



U.S. Department of  
**ENERGY**

# The Asset Revitalization Initiative

Report to Congress  
August 2011

United States Department of Energy  
Washington, DC 20585

# Message from the Secretary

Section 3124 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 directs the Secretary of Energy to submit to Congress a report on the implementation of the U.S. Department of Energy's (DOE's) energy parks program. This report contains information on DOE plans for making optimum use of its assets through the Asset Revitalization Initiative in fulfillment of this requirement. We are submitting this report to the Senate and House Committees on Armed Services and on Appropriations.

- **The Honorable Carl Levin**  
Chairman, Senate Committee on Armed Services
- **The Honorable Howard P. McKeon**  
Chairman, House Committee on Armed Services
- **The Honorable Daniel K. Inouye**  
Chairman, Senate Committee on Appropriations
- **The Honorable Harold "Hal" Rogers**  
Chairman, House Committee on Appropriations
- **The Honorable John McCain**  
Ranking Member, Senate Committee on Armed Services
- **The Honorable Adam Smith**  
Ranking Member, House Committee on Armed Services
- **The Honorable Thad Cochran**  
Ranking Member, Senate Committee on Appropriations
- **The Honorable Norm Dicks**  
Ranking Member, House Committee on Appropriations

DOE is pleased to inform Congress about asset revitalization actions. This initiative is an important effort to ensure maximum efficiency in asset management. If you have any questions, please call me or Jeffrey A. Lane, Assistant Secretary, Office of Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

Steven Chu

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## Executive Summary

The U.S. Department of Energy (DOE or the Department) is conducting its mission at 47 major sites on three million acres across the United States. In addition to land, DOE's assets include distinctive world-class facilities; a highly skilled workforce; supportive host communities; and irreplaceable natural, cultural, and historical resources.

On January 7, 2011, Congress passed the Ike Skelton National Defense Authorization Act for Fiscal Year 2011. Section 3124 specifically states "The Secretary of Energy may establish a program to permit the establishment of energy parks on former defense nuclear facilities" (50 U.S.C. 2814). In examining how to best utilize its vast and varied assets, DOE decided to initiate a comprehensive review of all the Department's assets and possible disposition paths.

Over the next decade, DOE will manage three drivers that will significantly affect the use of its assets, as follows:

- Reductions in DOE's footprint as the Office of Environmental Management (EM) program completes significant portions of cleanup;
- Changes to DOE's nuclear security infrastructure as the National Nuclear Security Administration (NNSA) modernizes the nuclear security enterprise; and
- Improvements in environmental, energy, and economic performance through implementation of efficiencies in clean energy and water use to meet sustainability and energy security goals

To ensure that DOE and its workers and stakeholders are prepared to face these challenges, on February 17, 2011, the Department created the establishment of a Task Force on the Asset Revitalization Initiative (ARI). The purpose of the task force is to facilitate discussion among DOE, communities around DOE sites, nonprofit organizations, tribal communities, the private sector, and other stakeholders to identify reuse approaches as environmental cleanup efforts reach completion, NNSA modernizes its infrastructure, and DOE's cutting-edge research efforts change the quality of life. ARI is a DOE-wide effort to advance the beneficial reuse of its unique and diverse mix of assets, including land, facilities, infrastructure, equipment, technologies, natural resources, and a highly skilled workforce. The Task Force will be making recommendations to the Under Secretaries of Energy, Science, and Nuclear Security.

This report discusses the initial information gathered by the Task Force, including opportunities to reutilize DOE assets for beneficial purposes, which may include clean energy development, environmental sustainability projects, open space, or other beneficial uses. The task force has begun cataloguing site assets and supportive resources and identifying the strategies that will facilitate a wide variety of asset revitalization initiatives. DOE has been in dialogue with its communities and neighbors—local governments, tribal nations, other federal land managers,

state governments, community reuse organizations (CROs), and private-land owners—about the sites. DOE will continue that dialogue as its activities evolve to accomplish its mission.

Over the last decade, DOE has made significant progress cleaning up and closing sites that are no longer needed for future missions. Former weapons facilities, including the Pinellas Plant (Pinellas), Rocky Flats Environmental Technology Site (RFETS), Fernald Closure Project (Fernald), and Miamisburg Closure Project (Mound), have been transformed into wildlife refuges, nature preserves, recreational areas, and industrial parks. These successes are important steps toward optimizing the future use of all DOE's assets—land, facilities, equipment, and people. DOE looks forward to working with Congress to achieve revitalization of DOE's valuable assets.



# THE ASSET REVITALIZATION INITIATIVE

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# I. The Asset Revitalization Initiative

On January 7, 2011, Congress passed the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (Act). Section 3124 states that “The Secretary of Energy may establish a program to permit the establishment of energy parks on former defense nuclear facilities” (50 U.S.C. 2814). The objectives in the statute are as follows:

1. To provide locations to carry out a broad range of projects relating to the development and deployment of energy technologies and related advanced manufacturing technologies
2. To provide locations for the implementation of pilot programs and demonstration projects for new and developing energy technologies and related advanced manufacturing technologies
3. To set a national example for the development and deployment of energy technologies and related advanced manufacturing technologies in a manner that will promote energy security, energy sector employment, and energy independence
4. To create a business environment that encourages collaboration and interaction between the public and private sectors

The statute directs the Secretary of Energy to consult with local governments and CROs. The statute also directs the Secretary to submit a report within 120 days of its enactment to both Senate and House of Representatives Committees on Armed Services on the implementation of the energy parks program, including recommendations for any appropriate legislative action. In examining how to best utilize its vast and varied assets, DOE decided to initiate a comprehensive review of all DOE assets and possible disposition paths. This review will evaluate a range of assets including, but not limited to, former defense facilities and will consider disposition paths.

