SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

June 5, 2020

Mr. Rich Damberg
U.S. EPA, Office of Air Quality Planning and Standards
State and Local Programs Group
Research Triangle Park, NC 27709

Re: 2020 Ozone Advance Update—Oklahoma City Metropolitan Area

Dear Mr. Damberg:

The Oklahoma Department of Environmental Quality (DEQ), Air Quality Division, in collaboration with the Association of Central Oklahoma Governments (ACOG) hereby submits the Oklahoma City (OKC) Metropolitan Area 2020 update to our Ozone Advance program. This is a "living" document and will continue to be updated as programs are added or evolve. The OKC Metro Area has participated in EPA's Ozone Advance program since May 30, 2012. The enclosed list of Ozone Advance initiatives and ongoing programs provides status updates to many of the voluntary and mandatory programs listed in the 2020 submittal, along with several new programs.

DEQ has concluded, after the past several years of attainment, that participation in the Ozone Advance program, along with the more moderate weather in the area, has aided this designation and continues to have a positive impact on ozone levels. We are hopeful for another good year.

We look forward to continued participation in the Ozone Advance program. Should you have any questions, please feel free to contact Nancy Pearce or Melanie Foster of my staff at 405-702-4100.

Sincerely,

Kendal Stegmann
Division Director
Air Quality Division

ec: Carrie Paige, EPA (6MM-AB)
Randy Pitre, EPA (6MM-AB)
Lisa Sutton, EPA
Larry Wallace, EPA
Mark Sweeney, Executive Director, ACOG
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Enclosures

Ozone Advance Emission Reduction Projects - Oklahoma City MSA
Progress Report 6-1-2019 through 5-31-2020

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Bike Month Activities	**ACOG**	Ongoing	Bike Month is established each May to promote cycling activities. Bike to Work Day is an annual event designed to encourage people to use their bikes as a means of transportation. Since its inception, numerous communities have participated in the various bicycle group rides and events, including Bike to School, Bike to Work, and Bike to Church. **2020 Update: Due to COVID-19 restrictions, Bike to Work Day is being pushed back to September 22, to coincide with Car Free Day. Bike Month will still be celebrated in May, primarily through Social Media engagement and the promotion of activities that don't require gatherings.**	2005 - Continuous
Bicycle Friendly Communities	**ACOG, City of Norman**	**New**	**The League of American Bicyclists' Bicycle Friendly Community program provides a roadmap to improving conditions for bicycling and guidance to help make a community's vision for a better, bike-able environment a reality. The City of Norman is the only ACOG member community to be awarded this, and they are at the Silver level of recognition.**	**Ongoing**
Bicycle Friendly Business	**ACOG, Allegiance Credit Union**	**New**	**Through the League of American Bicyclists' Bicycle Friendly Business program, employers are recognized for their efforts to encourage a more welcoming atmosphere for bicycling employees, customers and the community. For businesses in the ACOG area, Allegiance Credit Union in Oklahoma City has been awarded the Bronze level for bicycle friendliness.**	**Ongoing**
Bicycle Friendly Universities	**ACOG, University of Central Oklahoma, University of Oklahoma**	**New**	**The League of American Bicyclists' Bicycle Friendly University program recognizes institutions of higher education for promoting and providing a more bike-able campus for students, staff and visitors. Universities in the ACOG area that have been recognized include The University of Oklahoma, which has received the Silver award and The University of Central Oklahoma, which has received the Bronze award.**	**Ongoing**

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Congestion Mitigation and Air Quality (CMAQ) Small Grant Program	**ACOG**	Ongoing	City, county and tribal governments along with public schools, public school districts, public universities, and transit agencies are eligible to receive CMAQ funds for small infrastructure projects and congestion relief efforts that assist in the reduction of single-occupancy trips and/or ozone-forming emissions. **2020 Update: Two small infrastructure projects are currently in progress by the City of Oklahoma City Sustainability Department and the City of Edmond. The projects include the implementation of bicycle infrastructure such as dedicated bike lanes and bike racks as a way to promote multimodal, non-vehicular travel. In addition, ACOG is preparing to issue a new funding RFP in Fall 2020.**	2018 - Continuous
Central Oklahoma Urban Tree Canopy Project	**ACOG, Oklahoma City Community Foundation, Oklahoma Forestry Services**	Ongoing	ACOG partnered with Oklahoma Forestry, Oklahoma City Community Foundation, and Davey Resource Group to conduct a regional tree canopy assessment in 2019. The project included collecting and inventorying vital tree canopy data in the Oklahoma City metropolitan area. Resulting end data includes a database of tree canopy coverage and land cover summary, prioritized tree planting plan, and ecosystem service benefits analysis including an analysis of the benefits of trees on air quality. Data collected during the urban tree canopy study will be integrated into the metropolitan planning process, including advanced regional air quality analysis and planning. ACOG continues to maintain and analyze the resulting data and make it available to local municipalities.	Continuous
Ozone Alert Day Notifications	**ACOG**	Ongoing	Email notifications of Ozone Alert Day declarations in Central Oklahoma are serviced to elected officials, policymakers, and members of the public via email. Linked content includes information on public transit throughout Central Oklahoma, information on the health impacts of ground-level ozone, and a link to the Oklahoma Department of Transportation online camera-based traffic monitoring system. **2020 Update: In 2019, four Ozone Alert Days were declared; notifications were sent to a total of 661 recipients with an average open rate of 24.3% and an average click-through rate of 6.5%.**	Continuous

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Public Alternative Fuel Stations	**ACOG**	Ongoing	Within the state, there are currently 101 compressed natural gas (CNG) stations, 9 propane fueling stations, 70 electric vehicle (EV) charging stations, and 47 ethanol (E85) stations.	Continuous
Social Media Public Outreach	**ACOG**	Ongoing	Central Oklahoma's MPO utilizes Facebook and Twitter to keep members of the public updated on air quality and air quality-related issues throughout the region, state, country, and world.	2009 - Continuous
Transportation Alternatives Program	**ACOG**	Ongoing	In 2014, approximately $2.8 million was administered to bicycle and pedestrian infrastructure projects throughout the Central Oklahoma region as part of MAP-21 through TAP. In 2018, approximately $8.4 million was administered to bicycle and pedestrian infrastructure projects throughout the Central Oklahoma region as part of the STBG-UZA (TAP) set aside through the FAST Act. Eligible projects included on-road and off-road trails, safe routes for non-drivers, rails-to-trails conversions and Safe Routes to Schools projects. **2020 Update: Projects are in the process of being completed. Discussion has begun with the Bicycle and Pedestrian Advisory Committee regarding the next round of TAP projects.**	April 2014 - Continuous
Transportation Systems Management (TSM) Projects	**ACOG**	Ongoing	Emission reduction strategies that may include: intersection improvement projects, signal improvements, signal coordination efforts, Intelligent Transportation System (ITS) enhancements, and bicycle and pedestrian facilities. These projects reduce transportation-related emissions by improving traffic flow and reducing congestion throughout the region. **2020 Update: ACOG is adding an activity based component to the model in FY 2020. This will help model trips by pedestrian and cyclists.**	Continuous

