

Module: Introduction**Page: Introduction****0.1****Introduction**

Please give a general description and introduction to your city.

Chartered in 1839 as the capital of the Republic of Texas, Austin became the state capital when Texas was admitted to the Union in 1846 as the twenty-eighth state. Austin is now the fourth largest city in the state and the fifteenth most populous city in the nation with total resident count of 842,592. Austin is located in Travis County, which has a total population of 1.096 million. The Austin-Round Rock Metropolitan Statistical Area includes Bastrop, Caldwell, Hays, Travis, and Williamson Counties. Located in the Central Texas Hill Country, Austin is approximately 230 miles from Mexico and less than 200 miles from 3 of the 10 largest U.S. cities (192 miles from Dallas to its north, 79 miles from San Antonio to its south, and 162 miles from Houston to its southeast). Austin averages 300 days of sunshine each year and about 33.78 inches of rainfall. It rarely snows in Austin. The City of Austin has a council-manager form of government. In 2015, the City Council will be comprised of ten Council Members representing geographic districts and an at-large Mayor. In 2013 and 2014, Forbes named Austin the fastest growing city in the nation. Austin's economy is known as a major center for the high tech industry. Austin is also known as the "live music capital of the world."

0.2**Emissions Accounting Choice**

By checking the boxes below you are indicating that you have fuel and/or GHG emissions data to report at this time.

Select Government to report emissions from your local government operations (also referred to as 'corporate' or 'municipal'): relating to those emissions arising from the operations of the local government.

Select Community to report emissions from the entire city (also referred to as 'geographic' or 'city-wide'): encompassing emissions which are within a particular geopolitical region, over which the city government can exercise a degree of influence through the policies and regulations they implement.

Select both boxes to report fuel and/or emissions for both inventories.

Do not select either box if you have no fuel and/or GHG emissions data to report this year.

Government

Module: Governance

Page: Governance

1.0

Please describe the process by which the city reviews its progress and manages overall responsibility for climate change.

The City of Austin Office of Sustainability reports progress on our climate protection and adaptation goals annually to the Austin City Council and Mayor. Management for various climate protection initiatives lie primarily within the Office of Sustainability, Austin Energy, and also within the other 20+ city departments.

1.1

Do you provide incentives for management of climate change issues, including the attainment of GHG reduction targets?

Yes

1.1a

Please complete the table.

Who is entitled to benefit from these incentives?	The type of incentives	Program description
City agencies/departments	Other:	Carbon footprint reduction targets are identified as indicators of each individual City department's operational performance; budget allocations for each department are tied to their ability to reduce greenhouse gas emissions.

1.2

Please describe the impact of national and/or regional climate change activities on your city's own climate change activities.

In 2013, Austin City Council pushed for an increased focus on climate resiliency with the adoption of Resolution No. 20131121-060. In this resolution, the Austin City Council directed the City Manager to explore how to make the City of Austin more resilient to climate change by analyzing climate change projections, determining how departmental planning efforts integrate future impacts of climate change and could be enhanced moving forward, identifying a process for performing departmental vulnerability assessments, and recommending next steps needed to develop, prioritize, and implement departmental strategies to increase resilience, including working with strategic community partners on addressing key vulnerabilities and specifying steps for regular evaluation of the strategies.

Module: Risks & Adaptation

Page: Physical Risks

2.0

Do current and/or anticipated effects of climate change present significant physical risks to your city?

Yes

2.0a

Please list and describe the effects of climate change which you expect to experience in your city, together with anticipated timescales.