Over the next decade, DOE will focus on three challenging initiatives that will significantly affect the use of its assets, as follows:

- Reductions in DOE’s footprint as the EM program completes significant portions of cleanup
- Changes to DOE’s nuclear security infrastructure as NNSA modernizes the nuclear security enterprise
- Improvements in environmental, energy, and economic performance through implementation of efficiencies in clean energy and water use to meet sustainability and energy security goals

DOE will seek the support of the local communities, as appropriate, in understanding its asset transition activities and will take into consideration their vision for the future. DOE will also seek to take advantage of the variety of skills, assets, and resources available within, or to, the community. The Secretary has established ARI and the task force to develop recommendations across the full range of potential reuses: clean energy development, environmental

sustainability projects, open space, or other uses—depending on the needs, capabilities, desires, and existing resources of the communities surrounding DOE sites. ARI is a DOE-wide effort to advance the beneficial reuse of its unique and diverse mix of assets, including land, facilities, infrastructure, equipment, technologies, natural resources, and a highly skilled workforce.

## **ARI Task Force Members and Charter**

In a memorandum dated February 17, 2011, signed by the Acting Under Secretary of Energy and the Under Secretaries of Science and Nuclear Security, DOE established the ARI task force and designated program representatives. The director of the Office of Legacy Management, or designee, chairs the task force. Membership includes representatives from the Offices of Electricity Delivery and Energy Reliability; Energy Efficiency and Renewable Energy; EM; Fossil Energy; Legacy Management; Nuclear Energy; Science; the Chief Financial Officer; and NNSA. Nonvoting task force members include representatives from DOE's Staff and Support Offices of General Counsel; Congressional and Intergovernmental Affairs; Management; Public Affairs; and Health, Safety, and Security.

## II. Drivers Affecting the DOE Complex

Recent strategic planning efforts, including the 2011 *DOE Strategic Plan*, the 2010 *DOE Strategic Sustainability Performance Plan*, and the President's March 2, 2011, initiative to create a Civilian Property Realignment Board to sell or transfer excess property, support the development and implementation of an ARI strategy. Drivers that will affect the DOE complex include footprint reduction associated with the environmental cleanup mission, modernization of the NNSA enterprise resulting from Section 3113 of the Ike Skelton National Defense Authorization Act for FY 2011, and sustainability goals established by Executive orders.

### Footprint Reduction Efforts Associated with Environmental Cleanup

In 1989, the legacy cleanup footprint was 3,125 square miles; 20 years later, the footprint was reduced to 900 square miles. Over the last 10 years, EM has completed cleanup at four major sites: Weldon Spring, Missouri; Fernald, Ohio; Mound, Ohio; and RFETS, Colorado. Over the past two years, EM has made significant progress in accelerating environmental cleanup across the DOE complex. EM estimates that, by the end of fiscal year (FY) 2011, the acceleration of decontamination and decommissioning of excess facilities and cleanup of contaminated areas will reduce the legacy cleanup footprint by 40 percent (540 square miles will remain), resulting in a footprint reduction of almost 90 percent by 2015 (90 square miles will remain). The shrinking of the legacy footprint will involve the decontamination and decommissioning of over 2,500 facilities and over 7,500 completed remediation actions.

### NNSA Modernization Efforts

NNSA envisions a smaller, safer, more-secure, and more-efficient enterprise that will leverage the scientific and technical capabilities of its workforce while meeting national security requirements. NNSA will significantly reduce its footprint for weapons work. Some examples of footprint reductions at NNSA sites include the following:

- Transformation of the Kansas City Plant operations will allow a move from the existing facility (3.1 million gross square feet [gsf]) at the Bannister Federal Complex to a nearby, leased U.S. General Services Administration (GSA) facility (1.1 million gsf). Leadership in Energy and Environmental Design (LEED) Gold certification is planned for the new facility. This move will improve operations and save maintenance-and-operation costs.
- Since FY 2002, Los Alamos National Laboratory (LANL) has removed 667,000 gsf from its inventory and expects to fund the disposal of 900,000 gsf from FY 2010 through FY 2014. LANL has identified an additional 700,000 gsf as excess for potential disposal from FY 2012 through FY 2017, pending replacement plans.

- The Nevada National Security Site (NNSS), formerly the Nevada Test Site, plans to reduce its footprint by 113,379 gsf through relocation from the Cheyenne Facility back to the North Las Vegas Facility.
- The 2008 Record of Decision for the Y-12 National Security Complex established goals of 90 percent reduction in the high-security area; 60 percent in the nuclear operations footprint; 50 percent in the total building footprint (about 3.1 million gsf); and 20 to 30 percent in Defense Programs staff.

## Sustainability Plans

Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, established an integrated sustainability strategy for the Federal Government and made the reduction of greenhouse gases a priority for federal agencies. Per this order, DOE completed its first *Strategic Sustainability Performance Plan* in 2010. This plan sets the path for DOE to execute sustainability efforts throughout the DOE complex on energy and water conservation; land and paper conservation and use; greenhouse gas emissions reductions and increased use of renewable energy. DOE exceeded the statutory renewable energy goal of 7.5 percent of energy use from renewable energy three years early by utilizing renewable energy for 9 percent of its energy use in FY 2010, mainly through the purchase of renewable energy credits. DOE is also pursuing large-scale clean energy projects. Renewable energy project highlights include the following:

- Construction is nearly complete on a 20-megawatt, co-generation facility at the Savannah River Site (SRS)—one of the largest such facilities in the country—to replace an existing old and inefficient coal-fired plant. This co-generation facility will save approximately 100,000 metric tons of carbon dioxide and about \$34 million annually. Three other biomass steam plants are operating at SRS, replacing fossil-fuel-fired plants and miles of steam piping used to transfer the heat.
- The Oak Ridge National Laboratory (ORNL) is completing a bioenergy generation project as part of a performance contract. A biomass steam plant will replace four aging, natural-gas-fired boilers and reduce carbon dioxide emissions by 55,000 metric tons, along with significant reductions in nitrogen oxides and sulfur dioxide.