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Open Streets OKC	**ACOG, Oklahoma City-County Health Department**	Ongoing	The Open Streets event promotes active transportation and the relationship between transportation mode choice and public health and has drawn around 65,000 total attendees from across the region. Businesses and organizations participate all along the route with fun and active activities for families. The event earned significant media coverage and calls for more walkable development, biking infrastructure and accessible, quality transit through Oklahoma City. The event is planned to now occur twice a year beginning in 2015. **2020 Update: The 9th Open Streets OKC event was held in Fall of 2019 with 8,000 – 10,000 participants. Due to COVID-19 restrictions, the Spring event was cancelled. There will potentially be a make-up event in the summer, depending on the longevity of the virus.**	Ongoing
Oklahoma Electric Vehicle Coalition (OEVC)	**ACOG, Utilities, Local Government, Vehicle Manufacturers, Charging Station Providers**	Ongoing	OEVC meetings are held every other month throughout the year. The coalition has worked to identity objectives, goals, and strategies around increasing the amount of electric vehicles and electric vehicle charging stations in Oklahoma. The coalition worked to be included in the Federal Highway Administration's (FHWA) Alternative Fuel Corridor designations as well as Volkswagen Settlement electric vehicle charging station investments.	2016-Ongoing
Clean Fuel use	**Central Oklahoma Clean Cities**	Ongoing	The Central Oklahoma Clean Cities 2018 annual survey of stakeholder fleets showed a reduction of 13,628,317 gallons of gas equivalent (GGEs) of petroleum fuel used. The survey indicated that 97% of the recorded petroleum reduction can be attributed to alternative fuel vehicles. The majority of the remaining reduction can be attributed to idle reduction fleet policies and technologies. **2020 Update: Central Oklahoma stakeholder fleets accounted for 2,754 on-road vehicles operating on alternative fuels. Deployment of compressed natural gas (CNG) vehicles and fueling stations resulted in 94% of petroleum fuel reduction, followed by propane (3.7%), and E85 ethanol-blend (2.2%). This fuel use and additional alternative fuel off-road equipment use, idle reduction, and vehicle miles travelled reduction resulted in 16,618 tons of greenhouse gas reductions, 216,531 pounds of NOx reductions and 7,692 pounds of VOC reductions.**	1996 - Continuous

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Alternative Transportation Promotion	**City of Edmond**	Ongoing	In 2018 the City began promoting all forms of alternative transportation through an initiative called "Edmond Shift." This initiative will use social media and other City marketing tools to bring more awareness and participation to the community. Edmond Shift will be a policy that encourages, promotes, plans, and creates active transportation alternatives to improve how people can conveniently and safely walk, bike, ride the bus, share a car, and drive throughout Edmond. The Edmond Shift logo will begin to appear on a variety of projects that make it easier for people to use all the transportation options available in the City.	2018 - Continuous
Bike to work	**City of Edmond**	Ongoing	**2020 update: May Bike Month activities were cancelled due to COVID-19 restrictions. Prior to cancellation, planned activities included a Family Bike Ride at Mitch park, a Flat Tire Repair Clinic, a Proclamation for May Bike Month and Consideration of an E-Bike ordinance, an Oklahoma Bicycle Society casual ride, Bicycle-Pedestrian counting activities, a Bike-to-Work Day celebration, a Bike to Church day, a "Ride of Silence", and participation in the OU Medical Center – Edmond Health and Safety Fair. The only activity that took place in this area was the annual bicycle count. Other activities may take place at a later date.**	Ongoing

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Bicycle Master Plan	**City of Edmond**	Ongoing	The Bicycle Master Plan (2012) was updated in 2018 to include more on-street wayfinding routes and refinements to the proposed trail components. The updated plan also consolidates some facility types, removes corridors that are infeasible, and presents new opportunities. **Rt. 66 Trail on the north side of Arcadia Lake (a segment of the planned 19-mile trail around Arcadia Lake) is currently under construction. This segment between the regional Edmond Park, and the Arcadia Lake Project Office, along Rt. 66 will be completed in 2020 (1.3 miles). An additional segment will extend the trail to the Arcadia Lake Dam on the east side of Arcadia Lake (.46 miles). The next phase of this trail is designed to extend the trail to 66 Park on Post Rd.** **Creekbend Trail, a planned 14 ft. wide segment, is under design. It will extend the Arcadia Lake Trail network further west into the urbanized area at Coltrane Rd. (1.16 miles).** **Future arterial widenings are also planned to feature additional 10 ft. multi-use side paths or bike lanes. Two notables are projects planned for Covell Rd. (totaling 4.3 miles) and 33rd St (.93 miles).** **In 2020 the City was awarded a reimbursable grant through ACOG's Air Quality Small Grant program in the amount of $108,500 to create protected by-lanes along Ayers St. This project encourages the use of bicycles from apartments and student residences in the area that attend the university. Since Ayers Street has been closed through the UCO campus, the street no longer warrants a four-lane road. It will make residents and students feel safer about riding their bicycles, and will also coincide with Citylink buses, which all have bicycle racks mounted on the fronts of the buses. In addition to the 1,895 beds for on-campus housing, there are 662 residential units within a 1/4 mile of the project on the west, 52% of that in multifamily units. To the east there are 816 residential units within a 1/4 mile of the project, 81% of that in multifamily units.** **A lane reapportionment from four to two lanes, while adding two buffered bike lanes, will take place. This project promotes a reduction in Nitrogen Oxides and will improve the transportation system for multimodal options. Currently, there are existing shared lane markings on this corridor. This will also enhance the safety and connectivity between the university and the downtown business district for multimodal travel on the west, and it will enhance connectivity between the university and student housing and businesses closer to Bryant Ave on the east side (.83 miles).**	2020

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Citylink Transit	**City of Edmond**	Ongoing	The City of Edmond has had the Citylink Transit System in place since 2009. It offers citizens an alternative form of transportation to and from work, shopping, medical visits and the University of Central Oklahoma (UCO). There are four fixed routes within Edmond city limits and one commuter route to the OKC bus terminal, the OU medical facilities, the VA hospital, and the OKC Social Security Office.	Continuous
Edmond Fleet	**City of Edmond**	Ongoing	Today, GPS technology allows Solid Waste routing to be as efficient as possible and allows for monitoring of the city's idle reduction initiatives throughout the entire fleet. The Fleet Manager receives automatic notifications through software triggers on excessive idling and can respond quickly via phone or email. This program is ongoing and will continue to be monitored. Other critical fleet management operations that the City pursues to make the fleet more sustainable are right-sizing vehicles for the duties that will be required, regular maintenance, pursuit of clean diesel technology, and efficient solid waste routing for the waste management service. The City now reviews solid waste routing yearly and re-designs routes in July every year, as needed. Annual Solid Waste Routing Reviews allow for more efficient routing. These activities lower environmental impacts and reduce the cost of operations, which directly benefit the citizens of Edmond.	Ongoing