Effects of climate change	Level of risk	Anticipated timescale in years	Impact description
More hot days	Serious	Medium-term	Health and safety of citizens, depletion of water resources, stability of the electric grid, cost of living
Hotter summers	Serious	Current	Health and safety of citizens, depletion of water resources, stability of the electric grid, cost of living.
More frequent droughts	Serious	Medium-term	Depletion of water resources, stability of power plant cooling, tree and ecosystem health, human health, and tourism. Impact to farmers, agriculture, and food production
Reduced average annual rainfall	Serious	Medium-term	Increase in waterborne diseases and concentrations of toxins in the water system, increased sedimentation in the water system, increased demand for potable water, policy conflict between tree and water resource management, decreased water infiltration, decreased aquifer recharge, increased erosion from flooding and dead plants
More frequent heat waves	Serious	Medium-term	Increased sensitivity to fire, loss of tree cover, increased jobless rate for climate related population influx, increased cases of mold after flooding, increased cases of asthma in vulnerable communities, increase in the amount of emergency room visits
Increased urban heat island effect	Serious	Current	During summer months, higher temperatures and associated air pollution can cause discomfort, respiratory difficulties, heat cramps and exhaustion, heat stroke, and even heat-related deaths, particularly in sensitive populations such as children, older adults, and those with existing heart conditions.
More intense rainfall	Serious	Current	Impact on emergency services and built infrastructure. Increased impact on city resources.
Increased frequency of large storms	Serious	Current	Impact on emergency services and built infrastructure. Increased impact on city resources.

2.0b

Please explain why the anticipated physical effects of climate change present no significant risk to your city.

2.1

Please describe any compounding factors that may worsen the physical effects of climate change in your city.

Energy

In the future Austin Energy will face increased demand for uninterrupted and affordable energy. Austin's climate is projected to experience longer droughts and heat waves, which will make it difficult for residents to cool homes and buildings continuously, and put vulnerable segments of our community at risk. Weather-related disasters are also projected to increase, leading to a higher rate of downed electrical lines and potential service interruptions.

Water

A growing population and spreading development pattern will place greater demands on the water system. With population growth, the life cycle of the water, including capturing, treating, distributing, discharge and reclaiming water, will consume an increasing amount of energy. More energy and infrastructure will also be required to handle increased storm water flows. Heavier storms will increase the severity of floods, potentially damaging infrastructure, and stressing the water treatment system.

Climate change will likely make it more difficult to provide constant clean water for residents. Depleting water sources will negatively impact pricing with the potential need to transport water from farther away. Longer and hotter droughts will diminish the availability of potable water by decreasing water reserves and increasing evaporation.

Resource Management

As the climate continues to change, how we think about materials will have to adapt. Materials will need to get places faster; Austin will need potable water, medicine and building materials after weather related emergencies. How and where these materials originate will invariably impact how quickly residents will have access to necessary supplies. Over the long term, landfills will need attention to ensure that heavy rainfall and long heat waves do not compromise the safety of buried waste.

Extreme weather events can have devastating effect on life and property. During extreme weather events such as floods, tornados, and hurricanes, materials are sometimes turned into projectiles and can create more damage than the storm itself. Heat waves can also make materials toxic. When exposed to longer durations of heat, interior finishes can off-gas causing unsafe indoor air quality. Material management is intrinsically connected to climate change. For example, weather related disasters are often quantified by estimated cost of property damaged.

Transportation

Climate change may increase the number of large hurricanes traversing the Gulf of Mexico. If Galveston, New Orleans, or Houston are in the path of a large hurricane, the Central Texas region can expect to see an influx of evacuees.

2.2

Do you consider that the physical impacts of climate change could threaten the ability of businesses to operate successfully in your city?

Yes

2.2a

Please explain the reasoning behind your response.

Human Health

Having a healthy and vibrant community is one of the things that distinguishes Austin and makes it a desirable place to live. A changing climate can impact the health of our community in a variety of ways and we need to take steps to be prepared if we want that to continue to be true in the future.

According to climate change projections for Central Texas, the extreme heat, drought, and wildfires during the summer of 2011 will be less exceptional and become more common in the future. The fires took lives, destroyed property, and had major costs. The drought killed thousands of trees and caused extreme stress on the local water system as well as regional electric grid. Longer and/or more intense extreme heat events and more intense storms that lead to increased flooding will likely affect human health in our community.

Other potential public health impacts include: air pollution-related effects, increases in allergies, and changes in the extent and range of infectious water and vector born diseases.