## Quadrennial Technology Review

In March 2011, DOE initiated a Quadrennial Technology Review to provide a context and framework for its energy programs. The review will describe summary roadmaps for advancing key energy technologies, systems, and sectors, including current status, historical pace of development and market diffusion, technological potential, factors affecting market prospects, and research and demonstration milestones. The review will also establish principles that DOE can use to prioritize technology efforts. Last, the review will describe the connections between energy technology innovation and energy policy.

### III. Historical DOE Asset Revitalization Success

DOE has many successful examples at former defense nuclear facilities of transferring unneeded assets for optimal beneficial use by local communities and industries. DOE is also redeveloping its existing assets for partnerships with other public entities, as well as public-private partnerships, in addition to using renewable resources (energy produced on site or purchased power) that are environmentally sustainable and more energy efficient. This attention to its assets helps DOE, the community, and the region realize the multi-use potential at the various DOE locations. Table 1 lists DOE defense facilities by mission and revitalization activities. Also listed below are some examples of revitalization activities that are taking place at DOE facilities and within their neighboring communities. DOE's accomplishments to date toward sustainability and reuse of unneeded assets are a first step of DOE's ARI.



#### Energy Uses

In response to Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, and Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, DOE encourages the purchase and production of sustainable energy at its facilities and sites. DOE sites are investing in sustainability and energy efficiency projects; energy production facilities, including wind and solar installations; manufacturing of energy production components; and energy research and development. Presently, many DOE sites host one or more of these energy uses.

- In 2009, SRS entered into a Biomass and Alternate Methane Fuel Energy Savings Performance Contract with an energy service company to replace a 1950s-era, coal-fired power plant and a fuel oil package boiler. A new biomass co-generation steam plant is under construction to replace the existing coal power plant. It will supply all the steam requirements for several areas and a significant portion of site electrical demands. Two energy-efficient, biomass-fueled steam boilers were built to provide steam for domestic heating. The two heating plants, activated in November 2010, operated successfully during the winter months of 2011. The primary fuel sources for all the biomass facilities consist of forest residues, tree tops and limbs, and small nonmerchantable timber found within a 100-mile range of SRS.

**Table 1. Asset Revitalization Applications at U.S. Department of Energy Sites**

Site Name	Energy Production	Industrial	R&D	Wildlife and Recreation	Regional Initiative	Community Reuse Org.
Argonne National Laboratory (Argonne, Illinois)						
Brookhaven National Laboratory (Upton, New York)						
Hanford Site <sup>a</sup> (Richland, Washington)						
Idaho National Laboratory <sup>a</sup> (Idaho Falls, Idaho)						
Kansas City Plant (Kansas City, Missouri)						
Lawrence Livermore National Laboratory (Livermore, California)						
Los Alamos National Laboratory <sup>a</sup> (Los Alamos, New Mexico)						
Oak Ridge Reservation <sup>a</sup> (Oak Ridge, Tennessee)						
East Tennessee Technology Park						
Oak Ridge National Laboratory						
Y-12 National Security Complex						
Nevada National Security Site <sup>a</sup> (Las Vegas, Nevada)						
Paducah Gaseous Diffusion Plant (Paducah, Kentucky)						
Pantex Plant (Amarillo, Texas)						
Portsmouth Gaseous Diffusion Plant (Portsmouth, Ohio)						
Sandia National Laboratories (Livermore, California)						
Savannah River Site <sup>a</sup> (Aiken, South Carolina)						
Waste Isolation Pilot Project (Carlsbad, New Mexico)						
Closure Sites						
Fernald Preserve (Harrison, Ohio)						
Mound Site (Mound, Ohio)						
Oxnard Facility (Oxnard, California)						
Pinellas Plant (Clearwater, Florida)						
RFETS (Denver, Colorado)						

<sup>a</sup> National Energy Research Parks—see Section V, Asset Inventory, for more information.