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Electric Vehicle Initiative	**City of Edmond**	Ongoing	In 2018 Edmond Electric bought an EV for the City (Electric/Public Works) use. In 2019 Water Resources purchased two new EV vehicles for their fleet. This department also installed three EV charging stations at the new Water Resource and Recovery Facility. At the new Water Treatment Plant there are also plans to install two (2) dual chargers, and it will easily be expandable to two (2) more EV spaces in the future. In 2019 the City Council Strategic Plan outlined current and future goals "Develop policies and plans to take advantage of the growing market for electric vehicles, including a program to promote home charging and adding vehicles to the city fleet." For the private sector, three charging stations have been installed at the new hotel/conference center at I-35 and Covell Rd through a partnership with Edmond Electric. The City is hoping to achieve similar arrangements with other private partners as we move forward. In 2019 the City of Edmond partnered with the University of Central Oklahoma (UCO), to receive $50,550 to install ten (10) public and workplace charging stations for electric vehicles. These types of stations are capable of charging two electric vehicles simultaneously and will initially be free to the public. These stations will also be powered by 100% wind energy. Two grants were received in coordination with the Association of Central Oklahoma Governments (ACOG) Clean Air Public Fleet Grant ($25,138.60), and the Oklahoma DEQ 2019 Charge OK Grant Program ($25,367.00). The grants will also pay for the bollard concrete mounting kits, a one-year prepaid commercial cloud plan to remotely monitor the stations (including avoided emissions), an on-site validation per the vendor's requirements, and a five-year prepaid Assurance Plan, which provides high-quality maintenance and a warranty period by the vendor. **2020 update: Five EV stations have been installed at Mitch Park, the City First Administration Building near downtown Edmond, the Service-Blake Soccer Complex, and two locations on UCO's campus. One UCO location is in Student Housing parking on the east side of campus, and the other is in Visitor parking on the west side of campus. The only remaining task is to have "No Parking" signs installed, and personalized decals inserted into them. They have all been made ADA accessible as well. A sixth station is to be installed at a new Tennis Center in May when construction has substantially cleared the parking area. All stations should be activated and available to the public by the end of June 2020.** **At the new Water Treatment Plant there are also plans to install two dual charging stations, and it will easily be expandable to two more EV spaces in the future. Edmond Electric has also purchased a DC Fast Charging Station, allowing faster charging, but the location has not yet been determined.**	Ongoing

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EPA Green Power Community	**City of Edmond**	Ongoing	Over a decade ago Edmond Electric was among the first utilities in the state to offer an innovative, green-power program designed to allow customers to purchase electricity from a pure, non-polluting wind resource. Edmond Electric purchases its power from the Oklahoma Municipal Power Authority (OMPA). The program is known as Pure and Simple. Geothermal energy is also utilized to save energy on many city facilities and partners, including the YMCA facility at Mitch park, the new Water Resource and Recovery Facility, the Crosstimbers Municipal Complex, as well as the 70,000 square foot Public Safety Center. These forms of energy also reduce the use of power generated from point sources of emissions. **2020 update: In 2020 the City will again be reporting 100% renewable energy usage for its city facilities.**	Ongoing
Intelligent Transp. Systems (ITS)	**City of Edmond**	Ongoing	Intelligent Transportation Systems (ITS) have been installed at signalized intersections. ITS should facilitate the management of traffic during congested periods, allowing better mobility and resulting in less idle time. Phase I of Edmond ITS is complete. It includes 21 intersections along Edmond Rd/2nd St from Santa Fe to Saints Blvd. Intersections are hard wired via fiber optics. There is also a wireless component that connects four water towers, which will also be hard wired with fiber optics. The intersection controllers are using the latest NTCIP communications protocol and are connected to the Traffic Management Center. The intersections have a battery backup system, emergency pre-emption system, CCTVs, redundant vehicle detection systems, LED signal indications, flashing yellow left turn arrows, and audible pedestrian systems. **2020 update: Phase II of the Edmond ITS is nearing completion. Phase II includes 22 signalized intersections and 3 school zone locations. The intersection controllers use the latest NTCIP communications protocol and are connected to the Traffic Management Center. A total of 59,512 feet of fiber optic cable was installed. 148 audible pedestrian push buttons and pedestrian countdown heads were installed. Infrared detection system, battery backup system, CCTV cameras, and over 195,221 feet of signal wiring has been installed.**	Ongoing

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Urban Forestry	**City of Edmond**	Ongoing	Urban Forestry, a division of Community Image, administers multiple programs that support and enhance Urban Tree Canopy in Edmond. Trees remove pollutants such as ozone from the air, reduce energy consumption and emissions, and provide many other environmental services. New trees are planted each year on public property around City facilities, along rights-of-way, and on park land and detention areas through special Urban Forestry projects, Arbor Week, and the volunteer program. In addition, Urban Forestry plants trees along rights-of-way in residential areas through the Foster-A-Tree program. Urban Forestry hosts periodic tree distributions and works with Edmond Electric in facilitating their 'Energy Saving Trees' program, also partnering with the Arbor Day Foundation. Through this program, customers use an online module to determine the most appropriate species available and the best location to plant the tree in order to maximize energy savings. Urban Forestry also administers the City's landscape requirements found within the Title 22 Zoning Ordinance, and actively fosters public engagement and education through programs such as the Edmond Tree Awards, Arbor Week, the volunteer program, Edmond Tree Mail, and social media.	Continuous
Ozone Alert Day Mowing Deferral	**City of Mustang**	Ongoing	The City of Mustang has an internal policy for City mowing crews to not mow on Ozone Alert Days.	Continuous
New Home Energy Efficiency Pilot	**City of Norman**	Ongoing	Waives a percentage of the City's building permit fee based on the nationally recognized Home Energy Rating System (HERS)/Energy Rating Index (ERI) for energy efficiency. The lower the HERS score, the more energy efficient the house and the bigger the discount on the permit. Newly constructed single-family homes built to code in Norman average a HERS rating of 100. A home meeting the minimum threshold to cash in on the incentive (HERS rating of 65) would be 35 percent more efficient. Under the pilot program, which began on July 1, 2019, homes that achieve a HERS rating of 55 or higher could be exempt from the city's building permit fee altogether.	Continuous
CNG and Alternative Fuel Fleet	**City of Oklahoma City**	Ongoing	The City of Oklahoma City (Public Works, Utilities, General Services and Airports) operates a fleet of 164 light and heavy duty CNG vehicles, 5 electric cars and 4 hybrid vehicles. EMBARK transit agency presently has 17 40-foot CNG buses, one 40-foot hybrid bus, and one 35-foot hybrid bus. **2020 update: An all-electric transit bus is in the process of being procured and will be the first all-electric transit bus serving Central Oklahoma.**	Continuous

