State and Local Guide to U.S. EPA Climate and Energy Program Resources

U.S. ENVIRONMENTAL PROTECTION AGENCY
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WWW.EPA.GOV/STATELOCALCLIMATE

State and Local Climate and Energy Program

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Introduction

Investing in energy efficiency, renewable energy, combined heat and power, and climate policies and programs continues to be an important way for state and local governments to achieve multiple goals: reducing greenhouse gas pollution, improving air quality and people's health, and saving money. This guide is designed to help state and local governments connect with EPA programs that can help them meet regulatory requirements and expand or develop their own clean energy and climate initiatives.

EPA Program Profiles are organized into eight categories: policy and planning; buildings; industry; energy efficiency and renewable energy; smart growth; transportation; water and adaptation; and waste.

Each Program Profile includes:

- Basic information and contact details
- Relevant target audiences
- Suggestions for actions a state or local government could take to use EPA's offerings
- Tools and resources

The Program Finder table shows which programs could be used to reach nine relevant sectors and audiences:

- Government
- Industry
- Residential
- Commercial
- Utility/Program Administrators
- Public
- Education
- Real Estate Development
- Agriculture

Please note: this document contains contact information that was current when the document was produced, but this information may change over time. If you discover a broken link, please notify Erica Bollerud at bollerud.erica@epa.gov so EPA can post a corrected version.

Getting Started

Specific project area contact information is included in each Program Profile. If you have any questions about getting started after reading this guide, please contact the State and Local Climate and Energy Program at bollerud.erica@epa.gov.

Program Finder

EPA Program (alphabetical order)	Government	Utility/Program Administrators	Industry	Commercial	Public	Residential	Education	Real Estate Development	Agricultural
AgSTAR *(p. 49)*	X	X	X						X
Center for Corporate Climate Leadership *(p.17)*	X	X		X	X			X	
Climate Ready Estuaries *(p. 58)*	X				X	X	X		
Climate Ready Water Utilities *(p. 60)*	X	X	X	X	X		X		X
Combined Heat and Power Partnership *(p.40)*	X	X	X	X			X	X	X
ENERGY STAR® for Commercial/Public Buildings *(p. 26)*	X	X	X	X			X		
ENERGY STAR® for Industry *(p. 36)*	X	X	X		X				
ENERGY STAR® Products *(p. 23)*	X	X	X	X	X	X			
ENERGY STAR® Residential—Existing Homes *(p. 30)*	X	X				X		X	
ENERGY STAR® Residential Certified New Homes *(p. 33)*		X				X		X	
Green Power Partnership *(p. 43)*	X		X	X					
Heat Island Reduction Program *(p. 11)*	X		X	X	X		X		
Landfill Methane Outreach Program *(p. 46)*	X	X	X						
Local Climate and Energy Program *(p. 8)*	X								
Office of Sustainable Communities *(p. 51)*	X	X		X	X	X	X	X	
RE-Powering America's Land *(p. 20)*	X	X	X	X	X		X	X	
Responsible Appliance Disposal Program *(p. 68)*	X	X	X	X	X	X			
SmartWay Certified Light-Duty Vehicles Program *(p. 55)*	X		X		X		X		
State and Local Energy Efficiency Action Network *(p.14)*	X	X	X	X		X			
State Climate and Energy Program *(p. 5)*	X								
WasteWise Communities *(p. 66)*	X	X			X	X	X		
WaterSense *(p. 63)*	X	X		X	X	X	X	X	

Program Profiles
Policy and Planning

State Climate and Energy Program

Services Offered

- Tools and data
- Guidebooks
- Technical assistance
- Webcasts

Relevant Sectors

- Government

Website

www3.epa.gov/statelocalclimate

Contact

Denise Mulholland
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Description

This program helps states develop and analyze energy efficiency and renewable energy policies and programs that reduce greenhouse gas emissions, lower energy costs, improve air quality and public health, and achieve economic development goals, and provides technical assistance to support state use of energy efficiency and renewable energy to comply with EPA air regulations. The State Climate and Energy Program advises states on proven, cost-effective best practices via guidance, analytical tools and data, webcasts, and newsletters.

Services

Specific assistance includes:

- Identifying cost-effective state policies and initiatives that advance renewable energy, energy efficiency, and related clean technologies.
- Measuring and evaluating the environmental, energy, economic, and public health benefits of energy efficiency and renewable energy initiatives.
- Providing technical assistance to states on effectively using energy efficiency and renewable energy to comply with EPA regulations.
- Hosting webcasts that allow state staff to share information on best practices and innovative policies.

Value to Environment and Other Co-benefits

State energy efficiency and renewable energy programs can lower greenhouse gas emissions, improve air quality and public health, increase cost-effective energy efficiency and renewable energy, and reap economic benefits.

Possible State and Local Actions

- Identify state energy efficiency and renewable energy policies and programs that can reduce greenhouse gas emissions and save energy using EPA's tools and resources.
- Analyze and communicate the projected policy and program impacts and associated co-benefits, including air, health, energy, and economic benefits.
- Evaluate, measure, and verify results once policies or programs are in place.
- Develop an inventory of greenhouse gas emissions to establish a baseline and identify sectors or sources for targeted reduction efforts.
- Coordinate with state air, energy and utility staff to build an inter-agency plan to comply with EPA's Clean Power Plan.

Tools/Resources

Resources

- Clean Power Plan Toolbox for States
  Gathers federal resources that provide information on state Clean Power Plan development and can help states determine the most cost-effective approaches to reducing greenhouse gas emissions from the power sector
- Energy-Environment Guide to Action: State Policies and Best Practices for Advancing Energy Efficiency, Combined Heat and Power, and Renewable Energy
  Presents 16 best practices that states have used to develop clean energy programs and policies
- Assessing the Multiple Benefits of Clean Energy: A Resource for States
  Provides information about the energy, air, health, and economic benefits of clean energy and the methods and tools available—including their strengths, limitations, and appropriate uses—to estimate them

- Steps for States: Addressing Climate Change
  Provides an action framework states can consider when deciding the best approach for addressing their own climate change risks and reducing state greenhouse gas emissions with increased use of energy efficiency and renewable energy
- State Climate and Energy Webcasts
  Presents analytical questions to resolve key issues surrounding state climate and clean energy efforts; participants include state energy, environmental, and utility staff. Papers and presentations from past calls are available

Tools

- AVoided Emissions and geneRation Tool (AVERT)
  Evaluates county, state, and regional emissions displaced at electric power plants by energy efficiency and renewable energy policies and programs
- State Greenhouse Gas Inventory and Projection Tool
  Generates a top-down estimate of GHG emissions at the U.S. state level
- Co-Benefits Risk Assessment (COBRA) Tool
  Estimates the impact of air quality improvements on public health
- Clean Energy Financing Program Decision Tool
  Helps state staff identify clean energy financing programs suited to their jurisdiction's specific needs
- Greenhouse Gas Equivalencies Calculator
  Converts energy savings into carbon dioxide emissions and translates this information into readily understandable terms, such as equivalent gallons of gasoline or electricity from homes

Program Profiles
Policy and Planning

Local Climate and Energy Program

Services Offered

- Analytical tools
- Guidebooks/Resources
- Newsletter
- Technical assistance
- Webcasts

Relevant Sectors

- Government

Website

www3.epa.gov/statelocalclimate

Contact

Andrea Denny
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Description

This program helps local governments (including cities and towns, counties, regional governments, tribes and U.S. territories) meet sustainability goals with cost-effective climate change and clean energy strategies.

Services

This program coordinates among federal, state, and non-governmental programs to provide comprehensive planning, policy, technical, and analytical information resources for municipal governments. Key resources include: the Local Government Climate and Energy Strategy Series, which includes documents on energy efficiency, transportation, community planning and design, solid waste and materials management, and renewable energy; a comprehensive, step-by step website that guides

local governments through the process of designing, implementing, and evaluating climate and energy programs; regular webcasts on topical issues; newsletters on training and funding opportunities, new tools and other resources; and the Climate Showcase Communities program.

Value to Environment and Other Co-benefits

By implementing clean energy strategies, local governments can reduce greenhouse gas emissions and achieve multiple community goals such as reducing greenhouse gas pollution; lowering energy costs; supporting local economic development; improving people's health and quality of life; and strengthening community resilience to climate change impacts.

Possible State and Local Actions

- Develop a community greenhouse gas inventory and a baseline of energy use to identify the largest opportunities for reductions.
- Review and evaluate local best practices resources to help set goals, select policies and programs, and obtain funding that work for your community.
- Read through the Climate Showcase Communities projects and replicate one that is a good fit for your community and sustainability goals.
- Implement cost-effective practices within government operations to lead by example.
- Engage your community through education campaigns, ordinances, and demonstration projects.
- Track and report project and program progress.