**Key:** Org.=organization; R&D=research and development; RFETS=Rocky Flats Environmental Technology Site.

- The DOE Richland Operations Office is preventing more than one million tons of greenhouse gas from entering the atmosphere and saving \$800 million in life-cycle costs by installing a natural-gas pipeline through the central portion of the Hanford Site (Hanford) to service the Office of River Protection's massive Waste Treatment Plant and evaporation operations. Converting those facilities from diesel to natural gas helps meet the Administration's goal to reduce dependence on oil and improves site worker safety by keeping the diesel trucks off Hanford area roads. In addition, piping in natural gas to the area will significantly help foster future economic development on Hanford-designated industrial land, as well as in the surrounding community.
- ORNL is actively developing a campus-wide central energy data center that will provide user access to utility meters, including electricity, water, steam, and natural gas. It will also link to advanced meters and to predictive software for managing peak power demands. In addition, ORNL has installed 25 solar-assisted, electric-vehicle charging stations in preparation for the growth of electric vehicles and for cooperative research on grid impacts of electric-vehicle charging. The stations include solar panels, grid connection, external battery, and electric-vehicle charging equipment, which became fully functional in March 2011. Lastly, ORNL has purchased 90,000 renewable energy credits to supplement onsite renewable power generation and to exceed the current 5 percent target for renewable resources as a percent of total power consumed.
- In April 2011, construction was completed and operations began at the Abiquiu Hydropower Project in Los Alamos County, New Mexico, DOE's first hydropower projected funded by the American Recovery and Reinvestment Act. The low-flow turbine will increase renewable energy generation capacity by 22 percent at the Abiquiu facility, from 13.8 to 16.8 megawatts. The new turbine will produce enough energy to power 1,100 homes annually and will supply clean energy to Los Alamos County, including LANL. The project received a \$4.5 million American Recovery and Reinvestment grant from DOE's Wind, Water, and Power Program, which was leveraged with \$4.5 million from the private sector to fully fund the project.
- Through a cooperative study, DOE and the Three Rivers Solid Waste Authority determined that development of a Subtitle D landfill disposal facility within the boundaries of SRS would meet the site's long-term municipal waste disposal needs and those of the nine South Carolina counties. The landfill site is permitted for use of approximately 1,300 acres of SRS lands for an initial period of 25 years. The permit may be renewed every 25 years. In March 2007, the Three Rivers Solid Waste Authority installed a landfill gas-collection system and in April 2008 completed a 15.8-mile pipeline to provide methane gas to a local business for their use in an industrial boiler.
- Brookhaven National Laboratory teamed with the Long Island Power Authority to build a 200-acre photovoltaic solar array at Brookhaven. British Petroleum Solar was selected to build the large-scale, solar photovoltaic project, which has the potential to produce up to 37 megawatts of power, enough to power 4,500 homes. Brookhaven will have access to the

facility for research that complements its ongoing research in home heating systems, alternative fuels, advanced fuel cell catalysts, and solar photovoltaic efficiency.

- ORNL is pursuing "green gas" power generation to expand its onsite renewable power supply. The gas would be purchased from a landfill gas supplier and consumed at ORNL in a gas-fired reciprocating engine/generator. This station is also being considered for shaving ORNL's monthly power peak, creating a significant savings opportunity. ORNL has also added 50 kilowatts of solar power with its new solar-assisted electric-vehicle charging station, which becomes the laboratory's fourth solar station on campus. Lastly, ORNL is in partnership discussions with the Tennessee Valley Authority about the potential of installing a small, pumped (hydro) storage facility. This is in the earliest stages of discussion, but both parties see good potential.
- The DOE Loan Programs Office offered conditional commitments of \$8.33 billion in loan guarantees for the construction and operation of two new nuclear reactors at the Vogtle Electric Generating Plant near Waynesboro, Georgia. Vogtle's license was extended in June 2009 for another 20 years for its two existing reactors at that site. Many of the over 1,000 DOE contractor workers who will lose their jobs over the next two years, when construction of the Salt Waste Processing Facility and the Mixed Oxide Fuel Fabrication Facility is completed at SRS, may use their skills to find new jobs for construction of the Vogtle nuclear reactors.



## **Research, Development, and Demonstration**

DOE national laboratories are conducting research on methods to produce and deliver energy more efficiently. To help the private sector deploy energy research, DOE is considering how to build demonstration projects at levels that investors will accept as commercially viable. The following are selected examples of DOE research and demonstration:

- DOE's NNSS initiated planning for a concentrating solar power demonstration program that will prove that advances in solar power technologies are now financially viable for private-sector investments.
- At the former Mound site, the Dayton Power and Light Company announced it will install its second solar array demonstration plant at the Mound Advanced Technology Center to assess the feasibility of solar power as a renewable energy source. In addition, a company located at the center was awarded a \$2 million grant from the Advanced Research Projects Agency–Energy program for research on transformational battery technology. The company also received a \$1 million grant from the State of Ohio for research on developing a lithium-ion battery and fuel cell gas diffusers.
- ORNL is conducting research to advance clean energy technologies and energy-intensive processes. Projects include development and application of processing for new composite materials for lithium-ion batteries; improvement of heat recovery in biomass-fired boilers;

nanocrystallization of lithium cobalt oxide (LiCoO<sub>2</sub>) cathodes for thin-film batteries; and conversion of biomass into second-generation biofuels.

- The ORNL campus includes the Oak Ridge Science and Technology Park, the first private research park on the campus of a national laboratory that is being built to forge new relationships and collaborations between ORNL and private-sector companies. DOE property is leased to the Community Reuse Organization of East Tennessee (CROET), which is the developer of the property.



## Industrial Uses

DOE transferred a number of its excess properties to private industry to create new businesses and jobs within the local community. In some cases, excess DOE facilities were reused directly to house private industry and, in other cases, were demolished to furnish private industrial property for the local economy.

- In 1993, DOE began the transfer of the former Pinellas weapons plant to Pinellas County Industrial Development Authority. The project was completed in 2008 for a total of \$26.2 million. The Science, Technology, and Research (STAR) Center now houses 35 businesses, including a business incubator. When DOE shut the plant down in 1997, only 200 people worked there; today, that number is 1,600.
- The Mound Development Corporation, formerly the Miamisburg Mound Community Improvement Corporation, was established by the City of Miamisburg, Ohio, in 1997 to redevelop and reuse the former Mound site as an industrial and office park. The Mound Development Corporation has leased eight buildings with a total of 241,831 square feet from DOE and has released 214,695 square feet to private businesses. The 306-acre Mound Advanced Technology Center is home to 14 businesses with 310 employees today. Tenants at the center are involved in research, development, testing, and production of high-technology products and processes. Some are partnering with leaders in research such as Wright-Patterson Air Force Base (and its resident Air Force Institute of Technology) and the University of Dayton Research Institute.
- Since its creation in 1995, and in concert with DOE's Oak Ridge Office, CROET has developed 500 acres of former DOE land as a greenfield technology park; transferred 11 facilities (320,000 square feet) and over 200 acres of the former K-25 Plant site to the private sector; and assisted in the transfer of the site's fire station, water, wastewater systems, and portions of the roadways and electrical power system to the City of Oak Ridge. CROET redeveloped 25 acres and constructed two speculative industrial buildings on transferred DOE property and sold one of the buildings. It also upgraded and converted the former derelict DOE rail system to a short-line railroad and sold it to a for-profit entity. CROET currently subleases six DOE facilities totaling 260,000 square feet, which, along with the assets that have been transferred and sold, house a total of over 1,500 private-sector jobs.