Climate change impacts will not affect all segments of our community equally. Some groups within our community are more vulnerable or at greater risk when it comes to extreme weather and climate change impacts. The very old, very young, homeless, socially or economically disadvantaged or isolated populations are more vulnerable to these climate related impacts.

Transportation

Texas is currently experiencing a very high birth rate. Compounded by an aging baby-boomer population and an increasingly sharp edge of affluence, demands on transportation types will change drastically over the next 20 years. We are assuming that an increase in elderly population will equate to a larger amount of residents who unable or unwilling to drive. We are also assuming that a large population boom and an increase in birth rate in Texas will mean a large portion of the population will be younger than the legal driving age and, in addition, that a certain percentage of the population will not, physically, be able to drive. Additionally, geographic disparity between the affluent and economically disadvantaged is of concern as the most vulnerable populations are also geographically located in areas that are more susceptible to the effects of climate change. During heat waves and other weather related emergencies, large portions of the population might not have the ability to independently reach needed resources such as cooling stations, grocery stores and emergency services.

Roadway material

Long term transportation policy is vital to creating resilient communities. Roads account for a large portion of impervious surfaces in the Austin region. Black asphalt absorbs heat and can intensify the negative impact of heat waves. It will also be subject to additional heat stress which could compromise road quality as temperatures increase. In addition, petroleum from the roads can leach into the creeks and streams, potentially contaminating our drinking water.

Water and human health impacts

After a natural disaster has passed and immediate response crews have left, other health related issues may arise. Flooding increases the risk of waterborne diseases when drinking water becomes contaminated. Diseases like cholera affect children and the elderly who drink more water per body weight or have less resilient immune systems. Short term flooding also increases the chances for mosquito-borne diseases in vulnerable communities. Longer droughts and heat waves trigger respiratory diseases related to increased airborne particulate matter and ground level ozone.

Drought

Climate change will affect long-term ecological issues related to water. Prolonged droughts have the potential to increase desertification in the Central Texas landscape as well as limit water availability.

2.3

Please select the primary process or methodology used to evaluate the physical risks to your city.

Primary Methodology	Description
Agency specific vulnerability and risk assessment methodology	Obtained down-scaled climate projections, identified critical assets, operations, and infrastructure, completed a vulnerability assessment, ranked risks and determined strategies to address vulnerability and risks.

Page: **Adaptation**

3.0

Do you have a city-wide plan for increasing your city's resilience to the expected physical effects of climate change?

Yes

3.0b

Please explain why not and any future arrangements you have to create a plan.

3.0a

Please indicate the title of your climate adaptation plan, the year it was published and attach the document in the space provided.

Publication title	Publication year	Upload
City of Austin Resolution No. 20131121-060	2013	https://www.cdp.net/sites/2014/84/1184/CDP_Cities_2014/Shared Documents/Attachments/Cities-TC-Adaptation-Upload/Resolution 20131121-060.pdf

3.1

Please describe the actions you are taking to reduce the risk to your city's infrastructure, citizens, and businesses from climate change as identified on the previous page (Q2.0a).

Effects of climate change	Actions to reduce vulnerability	Action Description
More hot days	Crisis management including warning and evacuation systems	Disaster preparedness and emergency response including: enhancing communication strategies for alerting affected communities in emergency situations, ensuring continuity of governmental and emergency operations, preparing for refugees coming to Austin due to catastrophic events, and providing aid to displaced Austin residents. Also transportation infrastructure, operations, asset management, and future capital investments including: transportation demand projections, and protecting key assets from extreme weather, and ensuring continuous access to the transportation network.
Hotter summers	Projects and policies targeted at those most vulnerable	Community health and wellness efforts for vulnerable populations such as: vector-borne diseases, water- or air-borne diseases, poor air quality, extreme heat, and access to food and potable water; Electric utility infrastructure operations, asset management, and future capital investments including: electricity demand projections, protecting key assets from extreme weather, maximizing energy and diversifying resources to offset future demand caused by extreme heat, and ensuring continuous electricity delivery to critical facilities; Water utility infrastructure operations, asset management and future capital investments including: water availability and demand projections, protecting key assets from extreme weather, maximizing water efficiency, and ensuring continuous water delivery to critical facilities;
More frequent droughts	Flood defences – development and operation & storage	Drainage utility infrastructure operations, asset management and future capital investments including: identifying and planning for areas susceptible to flooding, evaluating the locations and ability of flood water gauges to operate in major flood events, and analyzing changing floodplain models to determine potential impacts on current and future developments.
Reduced average annual	Xeriscapes – low water landscaping design	Austin Energy Green Building Program, Austin WaterWise Landscape program, Grow Green program

