

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
Energy Efficiency	City of Tulsa Energy Efficiency Conservation Block Grant (EECBG)	City of Tulsa	The Energy Efficiency Conservation Block Grant (EECBG) program is administered by the U.S. Dept. of Energy. The City of Tulsa has received over \$3.8 million in EECBG funding for programs that increase energy efficiency, reduce dependence on foreign energy and create or retain jobs. Projects include long term energy & sustainability plan development, OSU medical center retrofit project, Brady Village geothermal project, building LED lighting upgrades, and energy efficient LED traffic and pedestrian lighting.	Complete	2013
	Building Efficiency Improvements	Tulsa City-County Library	The Tulsa City-County Library system's Central Library is undergoing a renovation aimed at improving functionality, safety and energy efficiency. The new building is expected to reduce energy consumption by 40%, enough energy to power 56 Oklahoma homes, and reduce water consumption by 91,000 gallons. The final building is expected to meet LEED Silver certification. The completely renovated Downtown Tulsa Central Library held its grand opening October 1, 2016. Building LEED Silver Certification is in progress. Please refer to Appendix B for details about the Library's renovation achievements and energy efficiencies.	Complete	2010-2016
	Energy Efficiency and Conservation Block Grants	Tulsa County	Tulsa County, with the assistance of INCOG, has created an integrated energy strategy to provide actions that will reduce annual energy consumption by 15-25%. This energy strategy will utilize funds from a Department of Energy Block grant.	Complete	2010 - 2013
	Project Green Arm	City of Tulsa	The City of Tulsa has secured funding for an aggressive LED traffic light retrofit project totaling \$2,344,030. Expected to initiate in the Spring 2017, a significant number of old technology traffic lights will be replaced throughout the City. Additional information will be provided in future Ozone Advance annual updates. 2018 Update: This project was significantly modified and funding reallocated to incorporate the development of a new City of Tulsa GIS traffic assets database and conditional analysis system. LED traffic signal retrofits continue throughout the City of Tulsa and the originally intended project is no longer planned.	Complete	2016 - 2018

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Wind Catcher Energy Connection	Public Service Company of Oklahoma	Public Service Company of Oklahoma (PSO) and Southwestern Electric Power Company (SWEPCO) are embarking on an unprecedented \$4.5 billion project to bring 2,000 megawatts (MW) of renewable energy from the nation's largest wind farm in the Oklahoma panhandle to customers in Oklahoma, Arkansas, Louisiana, and Texas. The Wind Catcher Energy Connection project involves 800 GE wind turbines at an under-construction partner wind farm in the panhandle, building approximately 360-miles of dedicated extra high-voltage 765 kilovolt (kV) power line to connect the renewable energy to two new substations, one located at the wind facility and a second near Tulsa. PSO currently has 1,137 MW of wind energy (22%) and the additional capacity will make up 40% of PSO's generating capacity by 2021. 2018 Update: This 5-state project was cancelled in July 2018 primarily due to the Public Utility Commission of Texas' decision to deny approval.	Cancelled	2017-2018
CNG/Alternati ve Fueled Vehicle & Infrastructure Projects	CNG Fleet Conversion	Tulsa Authority for the Recovery of Energy (TARE)	The Tulsa Authority for the Recovery of Energy (TARE) is the agency responsible for establishing and contracting the City of Tulsa's residential refuse. The City of Tulsa, home to nearly 400,000 citizens, requires approximately 50 refuse trucks operating daily through city streets. In 2012, TARE established and awarded a 10-year refuse hauler contract which required 50% of the vehicles to be fueled by CNG upon startup and 100% of Tulsa's trash trucks to be CNG fueled by the summer of 2013.	Complete	2012-2013

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Tulsa Area Clean Cities I-40 Grant Projects	Tulsa Clean Cities/ INCOG	<p>In conjunction with partners at Arkansas Clean Cities, Tulsa Area Clean Cities (TACC) was awarded a grant by the United States Department of Energy titled the I-40 Collaboration. Projects undertaken by the I-40 grant will help to displace the use of fuels, like diesel and petroleum, by addressing pervasive problems in the Oklahoma alternative fuels market. Specifically, the projects funded by this grant will help reduce ozone levels in Tulsa by advancing the use of cleaner alternative fuels, facilitating the construction of alternative fuel stations, and promoting safety in the alternative fuel market. The educational video covering "CNG Myths" is completed and distributed throughout the DOE Clean Cities national network (https://youtu.be/GzvfQGcsr3A). A 'Planning for Alternative Fuel Infrastructure' resource has been developed, distributed regionally, and is being used to assist local governments with issues relating to zoning code regulations and other development issues accommodating alternative fuel infrastructure. A copy of this document is in the Supplemental Documentation section of this update. Additionally, the national AFV Safety Training curriculum for law enforcement and EMS responders has been completed and the course premiere, a train-the-trainer course, will be presented in Tulsa in December 2015. The grant was completed 12/2015.</p>	Complete	2012 - 2015

