



GOAL AREA: Climate & Energy

Reduce climate impacts through adaptation and mitigation efforts and increase resource efficiency

Introduction

The 7 objectives in STAR's Climate & Energy Goal Area aim to reduce climate impacts and increase resource efficiency in order to create safer, healthier, and more resilient communities. CE-1: Climate Adaptation and CE-2: Greenhouse Gas Mitigation are critical to achieving reductions in harmful climate impacts and promoting resource savings through decreased energy, water, and materials use.

Most of the objectives in Climate & Energy focus on achieving incremental increases in resource efficiency. CE-4: Energy Efficiency and CE-5: Water Efficiency encourage communities to reduce energy use over time in buildings and water consumption per capita. CE-6: Local Government GHG & Resource Efficiency offers local governments an opportunity to describe how their internal efforts demonstrate their leadership in this Goal Area. CE-3: Greening the Energy Supply complements the other objectives in the Goal Area by addressing the alternative energy sources for the transportation and the community's electrical power supply.

Finally, through its ambitious waste reduction targets, CE-7: Waste Minimization rewards communities for efforts to reduce, reuse, and recycle materials.

| Objective Number | Objective Title and Purpose | Available Points |
|--------------------------------|--|------------------|
| CE-1 | Climate Adaptation: Strengthen the resilience of communities to climate change impacts on built, natural, economic, health, and social systems | 15 |
| CE-2 | Greenhouse Gas Mitigation: Achieve greenhouse gas emissions reductions throughout the community | 15 |
| CE-3 | Greening the Energy Supply: Transition the local energy supply for both transportation and non-mobile sources toward the use of renewable, less carbon-intensive, and less toxic alternatives | 15 |
| CE-4 | Energy Efficiency: Minimize energy use and demand in the residential, commercial, and industrial sectors as a means to increase energy efficiency in the community | 15 |
| CE-5 | Water Efficiency: Minimize water use and demand as a means to conserve water in the community | 10 |
| CE-6 | Local Government GHG & Resource Efficiency: Lead by example by reducing local government greenhouse gas emissions and minimizing energy and water use in local government facilities and specified local infrastructure | 15 |
| CE-7 | Waste Minimization: Reduce and reuse material waste produced in the community | 15 |
| Total Points Available: | | 100 |



PURPOSE

Strengthen the resilience of communities to climate change impacts on built, natural, economic, health, and social systems

EVALUATION MEASURES

Community Level Outcomes

70% of points available through Outcomes

Outcome 1: Climate Resilience

10.5 Points

Demonstrate a measurable reduction in vulnerability and/or increase in resiliency to 3 communitywide risks and 1 at-risk population group [Partial credit available]

Local Actions

70% of points available through Actions

Action 1:

Inventory, Assessment or Survey

Conduct a local climate risk and vulnerability assessment

Action 2:

Plan Development

Adopt a local plan that incorporates potential climate change impact scenarios and identifies specific actions to reduce risk and exposure from identified hazards

Action 3:

Policy and Code Adjustment

Adopt building codes or land use ordinances that address specific climate impacts in the community

Action 4:

Practice Improvements

Demonstrate that internal decisions by local government departments use the most current climate science and that staff monitor climate change impacts



Action 5:

Partnerships and Collaboration

Develop an interdisciplinary committee for the purpose of understanding and addressing climate vulnerabilities

Action 6:

Education and Outreach

Create an education and outreach campaign to engage residents, businesses, and local government staff in climate change vulnerability reduction efforts

Action 7:

Programs and Services

Create or enhance programs and services that specifically address the community's greatest climate threats

Action 8:

Practice Improvements

Develop metrics for measuring the success of adaptation actions to prepare for a changing climate

Action 9:

Enforcement and Incentives

Enforce regulations or offer incentives to encourage residents and businesses to shift behaviors to prepare for future climate change impacts

Action 10:

Facility and Infrastructure Improvements

Improve facilities and infrastructure throughout the community to be better prepared for climate change threats