- In 1996 and 1998, the DOE Richland Operations Office transferred the 3000 Area and the 1100 Area (now the Richland North Area) of Hanford that are located near the City of Richland to Washington State's Port of Benton to promote economic development. The land transfers, totaling 832 acres, now host the Innovative Center and a Manufacturing Mall with 34 tenants that create high-technology-sector jobs that contribute to the regional economy of the Tri-Cities area.
- In 2010, DOE worked with the United States Enrichment Corporation and the Pike County Board of Commissioners to allow Pike County, for a fee, to use excess capacity at a wastewater treatment plant that DOE leases to USEC at the Portsmouth Gaseous Diffusion Plant (Portsmouth) site. This project supports both Pike County's offsite development and economic diversification efforts and improves water quality within the Scioto River watershed.
- The Oxnard Facility, located on a 13.75-acre site in an industrial area of Oxnard, California, produced weapons parts for DOE from 1981 until 1995. After decontamination procedures were completed, DOE sold the property through an auction process, under Atomic Energy Act authority, to Gills Onions, a commercial facility that processes onion products for distribution and is world's largest onion processor under brand names such as Pace and Ortega chilies.



## Wildlife and Recreational Use

DOE works with the local community to find the best reuse of the property. Some locales have advocated for open space, community, education, and recreational uses.

- The Fernald Preserve, a 1,050-acre former uranium processing plant in Ohio, has been restored to presettlement conditions using native plants and grasses. The Fernald Preserve has one of the largest manmade wetlands in Ohio that attracts 200 different species of birds and has over 7 miles of trails. The Fernald Preserve Visitors Center has won sustainability awards and hosts many functions for the local community.
- At the Paducah Gaseous Diffusion Plant (Paducah), DOE licenses about 1,950 acres of the 3,400-acre site footprint to the Commonwealth of Kentucky for various types of public recreational uses, including limited hunting and field trials. In response to ongoing community interest and requests, DOE is working with Kentucky to expand approved recreational uses that include mountain biking, walking trails, and small-game hunting.
- At RFETS in Colorado, 1,300 acres of the original 6,200-acre former weapons manufacturing complex were placed into stewardship and transformed into a wildlife and conservation management area.
- The Hanford Reach National Monument, encompassing 300 square miles around Hanford in Washington State, was established by Presidential Proclamation in 2000 as "a place of sweeping vistas and stark beauty, of towering bluffs and delicate flowers and wildlife."

- The Oak Ridge Office has developed a combination of mixed uses on the Oak Ridge Reservation and has created an environment where mission-related activities coincide with reindustrialization, as well as wildlife and recreational uses. Over 3,000 acres surrounding the East Tennessee Technology Park have been set aside and provided to the State of Tennessee in a conservation easement, and the same amount of property in the Three Bend area has been set aside for research and conservation.
- In 1999, the Secretary of Energy designated 115 square miles in the northwest corner of the Idaho National Laboratory site as a Sagebrush Steppe Ecosystem Reserve. Decades of restricted access have provided a refuge for this vanishing resource and have provided a sanctuary, preserving wildlife habitat for sage grouse and other sensitive species.

### **Hanford: An Example of a Multi-use Site**

As each DOE site has unique physical, environmental, and workforce characteristics, reuse applications should be selected to take advantage of these characteristics. Most large DOE sites will likely find multiple-use scenarios in keeping with the vision of their communities and consistent with their attributes. In fact, several of DOE's sites have had numerous successes in accomplishing this goal.

Hanford is a good example of how DOE can institute several different reuse applications as cleanup operations come to a close and land and other assets are made available. Due to the size and diversity of the site, multiple opportunities exist to support varying applications over the years, with much larger aspirations yet to be realized for the future. Among the opportunities are the following:

- The sweeping Hanford Reach National Monument created by President Clinton on more than 300 acres of Hanford land in 2000. The monument is managed by the U.S. Fish and Wildlife Service as a mix of conservation, preservation, and limited public-use areas.
- Hanford's 1999 Comprehensive Land-Use Plan designates nearly 70 square miles in the southern part of the site to be used for industrial development. This designation allows for a wide variety of future projects to support government and private industry needs.
- The Tri-Cities Industrial Development Council, the local CRO, has launched the Mid-Columbia Energy Initiative to use local and regional energy resources to leverage the capabilities of the Pacific Northwest National Laboratory, Washington State University, and business and research capabilities within the Tri-Cities region to attract clean energy businesses to locate on lands made available through the DOE cleanup operations and footprint reduction initiatives.
- The DOE Richland Operations Office is contracting for a new natural-gas pipeline to reduce one million tons of greenhouse gas from cleanup work and to provide natural gas to local businesses in the area.

- The long-term lease held by Energy Northwest for its commercial nuclear facility, the Columbia Generating Station, allows for additional nuclear projects, if appropriate, with some pre-permitting activities already completed.