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Oklahoma City Streetcar	**City of Oklahoma City**	Ongoing	Approved by voters in December 2009, the modern streetcar is a $131 million project as part of a $777 million debt-free capital improvement package. The streetcar includes seven cars, each holding 100 people, which travel a 4.6 mile on-street rail system with 22 stops throughout downtown Oklahoma City. Service launched in December 2018. **2020 update: Total ridership through 3/29/20 is 533,849.**	2009 - Service Ongoing
adaptokc	**City of Oklahoma City**	Ongoing	The City has been developing a community-wide sustainability plan that focuses on several specific areas: Energy Productivity, Air Quality, Natural and Built Environment, and Waste Reduction. Recommendations and proposed actions, policies, and programs serve as an amendment to the City's comprehensive plan. Plan development included subject matter expert engagement and research and data-driven conclusions. **2020 update: After a public comment period in May, expected adoption is summer 2020.**	2016 - Ongoing
2017 Temporary Sales Tax Extension	**City of Oklahoma City**	Ongoing	In September 2017, Oklahoma City voters approved a 27-month one penny sales tax extension projected to generate $240 million for transportation projects. This proposal was specifically a response to the City's needs for improved street conditions based on resident feedback. The debt-free projects to be funded through this extension include $168 million for street resurfacing, $24 million for streetscapes, $24 million for sidewalks, $12 million for trails, and $12 million for bicycle infrastructure. **2020 update: As of April, a total of 80 projects have been completed valued at more than $74.4 million. An additional 104 projects valued at $120 million are either currently planned or underway.**	2017 - Ongoing
Residential Curbside Recycling Expansion	**City of Oklahoma City**	Ongoing	Beginning in FY19, the City's curbside recycling program expanded service to 6,000 new customers and shifted fully to 195,000 96-gallon polycarts from 18-gallon containers. Recyclable goods drop-off centers were added in rural areas without curbside service. This more than doubled the reported “percentage of trash recycled" from 2.94% in FY18 to 6.37% in FY19, thereby increasing the amount of avoided landfill emissions. Both the public and private fleets of waste haulers are CNG-fueled.	2019 - Ongoing
Spokies Bikeshare Program Expansion	**EMBARK**	Ongoing	Launched in 2012, the Spokies bikeshare provides a transportation alternative around downtown Oklahoma City through bikeshare stations placed strategically throughout the Central Business Districts and abutting downtown commercial and residential districts. In June 2019, Spokies introduced 25 Spokies Dash smart bikes, a new dockless bikeshare feature. **2020 Update: In early Summer 2020, Spokies will add an additional 5 Dash bikes bringing the total number of bikeshare bikes to 72 (42 station based, 30 dockless). Ridership was averaging 12,111 riders per year in 2017 and 2018, but**	2012 - Ongoing

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
			declined by 32% with the introduction of e-scooters. E-scooters were removed from service in March 2020. Since that date, Spokies ridership has seen improvement.	
2017 General Obligation Bond	**City of Oklahoma City**	Ongoing	On Sept. 12, 2017, Oklahoma City voters approved 13 bond propositions as part of the Better Streets, Safer City program. Of the $967 million bond package, there will be investments of $6.325 million for bicycle infrastructure, $8.435 million for trails, and $18.745 million for sidewalks over a 10-year period.	2017 - Ongoing
City of Oklahoma City Bicycle and Pedestrian TIP Projects, Federal Fiscal Year (FFY)20 - FFY23	**City of Oklahoma City**	Ongoing	The City of Oklahoma City is routing a greater share of transportation dollars towards alternate modes of transportation. In FFY2020, Oklahoma City will spend approximately $11.5 million in combined STBG-UZA funds and local match dollars to design and construct pedestrian facilities. In FFY2021, Oklahoma City will spend approximately $3.1 million in combined STBG-UZA funds and local match dollars on a major bicycle-pedestrian project. In FFY2022, Oklahoma City will spend a minimum of $2.7 million in combined STBG-UZA funds and local match dollars on bicycle-pedestrian projects.	2019 - Ongoing
City of Oklahoma City Transp. Alternatives Program (TAP) Projects	**City of Oklahoma City**	Ongoing	In FFY2020, Oklahoma City will spend approximately $8.3 million in combined TAP funds and local match on a range of bicycle and pedestrian projects including a recreational trail along a segment of the Deep Fork River, new sidewalks, amenities along two existing recreational trails, a road diet (also called a lane reduction or road rechannelization) on a major downtown avenue, and a bicycle-pedestrian safety awareness campaign.	2019 - Ongoing
MAPS 3 Scissortail Park	**City of Oklahoma City**	Ongoing	With funding from the third iteration of the Metropolitan Area Projects (MAPS) program generated by a voter-approved temporary one cent sales tax, 70 acres of downtown property was acquired to serve as a two-section downtown park: a 36-acre northern section and, connected by a bicycle-pedestrian bridge across Interstate 40, a southern segment of 34-acres that abuts the Oklahoma River and connects with the Oklahoma River Trails that span 13 total miles along both banks. With a budget of approximately $132 million, Scissortail Park includes nearly 1,000 trees at a cost of about $608,000. The 36-acre upper section of Scissortail Park opened on September 27, 2019 with about 28,000 people attending the grand opening concert. Construction on the 30-acre lower park begins in 2020 and is scheduled to finish in 2021.	2017 - Ongoing

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Northwest Multimodal Transportation Corridor	**City of Oklahoma City, EMBARK**	Ongoing Project Process	Funding sources include a $14.3 million BUILD grant from the U.S. Department of Transportation as well as $10.8 million from general obligation bonds and $2.2 million from sales tax revenue. Planning for the project began in 2015 and was supported through grants from Smart Growth America, a Federal Highway Administration beta test for health in transportation corridor planning, and local stakeholders including the City of Oklahoma City, the Oklahoma City-County Health Department, the Greater Oklahoma City Chamber of Commerce, and the local chapter of the Urban Land Institute. The corridor plan includes the addition of 9 to 10 miles of bus rapid transit (BRT) connecting downtown Oklahoma City with the northwestern suburban areas of the city along with significant bicycle and pedestrian infrastructure additions along the corridor. In April 2020, COTPA completed environmental review and approved a contract for project engineering that will carry the project through the design phase. Full service for the corridor BRT is anticipated to begin in 2023.	2015 - Ongoing
Regional Transportation Authority (RTA)	**Central Oklahoma Transportation & Parking Authority (COTPA)**	**New**	**The Regional Transportation Authority (RTA) formally came into being in 2019 with the signing of a trust agreement and indenture, and selection of directors representing Edmond, Norman, Midwest City, Del City, Moore and Oklahoma City. Early RTA planning included commuter rail to downtown Oklahoma City from Edmond and Norman. Streetcar service could be extended to Tinker Air Force Base.** **For the first year, ACOG provided administrative support. In February 2020, the Central Oklahoma Transportation and Parking Authority (COTPA) took over business-related functions including marketing, financial management, technology support, legal services and records management.** **COTPA will serve the member cities by planning, developing, funding, implementing, and operating a regional transit system. The system may include expanded and enhanced bus service, modern streetcars, commuter rail, and other modes of transportation.**	**2019-Ongoing**
Ozone Alert Day Action Promotion	**City of Yukon**	Ongoing	The City of Yukon includes emissions reductions actions for Ozone Alert Days in promotional materials. Actions include: delaying driving errands, avoiding filling up vehicles until after sundown, and not mowing.	Continuous