PURPOSE

Achieve greenhouse gas emissions reductions throughout the community

EVALUATION MEASURES

Community Level Outcomes

100% of points available through Outcomes

Outcome 1: Communitywide Greenhouse Gas Emissions

15 Points

Demonstrate incremental progress towards achieving a 28% reduction by 2025 and/or an 80% reduction by 2050 in communitywide greenhouse gas (GHG) emissions [Partial credit available]

Local Actions

70% of points available through Actions

Action 1:

Inventory, Assessment or Survey

Conduct a communitywide GHG Inventory at least every 5 years

Action 2:

Plan Development

Adopt a climate action plan designed to reduce GHG emissions throughout the jurisdiction

Action 3:

Policy and Code Adjustment

Establish a local communitywide GHG emissions target to be used as guidance for broader local government planning processes and decision-making

Action 4:

Education and Outreach

Create an education and outreach campaign to engage residents and businesses in GHG reduction efforts



Action 5:

Partnerships and Collaboration

Establish a climate change advisory group to engage diverse community stakeholders in identifying and implementing GHG reduction strategies

Action 6:

Practice Improvement

Analyze disproportionate and unintended consequences of mitigation activities and demonstrate activities that engage groups that are most likely to be negatively impacted

Action 7:

Enforcement and Incentives

Create incentives to improve opportunities for distributed generation of renewable energy sources

Action 8:

Programs and Services

Implement actions identified in a climate action plan that are intended to transition the community towards the use of alternatives modes of transportation and low-emissions vehicles

Action 9:

Programs and Services

Implement specific programs and services or create facility upgrades that reduce waste in the community



PURPOSE

Transition the local energy supply for both transportation and non-mobile sources toward renewable, less carbon-intensive, and less toxic alternatives

EVALUATION MEASURES

Community Level Outcomes

70% of points available through Outcomes

Outcome 1: Green Vehicle Infrastructure

5.25 Points

Option A: Demonstrate that the number of private and public electric vehicle stations meets or exceeds 1.07 per 10,000 residents

--OR--

Option B: Demonstrate that the number of private and public alternative fuel stations meets or exceeds 1.52 per 10,000 residents [Partial credit applies]

Bonus: Achieve a Drive Alone rate of 60% or less

Outcome 2: Electrical Energy Supply

5.25 Points

Option A: Demonstrate that the community's overall electric utility generating capacity includes a portion from renewable energy sources [Partial credit available]

--OR--

Option B: Demonstrate that the community's electric utility is in compliance with RPS requirements and document the portion from renewable energy sources [Partial credit available]

Local Actions

70% of points available through Actions

Action 1:

Plan Development

Adopt a communitywide plan that includes a comprehensive programmatic and policy approach to shift the community towards alternative fuels and renewable energy sources

Action 2:

Policy and Code Adjustment

Utilize community choice aggregation, community shared solar, or community wind to procure renewable energy supplies

Action 3:

Policy and Code Adjustment

Remove regulatory restrictions on the development of residential and small business renewable energy installations

Action 4:

Partnerships and Collaboration

Establish partnerships between fleet managers, alternative fuel suppliers, and consumers to elevate alternative fuel options within the community

Action 5:

Practice Improvements

Earn recognition as a solar-ready community

Action 6:

Enforcement and Incentives

Create incentive programs to support the development of renewable infrastructure

Action 7:

Enforcement and Incentives

Use financial mechanisms to increase the mix of renewable energy sources supplied to residents

Action 8:

Programs and Services

Provide a net-metering program that encourages the development of residential and small business renewable energy sources

Action 9:

Facility and Infrastructure Improvements

Install public-use alternative fueling stations

Action 10:

Facility and Infrastructure Improvements

Build the necessary distribution or storage infrastructure to support further investment in renewable energy sources



CLIMATE & ENERGY

CE-4: Energy Efficiency

15 available points

PURPOSE

Minimize energy use and demand in the residential, commercial, and industrial sectors as a means to increase energy efficiency in the community