## **IV. Consultation with External Groups**

DOE has met with local governments near DOE sites, state governments, tribal nations, DOE site-specific advisory boards, CROs recognized by the Secretary, the private sector, nonprofit organizations, and other federal agencies. These discussions will continue as DOE proceeds with asset revitalization efforts.

### **State, Local, and Tribal Governments**

Over the past several years, DOE has met with local, state, and tribal governments and other stakeholders on footprint reduction and asset revitalization efforts. Pursuant to Section 3124(c) of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011, DOE has consulted with the Energy Communities' Alliance and with CROs to obtain their views. DOE will continue to communicate with state, local, and tribal governments and other stakeholders, as appropriate, pursuant to its goal of involving them in asset revitalization.

### **Site-Specific Advisory Boards**

Since 2009, EM has discussed footprint reduction and asset reuse at EM Chair meetings of Federal Advisory Committee Act site-specific boards; meetings of individual site-specific advisory boards; Hanford, SRS, and Portsmouth; Paducah Citizens' Advisory Board meetings; and EM Advisory Board meetings.

### **Community Reuse Organizations**

Since 1993, DOE has recognized CROs to support economic development in the communities near DOE sites that were negatively impacted by DOE workforce downsizing. Each CRO was given the latitude to chart an economic recovery course that was unique to its community and the characteristics of its DOE site. Four of the original CROs (Hanford, Pinellas, Oak Ridge, and Mound sites) collaborated with DOE to redevelop excess DOE facilities and property for use by commercial businesses to bring new jobs to their communities. Through "Transfer of Real Property at Defense Nuclear Facilities for Economic Development" (10 CFR Part 770), DOE can transfer unneeded real and personal property assets to CROs and local economic development agencies. If real property transfer was not an option because of cleanup and operation missions, the CROs devised other economic development strategies, including business recruitment, office and industrial parks, loan guarantees for small and emerging businesses, workforce training, and partnerships with local universities to showcase their region as an attractive place for businesses to remain and relocate.

CROs are now active at eight DOE sites: Hanford, SRS, Idaho National Laboratory, Oak Ridge, LANL, Mound, Portsmouth, and Paducah. Although situations vary from site to site, the CROs have generally led the effort to gain access to excess DOE real and personal property via the transfer process. CROs work with regional entities, colleges and universities, and local governments to attract businesses and improve the skills and abilities of the local labor force.

DOE will continue to work with the CROs on land use planning, disposal of excess assets, and other activities that are consistent with DOE missions.

## Other Federal Agencies

DOE works with five other federal agencies on matters related to asset revitalization: GSA, the U.S. Department of the Interior, the U.S. Environmental Protection Agency, the U.S. Nuclear Regulatory Commission, and the U.S. Department of Defense (DoD). Coordination with adjacent federal land owners, federal regulatory agencies, and economic development efforts is an important component of DOE's decision making process for asset reuse and disposition activities.

The following are some examples of interagency initiatives:

- On July 22, 2010, DOE and DoD signed a memorandum of understanding entitled *Concerning Cooperation in a Strategic Partnership to Enhance Energy Security*. The partnership is expected to help guide research, development, deployment, and procurement of new energy technologies to give DoD access to reliable supplies of energy to meet operational and installation needs, as well as to help them become more efficient with their energy supplies. It will also help DOE propel technologies into the marketplace faster. To date, the Office of Energy Efficiency and Renewable Energy and the Office of Electricity Delivery and Energy Reliability have helped DoD with energy-efficiency audits, small-scale renewable energy deployment, and microgrid assessments.
- DOE is co-leading an interagency task force with DoD, the Council on Environmental Quality, and the Department of the Interior on the siting of renewable energy and transmission projects.
- DOE and the Department of the Interior signed an interagency memorandum of understanding that will enable DOE to develop innovative solar energy projects at NNSS. The new Solar Demonstration Zone will be used to demonstrate cutting-edge solar energy technologies.
- DOE and DoD are evaluating each agency's Small-Business Innovative Research program awardees for potential leverage. DOE is also planning to encourage the private sector to deploy its research and development efforts in the marketplace through Small-Business Innovative Research, Small-Business Technology Transfer, and Advanced Research Projects Agency–Energy programs; cooperative research and development agreements; and loan guarantees.

## Regional Initiatives

Some local communities near DOE facilities are actively pursuing collaborations with nearby universities, institutions, and CROs to grow their economies by attracting clean energy production and research and development projects to their areas. When possible, support for these initiatives will include the national laboratories and DOE facilities to provide technical

expertise and available assets, such as land and buildings. In many cases, the local communities and CROs are at the forefront in seeking clean energy and sustainable choices for their communities and request assistance from DOE only where needed for ongoing projects.

- The Tri-Cities Industrial Development Council, the local CRO for Hanford, has launched the Mid-Columbia Energy Initiative to use local and regional energy resources to leverage the capabilities of the Pacific Northwest Laboratory, Washington State University, and business and research capabilities within the Tri-Cities region to attract clean energy businesses to lands made available by DOE EM footprint reduction efforts.
- CROET, in conjunction with local community planning organizations, has established the Oak Ridge Energy Corridor to encourage public and private organizations to partner in developing energy enterprises in the region on excess property on the Oak Ridge Reservation.
- The Tennessee Valley Corridor Initiative, a nonprofit regional economic development organization, is dedicated to uniting partners across the region to support and expand federal and state missions and investments within the corridor; leverage the corridor's growing science and technology assets to maximize new job creation and next-generation manufacturing in the region; and promote the area as one of the premier science and technology regions in the Nation.
- The CRO for SRS (SRSCRO) is exploring ways to use surplus and underutilized DOE land, facilities, infrastructure, and human capital at SRS that could be redeployed to accelerate the transition to a clean energy economy by helping to demonstrate and develop commercial supply chains for advanced nuclear technologies.