Tools/Resources

- Climate Showcase Communities
  Supports 50 pilot communities that are creating replicable models of cost-effective and persistent greenhouse gas reductions; offers peer exchange, training, and technical support to pilot communities, and shares their successes and lessons learned to encourage and support replication across the country
- Local Government Climate and Energy Strategy Series
  Provides a comprehensive, straightforward overview of various greenhouse gas emissions reduction strategies that local governments can employ
- Local Climate and Energy Webcasts
  Provide access to experts, case studies, and training on successful strategies for promoting climate change mitigation and adaptation at the local level

Energy Efficiency

- Energy Efficiency in Local Government Operations (PDF)
- Energy Efficiency in K-12 Schools (PDF)
- Energy Efficiency in Affordable Housing (PDF)
- Energy-Efficient Product Procurement (PDF)

- Combined Heat and Power (PDF)
- Energy Efficiency in Water and Wastewater Facilities (PDF)

Transportation

- Transportation Control Measures (PDF)

Community Planning and Design

- Smart Growth (PDF)

Solid Waste and Materials Management

- Resource Conservation and Recovery (PDF)

Renewable Energy

- Green Power Procurement (PDF)
- On-Site Renewable Energy Generation (PDF)
- Landfill Gas to Energy (PDF)

Program Profiles
Policy and Planning

Heat Island Reduction Program

Services Offered

- Guidebooks/toolkits
- Newsletter
- Technical assistance
- Webcasts

Relevant Sectors

- Commercial
- Government
- Industry
- Residential
- Public
- Education

Website

www2.epa.gov/heat-islands

Contact

Victoria Ludwig
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Description

This program helps create cooler communities and reduce the heat island effect by sharing information about heat island impacts, mitigation benefits, and policy advancements with state and local decision-makers and program implementers, the research community, industry, and the general public.

Services

This program helps communities by providing valuable information about heat island science, impacts, and mitigation strategies. The program also provides tools and resources that support community action, including regular online news updates, webcasts with leading experts in the field, and regular email announcements on heat island topics.

Value to Environment and other Co-benefits

Elevated temperatures from urban heat islands, particularly during the summer, can affect a community's environment and quality of life. By taking action to cool summer temperatures, communities can reduce:

- Energy use,
- Energy bills,
- Greenhouse gas emissions and air pollution,
- Number of respiratory and heat-related illnesses, and
- Quantity of stormwater runoff.

Taking action to reduce the heat island effect not only helps lower temperatures, but also can improve a community's resiliency by reducing health impacts during extreme heat events.

Possible State and Local Actions

- Implement heat island reduction strategies that increase the use of trees and vegetation, green roofs, cool reflective roofs, and cool pavements in order to reduce air and surface temperatures.
- Integrate mitigation strategies into communities through voluntary efforts such as demonstration projects, incentive programs, weatherization, urban forestry efforts, outreach, education, and awards.
- Include mitigation strategies in local and state policy and regulatory actions such as procurement, resolutions, ordinances, action plans, community design guidelines, zoning codes, building standards and codes, and regional air quality planning.

Tools/Resources

- Reducing Urban Heat Islands: Compendium of Strategies
  Describes the causes and impacts of summertime urban heat islands and promotes key strategies for lowering temperatures; the last chapter explains the range of voluntary and policy efforts undertaken by state and local governments to mitigate urban heat islands
- Heat Island Community Action Database
  Provides examples of local and statewide initiatives to reduce heat islands and achieve related energy, air quality, human health, and water quality benefits; each entry in the database includes a description of the activity, its current status, and a link to a website for more information

- Heat Island Webcasts
  Showcase the latest science and implementation activities, and highlight upcoming meetings related to heat island science, modeling, and mitigation strategies
- Heat Island Newsletter
  Provides periodic announcements of funding opportunities, webcasts, publications, and events of interest to the heat island community

Program Profiles
Policy and Planning

State and Local Energy Efficiency Action Network (SEE Action)

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Technical assistance

Relevant Sectors

- Commercial
- Government
- Industry
- Residential
- Utility/Program Administrators

Website

www4.eere.energy.gov/seeaction/

www2.epa.gov/energy/national-action-plan-energy-efficiency

Contact

Victoria Ludwig
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Description

The State and Local Energy Efficiency Action Network (SEE Action) is a federal-state-local effort to help state and local decision makers support energy efficiency policies and programs in their jurisdictions. SEE Action is comprised of over 200 leaders from state and local governments, associations, businesses, non-government organizations, and others working toward a goal of achieving all cost-effective energy

efficiency by 2020. SEE Action is currently working across eight issue-based working groups to remove barriers to and increase investment in energy efficiency. Working groups include existing commercial buildings, residential retrofits, industrial energy efficiency and combined heat and power, building energy codes, customer information and behavior, financing solutions, evaluation and measurement, and ratepayer funded efficiency.

U.S. EPA partners with the U.S. Department of Energy on SEE Action activities, building upon the progress of the previous National Action Plan for Energy Efficiency (Action Plan). The Action Plan was a federally facilitated private-public initiative to create a sustainable, aggressive national commitment to energy efficiency through the collaborative efforts of gas and electric utilities, state utility regulators, and other partner organizations.

Services

SEE Action and the Action Plan offer several resources that are useful to state and local governments that want to advance energy efficiency, including a comprehensive set of policy and program guidance documents, and a summary of existing state-level policies for energy efficiency.

Value to Environment and other Co-benefits

These efforts help remove barriers to greater investment in cost-effective energy efficiency. Achieving all cost-effective energy efficiency by the year 2025 could reduce national greenhouse gas emissions by 500 million metric tons of carbon dioxide annually, equivalent to the emissions of 90 million vehicles.

Possible State and Local Actions

- Build on what is working: leverage proven, documented, cost-effective programs and program designs; establish partnerships with parties responsible for existing energy efficiency efforts; build programs that can continue after economic stimulus funding expires.
- Emphasize job creation: pursue energy efficiency programs that engage services and trades; develop and deploy the workforce training necessary to support the programs; consider the skills that will be in demand for the longer term.
- Measure results: evaluate the energy, environmental, and jobs benefits of programs; require the use of established procedures for evaluation, measurement, and verification; strive for simplicity and for transparency in assumptions and results.
- Plan for the future: see how the energy efficiency policies in your state align with the Action Plan's Vision framework for measuring progress toward all cost-effective energy efficiency.

Tools/Resources

- National Action Plan for Energy Efficiency Vision for 2025 (PDF)
  Details a policy framework for establishing long-term energy efficiency policies and programs and captures an approach for measuring state progress toward achieving all cost-effective energy efficiency

- Energy Efficiency Program Impact Evaluation Guide
  Includes definitions, concepts, and steps for calculating savings, avoided emissions, and other impacts
- Understanding Cost-Effectiveness of Energy Efficiency Programs (PDF)
  Reviews the issues and approaches involved in considering and adopting cost-effectiveness tests for energy efficiency
- Guide for Conducting Energy Efficiency Potential Studies (PDF)
  Identifies three main applications for energy efficiency potential studies and provides examples of each
- Energy Efficiency Financing Program Implementation Primer
  Provides key considerations for policymakers, energy efficiency program administrators, and program partners and implementing successful energy efficiency financing programs for existing buildings

Utilities and Energy Efficiency

- Aligning Utility Incentives with Energy Efficiency Investment (PDF)
  Describes the financial effects on a utility of its spending on energy efficiency programs, how those effects could constitute barriers to more aggressive and sustained utility investment in energy efficiency, and how adoption of various policy mechanisms can reduce or eliminate these barriers
- Guide to Resource Planning with Energy Efficiency (PDF)
  Describes the key issues, best practices, and main process steps for integrating energy efficiency into resource planning, including how to help ensure that energy efficiency programs provide a resource as dependable and valuable to utilities and their customers as any supply-side resource
- Setting Energy Savings Targets for Utilities
  Helps policymakers understand how electric and natural gas utilities can achieve greater efficiency by establishing numeric energy-savings targets and goals for energy efficiency programs
- Benchmarking and Disclosure: State and Local Policy Design Guide and Sample Policy Language
  Provides sample policy language based on a synthesis of existing state and local policies, and discussion on key provisions, for the design of a commercial benchmarking and disclosure policy

Program Profiles
Policy and Planning

Center for Corporate Climate Leadership

Services Offered

- GHG measurement and management tools
- Recognition
- Events and webcasts

Relevant Sectors

- Government
- Public
- Commercial
- Utility/Program Administrators
- Real Estate Development

Website

www2.epa.gov/climateleadership

Contact

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Description

EPA's Center for Corporate Climate Leadership serves as a resource center for all organizations looking to identify and achieve cost-effective GHG emission reductions, while helping more advanced organizations drive innovations in reducing their greenhouse gas impacts in their supply chains and beyond. The Center also recognizes exemplary corporate, organizational, and individual leadership in addressing climate change by co-sponsoring The Climate Leadership Awards with the Center for Climate and Energy Solutions and The Climate Registry.

Services

The Center serves as a comprehensive resource to help organizations of all sizes measure and manage GHG emissions, providing technical tools, ground-tested guidance, educational resources, and opportunities for information sharing and peer exchange among organizations interested in reducing the environmental impacts associated with climate change.

The Center supports the following:

- Joint recognition program for climate leadership
- Supply chain GHG management
- Strategic partnerships and engagements
- Promotion of GHG management best practices and technologies in collaboration with other EPA programs and other organizations

Value to Environment and Other Co-benefits

The Center serves as a resource for organizations to help reduce their environmental impacts associated with climate change. The Center establishes norms of climate leadership via a national awards program that recognizes and incentivizes exemplary corporate, organizational, and individual leadership in response to climate change. Winners exemplify current and future best practices and set the bar for others to follow suit.

