlights pressing current issues facing military communities and provides background and examples of how states and military installations can address issues in three areas:

- Compatible land use near military bases;
- Clean energy and environmental practices; and
- Overall development of installation/community partnerships.



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