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Tulsa Region Bicycle/Pedestrian Master Plan	INCOG	<p>INCOG is working to prepare a Bicycle and Pedestrian Master Plan for the Tulsa Region. INCOG proposes the development of a transportation assessment process that will identify and evaluate short-, medium- and long-term transportation system needs to enhance bicycle and pedestrian mobility while considering automobile and bus transit operations. The plan area will include the municipalities of Bixby, Broken Arrow, Catoosa, Claremore, Collinsville, Coweta, Glenpool, Jenks, Owasso, Sand Springs, Sapulpa, Skiatook, and Tulsa. The Bicycle and Pedestrian 'GO Plan' master plan for the Tulsa Region was completed, released at a Public Forum on September 15th, and adopted by the eleven community governments. This exciting initiative is the region's first comprehensive bicycle and pedestrian master plan to equip and connect the region with the vision to make biking and walking convenient for our residents, communities and visitors. The GO Plan is comprehensive and provides bicycle network recommendations, pedestrian design approaches, policy and funding recommendations, design guidance and a clear path toward achieving the vision. The results and recommendations from the recently completed bike share feasibility study (below) have also been incorporated into the GO Plan. During 2016, numerous sections and components of the GO Plan (Tulsa Regional Bicycle and Pedestrian Master Plan) were initiated - some are described as stand-alone projects within this Ozone Advance annual update. Additionally, Collinsville, Broken Arrow and Owasso have each adopted their own community sections of the comprehensive regional GO Plan.</p>	Complete	2015

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Tulsa Area Clean Cities Vehicle and Infrastructure Grant Program	Tulsa Clean Cities/ INCOG	<p>The Public Fleet Conversion Program, funded by the Congestion Mitigation and Air Quality (CMAQ) Program, provides grants for converting fleets to alternative fuel vehicles, the purchase of original equipment manufactured (OEM) alternative fuel vehicles, and development of the alternative fuel vehicle infrastructure within the Tulsa area. TACC anticipates this grant program will award a total of approximately \$875,000 in project funding for Clean Vehicle and Infrastructure Projects in the Tulsa area. In 2014, AFV and Infrastructure grants totaling \$271,621 were awarded to Tulsa area municipalities including City of Sand Springs, City of Sapulpa, City of Tulsa, Pelivan Transit, Town of Mannford, and Tulsa County. Projects include: 9 Alternative Fuel Vehicle purchases (CNG Bi Fuel vehicles for Incident Command, Utility and Code Enforcement, Utility Collections, Engineering and motor pool vehicles, Sheriff's Office, and Para-transit); 5 CNG conversion kits; and Town of Mannford CNG fueling infrastructure equipment. 2015 Update: The 9 projects awarded last year are now completed (with the exception of Mannford's CNG station, currently 90% completed). 2016 Update: A new round of Clean Vehicle and Infrastructure Project funding totaling \$239,162.00 was issued for the following projects: City of Broken Arrow - Idle Reduction equipment on 1 ambulance (Stealth Power Smart Mobile Systems, \$32K); City of Owasso - Purchase of 3 new CNG/Bi-Fuel fleet vehicles (\$55,114); City of Sapulpa - Purchase of 2 new CNG/BiFuel 3/4 ton trucks (\$52,048); City of Tulsa - Purchase and installation of Level 2 public access EV Charging stations around the Tulsa metro (\$50K); Tulsa City County Central Downtown Library - Purchase and installation of Level 2 EV chargers in downtown library garage (\$50K). <u>2017 Update:</u> With some exceptions, the 2016 CMAQ funded projects generally remain in progress and will be reported on in a future update. The Downtown Central Library's Level 2 EV chargers have been installed, are operational and are regularly used by patrons. Because the EV chargers were completed significantly (and surprisingly) under budget, the Library intends to purchase its own electric vehicle with the excess funding.</p> <p>2018 Update: All 2016 CMAQ-funded projects have been completed and Tulsa's Central</p>	Completed	1997 - 2018

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Bike share Feasibility Study	INCOG	INCOG has committed to fund a feasibility study and business plan for a comprehensive downtown focused bike share system. Using Congestion Mitigation & Air Quality (CMAQ) funding, a consultant was retained to determine the long-term feasibility of a bike share program and implementation plan. Funding options and liability are focus areas of the plan. The Bikeshare Feasibility study was completed and a resulting business plan for a downtown Tulsa bikeshare program has been developed. Additionally, results and recommendations from the study have been incorporated into the Tulsa Regional Bicycle & Pedestrian Master Plan.	Complete	2014
	Public-fill CNG Station	Sparq Natural Gas, Timmons Oil Company, Dericks Leasing & Financial Company, and J-W Power	2018 Update: This Tulsa area CNG Station was completed and opened on May 18, 2018, marking Oklahoma's 121st public-fill CNG station.	Completed	2018
Department of Environmenta l Quality Programs and Rulemakings	Open Burning Rule	Department of Environmental Quality	This rule will reduce PM, VOC and NOx emissions within the Tulsa and Oklahoma City Metropolitan Statistical Areas (MSAs) by requiring the use of an air curtain incinerator (ACI) 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 prohibits open burning of waste in areas for which an ozone or PM alert is in effect. In 2014, DEQ performed outreach to the 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.	Complete	Eff. 7/1/2013