Tools/Resources

- GHG Emissions Factor Hub
  Provides organizations with an easy-to-use set of default emission factors for greenhouse gas reporting
- GHG Inventory Management Plan (IMP)
  Describes an organization's process for completing a corporate-wide inventory; EPA provides an IMP Checklist that includes the elements of a high-quality IMP
- Annual GHG Inventory Summary and Goal Tracking Form
  Helps organizations compile and report GHG emissions data in terms of total CO_2 equivalent at an organizational level
- Carbon Footprinting Process for Low Emitters
  Offers a simplified framework for calculating a GHG inventory for low emitters, such as office-based organizations, suppliers, public institutions including government agencies and universities, and other small businesses
- Simplified GHG Emissions Calculator
  Can be used by lower emitters/small businesses to calculate their organization’s GHG emissions

- EPA's Corporate GHG Goal Evaluation Model
  Provides companies with a transparent and publicly available benchmarking resource to help evaluate and establish new or existing GHG reduction goals

Additional guidance is available on Supply Chain Management, Emissions from Purchased Electricity, Cross-Sector Guidance, and more.

Program Profiles
Policy and Planning

RE-Powering America's Land

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Technical assistance

Relevant Sectors

- Government
- Industry
- Commercial
- Utility/Program Administrators
- Public
- Education
- Real Estate Development

Website

www2.epa.gov/re-powering

Contact

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Description

The RE-Powering America's Land Initiative encourages renewable energy development on current and formerly contaminated lands, landfills, and mine sites when such development is aligned with a community's vision for the site. This Initiative identifies the renewable energy potential of these sites and provides other useful resources for communities, developers, industry, state and local governments or anyone interested in reusing these sites for renewable energy development.

Services

Specific assistance includes:

- Identifying contaminated lands, landfills and mine sites and screening such sites for renewable energy potential.
- Clarifying potential liability issues associated with redevelopment of contaminated properties with revised guidance tailored to the kind of tenant relationships often used in renewable energy development.
- Developing and disseminating handbooks, case studies and best practice guides to integrate the cleanup process with renewable energy development, demonstrate the feasibility of such installations and outline various considerations associated with renewable energy development on municipal solid waste landfills.
- Partnering with stakeholders and leveraging efforts across the Agency.

Value to Environment and Other Co-Benefits

There are several benefits communities and developers may realize from developing renewable energy facilities on contaminated lands and mine sites, including:

- Achieving environmental benefits: facilitating the cleanup of sites, the protection of open space, and reduction in harmful air and greenhouse gas emissions.
- Saving money on cleanup: site still undergoing remediation can save money on electricity needed to power the cleanup
- Lowering electricity costs: projects can be structured to require little, if any, upfront investment and then provide electricity to local residents, businesses, and industries at a reduced cost.
- Promoting revitalization: contaminated sites are cleaned up and returned to productive use, reducing blight and adding economic vitality to a community.
- Providing annual tax revenue: siting renewable energy on contaminated land and mine sites can provide an economically viable reuse option for sites with significant cleanup costs or low real estate development demand that would otherwise lie idle, providing additional tax revenue.
- Preserving greenfields and agricultural land: Redevelopment of contaminated land and mine sites reduces the development pressure on greenfields and agricultural land, protecting those valued resources.
- Providing jobs: in communities with a post-industrial legacy of contaminated sites and high unemployment: renewable energy development can provide job opportunities, particularly where factories, mining and other manufacturing have ceased operations.

Possible State and Local Actions

- Develop policies and utilize best practices that encourage renewable energy on contaminated lands.
- Analyze and communicate the projected policy and program impacts and associated co-benefits, including air, health, energy, land use and economic benefits.

- Sponsor requests for proposals (RFPs) for renewable energy projects on contaminated lands, landfills and mine sites.
- Evaluate, measure, and verify results once policies or programs are in place.

Tools/Resources

Guidance

- RE-Powering Finance Fact Sheet
  A short fact sheet that answers questions from site owners, renewable energy developers and communities concerning financial tools and structures
- Best Practices for Siting Solar Photovoltaics on Municipal Solid Waste Landfills
  Provides assistance in addressing common technical challenges for siting solar photovoltaics on municipal solid waste landfills
- Handbook on Siting Renewable Energy Projects While Addressing Environmental Issues
  Provides tools to help interested parties determine the overall feasibility of siting renewable energy production and some key considerations for integrating renewable energy development during all phases of typical cleanup processes
- Revised BFPP Enforcement Guidance for Tenants
  Discusses the potential applicability of certain provisions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Agency's intention to exercise its enforcement discretion in select circumstances with respect to liability

Tools

- RE-Powering Mapper
  A preliminary screening tool that uses Google Earth to assess the renewable energy potential of over 80,000 contaminated lands, landfills, and mine sites
- Solar and Wind Decision Trees
  Documents that walks users through a series of Yes / No / Skip questions supplemented by tips and links to relevant tools and informational resources; an electronic version of the decision trees in currently in development
- RE-Powering's Tracking Matrix
  Semi-annual publication using publically available information to list the completed renewable energy installations on contaminated sites and landfills in the United States

Program Profiles
Buildings

ENERGY STAR® Products

Services Offered

- Guidebooks/toolkits
- Program planning assistance
- Product and incentive finders
- National campaigns
- Public recognition
- Training

Relevant Sectors

- Commercial
- Government
- Industry
- Public
- Residential
- Utility/Program Administrators
- Agricultural

Website

www.energystar.gov

Contact

Energy Star Hotline
hotline@energystar.gov

Description

Since 1992, the ENERGY STAR program has helped thousands of organizations across the residential, commercial, industrial, and public sectors take advantage of cost-effective opportunities to improve

energy efficiency and reduce GHG emissions. The ENERGY STAR label helps consumers and businesses identify the most energy efficient products on the market without having to sacrifice performance. EPA manages the ENERGY STAR program with support from the Department of Energy.

Services

EPA works with stakeholders including manufacturers, trade associations, utilities, and energy and environmental advocates to develop performance specifications for ENERGY STAR products that deliver significant energy savings. Manufacturers submit products for third-party certification based on testing in an EPA-recognized laboratory. The ENERGY STAR program has grown to encompass more than 70 product categories including lighting, appliances, heating and cooling systems, home electronics, office equipment, and commercial products including food service equipment. EPA provides the ENERGY STAR logo, national campaigns, consumer education, marketing resources, training materials and a sophisticated product database.

Value to Environment and other Co-benefits

Energy efficiency is one of the lowest-cost strategies to address climate change by reducing the amount of emissions associated with the burning of fossil fuels to produce energy. Energy efficiency can also help reduce customer costs. Energy efficiency improvements can improve community health both directly and indirectly. For example, sealing and insulating a home can improve indoor air quality—a tighter home envelope reduces the amount of humidity, dust, pollen and pests that enter a home. Reducing peak energy production during hot summer days can reduce nitrogen oxide emissions from electrical generating units, which contribute to ground level ozone. An investment in energy efficiency can create jobs and improve local economies. Instead of supplying electricity from outside of your community, energy efficiency relies on domestic and local companies, contractors, and retailers to provide energy management services and energy-saving products. The broader market effects associated with these programs help make energy-efficient products and services more accessible to communities.

Possible State and Local Actions

- Purchase ENERGY STAR certified products for government operations.
- Require energy efficient equipment purchases for all state and local agencies.
- Encourage/provide incentives to the residential, commercial, and industrial sectors to purchase select ENERGY STAR certified products (e.g., through rebate or coupon programs).
- Partner with local community associations to distribute ENERGY STAR products, such as energy efficient light bulbs, at public events, or to low income communities.
- Empower Americans to make energy efficient choices by supporting grassroots, community-based youth service projects; becoming an ENERGY STAR pledge driver; and/or sponsoring a local event during the "Change the World, Start with ENERGY STAR" campaign tour.
- Partner with local organizations to educate communities on the benefits of using ENERGY STAR products in their businesses and homes.

Tools/Resources

- Find ENERGY STAR Certified Products
- Learn about ENERGY STAR Lighting
- Find Rebates for ENERGY STAR Certified Products
- ENERGY STAR Purchasing and Procurement Guidelines
  Assists procurement officials in smart purchasing decisions; online training and case studies are also available
- ENERGY STAR Partners
  Lists partners including schools, governments, home builders, home energy raters, cable providers, mortgage lenders, product manufacturers, and retailers
- Learn about becoming an ENERGY STAR Pledge Driver
  Sign your organization up as an ENERGY STAR Pledge Driver and get involved in the Change the World, Start with ENERGY STAR Tour and Campaign
- Join the ENERGY STAR Low-Carbon IT Campaign
- Low-Carbon IT Campaign Template Materials
  Offers templates to publicize your efforts through newsletters, press releases, and on your website

Program Profiles
Buildings

ENERGY STAR® for Commercial/Public Buildings

Services Offered

- Environmental performance benchmarking
- Guidebooks/toolkits
- Public recognition
- Training

Relevant Sectors

- Commercial
- Education
- Government
- Industry
- Utility/Program Administrators

Website

www.energystar.gov/buildings

Contact

Energy Star Help Desk
(888) STAR YES (782-7937)
www.energystar.gov/buildingshelp

Description

Since 1992, the ENERGY STAR program has helped thousands of organizations across the residential, commercial, government, and industrial sectors take advantage of cost-effective opportunities to improve their buildings' energy efficiency and reduce greenhouse gas emissions. State and local governments lead by example by improving their own buildings, and they leverage relationships with building owners in the state to motivate them to do the same.