Effects of climate change	Actions to reduce vulnerability	Action Description
rainfall		
More frequent heat waves	Air quality initiatives	Ozone Action Days
Increased urban heat island effect	Tree planting and/or creation of green space	Urban Heat Island Program Urban Forestry Program
More intense rainfall	Storm water capture systems	Rain Barrel Program, Rain Garden program
Increased frequency of large storms	Crisis planning and practice exercises	Emergency Management and Homeland Security

Page: Social Risks

4.0

Does your city face any social risks as a result of climate change?

Yes

4.0a

Please complete the table

Social impacts of climate change	Anticipated timescale in years	Impact description
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Social impacts of climate change	Anticipated timescale in years	Impact description
Increased demand for public services (including health)	Medium-term	More need for cooling centers, water and energy bill assistance, healthcare, etc.
Increased risk to already vulnerable populations	Medium-term	Climate impacts will cause economic and health impacts to vulnerable residents that will be affected disproportionately
Increased resource demand	Medium-term	More water and more energy required to deliver services

4.0b

Please explain why not.

Module: Opportunities

Page: Opportunities

5.0

Does climate change present any economic opportunities for your city?

Yes

5.0a

Please indicate the opportunities and describe how the city is positioning itself to take advantage of them.

Economic opportunity	Describe how the city is maximizing this opportunity
Increased infrastructure investment	The Greater Austin regionally-focused Capital Area Metropolitan Planning Organization (CAMPO) received a federal grant to complete a Climate Change and Extreme Weather Vulnerability Assessment for Transportation Infrastructure for the six-county region that will evaluate and rank assets based on their criticality to regional transportation and vulnerability to extreme weather events. The City of Austin is working with CAMPO to produce a final report with recommendations on how to incorporate future vulnerability and risk into transportation decision-making.
Improved efficiency of operations	Increased focus on reducing energy and fuel GHG emissions, which will reduce the City's operating costs.
Increased attention to other environmental concerns	Reducing GHG emissions and better managing water resources will lead to cleaner creeks, less air pollution, and other ancillary benefits.

5.0b

Why not?

Module: Emissions - Local Government Operations

Page: Local Government - Methodology

LGO1.0

Please state the dates of the accounting year or 12-month period for which you are reporting a GHG measurement inventory for your local government operations.

Tue 01 Jan 2013 - Tue 31 Dec 2013

LGO1.1

Please indicate the category that best describes the boundary of your municipal GHG emissions inventory.

Departments, entities or companies over which operational control is exercised

LGO1.2

Please indicate which of the following major sources of emissions are included in your municipal GHG emissions inventory.

Source of emissions	Status
Airport(s)	Included
Buildings	Included
Buses	Not applicable
Electricity generation	Not included
Electricity transmission and distribution	Not included
Employee commuting	Not included
Incineration of waste	Not applicable
Landfills	Included
Local trains	Not applicable
Maritime port	Not applicable
Municipal vehicle fleet	Included
Regional trains	Not applicable
Roads / highways	Not applicable
Street lighting and traffic signals	Included
Subway / underground	Not applicable
Thermal energy	Not applicable
Waste collection	Included
Wastewater treatment	Included
Water supply	Not included

LGO1.3

Please give the name of the primary protocol, standard or methodology you have used to calculate GHG emissions.