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Air Quality Public Outreach	**DEQ**	Ongoing	The Department participates in multiple public outreach and education programs, which emphasize the importance of informing individuals about the effects of ozone on citizens' health. This includes producing/supplying ozone education materials, creating online videos encouraging energy efficiency, and issuing ozone watches for the Oklahoma City MSA. DEQ began its Air Quality Health Advisory Program in 2006, issuing real time email notifications of unhealthy concentrations of ozone. In 2014 the Air Quality Division added an infographics gallery featuring original infographics with a local focus on the relationship between air quality and weather. DEQ continues to utilize social media sites, including Facebook, Instagram, and Twitter to issue Ozone Health Advisories and Ozone Alerts. In addition, the Department continues to expand its list of subscribers for emails and text messaging. **2020 Update: DEQ moved to a new mobile-friendly website with completely redesigned pages that include searchable content, easy access to daily air quality forecasts, and streamlined education pages. Also, DEQ expanded its social media outreach with several video series including "Carpool Conversations" (air quality and other topics) and "Breath of Fresh Air" (ozone monitoring and prevention), campaigns which generated over 30,000 video views and 3,000 Facebook followers.**	2012 - Present
Energy Conservation Program	**DEQ**	Ongoing	The Oklahoma Department of Environmental Quality received an award from Governor Fallin on November 10, 2015 for being the first state agency to hit the 20% energy savings goal. The award for 20% reduction was based on a month to month normalized electric savings, using 2012 as the baseline year. Currently, DEQ averages an annual normalized electric reduction of 19.9% since the program's inception in 2012. Some of these savings result from behavior change, but many of DEQ's energy savings derive from mechanical building improvements. The annual normalized average of 19.9% savings equates to 1,135,705 kWh. DEQ has volunteered to set a new goal to achieve 30% electric reduction by 2020. **2020 update: As of the end of FY 2019, DEQ had achieved a 42% reduction in energy usage since the baseline year of 2012.**	2018 Ozone Season - Present
Air Quality Awareness Week	**DEQ**	**New**	**Since 2018, DEQ has participated in the national Air Quality Awareness Week, sharing relevant air quality topics through social media posts daily during the national Air Quality Awareness Week in early May, as well as throughout the ozone season. Topics often include how to interpret the daily Air Quality Index; what ozone is and how it is formed; the effects on air quality from fires and smoke; how air quality affects those with asthma and other health conditions; and how to sign up for Health Advisories to get real-time warnings when air quality is unhealthy for sensitive groups. Each post**	**2018 – Ongoing annually**

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
			contains a graphic and links to more information, including the Air Quality Health Advisory and Ozone Alert notification programs.	
Beat Ozone BINGO	**DEQ**	Ongoing	The DEQ Green Team and the Air Quality Division sponsored Green Commuter BINGO in the month of May 2018 to help reinforce the efforts of Air Quality Awareness week in early May. BINGO activities included raising awareness of the agency's health advisories shared on social media, and ways to reduce motor vehicle emissions by changing travel habits and trying alternative methods of commuting. Prizes, provided for by the Green Team, were awarded to employees who successfully completed their BINGO cards**.** Green Commuter BINGO was renamed to Beat Ozone BINGO for the 2019 Ozone season contest. The intent is to increase awareness among employees while also sharing the information via social media to expand awareness to more citizens. **2020 update: Due to the COVID-19 restrictions placed on workplaces, AQD chose to pilot a virtual BINGO game with the inclusion of the public as well as DEQ employees. Plans are to conduct the activity in the summer of 2020.**	Ongoing
Village Green Park Benches	**DEQ**	Existing/ Planned	The DEQ and EPA installed a Village Green Bench (funded by an EPA grant) at the Children's Garden of the Myriad Botanical Gardens in Downtown Oklahoma City in 2015 as part of a national pilot study. The bench was officially opened at a November 10, 2015 ribbon-cutting ceremony which included EPA Region 6 Administrator Ron Curry, DEQ Executive Director Scott Thompson, state and city officials, and students from nearby John Rex Elementary School. The bench is equipped with portable instruments to measure ozone, fine particulate matter, and critical weather data, all powered by solar panels installed at the top. Monitoring data is collected in real time and sent to DEQ, the Village Green website, and an LCD display sign next to the bench. Visitors can use QR codes on the sign to see the mobile website data with graphs and look at what other benches around the country are measuring. Also, DEQ has added an Air Quality Flag that shows the Air Quality Index (AQI) forecast of the day through colored flags. Flags are changed daily after DEQ staff review the current and near-term air quality data, and often visiting children and their parents assist in the flag change. The Village Green project goal is to increase air pollution awareness by providing the public direct information about the air quality in their local communities**.** DEQ has the resources and the equipment to install another bench at some point in the future. No firm plans are currently available.	2015-Present

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
National Drive Electric Week OKC	**ACOG**	Ongoing	**2020 Update: In September of 2019, the fifth National Drive Electric Week event was held in Arcadia, OK on Route 66. Over 30 electric vehicles were displayed by dealerships as well as EV drivers. Ride and drives were provided. There are plans to hold another event in September 2020.**	Ongoing
Weather Festival	**National Weather Center-Norman**	Ongoing	The annual weather festival showcases the many weather related organizations and activities in central Oklahoma. This event features weather balloon launches, storm research vehicle displays, children's activities, amateur radio demonstrations and weather related information and products. The Air Quality Division is responsible for presentation space showcasing the division's programs and the air quality themed children's activity room.	Continuous
Electric Vehicle Fleet	**OGE Energy Corp.**	Ongoing	OG&E encourages the adoption of electric vehicles (EVs) has 25 electric vehicles in their fleet. In addition, the company is installing charging stations in several of its facilities in the metro OKC area so employees can conveniently charge their vehicles.	Continuous
Electric Vehicle Promotion, Education, and Outreach	**OGE Energy Corp.**	Ongoing	OG&E has increased the amount of events, marketing, and other outreach conducted around the promotion of electric vehicles for their customers and employees.	Ongoing
NOx Emission Reduction	**OGE Energy Corp.**	Ongoing	In fulfillment of ongoing commitment to emissions reduction, OG&E nitrogen oxide (NOx) emissions are more than to be 75 percent below 2005 levels. OG&E has taken a number of actions to achieve this, including: • Added more than 1,000 MW highly efficient combined-cycle natural gas units. These units employ NOx emission reduction technologies, including low-NOx combustion systems and, for the majority, post-combustion Selective Catalytic Reduction (SCR) systems. • Retired 630 MW of older, inefficient gas generation. • Added 460 MW of high-efficiency, quick start turbines which provide critical reliability support for Oklahoma's rapidly growing wind supply as well as help displace higher-emitting generation in the Southwest Power Pool. These natural gas-fired turbines employ state-of-the-art low-NOx combustion systems. • Added 450 MW of OG&E-owned wind generation and 12.5 MW of pioneering solar generation, with Purchase Power Agreements for up to 400 MW of wind. • Increased investment in energy efficiency and conservation.	Ongoing