Services

EPA provides tools and resources necessary for strategic energy management. Building owners and facility managers of all kinds of buildings can use EPA tools to benchmark their energy and water use in order to target investments on improvements—more than 400,000 buildings or 40 percent of commercial building square footage—nationwide have already done so. Top-performing buildings, such as hospitals, hotels, office buildings, retailers, schools, grocery stores, warehouses, banks, and courthouses can earn ENERGY STAR certification using EPA's ENERGY STAR Portfolio Manager® tool. EPA offers live Web conferences, and pre-recorded online trainings for general audiences, as well as those specific to particular sectors.

Value to Environment and other Co-benefits

Energy use in commercial buildings and manufacturing plants accounts for nearly half of total U.S. GHG emissions and nearly half of energy consumption nationwide, at a cost of more than $400 billion. Much of this energy use is wasted through inefficiencies. In fact, the average office building wastes 30 percent of the energy it uses. By making our buildings and plants more energy efficient, communities around the country can save energy and money.

Possible State and Local Actions

- Use Portfolio Manager to determine an energy use performance baseline (similar to a miles per gallon rating for a vehicle), identify opportunities to improve energy efficiency in buildings, set energy consumption and greenhouse gas emission improvement goals, track progress, and measure results.
- Set a target to benchmark a specified number of government buildings with Portfolio Manager by a target year.
- Require state agencies (including prisons, schools, etc.) to benchmark their buildings with Portfolio Manager.
- Establish a benchmarking competition among state and local government agencies or among local businesses. Recognize those achieving highest performance or greatest improvement.
- Work with utilities in the state or locality to enable automated benchmarking.
- Require state/local staff to take Portfolio Manager online training.
- Provide technical support to public, commercial, or industrial building benchmarking staff.
- Mandate benchmarking and disclosure for public and privately owned buildings
- Require new state and local government buildings to use the ENERGY STAR New Building Design approach.
- Leverage ENERGY STAR communications resources to celebrate successes and promote energy efficiency throughout the community.

Tools/Resources

General Resources

- Portfolio Manager
  Allows users to assess and track energy and water consumption within individual buildings as well as across an entire building portfolio
- Directory of Energy Efficiency Programs
  Identifies organizations in each state that sponsor energy efficiency programs and that are partnered with ENERGY STAR
- Service and Product Provider Directory
  Locates companies that can help identify, prioritize, and implement quality projects that will improve total energy management
- ENERGY STAR Qualified Products and Procurement
- Teaming Up to Save Energy
  Discusses how to structure, launch, and maintain an organization's energy team so it can improve energy performance across the organization
- ENERGY STAR Commercial and Industrial Training

Building Resources

- Benchmarking Starter Kit
- New Building Design Guidance
- Building Upgrade Manual
- Guidelines for Energy Management
- Achieving "Designed to Earn the ENERGY STAR"
- Apply for the ENERGY STAR Certification
- Building Profiles & Leaders' Stories
- Financial Resources
  - **Financial Value Calculator**: presents energy investment opportunities in terms of key financial metrics; use these powerful metrics to convey the value of improved energy performance to senior financial decision makers, investors and other stakeholders.
  - **Building Value Calculator**: estimates the financial impact of proposed investments in energy efficiency in office properties
  - **Cash Flow Opportunity Calculator**: helps decision makers answer three critical questions about energy efficiency investments:
    1. How much new energy efficiency equipment can be purchased from the anticipated savings?

2. Should this equipment purchase be financed now, or is it better to wait and use cash from a future budget?

3. Is money being lost by waiting for a lower interest rate?

- Target Finder
  Helps architects and building owners set aggressive, realistic energy targets and rate a building design's estimated energy use

Communications

- ENERGY STAR Communications Toolkit

Program Profiles
Buildings

ENERGY STAR® Residential—Existing Homes
(Home Performance with ENERGY STAR)

Services Offered
- Analytical Tools
- Environmental performance benchmarking
- Guidebooks/toolkits
- Public recognition
- Technical assistance
- Training seminars

Relevant Sectors
- Government
- Real Estate Development
- Residential
- Utility/Program Administrators

Website
www.energystar.gov/homeperformance

Contact
Energy Star Hotline
(888) STAR YES (782-7937)
homeperformance@energystar.gov

Description
Home Performance with ENERGY STAR (HPwES) is a national program administered by DOE in conjunction with the EPA. HPwES offers a comprehensive, whole-house approach to improving energy efficiency and comfort. Unlike typical energy audit programs, the goal of HPwES is to turn

recommendations into improved, more efficient, more comfortable homes. HPwES is managed by a local sponsor that recruits, trains, and provides quality assurance over home improvement contractors who deliver comprehensive home energy assessments and efficiency installations.

Services

EPA and DOE can provide program start-up guidance for potential utilities or state energy offices. Once a sponsor has submitted an implementation plan and signed the partnership agreement, EPA will provide access to the Home Performance with ENERGY STAR logo, marketing resources, sales training, and sponsor outreach campaigns, through which contractors, utilities, or other program administrators can work together to increase awareness of HPwES in the local market.

Value to Environment and other co-benefits

Energy efficiency is the lowest-cost strategy to address global climate change and air pollution by reducing the amount of emissions associated with the burning of fossil fuels to produce energy. To date, more than 400,000 homes have been improved through HPwES. Many homes are candidates for this program to achieve savings of 20 percent or more through cost-effective home improvements.

Possible State and Local Actions

- Enhance current HPwES program (incentives, marketing, financing, training, etc.) if a program already exists in your state.
- Sponsor HPwES training programs for local contractors (curricula are currently available for purchase from NYSERDA and others).
- Offer incentives to reduce the cost of HPwES energy assessments to residents.
- Provide incentives for energy efficiency improvements identified through HPwES assessments through any number of financial mechanisms (e.g., direct rebates, state revolving fund disbursements).
- Partner with ENERGY STAR and sponsor a HPwES program.

Tools/Resources

- How to Develop a Local Program
  Describes who can become a sponsor, the role of the program sponsor, where to start, and federal grant opportunities
- Sponsor Guide
- Program Implementation Plan Template
- Contractor Success Stories
- Marketing Resources
- HPwES Newsletters

Reduce Energy Use

- Home Performance with ENERGY STAR
- HPwES Brochure (PDF)
- Guide to Energy Efficient Heating and Cooling (PDF)
- Heat and Cool Your Home
- Home Sealing
- Duct Sealing
- ENERGY STAR Home Advisor
  Helps homeowners improve their home's efficiency while adding comfort and value; homeowners can create a profile of their home's energy efficiency features and get a prioritized list of customized, energy-saving recommendations
- Home Energy Yardstick
  Allows homeowners to compare household energy use with others across the country and get recommendations for improvement; can be hosted on a state or local government website
- Change the World, Take the ENERGY STAR Pledge
- My ENERGY STAR (sign up to access incentives and special offers)
- Locate Rebates and Special Offers
- ENERGY STAR Qualified Product Tax Incentives

Program Profiles
Buildings

ENERGY STAR® Residential Certified New Homes

Services Offered

- Marketing and sales tools and resources
- Professional networking
- Awards and public recognition
- Technical training/seminars

Relevant Sectors

- Real Estate Development
- Home Energy Raters and Providers
- Residential
- Residential HVAC Contractors
- Utility/Program Administrators

Website

www.energystar.gov/homes

Contact

Energy Star Hotline
(888) STAR YES (782-7937)
hotline@energystar.gov

Description

In the residential new construction marketplace, ENERGY STAR is the simple choice for energy efficiency. ENERGY STAR and its partners work together to promote the benefits and increase sales of ENERGY STAR certified homes. Homes eligible to earn the ENERGY STAR label include single-family, low- and high-rise multifamily, as well as modular and manufactured homes. All homes that earn the ENERGY STAR label must meet stringent requirements for energy efficiency set by EPA. Typically, single-family and low-rise multifamily homes must be at least 15 percent more efficient than those built to the 2009

International Energy Conservation Code (IECC), and include additional energy-saving features to deliver a performance advantage of up to 30 percent compared to typical new homes. From 1995 through 2014, nearly 1.6 million homes nationwide have met these requirements. As a result, American homeowners have saved over $4.7 billion on their energy bills and reduced GHG emissions by more than 53 billion pounds.

Since units in multifamily high-rise buildings first became eligible to earn the ENERGY STAR label in 2011, over 8,500 individual units have been certified in 93 buildings. These projects must meet EPA's energy efficiency requirements and be designed to be at least 15 percent more efficient than the building energy code. In 2014, 2,000 multifamily high-rise units in 23 buildings were certified. When combined with multifamily low-rise homes, more than 122,000 multifamily housing units have been certified to date.

Services

ENERGY STAR provides its partners access to the ENERGY STAR mark as well as free marketing resources and technical and sales training materials. ENERGY STAR also hosts partner network meetings and offers opportunities for public recognition for environmental stewardship.

Value to Environment and Other Co-benefits

Energy efficiency is one of the lowest-cost strategies to address global climate change and air pollution by reducing the amount of emissions associated with the burning of fossil fuels to produce energy.