## V. Asset and Supportive Resources

DOE defense nuclear sites have extensive capabilities representing unique national assets. The United States has made substantial investments in these sites, which have served the Nation well through their significant defense contributions and major advances in energy and environmental technologies. With environmental cleanup, modernization of the NNSA nuclear weapons complex, implementation of efficiencies in clean energy and water, and reductions in the time needed to bring scientific advances to apply to our Nation's most difficult problems, these sites are poised to transition or otherwise reutilize their substantial assets in ways that will continue to benefit the Nation and provide taxpayer return on investment. The diversity inherent among these sites enables consideration ranging from single to multiple uses, from wildlife preserves to energy technology demonstration parks, or combinations of uses. Some sites presently demonstrate this capability, with designations of national monument or national ecological research park coexisting with ongoing nuclear defense and cleanup missions.

### Assets

DOE's assets, both tangible and intangible, vary by site but generally include the following:

- Land, property, buildings/facility structures, operational facilities, and technology test facilities;
- Infrastructure such as rail lines, electricity transmission, industrial energy supplies, and roads;
- Access to natural resources, including surface water and groundwater;
- Specialized workforce skills, which include nuclear and nonnuclear construction, facility operations, nuclear safety, and environmental remediation of hazardous and radioactive wastes;
- National laboratories with world-class scientific expertise that provides practical, high-value, and cost-effective solutions to a wide range of complex technical problems;
- State-of-the-art security protection, with respect to both physical security and a highly trained and equipped protective force; and
- Well-studied and -understood sites—environmentally, ecologically, and geologically, including the potential for clean energy production.

### Supportive Resources

In addition to these assets, the sites have also developed supportive resources that come to bear in revitalization initiatives, such as the following:

- Long-established affiliations with local university and community colleges for technical, scientific, and information technology training;

- Supportive host communities that are familiar with sites' capabilities and technologies; and
- DOE program assets, including cutting-edge science, renewable energy grants, and financial assistance through programs such as the Loan Guarantee Program.

## **DOE Asset Transfer History**

DOE has already begun to transition some of its assets back to the local community and economy. As DOE cleans contaminated property that is no longer needed for its mission, the land is transferred to local governments, CROs, institutions, and private industry for redevelopment. Some of these properties were developed as industrial parks, research and demonstration centers, food processing facilities, training centers, parks and recreational facilities, and conservation sites.

Since 2005, DOE has sold over 475,000 square feet of real property, both land and buildings. An additional 36,000 square feet was transferred to other federal agencies. These figures, provided through the DOE Facilities and Infrastructure Maintenance System, are DOE-wide, but former defense nuclear sites make up most of the sales and transfers. A list of these facilities can be found in Appendix D.

## **National Environmental Research Parks**

Six DOE defense nuclear sites benefit ecological and environmental researchers by giving them access to unique natural habitats. Beginning in 1972, DOE designated national environmental research parks at these sites: SRS, Idaho National Laboratory, Oak Ridge Reservation, LANL, Hanford, and NNSS. The national environmental research parks provide opportunities for environmental studies on protected lands that act as buffers around DOE facilities. They are used to evaluate the environmental consequences of energy use and development, as well as strategies to mitigate these effects. They are also used to demonstrate possible environmental and land use options.

## VI. Authorities Relevant to the Asset Revitalization Initiative

A variety of Federal Government authorities relate to the transfer and disposal of real and personal property. In addition to these, DOE has unique authorities that fall into three primary categories: laws and regulations and Executive orders.

### Laws and Regulations

- The Atomic Energy Act of 1954, as amended, section 161g, authorizes the sale, lease, grant, and disposal of real and personal property. Section 161j authorizes the disposition of property, for national security purposes, without regard to the Federal Property and Administrative Services Act of 1949.
- The National Defense Authorization Act for FY 1994, section 3154 (Public Law 103-60), also known as the Hall Amendment, amends section 646 of the DOE Organization Act to allow DOE to lease real and personal property for up to 10 years. When using this authority, the Secretary of Energy is required to obtain the concurrence of the Administrator of the Environmental Protection Agency or other appropriate state official.
- The National Defense Authorization Act for FY 1994, section 3155 (Public Law 103-160), authorizes the Secretary of Energy to transfer, for consideration, all rights, title, and interest of the United States, to personal property and equipment at a DOE facility that is to be closed or reconfigured, if the Secretary determines that such transfers will mitigate the adverse economic consequences that might otherwise arise from the closure of the DOE facility.
- The National Defense Authorization Act for FY 2002 (Public law 107-107) included the Rocky Flats National Wildlife Refuge Act of 2001, which designated the future use of the site as a national wildlife refuge.
- “Transfer of Real Property at Defense Nuclear Facilities for Economic Development” (10 CFR Part 770) establishes how DOE will transfer by sale or lease DOE-owned real property at defense nuclear facilities for economic development. It also contains the procedures to request indemnification for any claim that results from the release or threatened release of a hazardous substance or pollutant or contaminant as a result of DOE activities at the defense nuclear facility. DOE may transfer, by lease only, improvements at defense nuclear facilities on land withdrawn from the public domain that are excess, temporarily underutilized, or underutilized for the purpose of permitting economic development.
- The Energy Policy Act of 2005 established a number of energy management goals for federal facilities and fleets. It also amended portions of the National Energy Conservation Policy Act.
- The Energy Independence and Security Act of 2007 moved the United States toward greater energy independence and security to increase the efficiency of products, buildings, and

vehicles; to promote research on greenhouse gas and deploy greenhouse gas capture and storage options; and to improve the energy performance of the Federal Government, among other purposes.