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
			• Implemented 100% deployment of Smart Meters which has enabled and empowered customers to manage their usage, reducing annual demand on the grid by approximately 150 MW. • Created and implemented the Smart Hours program which incentivizes customer electricity use at "off-peak" times and delays the need for new peaking generation.	
Oklahoma State Facilities Energy Conservation Program	**State of Oklahoma**	Ongoing	The Oklahoma State Facilities Energy Conservation Program, established in 2012 (27A O.S. Section 3-4-106.1), directs all state agencies and higher education institutions to achieve an energy and conservation improvement target of at least 20% by 2020 when compared with 2012 utility expenditures**. Oklahoma state owned building energy usage is tracked with Energy CAP located at https://my.energycap.com/app/login. Reporting since 2014 can be accessed by logging in with the word "oklahoma" for Username, Password, and Data source. 2020 Update: Statewide building energy use tracking continues to indicate improvements, reflecting continued decline in energy use and increases in cost savings. Costs statewide were reduced by 29.3% from 2018 to 2019.**	2009 - Present
Oklahoma State Mandated Energy Efficiency Requirements	**State of Oklahoma**	Ongoing	61 O.S. § 213, Enacted 6/3/2008, requires the state to develop a high-performance building certification program for state construction and renovation projects; program must meet the certification guidelines of either the LEED system or the Green Globes rating system. The requirement applies to new construction or substantial renovation projects that begin the design phase after July 1, 2008 in buildings larger than 10,000 square feet. "Substantial renovations" is defined as projects that cost in excess of 50% of the value of the facility. In order to be considered a "state project" for purposes of the requirements, state funds or state-insured funds must constitute at least 50% of the project cost. State agencies are directed to meet the highest level of certification attainable under a payback period of 5 years or less. Public schools (K-12) and state archive buildings are exempted from the requirements. **The law also authorizes the Office of Management and Enterprise Services to pursue ENERGY STAR designation from the EPA to further demonstrate the energy efficiency of a public building project.**	1990-Present

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Private Alternative Fuel Vehicle (AFV) Loans	**State of Oklahoma**	Ongoing	Private loan program with a 3% interest rate for the cost of converting private fleets to operate on alternative fuels, for the cost of purchasing an original equipment manufacturer AFV, and for the installation of AFV fueling infrastructure. Maximum repayment period is six-years.	Present - 2025
The Oklahoma Energy Security Act	**State of Oklahoma**	Ongoing	Established state wide goals (O.S. 17, Section 801.1 et seq.) for alternative and domestically produced energy, including: 15% of energy from renewables by 2015, and CNG fueling stations every 100 miles by 2015 and every 50 miles by 2025. **2020 update: Oklahoma's renewable electricity generation surpassed the 15% goal in 2012. As of 2018, 32% of Oklahoma's installed generating capacity uses renewable resources and (as of 2019) Oklahoma is 3rd in the nation for wind power generation.**	2015-Present
Emergency and Transportation Revolving Fund	**State of Oklahoma**	Ongoing	In 2015, the legislature passed SB 656 (69 O.S., Section 687.3), which allows counties to apply for no-interest loans, for a maximum of 5 years, for the purchase of CNG vehicles or the conversion of existing fleet vehicles to CNG.	Ongoing
Energy Efficiency	**Tinker Air Force Base**	Ongoing	Currently implementing third Energy Saving Performance Contact (ESPC) task order 3 with investment of $243 million toward Energy Conservation Measures (ECM). Energy reductions will be achieved through boiler plant improvements, building automation systems, building envelope and lighting improvements. Target energy reduction goal is 23%.	Ongoing
Water Reduction Measures	**Tinker Air Force Base**	Ongoing	Tinker AFB will realize water savings through Energy/Water Conservation Measures (ECMs), including decentralizing large boiler plants, replacing or discontinuing the use of aging steam lines, use of flow restrictors on valves/faucets and installing low flow fixtures. Target base wide water reduction is 2% annually.	2018 - Ongoing
Natural Gas Reductions	**Tinker Air Force Base**	Ongoing	The Tinker AFB ESPC task order 3 is decentralizing steam consumption by shutting down large steam boilers and replacing them with high efficient hot water heating or high efficiently natural gas fired heating units. This project is projected to result in an annual energy savings of 600,000 MMBtu/yr.	2018 - Continuous

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Fleet Electrification	**Tinker Air Force Base**	Ongoing	Tinker has developed a multi-year plan to convert a portion of our government owned fleet vehicles to electric (EV) and plug-in hybrid vehicles (PHEV). In 2018 Tinker completed the construction of twenty-six Level 2 charging stations for their government vehicle fleet vehicles. Currently two base organizations utilize this charging station infrastructure.	Continuous
Bike Share	**Tinker Air Force Base**	Ongoing	Tinker AFB installed their first bike sharing hub of eight (8) bikes in 2018 in partnership with Gotcha Bike. These bikes are primarily provided to Airmen (living on base) as an alternative to car ownership, but are open to the base populous as a whole. Tinker anticipates installing additional hubs in the future to support one-way travel.	2018 - Ongoing
Vanpooling	**Tinker Air Force Base**	Ongoing	Partnering with EMBARK to provide the civilian employees and military members a way to commute to Tinker in multi-passenger vehicles. This program will use Air Force's Mass Transportation Benefit to supplement the cost of commuting. No cost to the commuter based on current commodity prices.	2019 - Continuous
Glass recycling	**Tinker Air Force Base**	Ongoing	Installation of our first glass bottle crusher to process glass into a sand substitute to be used at our facility. Project goal is to process 5 tons of glass in the first year. Reduces landfill waste and partially replaces the purchase of sand.	2019 - Continuous
Vehicle Idle reduction policy	**Tinker Air Force Base**	Ongoing	An idle reduction policy memo was signed by the Installation Commander in May 2016. Limits the idle to 5 minutes for non-emergency fleet vehicles. The goal is a 50% reduction in idling on the base.	Continuous
CNG and Alternative fuel use	**University of Oklahoma, Cleveland Area Rapid Transit (CART)**	Ongoing	As of 2019, the University of Oklahoma currently had 251 on-road vehicles fueled by alternative energy sources including: 92 CNG vehicles, 24 Cleveland Area Rapid Transit buses fueled with B20, and 145 E85 vehicles.	Ongoing
Recycling	**University of Oklahoma**	Ongoing	In fiscal year 2018, the University recycled 660 tons of material. Diverting 660 tons from the landfill reduces the equivalent of 2,600 metric tons of carbon dioxide equivalents (source: EPA WARM tool). In terms of more comprehensible values, this would be the equivalent of removing 460 passenger vehicles driven for one year (source: EPA Greenhouse Gas Equivalencies Calculator).	Ongoing