Possible State and Local Actions

- Promote program administrator (e.g., utility, builder, other) efforts to expand the market for ENERGY STAR new homes.
- Offer training to building inspectors and code enforcement/compliance staff to help them become certified Home Energy Raters.
- Offer technical training to builders about building energy efficient homes and HVAC contractors about installing systems that meet ENERGY STAR certified home requirements.
- Provide incentives for or require new public housing to be ENERGY STAR qualified.
- Provide loan guarantees or other special financing for the purchase of ENERGY STAR certified homes.
- Provide education and/or incentives that promote the availability of appraisers trained in valuing energy efficient homes

Tools/Resources

- Learn about ENERGY STAR New Homes
- Features and Benefits of ENERGY STAR Certified Homes
- New Homes Partner Locator
- Guidelines for ENERGY STAR Certified New Homes

- Resources for ENERGY STAR Partners
  Includes marketing, technical, and training/educational resources

Program Profiles:
Industry

ENERGY STAR® for Industry

Services Offered

- Cost-effective energy management system (EMS) guidance
- Analytical tools - Benchmarks of plant energy performance
- Sector-specific technical guides
- Professional networking for industrial companies
- Public recognition
- Technical assistance
- Training

Relevant Sectors

- Industry
- Government
- Utility/Program Administrators
- Public

Website

www.energystar.gov/industry

Contact

Elizabeth Dutrow
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dutrow.elizabeth@epa.gov

Description

ENERGY STAR works collaboratively with manufacturing sectors to provide energy management direction, support and tools to industrial companies as they build and refine energy management programs, reduce energy costs and carbon emissions, demonstrate environmental leadership, and improve competitiveness. The ENERGY STAR Guidelines for Energy Management and supporting tools

are used extensively as the cost-effective basis for thousands of energy management programs in the US and abroad. The ENERGY STAR Guidelines for Energy Management informed development of the ISO 50001 energy management system standard. ENERGY STAR offers road-tested resources, tools, benchmarks, and guidance to help companies establish energy programs that continuously improve energy efficiency. Small, medium, and large, as well as energy intensive and non-energy intensive, manufacturers have adopted the ENERGY STAR approach to achieving lasting energy savings. ENERGY STAR industrial resources are recommended in the State Energy Efficiency (SEE) Action Network Blueprint for Industrial Energy Efficiency.

Services

States, utilities, and local governments can enable manufacturing plants in their area use to reduce electrical and onsite fuel use with ENERGY STAR industrial resources. No cost tools guide the development and refinement of energy management systems, achievement of GHG emission reduction goals, and definition of energy efficiency pathways for manufacturing operations. Additionally, specialized tools and information are available for more than 25 industrial sectors—e.g., cement, chemicals, concrete, corn refining, dairy processing, food processing, glass, metal casting, motor vehicle, chemicals, petroleum refining, pharmaceuticals, pulp & paper, steel, etc. ENERGY STAR also has energy management resources catered specifically for small and medium manufacturers.

Value to Environment and other Co-benefits

Energy efficiency is one of the lowest-cost and lowest-risk strategies both for governments seeking to control industrial pollution and for manufacturers looking to reduce their environmental footprint. Energy efficiency addresses carbon dioxide emissions and other energy-related air pollution in a region by reducing the amount of fossil fuels used to produce energy. Energy-efficient plants also are more competitive than less efficient sites and potentially able to use energy savings to invest in jobs at the site. No-cost ENERGY STAR energy management tools are proven in helping manufacturing plants improve energy efficiency. Using the ENERGY STAR approach, nearly 800 companies with thousands of manufacturing plants under management in the United States have established energy programs, set goals, established tracking systems, and are reducing their energy and GHG emissions.

Possible State and Local Actions

- Conduct regional manufacturing energy efficiency initiatives by leveraging the ENERGY STAR Challenge for Industry. Have sites take the cost-effective step of laying a foundation for energy management by taking the ENERGY STAR Challenge for Industry and committing to achieve a ten percent reduction in energy use within five years or less.
- Identify energy improvement opportunities and potential greenhouse gas emission–reducing technologies and practices for specific types of manufacturing plants with ENERGY STAR Energy Guides.
- Encourage eligible manufacturing sites to earn ENERGY STAR plant certification by achieving energy performance within the top 25 percent for its industry nationally.
- Guide industrial companies in developing effective energy management programs.

- Use ENERGY STAR tools and resources to identify measures that manufacturers can take to ensure persistent savings on efficiency after energy projects have been completed.
- Guide industry to evaluate their energy use, set a baseline and goals, and develop an energy savings program as part of conditions for receiving assistance, rebates, or grants. (ENERGY STAR offers tools to help companies track energy use and set goals.)
- Leverage ENERGY STAR tools to help improve accountability and reporting of savings tied to state and local energy program assistance.
- Refer manufacturing companies seeking mentoring relationships or help with energy efficiency to the ENERGY STAR Partnership.
- Encourage industrial companies to join the ENERGY STAR Partnership to demonstrate a commitment to longstanding energy performance.

Tools/Resources

- ENERGY STAR Industrial Resources
  All of the tools, resources, and guidance needed for building a productive industrial energy management program
- ENERGY STAR Focus Industries
  Provides industry-specific tools and resources, including information on trends in energy use and energy intensity in the industry, a systematic analysis and discussion of the energy efficiency opportunities in manufacturing plants, and more
- Small and Medium Manufacturers
  Energy management resources scaled to meet the needs of small and medium manufacturers
- Guidelines for Energy Management
  Guidance on how to build an energy management program, based on the successful practices of ENERGY STAR partners
- ENERGY STAR Challenge for Industry
  Easy-to-use and promote tool for engaging industrial sites in setting goals for energy efficiency improvement and rewarding achievement. Industrial sites commit to reduce energy use by 10 percent in five years or less. States, local governments, and utilities can leverage ENERGY STAR through the Challenge to get plants motivated to save energy and to achieve incentives
- Plant Energy Performance Indicators
  Manufacturing plant energy performance indicators (EPIs) are external yardsticks that assess how efficiently a plant uses energy, relative to similar plants nationwide; plants scoring in the top quartile are eligible for ENERGY STAR certification
- ENERGY STAR Plant Energy Performance Certification
  Plants in 12 industries are eligible to seek this certification of their energy performance
- Energy Guides
  Compilation of the energy efficiency practices and technologies that can be implemented within an industry's plants

- Energy Efficiency Resources for State and Utility Programs
  Targeted tools that can assist states and utilities in identifying opportunities for energy efficiency in industrial sectors

- Energy Treasure Hunt Guide
  Train manufacturing sites to conduct easy treasure hunts to find low cost energy savings

- Industrial energy management information center
  Contains energy savings information focused on specific plant utility and process improvement

Program Profiles

Energy Efficiency and Renewable Energy

Combined Heat and Power Partnership

Services Offered

- Analytical tools
- Matching buyers and sellers
- Professional networking
- Public recognition
- Technical assistance
- Training

Relevant Sectors

- Agricultural
- Commercial
- Government
- Industry
- Utility/Program Administrators
- Education
- Real Estate Development

Website

www3.epa.gov/chp

Contact

CHP Partnership
(703) 373-8108
chp@epa.gov

Description

CHP is an integrated system of power production that captures the heat generated during the production of electricity and utilizes that heat, which would otherwise be wasted, to deliver efficiently other benefits—including space heating, cooling, and domestic hot water. CHP can reduce energy use by up to one third.

Services

The Partnership works with companies and organizations operating in the United States and its territories to promote the economic, environmental, and reliability benefits of CHP and provides tools and services to support development of new CHP capacity, such as the Catalog of CHP Technologies, the CHP Emissions Calculator, and a database of funding opportunities and financial incentives. The program also provides public recognition for superior projects, and training through webinars and conferences.

Value to Environment and Other Co-benefits

CHP prevents emissions of CO_2 and other pollutants by reducing the fuel combusted to produce electricity and useful thermal energy. CHP can also improve the quality and reliability of a facility's power supply, and reduce demands on often-strained electricity transmission and distribution systems.

Possible State and Local Actions

- Provide incentives/rebates for the development of CHP projects (e.g., as in Connecticut, New Jersey, and California).
- Use State Revolving Fund money to fund the installation of CHP systems at wastewater treatment systems where they can use captured biogas as free fuel.
- Remove policy barriers that impede the development of CHP projects (e.g., standby utility rates and input-based emissions regulations).
- Develop an outreach campaign to promote CHP in strategic market sectors.
- Create CHP goals and targets as part of climate and energy plans.
- Allow CHP as an eligible resource under a renewable or energy efficiency portfolio standard.

Tools and Resources

- State Policy Resources
  Helps states identify and pursue policies and programs that support the increased use of clean distributed generation, such as CHP
- CHP Project Development Handbook (PDF)
  Provides information, tools, and suggestions on CHP project development and CHP technologies
- Strategic Markets for CHP
  Offers information and outreach materials on CHP opportunities in key sectors including: local governments, wastewater treatment facilities, hotels and casinos, and electric utilities
- *d*CHPP (CHP policies and incentives database)
  Allows users to search for CHP policies and incentives by state or at the federal level

- CHP Emissions Calculator
  Compares the anticipated carbon dioxide, sulfur dioxide, and nitrogen oxide emissions from a CHP system to those of a separate heat and power system; presents estimated emissions reductions as metric tons of carbon equivalent, acres of fir or pine trees, and emissions from passenger vehicles
- Catalog of CHP Technologies
  Provides an overview of how CHP systems work and the key concepts of efficiency and power-to-heat ratios and provides information about the cost and performance characteristics of five commercially available CHP prime movers

Program Profiles

Energy Efficiency and Renewable Energy

Green Power Partnership

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Matching buyers and sellers
- Professional networking
- Public recognition
- Technical assistance

Relevant Sectors

- Commercial
- Government
- Industry

Website

www3.epa.gov/greenpower

Contact

James Critchfield
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critchfield.james@epa.gov

Description

The Green Power Partnership promotes the use of renewable energy by providing technical assistance, resources and tools, and public recognition to entities that choose to use green power (i.e., electricity that is generated from resources such as solar, wind, geothermal, biomass, and low-impact hydro facilities). More than 130 local and seven state governments are already Green Power Partners. Visit the Green Power Partnership Top Local Government list. For a list of all partners, see the Partner List.