Primary protocol	Comment
Local Government Operations Protocol (ICLEI/The Climate Registry/California Climate Action Registry/California Air Resources Board)	The City of Austin's primary GHG reporting methodology is based on The Climate Registry's Local Government Operations Protocol and the General Reporting Protocol. We report the City's GHG emission inventory to The Climate Registry annually. This inventory does not include Austin Energy's power generation and delivery emissions. Austin Energy mandatorily reports this information separately to the EPA.

Further Information

Page: Local Government - Energy Data

LGO1.4

Please give the total amount of fuel (refers to direct/Scope 1 emissions) that your local government has consumed this year.

Fuel	Amount	Units
Natural gas	37069416	kWh
Distillate fuel oil No 2	1302400	kWh
Other: Motor gasoline	64689658	kWh
Distillate fuel oil No 2	64388254	kWh
Biodiesels	39306513	kWh
Other: E85	20970958	kWh
Propane	3609733	kWh
Other: CNG	76865	kWh

LGO1.5

How much electricity, heat, steam, and cooling (refers to indirect/Scope 2 emissions) has your local government purchased for its own consumption during the reporting year?

Type	Amount	Units
Electricity	382960511	kWh

Page: Local Government - GHG Emissions Data

LGO1.6

Please provide total (Scope 1 +Scope 2) GHG emissions for your local government's operations, in metric tonnes CO2e.

80251

LGO1.7

If applicable, please provide the following GHG emissions.

Scopes are a common categorization method.

Scope 1: All direct GHG emissions (with the exception of direct CO2 emissions from biogenic sources).
Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.

Total Scope 1 activity in metric tonnes CO2e emitted

Total Scope 2 activity in metric tonnes CO2e emitted

Total Scope 1 activity in metric tonnes CO2e emitted	Total Scope 2 activity in metric tonnes CO2e emitted
77722	2529

LGO1.8

Do you measure Scope 3 emissions?

No

LGO1.8a

Please complete the table.

Source of Scope 3 emissions	Emissions (metric tonnes CO2e)	Comment
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LGO1.8b

Please explain why not and detail your plans to do so in the future, if any.

There is not a standard available for reporting Scope 3 emissions. Furthermore, scope 3 emissions captures all emissions that do not fall under Scope 1 and 2, consequently, the City of Austin does not have the data available nor the resources to inventory greenhouse gas emissions at this level.

LGO1.9

Where it will facilitate a greater understanding of your government emissions, please provide a breakdown of these emissions by department, facility, greenhouse gas (CO2, CH4, N2O etc) or by any other classification system used in your city.

Department / Facility / GHG / Other	Type	Emissions (metric tonnes CO2e)
Emission Source: Electricity Use	Scope 2	0
Emission Source: Natural Gas	Scope 1	6899
Emission Source: Chilled Water Energy	Scope 2	2529
Emission Source: Diesel Use for Generators	Scope 1	330
Emission Source: Vehicle Fuel Use	Scope 1	45517
Emission Source: Fugitive and Process Emissions from Waste Water Treatment	Scope 1	23400
Emission Source: Vehicle Refrigerant	Scope 1	1976

LGO1.11

Please indicate why your emissions have increased, decreased, or stayed the same from the previous year, and please describe why.

Change in emissions	Reason for change
Increased	Natural Gas Use increased because of increases in extreme weather conditions. Vehicle Fuel Use increased due to the expansion of the fleet, increased operational use, decrease in alternative fuel use. Wastewater Treatment emissions increased due to the growth in population served.

Page: Local Government - External Verification

LGO1.12

Has the GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

No

LGO1.12a

Please provide any other relevant information about the emissions verification process.

Further Information

We plan to audit the 2013 municipal inventory in the fall of 2014.

Module: Strategy

Page: GHG Emissions Reduction - Local Government Operations

6.0

Do you have a GHG emissions reduction target in place for your local government operations?

Yes

6.0a

Please provide details of your local government operations emissions reduction target.

Baseline year	Baseline emissions (metric tonnes CO2e)	Percentage reduction target	GHG sources to which the target applies	Target date	Comment
2007	225000	100%	Scope 1 and 2	2020	We have reduced our emissions by over 60% since 2007.