EVALUATION MEASURES

Community Level Outcomes

70% of points available through Outcomes

Outcome 1: Energy Use

7.5 Points

Part 1: Demonstrate incremental progress towards achieving an 80% reduction by 2050 in energy used by community buildings or industrial processes

--OR--

Part 2: Demonstrate incremental progress towards achieving an 80% reduction by 2050 in energy use within specific residential, commercial, and industrial sectors

[Partial credit available]

Outcome 2: Heat Island Mitigation Distribution

3 Points

Option A: Demonstrate that 85% of the population lives within a reasonable distance from a heat island mitigation feature that provides 1 of the following functions:

- localized cooling through tree canopy cover, green roofs or green walls;
- white roofs or cool roofs; and/or
- light colored pavement or groundcover

--OR--

Option B: Demonstrate that the surface temperature of the community is no more than 5 degrees Fahrenheit higher than surrounding suburban or rural areas when measured on a summer and winter night

Local Actions

70% of points available through Actions

Action 1:

Plan Development

Adopt a strategic action plan to improve the energy efficiency of residential and commercial buildings and industrial processes in the community



Action 2:

Policy and Code Adjustment

Adopt or upgrade building codes to ensure that new and renovated buildings are more energy efficient

Action 3:

Policy and Code Adjustment

Adopt an energy use information disclosure ordinance requiring energy users to disclose consumption levels

Action 4:

Education and Outreach

Create an education and outreach campaign or challenge to engage residents in energy efficiency efforts

Action 5:

Partnerships and Collaboration

Establish a committee to provide recommendations on policies related to energy efficiency in buildings OR integrate this role into the work of existing committees

Action 6:

Partnerships and Collaboration

Partner with organizations to encourage the collection and reporting of energy use data from the commercial and industrial sectors

Action 7:

Programs and Services

Develop a heat island mitigation program

Action 8:

Enforcement and Incentives

Create incentives to encourage the new construction of energy efficient buildings

Action 9:

Enforcement and Incentives

Create incentives for businesses, lessors, homeowners, and renters to improve the energy efficiency of their existing buildings and homes



Action 10:

Programs and Services

Create a local program to specifically help low-income households reduce energy-related burdens

Action 11:

Programs and Services

Work with the local utilities to implement energy commissioning programs throughout the community



PURPOSE

Minimize water use and demand as a means to conserve water in the community

EVALUATION MEASURES

Community Level Outcomes

70% of points available through Outcomes

Outcome 1: Domestic Water Use Per Capita

7 Points

Option A: Demonstrate achievement of 10% reduction in community domestic water use per capita since 2010

--OR--

Option B: Reduce local domestic water use per capita at a rate of 2% per year from a 2010 baseline [Partial credit applies]

Local Actions

70% of points available through Actions

Action 1:

Plan Development

Adopt a communitywide water management plan to improve water efficiency and reductions by residential and commercial sectors

Action 2:

Policy and Code Adjustment

Adopt plumbing, building, and/or zoning codes that promote water efficient practices and products

Action 3:

Education and Outreach

Create a comprehensive education and outreach campaign to engage residents and businesses in water efficiency efforts



Action 4:

Partnerships and Collaboration

Establish a committee to provide recommendations on policies and programs related to water efficiency in buildings OR integrate this role into the work of existing committees

Action 5:

Practice Improvements

Work with the local utilities to increase smart meters for water use throughout the community

Action 6:

Practice Improvements

Train inspectors to enforce water efficiency standards in adopted plumbing, building, and zoning codes

Action 7:

Enforcement and Incentives

Create incentives to encourage the new construction of water efficient buildings and landscaping

Action 8:

Programs and Services

Develop and provide water conservation programs to residents and businesses in order to reduce domestic water usage



PURPOSE

Lead by example by reducing local government greenhouse gas emissions and minimizing energy and water use in local government facilities and specified local infrastructure