Services

The Green Power Partnership promotes and recognizes Green Power Partners for their use and leadership in using green power. EPA assists Partners in promoting the concept of green power internally and externally, which often includes media coverage and related communications assistance. EPA also provides organizations with a means to estimate the environmental benefits of switching to green power and provides technical advice on navigating the process of making a green power purchase.

Value to Environment and Other Co-benefits

Conventional electricity use is a significant source of air pollution and GHG emissions. In 2013, the electricity sector was the largest source of U.S. greenhouse gas emissions, accounting for about 31 percent of the U.S. total. Buying green power can make a real difference environmentally by encouraging the development of new, domestic, renewable energy capacity, which produces electricity with significantly less air pollution and no fossil fuel–based GHG emissions.

Possible State and Local Actions

- Purchase green power or install green power on-site for government operations (e.g., as in Connecticut, Delaware, Wisconsin).
- Encourage localities to partner with EPA to become Green Power Communities, where the local government, businesses, and residents collectively use green power in amounts that meet or exceed EPA's Green Power Community purchase requirements.
- Encourage localities, companies, and industries to join as Green Power Partners.
- Encourage existing Partners in your state or locality to recruit other companies into the program or to expand their purchases.

Tools/Resources

- Guide to Purchasing Green Power (PDF)
  Includes information about the different types of green power products, the benefits of green power purchasing, and how to capture the greatest benefit from purchases
- Green Power Locator
  Provides information about the green power options in each state; results include utility green electricity programs and renewable energy certificate (REC) products sold separately from electricity
- Steps to Becoming a Green Power Community
- Steps to Becoming a Green Power Partner
- Green Power Equivalency Calculator
  Helps users communicate the value of a green power purchase by translating it from kilowatt-hours purchased into more understandable terms, such as an equivalent number of passenger vehicles, homes, or coal plants
- Green Power Resource Library
  Includes documents to help navigate the renewable energy procurement and renewable energy

project development processes; includes guidance documents, templates and actual examples of solicitations and contracts

Program Profiles

Energy Efficiency and Renewable Energy

Landfill Methane Outreach Program

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Professional networking
- Public recognition
- Technical assistance
- Informational Materials

Relevant Sectors

- Government
- Industry
- Utility/Program Administrators

Website

www3.epa.gov/lmop

Contacts

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Swarupa Ganguli
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Description

The U.S. EPA's Landfill Methane Outreach Program (LMOP) is a voluntary assistance program that helps to reduce methane emissions from landfills by encouraging the recovery and use of landfill gas (LFG) as an energy resource. Landfill gas contains methane, a potent greenhouse gas that can be captured and

used to fuel power plants, manufacturing facilities, vehicles, homes and more. By finding cost-effective ways to utilize landfill methane as energy, LMOP helps to reduce greenhouse gas emissions and prevent air pollution, encourage development of a renewable energy resource, promote local economic development and reduce dependence on non-renewable fossil fuels. LMOP forms partnerships with communities, landfill owners, utilities, power marketers, states, project developers, tribes and nonprofit organizations to overcome barriers to project development by helping them assess project feasibility, find financing and market the benefits of project development to the community.

Services

LMOP offers technical, promotional and informational tools as well as support services to assist with creating partnerships, locating financing for projects and the development of LFG energy projects. These resources include software tools for estimating costs and emission reductions; a variety of technical documents; and informational brochures, fact sheets and case studies to help educate the community and the local media about the benefits of LFG energy. LMOP also facilitates communications with stakeholders in the landfill and LFG energy community to share technical information, challenges and successes.

Value to Environment and Other Co-benefits

LMOP has assisted in the development of approximately 580 LFG utilization projects. These projects have prevented the release of more than 215 million metric tons of carbon equivalent ($MMTCO_2e$) into the atmosphere since the program began. In 2012, operational LFG energy projects in the United States prevented the release of approximately 26.3 $MMTCO_2e$. This reduction is equal to the carbon dioxide emissions from approximately 2,959,379,000 gallons of gasoline consumed or the carbon sequestered annually by more than 21.5 million acres of U.S. forests.

Possible State and Local Actions

- Analyze city- or county-owned landfills for the technical and economic feasibility of an LFG energy project using LMOP tools and resources .Work with LMOP to hold a state-based LFG workshop to outline progress in facilitating project development in the state, and receive input on state-specific issues affecting the development of LFG energy projects.
- Become an LMOP State or Community Partner that encourages coordination among permitting and regulatory offices to lower barriers and increase opportunities for LFG recovery.

Tools/Resources

- Basic Information on LMOP and LFG
  Offers an overview of methane emissions from landfills and how LMOP is working collaboratively with businesses, states, energy providers and communities to convert landfill gas to energy
- Energy Projects and Candidate Landfills
  Provides national and state lists of operational and under-construction projects and candidate and other landfills including data on waste-in-place, landfill gas flow rates and other information

- Funding Guide
  Provides information about available financing programs and incentives available for LFG energy projects
- Interactive Conversion Tool
  Conducts unit conversions, such as standard cubic feet per minute (scfm) to million standard cubic feet per day or short tons of methane to million metric tons of carbon dioxide equivalents
- LFG Benefits Calculator
  Estimates the direct methane, avoided carbon dioxide and total greenhouse gas reductions attributable to an LFG energy project for the current year, calculated from the project size entered by the user
- LFGcost–Web–Landfill Gas Energy Cost Model
  Evaluates the economic feasibility and job creation benefits of an LFG energy project using a software model; calculates LFG generation profiles based on landfill characteristics and other inputs and then determines various project-specific outputs
- How to Become a State or Community Partner
  Provides information on how potential state and community partners can join the LMOP partnership program; a blank Memorandum of Understanding form is provided for eligible organizations to complete and submit online
- LFG Energy Project Development Handbook
  Provides guidance for how to develop LFG energy projects and includes information about technology options as well as financial and economic considerations
- Marketing and Communications Toolkit
  Offers tips for beginning or expanding outreach efforts for an LFG energy project and provides communication tools that can be used or adapted for ribbon-cutting or ground-breaking events and press releases, and technical and informational tools

Program Profiles
Energy Efficiency and Renewable Energy

AgSTAR

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Outreach support
- Technical assistance
- Professional networking
- Public recognition
- Matching buyers and sellers

Relevant Sectors

- Government
- Industry
- Utility/Program Administrators
- Agricultural

Website

www2.epa.gov/agstar

Contact

Pamela Franklin
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franklin.pamela@epa.gov

Description

AgSTAR is a voluntary outreach and technical assistance program that promotes the use of biogas recovery technologies at livestock operations to cost-effectively reduce methane emissions and achieve significant co-benefits. AgSTAR collaborates with other stakeholders to develop strategies to accelerate the adoption of these technologies.

Services

AgSTAR offers a variety of tools and resources, including a database, map, and profiles of agricultural digesters. Additionally, our AgSTAR Partner Program offers networking opportunities for state-level organizations that promote biogas recovery.

Value to Environment and Other Co-benefits

The AgSTAR program has successfully encouraged the development and adoption of anaerobic digestion technologies. Since 1994, the number of operational digester systems in the United States has grown to more than 250, producing significant benefits. In 2014, livestock manure digester systems in the United States reduced methane emissions by almost 4 million tons of CO_2 equivalent and generated 440 million kWh of energy.

Possible State and Local Actions

- Use AgSTAR resources to identify livestock facilities in the state or locality that do not have digester systems and offer technical assistance to evaluate potential.
- Provide information on financial incentives for facilities to install digester systems.
- Provide grants or tax incentives to help level the playing field for digester energy-generation projects versus traditional energy generation.
- Include digester biogas projects in state renewable energy or renewable portfolio standard incentive plans.
- Implement state energy policies that provide appropriate state standards for net metering, standby charges, tariffs, and interconnection to the grid for distributed biogas generators.

Tools/Resources

- AgSTAR National Mapping Tool
  Displays existing livestock digestion facilities, potential for growth, and information on state incentives for the sector
- Vendor Directory: Develop Agricultural Biogas Recovery Systems
  Helps farm owners and others interested in on-farm biogas recovery systems identify consultants, project developers, energy services, equipment manufacturers and distributors, and commodity organizations
- Financing Anaerobic Digestion Projects
  Provides an overview of project financing steps and links to online calculators and other sources of information
- Guidelines and Permitting for Livestock Anaerobic Digesters
  Summarizes federal guidelines and state permitting requirements for anaerobic digestion systems with livestock manure

Program Profiles
Smart Growth

Office of Sustainable Communities

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Outreach support
- Technical assistance
- Public recognition

Relevant Sectors

- Government
- Commercial
- Residential
- Utility/Program Administrators
- Public
- Education
- Real Estate Development

Website

www2.epa.gov/smart-growth

Contact

Megan Susman
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susman.megan@epa.gov

Description

This program provides tools, research, and technical assistance to help communities grow in ways that are environmentally, economically, and socially sustainable. It encourages compact, walkable

development that uses land, energy, and water efficiently and has a mix of residential, commercial, and other uses.