6.0b

Please explain why you do not have a local government operations emissions reduction target.

6.1

What activities are you undertaking to reduce your emissions in your local government operations?

Emissions reduction activity	Projected emissions reduction over lifetime (metric tonnes CO2e)	Action description
Education > Climate change-focused curriculum		Part of the 2020 Carbon Neutral Fleet Plan. One of the plan goals include vehicle operator training. Training includes practices such as proper fueling, trip reduction and travel optimization, use of alternative fuels, and driving efficiency.
Energy Demand in Buildings > Energy efficiency/retrofit measures		Austin Energy coordinates with City departments to retrofit city owned buildings.
Energy Demand in Buildings > Building performance rating and reporting		The City of Austin is in compliance with the Energy Conservation Audit and Disclosure ordinance and has rated over 40 buildings in EPA portfolio manager.
Energy Demand in Buildings > Financing mechanisms for retrofit		Austin Energy has multiple rebate programs promoting facility audit, building retrofits, and cash back for reduced energy use.
Energy Demand in Buildings > Renewable on-Site energy generation		Over 20 city facilities have onsite renewable energy generation, more planned in the future.
Energy Demand in Buildings > Switching to low-carbon fuels	150000	In 2012, the City of Austin municipal operations switched to 100% renewable energy to power all facilities. In addition, large scale adoption of B20, E85, hybrids, propane, compressed natural gas, and electric to fuel the city-wide fleet has been implemented.
Outdoor Lighting > LED / CFL / other luminaire technologies		LED upgrades made in numerous city facilities, indoor and out. CFL and T8,5 upgrades made citywide. Large reductions created, not specifically quantified.
Other: Public procurement >		Pilot efforts to update the City's purchasing policy are currently underway. This policy aims

Emissions reduction activity	Projected emissions reduction over lifetime (metric tonnes CO2e)	Action description
Encourage low carbon products		to encourage the purchase of low carbon or environmentally friendly products to conduct City business.
Transport > Infrastructure for non-motorized transport		The City has partnered with B-cycle to offer bikes to numerous city buildings for daily use by employees and community.
Transport > Improve fuel economy and reduce CO2 from motorized vehicles		Part of the City 2020 carbon neutral fleet plan. Educating employees and through new vehicle purchases. Emissions reductions aggregated in overall fleet targets.
Transport > Improve the accessibility to public transit systems		Austin has set forth a visionary plan called Project Connect which aims to improve Central Texas' transit system.
Water > Methane recovery for reuse		The City installed a methane capture and generator set at our Biosolids plant. This project was funded by ARRA grant funding. The system is sized at over 500 kw and will produce significant GHG reductions.
Other: Waste > Landfill gas capture		The city owns a closed landfill that is being regulated by the EPA. Landfill gas emissions are collected, flared, and reported to the EPA.
Waste > Recycling or composting collections and/or facilities		The City has recycling containers in every city owned building, indirect GHG emissions reductions have not been quantified.
Waste > Waste prevention policies and programs		The City's Resource Recovery Department implementing their 30-year master plan to Zero Waste.
Energy Demand in Buildings > Building Codes and Standards		Adoption of Energy Code to require all new home construction to be net-zero-energy capable.

Page: GHG Emissions Reduction - Community

7.0

Do you have a city-wide GHG emissions reduction target in place for your community?

No

7.0a

Please provide details of your city-wide reduction target.

Baseline year	Baseline emissions (metric tonnes CO2e)	Percentage reduction target	GHG sources to which the target applies	Target date	Comment
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7.0b

Please explain why you do not have a city-wide emissions reduction target.

7.1

What activities are you currently undertaking to reduce emissions city-wide?