EVALUATION MEASURES

Community Level Outcomes

100% of points available through Outcomes

Outcome 1: Local Government Greenhouse Gas Emissions

7 Points

Demonstrate incremental progress towards achieving a 28% reduction by 2025 and/or an 80% reduction by 2050 in local government greenhouse gas (GHG) emissions [Partial credit available]

Outcome 2: Local Government Energy Efficiency

3.5 Points

Part 1: Demonstrate local government building stock energy use intensity is below the regional aggregated energy use intensity per building type [Partial credit available]

--AND--

Part 2: Demonstrate a 10% decrease in local government-owned public infrastructure energy use [Partial credit available]

Outcome 3: Local Government Water Conservation

3.5 Points

Demonstrate a 10% decrease in local government-owned public infrastructure water use [Partial credit available]

Local Actions

70% of points available through Actions

Action 1:

Inventory, Assessment or Survey

Conduct a local government Greenhouse Gas Inventory at least every 5 years

Action 2:

Inventory, Assessment or Survey

Benchmark local government building and infrastructure energy use annually



Action 3:

Inventory, Assessment or Survey

Establish a water use baseline for local government facilities and infrastructure and conduct a regular review of water use data against the baseline

Action 4:

Plan Development

Develop a local government sustainability action plan that includes strategies related to greenhouse gas emission mitigation, energy efficiency, and water conservation

Action 5:

Policy and Code Adjustment

Create a policy to ensure that the local government's energy supplies increasingly come from renewable sources

Action 6:

Policy and Code Adjustment

Adopt alternative fuel guidelines and/or targets for locally owned facilities and vehicles

Action 7:

Practice Improvements

Require that public infrastructure and facility managers consider energy and water consumption implications for new or upgraded infrastructure investments

Action 8:

Practice Improvements

Publish local government energy benchmarking reports at least every 3 years or maintain a web-based interface that provides local government energy data to the public

Action 9:

Practice Improvements

Develop or financially support infrastructure operators' participation in training programs on energy and water efficiency techniques



Action 10:

Facility and Infrastructure Improvements

Make retrofits and upgrades to local government buildings and/or infrastructure systems that will increase energy and water efficiency

Action 11:

Facility and Infrastructure Improvements

Increase sub-metering from specific infrastructure systems to collect better information on energy and water use



PURPOSE

Reduce and reuse material waste produced in the community

EVALUATION MEASURES

Community Level Outcomes

70% of points available through Outcomes

Outcome 1: Total Solid Waste

6.5 Points

Demonstrate incremental progress towards achieving a 100% reduction by 2050 in total solid waste generated within the jurisdiction that is disposed of via landfill, waste-to-energy facility, or incinerator [Partial credit available]

Outcome 2: Recycling Rate

4 Points

Achieve a solid waste recycling rate of 40% or greater

Local Actions

70% of points available through Actions

Action 1:

Plan Development

Adopt a waste management plan

Action 2:

Policy and Code Adjustment

Adopt specific product bans that will significantly advance progress towards waste reduction goals

Action 3:

Education and Outreach

Create a public education campaign or a focused outreach effort to inform residents and businesses of their roles in achieving waste reduction targets



Action 4:

Partnerships and Collaboration

Develop or participate in a regional coalition that enhances the community's ability to address waste management targets

Action 5:

Enforcement and Incentives

Implement communitywide incentives or enforce regulations ensuring that residents and businesses are working toward community waste reductions targets

Action 6:

Programs and Services

Provide services to enable residents and businesses to recycle and reduce their waste footprint

Action 7:

Programs and Services

Collaboratively create and run at least 3 targeted recycling programs at key locations throughout the community

Action 8:

Programs and Services

Operate at least 3 specific waste management programs for critical waste stream types found in the community, such as: organic waste, hazardous waste, electronic waste, and construction and demolition waste

Action 9:

Facility and Infrastructure Improvements

Create a Materials Recovery Facility for the community or demonstrate that community waste is diverted to a regional Materials Recovery Facility