Services

The Office of Sustainable Communities helps communities improve their development practices and get the type of development they want. The office works with local, state, and national experts to discover and encourage successful, environmentally sensitive development strategies. OSC also coordinates EPA's involvement in the Partnership for Sustainable Communities with HUD and DOT and works with other federal agencies to provide technical assistance on development issues to communities.

Value to Environment and Other Co-benefits

Smarter, more efficient development uses resources more efficiently and can reduce air and water pollution by making it easier for people to walk, bike, or take transit. Compact development and open space preservation can help protect water quality by reducing the amount of paved surfaces and by allowing natural lands to filter rainwater and runoff before it reaches drinking-water supplies. Smart growth strategies improve quality of life, reduce greenhouse gas emissions, save money for residents and local governments, and can encourage economic development.

Possible State and Local Actions

- Review land use ordinances to determine if they allow the type of development the community wants.
- Encourage walking, bicycling, and transit use by making streets safe and comfortable for all users.
- Encourage new development in infill and cleaned-up brownfield locations rather than on the fringe.
- Build compactly and mix land uses so that homes, stores, services, and workplaces are close enough together for people to walk or bike.

Tools/Resources

General Resources

- Partnership for Sustainable Communities
  Includes case studies, announcements of funding and technical assistance opportunities, and tools and resources from EPA, HUD, and DOT
- Our Built and Natural Environments: A Technical Review of the Interactions Between Land Use, Transportation, and Environmental Quality (2nd Edition)
  Examines how development patterns affect the environment and human health and provides evidence that certain kinds of land use and transportation strategies can reduce development impacts
- Getting to Smart Growth, Volumes I and II
  Each volume provides 100 concrete techniques for putting smart growth principles into action, along with resources and brief case studies of communities that have applied these approaches to achieve better development; also available in Spanish

Technical Assistance

- Smart Growth Implementation Assistance
  Provides tailored, in-depth help to state, local, regional, and tribal governments that are seeking innovative solutions to a development-related challenge; reports from past projects are available on the website and may be helpful to communities facing similar challenges
- Building Blocks for Sustainable Communities
  Provides targeted assistance awarded through a competitive process to help communities with specific tools that have proven effectiveness and wide applicability
- Greening America's Capitals
  Provides assistance to state capital cities to develop a vision of environmentally friendly neighborhoods that incorporate innovative green infrastructure strategies. Reports from past projects are available on the website and may be helpful to communities interested in these strategies
- Local Foods, Local Places
  Helps communities create more environmentally, economically, and socially sustainable places by promoting local foods
- Governors Institute on Community Design
  Helps governors and their staff make informed decisions about investments and policy decisions that influence the economic health and physical development of their states. Run through a cooperative agreement

Case Studies and Examples

- National Award for Smart Growth Achievement
  Provides write-ups of award winners, who provide models for other communities
- This Is Smart Growth
  Features 40 places around the country, from cities to suburbs to small towns to rural areas that have found success by implementing smart growth principles; also available in Spanish
- Smart Growth Illustrated
  Offers examples of how smart growth techniques look in communities around the country

Tools

- Sustainable Communities HotReport
  Gives community leaders and residents a quick and easy way to determine how well their community is performing on a variety of sustainability indicators, including transportation, housing, economic development, income and equity
- Sustainable Community Indicator Catalog
  Helps communities measure progress toward their sustainability and equity objectives
- Smart Location Database
  Nationwide geographic data resource for measuring location efficiency that can help measure the built environment and transit accessibility of neighborhoods

- Access to Jobs and Workers via Transit Tool
  Provides indicators of accessibility to destinations by public transit. Indicators summarize jobs accessible by transit as well as workers, households, and population that can access the block group via transit
- Flood Resilience Checklist (PDF)
  Can help communities identify ways to improve their resilience to flooding through policy and regulatory tools, including conserving land, directing development to safer locations, and protecting people and property in vulnerable settlements

Program Profiles
Transportation

SmartWay Certified Light-Duty Vehicles Program

Services Offered

- Outreach support
- Analytic tools
- Public recognition

Relevant Sectors

- Government
- Public
- Education
- Industry

Website

www3.epa.gov/greenvehicles/you/smartway.htm
www3.epa.gov/greenvehicles/

Contact

Kristin Kenausis
(202) 343-9225
kenausis.kristin@epa.gov

Description

This light-duty certification program designates the top 20 percent lowest-emitting passenger vehicles for each model year, providing car buyers with an easy way to identify the cleanest, most efficient cars and light trucks. EPA rates vehicles for GHG and smog-forming emissions on scales of 1 (worst) to 10 (best). To earn a SmartWay designation, a vehicle must receive a combined score (GHG rating + smog rating) that is significantly better than that of the average vehicle. The website includes additional information and tools to help consumers and stakeholders find SmartWay vehicles and understand the benefits of making greener transportation choices.

Services

This program provides consumers as well as government and private fleet owners with an easy way to shop for the greenest, most efficient vehicle that meets their needs. Through SmartWay certification and the Green Vehicle Guide, consumers can learn about new vehicle technology and fuels and get tips for driving more efficiently. Tools on the website allow users to identify SmartWay vehicles and to estimate how much driving fuel-efficient cars can save them in fuel costs. There are also downloadable logos and other products fleet managers can use to highlight/promote their use of SmartWay vehicles. The program also provides technical support to state and local governments that are considering SmartWay vehicle incentives or requirements.

Value to Environment and Other Co-Benefits

The light-duty vehicle sector accounts for over 60 percent of U.S. greenhouse gas emissions from transportation. Moving the country to a cleaner and more efficient light-duty fleet reduces our aggregate greenhouse gas emissions, while also reducing our dependence foreign oil. Cars and trucks that combust fuel also emit smog-forming emissions, such as nitrogen oxide, non-methane organic gases, carbon monoxide, particulate matter, and formaldehyde, which can trigger lung diseases such as asthma and emphysema. A cleaner, more efficient light-duty fleet is better for the environment and for public health.

Possible State and Local Actions

- Require that light-duty vehicles purchased for state or local fleets be SmartWay certified.
- Encourage municipalities, colleges and universities, and local business to incentivize the purchase of SmartWay vehicles via discounted parking permits and designated parking spots for green vehicles.
- Encourage private sector companies to also "green their fleets" by requiring that their company cars be SmartWay certified. Some companies have even provided cash incentives to employees who have purchased green vehicles for their own use. Installing an electric vehicle charger for employees is another effective incentive.
- Provide information on SmartWay, greener transportation choices (electric vehicles, renewable fuels, etc.), and driving more efficiently using existing communication pathways (i.e., DMV offices, state and local events, social media, etc.).

Tools/Resources

- Find a vehicle
  Search for SmartWay cars and trucks by model year, vehicle class, and make
- How Much Can I Save With a Fuel-Efficient Car?
  Simple way to determine how much you can save with a more efficient vehicle
- Interested in Promoting Green Vehicles?
  Resources to help you promote SmartWay and the Green Vehicle Guide

- Discover Fuel-Saving Tips
  Consumer tips for driving more efficiently
- Downloadable infographics
  Select from several infographics that visually depict the benefits of green vehicles

Program Profiles
Water and Adaptation

Climate Ready Estuaries

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Outreach support
- Training

Relevant Sectors

- Government
- Residential
- Public
- Education

Website

www2.epa.gov/cre

Contact

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Description

The Climate Ready Estuaries (CRE) program works with the National Estuary Programs and other coastal managers to: 1) assess climate change vulnerabilities, 2) develop and implement adaptation strategies, 3) engage and educate stakeholders, and 4) share the lessons learned with other coastal managers.

Services

The CRE program provides direct technical assistance to the 28 National Estuary programs although other coastal managers can benefit from the guidance/lessons learned documents that the program produces. The Climate Ready Estuaries website offers information on climate change impacts to different estuary regions, access to tools and resources to monitor changes, and information to help managers develop adaptation plans for estuaries and coastal communities.

Value to Environment and Other Co-benefits

Estuaries and coastal areas are particularly vulnerable to climate variability and change. In order to protect their ecosystems from projected impacts of sea level rise, increasing temperatures, and other effects, coastal managers may need to develop and implement adaptation measures. The CRE program works with NEPs to better understand these vulnerabilities and plan for them, thereby increasing resilience.

Possible State and Local Actions

- Identify and partner with local planners and coastal managers working on adaptation to climate change.
- Learn about efforts being undertaken around the United States to better understand climate change vulnerabilities to coastal areas, engage stakeholders, and implement adaptation strategies.
- Engage your community through education campaigns, ordinances, and demonstration projects.