Emissions reduction activity	Projected emissions reduction over lifetime (metric tonnes CO2e)	Action description
Transport > Infrastructure for non-motorized transport		Emission reductions have not been quantified but the city has invested in bike infrastructure that includes bike lanes, bike parking, and a partnership with B-cycle to provide a bike sharing program.
Urban Land Use > Compact Cities		Imagine Austin, Austin's comprehensive master plan, includes strategies that focus on transportation and land planning in an effort to make the city more "compact and connected."
Urban Land Use > Limiting urban sprawl		Imagine Austin, Austin's comprehensive master plan seeks to reduce urban sprawl by promoting improvements to the central business district and increased density in the urban core. This includes increased focus on housing affordability and green infrastructure.
Urban Land Use > Urban agriculture		The City of Austin has a Sustainable Urban Agriculture program focused on creating community gardens and works closely with the Sustainable Food Policy Board to improve the availability of safe, nutritious, locally, and sustainably grown food.
Water > Water recycling and reclamation		The City of Austin has developed an effluent reuse (purple pipe) system and is continuing to expand.
Urban Land Use > Greenspace		The City of Austin has a large network of urban parks, watershed protection lands, and aquifer protection

Emissions reduction activity	Projected emissions reduction over lifetime (metric tonnes CO2e)	Action description
and/or bio-diversity preservation and expansion		areas.
Waste > Recycling or composting collections and/or facilities		The City of Austin passed a Single Use Bag Ordinance in 2012 as part of Austin's Zero Waste Plan. Austin Resource Recovery offers single stream recycling to all customers, waste reduction assistance programs, pay as you throw billing, and home green waste / compost collection.
Energy Demand in Buildings > Building performance rating and reporting		The City of Austin has an Energy Conservation Audit and Disclosure ordinance that applies to single family homes, multi-family properties, and commercial properties. The ordinance requires differing levels of audits, measurement, benchmarking and reporting to stakeholders. Reductions are quantified as part of the Austin Energy goal of 800 MW of energy efficiency.
Urban Land Use > Transit oriented development		The City of Austin, in conjunction with Capital Metro recently added a light rail line that connects the north suburbs to downtown. Transit oriented development that includes affordable housing was part of this project and will be part of future urban rail programs.
Energy Supply > Low or zero carbon energy supply generation		Austin Energy recently completed power purchase agreements with a 30 MW solar PV power plant, a biomass power plant, and numerous wind power plants. These projects are assisting the utility in meeting their goal of 35% renewable generation by 2020.
Other: Energy Supply > Combined heat and power		Austin Energy has developed numerous combined heat and power systems across the city to meet demand in new developments. Examples include the Mueller mixed use development and Domain shopping center.
Energy Demand in Buildings > Energy efficiency/retrofit measures		Austin Energy offers numerous rebates to residential and commercial customers to incentivize energy efficiency retrofits, including HVAC systems, insulation, lighting, windows, etc. GHG reductions are calculated in terms of MW savings
Energy Demand in Buildings > Building Codes and Standards		The City of Austin has modified its building code to require all new single family homes to be net zero energy capable by 2015.

8.0

Does your city have a renewable energy or electricity target?

Yes - my city has a renewable electricity target

8.1a

Please indicate the energy mix of your electricity at the city-wide scale.

Energy source	Percent
Coal	24.00%
Gas	40.00%
Oil	0.00%
Nuclear	16.00%
Hydro	0.00%
Biomass	5.00%
Wind	10.00%
Geothermal	0.00%
Solar	5.00%

8.1b

Please provide details of your renewable electricity targets and how the city plans to meet those targets.

Scale	Total installed capacity of renewable electricity (in MW)	Proportion of total electricity from renewable energy sources	Target Date	Plans to meet target (include details on types of energy)
City-wide		35%	2020	Austin is currently 4 years ahead of schedule to meet these targets through energy efficiency programs and purchase power agreements for wind, solar and biomass.

8.1c

Please provide details of your renewable energy targets and how the city plans to meet those targets.

Scale	Total installed capacity of renewable energy (in MW)	Proportion of total energy from renewable energy sources	Target Date	Plans to meet target (include details on types of energy)
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8.2

Please explain why you do not have a renewable energy or a renewable electricity target and any plans to introduce one in the future.

8.3

List any climate change-related projects for which you hope to attract private sector involvement.