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Oil & Natural Gas Permit By Rule (O&NG PBR)	Department of Environmental Quality	DEQ has updated its permitting rules (OAR 252:100-7) to include an Oil and Gas permit by rule (O&NG PBR). The main purpose of this rule is to streamline the permitting process for these numerous small sources and reduce associated permitting fees; however, this measure will also provide better emissions data about the oil and natural gas sector which could be used to develop future control strategies. The Department has registered 2,907 O&NG facilities under the PBR, of which 222 were conversions from the Area Source NESHAP and Small NSPS facilities General Permit (GP), 798 were conversions from the Oil and Gas GP and 19 were conversions from individual permits. From those numbers, there are 1868 facilities previously unpermitted that were permitted under the O&NG PBR.	Complete	Sep-13
	Low NOx Burner Install	Oklahoma Gas and Electric	OG&E Muskogee Power Plant – Low NOx burner installation. Low NOx burners are required on units 4 & 5 to be installed for compliance with the Regional Haze SIP in Jan 2017. OG&E anticipates installation before then. As of the fall 2015, all Low NOx burner systems have been installed on Units 4 and 5 at the Muskogee Power Plant. This equipment reduces average lb/mmBtu NOx rates by over 50%.	Complete	2016

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Low NOx Burner Systems, and other Air Pollution Control Systems	American Electric Power (AEP) - Public Service Company of Oklahoma (PSO)	<p>AEP-PSO Northeastern Power Station - Low NOx Burner Systems, and other Air Pollution Control Systems.</p> <p>2017 revisions - Unit retirement, and air pollution control projects:</p> <ul style="list-style-type: none"> • After the installation of the Low-NOx Concentric Firing System (LNCFS) in both the Unit 3 and the Unit 4 coal-fired boilers in 2012, the Unit 4 boiler was retired-in-place in April 2016, eliminating all air emissions from that unit • Also, the completion of the Refined Tuning project for the LNCFS has resulted in the Unit 3 boiler meeting the NOx limit of 0.15 lb/MMBtu since June 2015 (the project completion date was originally scheduled for April 2016) • Additionally, the Activated Carbon Injection, Dry Sorbent Injection, and Fabric Filter (ACI/DSI/FF) systems have been in operation on Unit 3 since April 2016, lowering the air emissions of mercury, sulfur dioxide, acid gases, and particulate matter • Furthermore, the Unit 2 natural gas-fired boiler has been meeting the NOx limit of 0.28 lb/MMBtu since the Low-NOx Burner/Overfire Air (LNB/OFA) installation in March 2014 	Complete	2012-2016
Green Infrastructure and Sustainable Development	Tulsa Urban Forest Master Plan	Up with Trees	<p>A 2-year process beginning in early 2015, the project will engage public and private stakeholders within the greater Tulsa area to plan, build and fund a comprehensive urban forest master plan that will identify the current needs of Tulsa's urban forest, outline potential challenges and opportunities and ultimately define what Tulsa's urban forest will be in the decades to come. <u>2017 Update:</u> Tulsa's Urban Forest Master Plan has officially completed and its resulting resources, strategies and recommendations will help to assure a resilient, safe and connected urban forest for Tulsa's generations. The complete Master Plan is online at: https://www.upwithtrees.org/about-trees/master-plan/ Additionally, plan highlights, goals and recommendations are provided in Appendix ___ of this update.</p>	Complete	2015-2017

2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
Major Tulsa Area Facility Industrial Retrofits	Reduced Coal Generation NOx Reduction	Grand River Dam Authority	2018 Update: Grand River Dam Authority's 60-hertz natural gas and steam turbine went online in October 2017, replacing a coal-fired unit. The 495-megawatt capacity unit is one of the most efficient and cleanest in the world with a 62 percent combined cycle efficiency. The \$500 million project, in conjunction with emission control equipment retrofits on their Unit 2 coal-generator and newly completed wind generation capacity, fully diversifies GRDA's renewable energy portfolio using natural resources found within Oklahoma's borders: natural gas, coal, hydro, and wind.	Completed	2017
Enhanced Public Outreach and Education Programs	Tulsa Transportation Resource Center	INCOG	The Tulsa Transportation Resource Center (TRC) is a dynamic program designed to connect people to available transportation options. The website, www.tulsatrc.org , highlights resources for Tulsa Metro Area biking, walking, and riding (transit and rideshare). Tulsa TRC outreach efforts include working at community events, local company partnership and training, organizational meetings to present information, and more. 2018 Update: To effectively assess how best to manage the outreach efforts of Tulsa's rapidly emerging transportation resources, INCOG will be ending the TRC Program within the upcoming year. INCOG will determine next steps for possible revamping of this program and future initiatives in partnership with Tulsa Regional Bicycle and Pedestrian planning groups, Metropolitan Tulsa Transit Agency, Tulsa Bike Share, and other regional alternative transportation agencies.	Completed	2013 - 2018