Emission Reduction Projects	Entity	Status	Description	Schedule/ Completion Dates
Metering	**University of Oklahoma**	Ongoing	Metering data is collected, recorded and analyzed to form the basis of energy efficiency improvements. A Metering Infrastructure Capital Improvement Plan was initiated to ensure the campus was metered with smart meters at the building-level for utilities: electric (2013), steam and chilled water (2018-2019), and natural gas (2020). To further leverage the capabilities of the smart meters, the University is investing in an Automated Metering Infrastructure. WebCTRL is a platform that will collect real time utility consumption data and provide greater insight to utility demand.	Ongoing
Building Automation	**University of Oklahoma**	Ongoing	In 2018, the campus implemented a building automation system (BAS) to provide higher levels of comfort and productivity, while reducing energy consumption, emissions, and operating expenses. Of the approximate 10.6 million square footage of the Norman campus, 83.98% is operated by the building automation system. The BAS establishes temperature and time parameters for HVAC systems. During occupied hours, temperature settings are established to maintain energy management goals. Additionally, buildings are scheduled to follow default heating and cooling settings during unoccupied time periods. During unoccupied time periods, temperatures are allowed to cool to 55 degrees in the winter, and allowed to rise to 80 degrees in the summer.	Ongoing

Ozone Advance Emission Reduction Projects - Oklahoma City MSA
Completed Projects
Progress Report 6-1-2019 through 5-31-2020

Emission Reduction Projects	Entity	Description	Completion Dates/Status
Air Quality Awareness Grants	**ACOG**	City, county and tribal governments along with public schools, public school districts and public universities are eligible to receive CMAQ funds for small infrastructure projects and public education programs that assist in the reduction of single-occupancy trips and/or ozone-forming emissions. Four Air Quality Awareness grant projects have been completed by: Cleveland Area Rapid Transit (CART), City of Oklahoma City, City of Norman, and City of Yukon. Projects included bicycle racks, bicycle repair equipment, vehicle wraps, and educational materials.	2014 Completed
Central Oklahoma Commuter Corridors Study (CentralOK!go)	**ACOG**	Following up on recommendations from the 2005 Regional Fixed Guideway Study, CentralOK!go is the next step in the federal planning process for evaluating the feasibility of a regional transit system. This study provides more in-depth analysis and information concerning an alignment, technology, ridership forecasts, estimated costs, and potential funding sources for each corridor.	2013 – 2014 Completed
GetAroundOK	**ACOG**	Encourages the use of alternative transit by providing information on carpooling, public transit and other means of green transportation. Users can log their green transportation use and search for carpools in their area. As of the end of the program 16,764 commutes were logged throughout the region during the course of the program, resulting in the reduction of 7,195 trips and reducing fuel use by 14.1K gallons. The software program was discontinued in 2017, but ACOG is updating a regional ride sharing strategy and is planning to launch a replacement in the near future.	2012 – 2017 Completed
Transportation Alternatives Program	**ACOG**	In 2014, approximately $2.8 million was administered to bicycle and pedestrian infrastructure projects throughout the Central Oklahoma region as part of MAP-21 through TAP. In 2018, approximately $8.4 million was administered to bicycle and pedestrian infrastructure projects throughout the Central Oklahoma region as part of the STBG-UZA (TAP) set aside through the FAST Act. Eligible projects included on-road and off-road trails, safe routes for non-drivers, rails-to-trails conversions and Safe Routes to Schools projects.	April 2014 Completed

Emission Reduction Projects	Entity	Description	Completion Dates/Status
Decrease Idling Time	**City of Edmond**	In 2015 the Fleet Maintenance Manager addressed excessive idling with City staff. In 2016 a Fleet Idle Reduction Departmental Directive was created and distributed to City Staff, approved and supported by City management. All department heads have been made aware of this new policy directive. This program is ongoing and will continue to be monitored.	2016 Completed
Geothermal Installation	**City of Edmond**	The Mitch Park YMCA and Edmond Public Schools Competitive Pool installed 300 geothermal wells, and the expectations are that it saves an estimated 50% on energy operating costs. The new Public Safety Center, which now houses the Edmond Police Department, Public Safety Communications, and Emergency Management functions, received 140 geothermal wells, which is expected to save $12K - $15K per year in heating and cooling. In 2016 Geothermal wells were installed for the new Public Safety Center and the facility is now open. In 2017 geothermal wells were also used in the design, along with solar, for the Water Resources facility.	2017 Completed
Solar Installation	**City of Edmond**	Solar is not expected to play a large role in the City's energy portfolio, but the Water Resources Department incorporated it into the design of the new Water Treatment Plant in 2017.	2017 Completed
Sunday Bus Service	**EMBARK**	In FY19, Oklahoma City's transit service expanded to Sunday and established seven day a week service. Sunday service was added commensurate with Saturday service, seeing 16 routes with one-hour frequency between 6:30 a.m. and 6:30 p.m. The year-to-date (YTD) figures for Sunday service cumulatively totaled more than 103,000 riders, based on the year beginning on February 1, 2019.	2019 Completed
Sheridan-Walker Municipal Parking Garage Improvement	**City of Oklahoma City, EMBARK**	With approximately 1,300 parking spaces, the Sheridan-Walker garage is the primary location for thousands of City of Oklahoma City employees located near the City's downtown campus. Renovations to the garage began in 2017, and included remodeling 20,780 square feet at the ground floor to house a division of the City's Utilities Department and the replacement of existing lighting with more efficient LED fixtures and LED-illuminated signage to reduce electricity use. Between changes to lighting and controls, the project has saved a total of 363,877 kilowatt hours.	2018 Completed

Emission Reduction Projects	Entity	Description	Completion Dates/Status
Lincoln Park Golf Course Clubhouse	**City of Oklahoma City**	Funded through a combination of $2.25 million in general obligation bond funds and $7 million in revenue generated by the pay-to-play golf course, the Lincoln Park Clubhouse, built in 2015, is a 32,000 square foot facility outfitted with efficient LED lighting and a geothermal HVAC system to reduce lifecycle energy costs.	2015 Completed
Southwest Oklahoma City Public Library	**City of Oklahoma City, Pioneer Library System**	The $3.9 million, 20,000-square foot public library was constructed with sustainable materials obtained within a 500-mile radius of Oklahoma City and included geothermal heating and cooling systems to reduce the facility's energy use.	2012 Completed
Lawnmower Exchange Program	**DEQ**	Citizens of the Oklahoma City MSA can exchange their old gas-powered lawn mower for a cash waiver toward the purchase of a new electric lawn mower. In 2015, 95 gas-powered mowers were traded in for recycling, and 71 new electric mowers were purchased with vouchers. Emissions reductions were estimated to be approximately 63 lbs. of NOx, 47 lbs. of PM, 17,121 lbs. of CO and 2,561 lbs. of HC. Three exchange events were held in the spring of 2015. Oklahoma County had the most exchanges (72), followed by Cleveland (15), Canadian (5), and one each for Garvin, Logan, and Lincoln counties.	2015 Completed
Open Burning Rule	**DEQ**	This rule is expected to reduce PM, VOC, and NOx emissions within the Oklahoma City and Tulsa Metropolitan Statistical Areas (MSAs) by requiring the use of an air curtain incinerator in place of open burning. This will significantly reduce the amount of ozone precursors generated by the burning of wood waste, with an approximate 90% reduction in total air pollutants. Additionally, this rule will prohibit open burning of waste in areas for which an ozone or PM Alert is in effect. In 2014, DEQ performed outreach to fire departments in the OKC and Tulsa Metropolitan areas to explain the rule. These fire departments are now assisting in enforcement of this rule, and as a result, many land clearing operations that would have just piled and burned in years past are either using an ACI, chipping, or having the waste removed from their property.	2014 Completed