The City of Austin is partnering with the private sector on compact and connected development to reduce transportation GHG emissions; energy efficiency and solar companies to upgrade facilities and install wind and solar generation; and with local carbon offset project developers to develop and sell offsets to local event participants.

8.4

Does your city incorporate desired GHG reductions into the master planning for the city?

Yes

8.4a

Please describe the ways that the master plan is designed to reduce GHG emissions.

GHG emission scenarios were incorporated into the most recent planning effort by the City of the Austin, resulting in a newly created comprehensive plan, Imagine Austin (<http://austintexas.gov/imaineaustin>). Imagine Austin was adopted by the Austin City Council in the Summer of 2012.

Imagine Austin includes future GHG emission scenarios for various growth options, and the core principles of the plan are: grow as a compact and connected city, integrate nature into the city, provide paths to prosperity for all, develop as an affordable and healthy community, sustainability manage water, energy, and other environmental resources, and finally think creatively and work together. A compact and connected city, sustainably managing resources, and integrating nature will all reduce emissions to the local environment.

Page: Water Supply Risks

9.0

Do you foresee substantive risks to your city's water supply in the short or long term?

Yes

9.0a

Please identify the risks to your city's water supply as well as the timescale.

Risks	Timescale	Risk level	Risk description
Higher water prices	Short-term	Serious	Higher water prices due to higher demand and constrained supply
Increased water stress or scarcity	Current	Serious	Our primary source of drinking water comes from the Highland Lakes system, which is near its lowest levels due to the worst drought on record.
Flooding	Current	Serious	Central Texas is a flash flood alley and always at risk for urban flooding, which destroys homes and risks lives

Page: Water Supply Adaptation

Please note

If you did not select anything in the dropdown list for Q9.0 on the Water Supply Risks page, nothing will be displayed on this page. Please go back to the Water Supply Risks page to confirm your choice or go to the Home page to proceed to submission.

9.0b

Please explain why you do not consider your city to be exposed to any substantive water-related risk

9.1

Please describe the actions you are taking to reduce the risks to your city's water supply.

Risks	Adaptation Action	Action Description
Higher water prices	Diversifying water supply (including new sources)	The City of Austin is currently constructing Water Treatment Plant 4 (WTP4). WTP4 is an important investment in Austin's future. With a rapid rise in population comes increased demand for clean water; doing nothing, this increased demand will tax an aging water infrastructure. WTP4 will add capacity and reliability, ensuring that Austinites enjoy safe and reliable water service for future generations.
Increased water stress or scarcity	Water use restrictions	The City of Austin has a goal of 140 gallons of water per capita per day; the goal will be achieved through outdoor water restrictions. Austin Water is beginning the process of revising the current Water Conservation Code to better align with long-term drought conditions.
Flooding	Stormwater management (natural or man made infrastructure)	Austin is focused on managing debris, the flood early warning system, managing stormwater onsite through green infrastructure, and keeping culverts / structures clean. The City of Austin Office of Homeland Security and Emergency Management Operations Plan is considered an all hazards plan. This plan establishes the framework for how disasters are responded to in the City of Austin regardless of initial cause. Because flooding is the most common hazard for the Austin is focused on managing debris, the flood early warning system, managing

Risks	Adaptation Action	Action Description
		<p>stormwater onsite through green infrastructure, and keeping culverts / structures clean. The City of Austin Office of Homeland Security and Emergency Management Operations Plan is considered an all hazards plan. This plan establishes the framework for how disasters are responded to in the City of Austin regardless of initial cause. Because flooding is the most common hazard for the Austin area, the Operations Plan outlines issues and actions for a stronger flood response. The plan also includes specific measures to address health risks caused by flooding and changes to water resource availability, with particular attention to vulnerable populations. Austin has increased programs and education efforts to encourage use of onsite water sources (rain barrels and catchment systems), advance green infrastructure best practices to sequester greenhouse gases and reduce stormwater volumes, and expand existing programs in the community that reduce the urban heat island effect.</p>

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