Tools/Resources

- 2012 Climate Ready Estuaries Progress Report (PDF)
  Focuses on the accomplishments of the existing CRE Partners
- Synthesis of Adaptation Options for Coastal Areas (PDF)
  Provides a brief introduction to key physical impacts of climate change on estuaries and a review of on-the-ground adaptation options available to coastal managers to reduce their systems' vulnerability to climate change impacts
- Adaptation Planning for the National Estuary Program (PDF)
  Describes five critical elements of adaptation planning in coastal areas and provides examples and resources for more information

Program Profiles
Water and Adaptation

Climate Ready Water Utilities

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Outreach support
- Technical assistance
- Training

Relevant Sectors

- Government
- Commercial
- Industry
- Utility/Program Administrators
- Public
- Education
- Agricultural

Website

www2.epa.gov/crwu

Contact

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Description

EPA's Climate Ready Water Utilities (CRWU) initiative assists the water sector, which includes drinking water, wastewater, and stormwater utilities, in addressing climate change impacts. CRWU offers a unique suite of practical and easy-to-use tools and resources to promote a clear understanding of the

climate science, risks, and pertinent adaptation options. CRWU resources translate complex climate projections into actionable science in understandable formats to assist in building more resilient water sector infrastructure.

Services

CRWU coordinates with municipalities, water utilities, and water services associations to support water-sector climate resilience. CRWU support includes access to relevant climate information, climate risk assessment and adaptation tools, and other outreach and technical assistance.

Value to Environment and other Co-benefits

Climate change impacts pose challenges to water sector utilities in fulfilling their public health and environmental missions. Extreme weather events, sea level rise, shifting precipitation and runoff patterns, temperature changes, and resulting changes in water quality and availability have significant implications for the sustainability of the water sector. It is important for the water sector to be better informed of climate risks so they can take actionable steps to address these risks through no- or low-regret adaptation strategies.

Possible State and Local Actions

- Conduct an assessment to evaluate water system risks from climate change.
- Identify and evaluate utility climate adaptation and mitigation practices.
- Build local decision maker, interdependent sector, and general community support for planned organizational and operational climate-related changes.
- Avoid making large, long-term investments that do not consider and reflect the potential need to adapt to or minimize climate impacts.
- Improve energy management practices and implement cost-effective energy efficiency upgrades.
- Stay informed of climate science developments by establishing a relationship with local climate science researchers or participating in water sector association-led climate events.

Tools/Resources

- Climate Resilience Evaluation and Assessment Tool (CREAT)
  Designed to help utilities assess risks from potential climate change impacts on assets, operations, and missions and to develop adaptation plans to specifically reduce those risks; includes scenarios based on climate model projections of changes in average climate conditions, extreme precipitation events, and sea-level rise
- Adaptation Strategies Guide (PDF)
  Outlines climate challenges by type and geographic region; provides suggested adaptation strategies for each climate change impact, links to related adaptation resources, a planning worksheet and case studies demonstrating how other water utilities have responded to the types of challenges presented;

outlines issues related to sustainability in sections dedicated to energy management, green infrastructure, and water demand management

- Extreme Weather Events Workshop Planner (PDF)
  Assists users in identifying how more intense and frequent extreme weather events can impact water resources; walks users through the process of planning and facilitating their own custom workshop focusing on one of five different extreme events: extreme flooding, extreme drought, sea-level rise, intense wildfire, and reduced snowpack; provides checklists, worksheets, and document templates that can simplify the planning process and guide implementation; provides utility and watershed partners with a foundation for adaptation planning and guide for future activities
- CRWU Webinar Series
  Archived CRWU webinars are available to help you learn more about the tools and resources water sector utilities can use to address sustainability and resilience planning; the webinars are cover a range of climate related adaptation planning and decision-making issues and feature presentations by guest subject matter expert

Program Profiles
Water and Adaptation

WaterSense

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Outreach support
- Matching buyers and sellers
- Technical assistance

Relevant Sectors

- Government
- Commercial
- Residential
- Utility/Program Administrators
- Public
- Education
- Real Estate Development

Website

www3.epa.gov/watersense

Contact

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Description

WaterSense, a partnership program sponsored by EPA, seeks to protect the future of our nation's water supply by offering people simple ways to use less water with water-efficient products, new homes, and services. Since the program's inception in 2006, WaterSense has helped consumers save billions of gallons of water and billions in water and energy bills.

Services

The WaterSense Program labels products that are independently certified to meet EPA's criteria to use 20 percent less water and perform as well as conventional models. The WaterSense label is currently available on residential toilets, bathroom faucets and faucet accessories, showerheads, flushing urinals, pre-rinse spray valves, weather-based irrigation controllers and new homes. The WaterSense program also labels professional certification programs for landscape irrigation professionals. These WaterSense labeled programs verify professional proficiency in water-efficient irrigation system design, installation/maintenance, and auditing. The program also offers a range of guidance and tools to help commercial and institutional facilities improve their water efficiency.

Value to Environment and other Co-benefits

Water efficiency measures, as part of broader conservation efforts, can help communities with demand management as an adaption response. Efficiency can also reduce water treatment and infrastructure costs by reducing the need to expand capacity. Saving water also provides greenhouse gas mitigation benefits by reducing the amount of energy needed to transport, treat, and heat water.

Possible State and Local Actions

- Partner with WaterSense for free access to tools, materials, and resources to promote water efficiency.
- Recommend, install, and or provide financial incentives for use of WaterSense labeled products or water efficient practices.
- Encourage water-smart landscapes and other actions to save water outdoors—in public and private spaces.
- Offer technical training to builders about building water-efficient single and multi-family homes and provide incentives for WaterSense labeled homes.
- Encourage users of ENERGY STAR Portfolio Manager to track water through the tool.
- Network with water efficiency leaders to learn new ways to implement water efficiency.
- Participate in national outreach programs to help consumers save water.
- Recommend irrigation professionals certified by WaterSense labeled programs for irrigation system design, installation and audits.

Tools/Resources

- Water saving tips and messages for consumers, utilities, and other organizations
- Best management practices and other resources for the commercial and institutional sector
- Tips and practices for water-smart landscaping
- List of WaterSense labeled products and irrigation partners
- Tools to calculate water savings
- WaterSense resources for kids

Program Profiles
Waste

WasteWise Communities

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Outreach support
- Technical assistance
- Professional networking
- Public recognition
- Environmental performance benchmarking
- Training

Relevant Sectors

- Government
- Residential
- Utility/Program Administrators
- Public
- Education

Website

www3.epa.gov/epawaste/conserve/smm/wastewise

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Description

WasteWise Communities is a campaign supporting local governments in their efforts to reduce residential municipal solid waste and its impact on climate change. Efforts such as waste prevention and recycling reduce the demand for new products and conserve valuable natural resources and, from a life-cycle perspective, significantly cut greenhouse gas emissions.

Services

EPA has developed calculators, targeted programs, technical guidance, and other resources to assist municipalities seeking to reduce their waste stream and mitigate their climate impacts. To learn more about resources available to WasteWise members, visit the Benefits page on the WasteWise website.

Value to Environment and other Co-benefits

Waste reduction saves cities money and also helps to mitigate global climate change. Every stage of a product's life cycle—extraction, manufacturing, distribution, use, and disposal—consumes energy and releases greenhouse gases (GHGs) that contribute to climate change. WasteWise works with municipalities to decrease GHG emissions by providing tools and resources that help communities find economically viable solutions that reduce waste and help fight climate change.

Possible State and Local Actions

- Implement composting programs.
- Practice resource management.
- Implement Pay-As-You-Throw (PAYT) programs.
- Purchase products with recycled content.

Tools/Resources

- Resource Conservation
  Provides information on managing materials more efficiently, including reducing, reusing, and recycling
- Pay-As-You-Throw (PAYT)
  In communities with pay-as-you-throw programs (also known as unit pricing or variable-rate pricing), residents are charged for the collection of municipal solid waste—ordinary household trash—based on the amount they throw away, which creates a direct economic incentive to recycle more and to generate less waste
- Composting
  Organic materials—yard trimmings, food scraps, wood waste, and paper and paperboard products—are the largest component of our trash and make up more than two-thirds of the solid waste stream

Program Profiles
Waste

Responsible Appliance Disposal Program

Services Offered

- Analytical tools
- Guidebooks/toolkits
- Outreach support
- Technical assistance
- Public recognition

Relevant Sectors

- Government
- Commercial
- Industry
- Residential
- Utility/Program Administrators
- Public

Website

www2.epa.gov/rad

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Description

EPA's Responsible Appliance Disposal (RAD) Program is a partnership program to help protect the ozone layer and reduce emissions of greenhouse gases. The RAD Program recognizes partners that ensure the disposal of refrigerant-containing appliances using the best environmental practices available. The program invites utilities, retailers, manufacturers, state and local governments, universities, and other qualifying organizations to become partners.

Services

The RAD Program provides partners with technical assistance to develop successful recycling programs for refrigerant-containing appliances. Partners can receive public recognition and have access to program resources.

Value to Environment and other Co-benefits

Partners reduce emissions of ozone-depleting substances (ODS) and greenhouse gases by recovering appliance foam and refrigerant. They also prevent the release of hazardous materials including oil, PCBs, and mercury, as well as saving landfill space and energy by recycling durable materials.

Possible State and Local Actions

- Promote responsible appliance disposal through strategic outreach and information discrimination.
- Encourage local utilities and retailers to join the RAD Program.
- Set up a local haul away and recycling program for refrigerant-containing appliances.

Tools/Resources

- Basic Information on the RAD Program
- Partner Resources
  Case studies, fact sheets, program evaluation reports
- Guidance Document for Partners
  Discuses best practices for appliance disposal

For more information about joining the RAD Program and to receive a Standard Partnership Agreement or State Affiliate Agreement, please contact Sally Hamlin (Hamlin.Sally@epa.gov) or 202-343-9711.

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State and Local
Climate and Energy Program