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Solar Powered Monitoring Station	**DEQ**	In 2015, the Air Quality Division installed a 10.5 kW solar array at the Oklahoma City North monitoring site. The array consists of 35 LG 300 watt solar panels that generate approximately 16.280 MWh per year. This solar array has lowered the electric bill at the OKC North monitoring site by reducing the amount of electricity pulled from the power grid. The array was designed to produce approximately 75% of the power the site requires. There are no batteries to store power at the site, and excess power is fed directly into the grid. As of 2018, lifetime revenue saved at the site was over $4,500. The site has saved over 72,000 pounds of CO2 emissions and represents the equivalent of 1,818 trees planted.	2015 Completed
Solar Energy Pilot Projects	**OGE Energy Corp.**	In 2014, Oklahoma Gas and Electric (OG&E) launched a solar energy pilot project to test the deployment and operation of solar power on grid safety, maintenance, and reliability. Rooftop solar panels and battery storage facilities have been installed at several OG&E locations, and two community solar farms were developed at OG&E's Mustang Power Plant in 2015. The solar farms have a generating capacity of 2.5 MW which is roughly the equivalent of powering 500 homes. During 2015, OG&E installed Oklahoma's first universal solar power plant, the 2.5 MW Mustang Solar Project at the Mustang Energy Center, and during 2017, sited a second 10 MW solar power plant in Covington, Oklahoma. OG&E offers customers, on a voluntary basis, an opportunity to purchase energy from the solar and wind renewable energy generators, and is consistently listed in the National Renewable Energy Lab's (NREL) Top Ten Utility Green Pricing Programs.	2017 Completed
OEC Solar Garden	**Oklahoma Electric Cooperative**	OEC's 250 KW solar facility, located in Norman between I-35 and N. Flood Avenue, generates solar powered electricity and can be viewed by drivers travelling down the very busy I-35 corridor. The project provides opportunities for potential marketing and promotion of solar energy.	2017 Completed
Environmental Protection Agency College and University Green Power Challenge	**University of Central Oklahoma**	For six consecutive years, the Environmental Protection Agency ranked the University of Central Oklahoma (UCO) first among schools in the Mid-American Intercollegiate Athletics Association and 23rd among 33 collegiate conferences and 78 schools overall. UCO uses 26 million kilowatt-hours of wind power annually and has on-site biodiesel productions.	2010 - 2016 Completed

Emission Reduction Projects	Entity	Description	Completion Dates/Status
CNG station modernization	**Tinker Air Force Base**	Upgraded existing Compressed Natural Gas (CNG) fueling station to allow for utilization of current generation of CNG vehicles. Project allows expansion of newer model CNG vehicles to the fleet.	2018 Completed
Energy Management: Energy Upgrades & Retrofits	**University of Oklahoma**	• LED Lighting - Existing lighting was retrofitted to LEDs at the Union Parking Facility, the lower level of the Elm Street Parking Facility, Jones Art Center, Carpenter Hall, Sam Noble Museum, and Printing Services. LED fixtures were chosen for 35 newly installed street lights along Asp Avenue. Moving forward, new street lights will be LED fixtures. • HVAC Improvements - heating and cooling systems were replaced at McCarter Hall, Kraettli Apartments, Telecomm Maintenance Facility, Fine Arts Center, Union, Buchanan Hall, and others. • Exterior Lighting Replacements - Without affecting overall light level or lamppost design, the installation of new light bulbs reduces total wattage by 50 percent. • Interior Lighting Retrofits -- By installing more efficient ballast, lower wattage light bulb and occupancy sensors, major campus energy reductions will result. • Vending Machine Mizers - Motion detectors on vending machines will eliminate constant product lighting, instead of using electricity 24 hours a day.	2018 Completed
OU Spirit Wind Farm	**University of Oklahoma**	In 2008, the University signed a historic agreement with Oklahoma Gas & Electric Company (OG&E) to acquire 100% of our purchased electricity from renewable energy sources by 2013. This project was instrumental in enabling OG&E to build the OU Spirit Wind Farm – along with the required transmission lines to the grid – in northwestern Oklahoma. The 101 megawatt "OU Spirit" wind farm features 44 2.3 MW turbines. 2019 Update: Since entering into a power purchase program with OG&E, the university has purchased over 1 billion kilo-watt hours of renewable energy. Doing so has helped to reduce our emissions by more than 50%, compared to 2008 baseline emissions, and abated more than 700,000 metric tons of carbon dioxide equivalent emissions from entering into the atmosphere and is equivalent to: • Taking 150,000 passenger vehicles off the road for one year. • Foregoing the burning 770,000,000 pounds of coal. • Planting 11,000,000 seedlings (grown for a period of ten years). • OR, preserving 830,000 acres of forest for 1 year.	Completed

Emission Reduction Projects	Entity	Description	Completion Dates/Status
Electricity Generation: Utility Plant #4 (UP4)	**University of Oklahoma**	In June of 2012, OU substantially completed and commissioned Utility Plant Number Four (UP4), a state of the art cogeneration plant. The plant generates steam and electricity and operates at a 75% plant efficiency. UP4 was designed to more fully utilize the heat it generates, reducing emissions by 15%. It does this by capturing what would normally be waste heat and reinjecting it into the utility making process to generate steam. Today, the plant is able to generate an additional 197k MMBTUs of utilities annually for the same volume of natural gas that would have been required in 2010.	2012 Completed
Sheridan-Walker Municipal Parking Garage Improvement	**City of Oklahoma City, EMBARK**	**With approximately 1,300 parking spaces, the Sheridan-Walker garage is the primary location for thousands of City of Oklahoma City employees located near the City's downtown campus. Renovations to the garage began in 2017 and included remodeling 20,780 square feet at the ground floor to house a division of the City's Utilities Department and the replacement of existing lighting with more efficient LED fixtures and LED-illuminated signage to reduce electricity use. Between changes to lighting and controls, the project has saved a total of 363,877 kilowatt hours.**	**2020 Completed**
Lincoln Park Golf Course Clubhouse	**City of Oklahoma City**	Funded through a combination of $2.25 million in general obligation bond funds and $7 million in revenue generated by the pay-to-play golf course, the Lincoln Park Clubhouse is a 32,000 square foot facility outfitted with efficient LED lighting and a geothermal HVAC system to reduce lifecycle energy costs.	2015 Completed