## **Executive Orders**

- Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, establishes an integrated strategy toward making the Federal Government a leader in sustainability and makes reduction of greenhouse gas emissions a priority for federal agencies.
- Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, renewable energy, sustainable buildings, electronics stewardship, fleets, and water conservation for Federal Government agencies.

## **VII. Asset Revitalization Initiative—Next Steps**

### **The ARI Task Force**

The task force has accepted the following eight assignments to further develop ARI:

- Develop a corporate definition of ARI.
- Assess the private-sector, community, and stakeholder interest in, and resources available for, ARI.
- Inventory the potential for ARI projects at DOE sites.
- Identify and address potential policy, financial, legal, procedural, and programmatic issues that could impact ARI implementation.
- Recommend a transparent and efficient process to prepare and respond to ARI proposals.
- Establish protocols for involving stakeholders in ARI activities after DOE has established an internal policy on how to proceed with asset revitalization.
- Engage other DOE program offices and the sites to inform the community, other federal agencies, and other stakeholders about ARI task force recommendations.
- Prepare a strategy and business plan within six months of the date the task force was established.

The task force is scheduled to present the results of this work and a set of recommendations to the three DOE Under Secretaries. DOE envisions a second task force phase that would implement those recommendations approved by senior management.

### **Legislative Actions**

As discussed in section VI, DOE will implement its Asset Revitalization Initiative using its current authorities.



## Appendix A: DOE Real Property Transfer History

DOE has already begun to transition some of its assets back to the local community and economy. As DOE cleans contaminated property that is no longer needed for its mission, the land has been transferred to local governments, CROs, institutions, and private industry to redevelop it to best serve the community. From 1996 to the present, DOE has transferred over 8,000 acres of property that have been used to build industrial parks, research and demonstration centers, food processing facilities, training centers, parks and recreational facilities, and conservation sites. In many cases, the authority given DOE under the Atomic Energy Act was used to transfer the property. DOE has also used the 1949 Administrative Property Act to transfer property through GSA. The following table is a list of real property by state, number of acres, authority under which it was transferred, year, and receiving organization. At this time, DOE is including only the transfer of land assets in acres, not DOE unneeded buildings, facilities, or personal property assets that have been transferred.

**Table A–1. Disposal History for U.S. Department of Energy Real Property Sales, Disposals, and Transfers**

State	Site Name	Acres	Transfer Authority*	Year(s)	Grantee
CA	Oxnard Forging Facility	13	AEA	1996	Gills Onions
CO	Black Bridge	5		2010	Riverview Technology Corp.
CO	Durango Processing site		1949 APA & AEA		City of Durango, CO
CO	Grand Junction	8	AEA	2001	U.S. Department of the Army
CO	Grand Junction	46	AEA	2001	Riverview Technology Corp.
CO	Rocky Flats Environmental Technology Site	4,000	1949 APA	2007	U.S. Fish & Wildlife Service
FL	Pinellas	100	AEA	1998	Pinellas County, FL
MS	Salmon Site – Tatum Dome Nuclear Test Site	1,470	1997 Special Legislation & AEA	2010	State of Mississippi
NJ	New Brunswick Laboratory	6	1949 APA	2010	Wick, LLC
NJ	Wayne Storage Site	6	1949 APA	2007	City of Wayne, NJ
OH	Mound	178	AEA	1999–2009	Miamisburg Mound Community Improvement Corp.
PA	Canonsburg Title I	1	1949 APA	2009	Bier Landscaping
TN	Oak Ridge	972	AEA		Community Reuse Organization of Eastern Tennessee
UT	Monticello Processing Site	383	1949 APA	2000	City of Monticello, UT
WA	Hanford	860	AEA		Washington State, Port of Benton, WA
WA	Hanford	9	1949 APA	2006	U.S. General Services Administration
WA	Hanford	81	1949 APA	2005	U.S. Department of Education
WA	Hanford	2	1949 APA	2001	Private Company
	Total Acres	8,140		1996–2010	

\*Disposal authorities: AEA=Atomic Energy Act; 1949 APA=1949 Administrative Property Act (Disposal Types—Negotiated Sales; Public Benefit Conveyance, i.e., Lands to Parks).

## Appendix B: List of Acronyms and Abbreviations

ARI	Asset Revitalization Initiative
CRO	community reuse organization
CROET	Community Reuse Organization of East Tennessee
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
EM	Office of Environmental Management (U.S. Department of Energy)
Fernald	Fernald Closure Project (Ohio)
FY	fiscal year
GSA	U.S. General Services Administration
gsf	gross square feet
Hanford	Hanford Site (Washington State)
LANL	Los Alamos National Laboratory (New Mexico)
LEED	Leadership in Energy and Environmental Design
LiCoO <sub>2</sub>	lithium cobalt oxide
Mound	Miamisburg Closure Project (Ohio)
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site (Nevada)
ORNL	Oak Ridge National Laboratory (Tennessee)
Paducah	Paducah Gaseous Diffusion Plant (Kentucky)
Pinellas	Pinellas Plant (Florida)
Portsmouth	Portsmouth Gaseous Diffusion Plant (Ohio)
RFETS	Rocky Flats Environmental Technology Site (Colorado)
SRS	Savannah River Site (South Carolina)
SRSCRO	Savannah River Site Community Reuse Organization
STAR	Science, Technology, and Research

