Climate Pollution Reduction Grants – Implementation Grants
Texas Workplan for General Competition

1. Overall Project Summary and Approach

The Texas Commission on Environmental Quality (TCEQ) plans to implement four programs to achieve emission reductions from the largest emitting economic sectors in Texas. The first measure will support industrial decarbonization and petrochemical facilities and refineries, the second will support new technologies in the oil and gas sector, the third will support innovation in clean energy, and the fourth will support transportation decarbonization in the rural areas of Texas. Texas is also participating in two coalitions where there may be potential overlap with the industrial measures. Plans to address and prevent this overlap are included in the measure descriptions.

a. Description of Greenhouse Gas (GHG) Reduction Measures

Petrochemical and Refinery Innovation: TCEQ proposes to use $150 million in funding to facilitate innovations for petrochemical facilities and refineries. If funded, facilities choosing to participate in this grant program would not be eligible to participate in the SxSW Industrial Coalition grant opportunity or any other grant opportunity funded through the CPRG phase II implementation grants. Petrochemical facilities and refineries are some of the largest emitters of GHG in Texas, and many are in nonattainment areas. This grant would provide significant emission reductions in both GHG and criteria pollutants. This program would cover any industrial innovation that reduces GHG emissions. Types of innovation may include any technology or group of technologies that would accomplish the following goals:

- Electrification of process heating;
- Hydrogen fuel use or process modifications to use hydrogen fuels;
- Process modifications to improve efficiency; or
- Projects to improve or promote carbon management.

The Petrochemical and Refinery Innovation Program will hire a third-party contractor to engage with stakeholders and to develop and administer a competitive application process to award grants to projects implementing the above technologies. TCEQ will work with the third-party contractor to develop scoring criteria based on the following:

- Amount of GHG reductions;
- Amount of criteria pollutant reductions;
- Location; and
- Cost effectiveness.

Table 1 details tasks and milestones for implementation of the Petrochemical and Refinery Innovation Program. The period of performance is October 2024 through September 2029. Table 2 details anticipated risks associated with measure implementation and mitigation strategies for each risk.

Table 1: Petrochemical and Refinery Innovation Tasks and Milestones

Task #	Task Description	Anticipated Milestone Dates	Assumptions
1	Begin hiring process for program manager.	September 2024	Hiring process could take up to two months, would start after notification of selection.
2	Selection of program administrator through competitive procurement.	March 2025	Competitive procurement procedures are anticipated to take six months from receipt of award, process would begin prior to award of grant but after notification of selection.
3	Community and stakeholder engagement around program design specifics.	November 2024 – March 2025	Concurrent with program administrator competitive procurement process.
4	Prepare program guide, application, scoring criteria, project funding levels, promotional materials, and stakeholder and community engagement around these materials.	March 2025 – May 2025	Within two months of establishing a contract with the program administrator.
5	Educate stakeholders and communities about program guide and solicit applications for projects.	May 2025 – August 2025	Three months following completion and publication of the program guide and promotional materials.
6	Review applications, select projects, and enter into reimbursement agreements with project sponsors for first funding round.	September 2025 – February 2026	One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.
7	Continued community engagement during and following project implementation	Every six months starting in March 2026	Based on agreed upon project duration with project sponsors.
8	Review Grant Progress	Every six months starting in April 2026	Review progress of projects, track grant metrics, track emissions reductions, and track low income and disadvantaged communities (LIDAC) benefits.
9	Revise program guide, promotional materials, and application process based on response to previous round.	May 2026 – August 2026; May 2027 – August 2027	Two additional revisions. Three months to evaluate what worked and what should be changed from first round.
10	Review applications, select projects, and enter into reimbursement agreements with project sponsors for next funding round.	September 2026 – February 2027; September 2027 – February 2028	Two additional funding rounds. One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.

Table 2: Petrochemical and Refinery Innovation Risks and Mitigation Strategies

Risk	Effect on GHG emission reductions	Mitigation Strategy
Delays in program administrator procurement process.	Delays may reduce cumulative GHG emission reductions in the near-term (2025 – 2030).	Develop request for proposals documentation between announcements of awardees and receipt of assistance agreement to build in more time.
Program undersubscribed in certain areas.	GHG emission reductions and criteria co-benefits may not occur over the same geographic scope as anticipated.	Tracking of applicant locations and targeted outreach to undersubscribed areas. Annual program review to reassess strategy and program parameters.
Delays in awarded projects.	Incomplete projects result in less GHG reductions in the near-term.	Require risk identification and mitigation plans with project applications. Require progress reporting from each project sponsor.
Projects attempt to use funding from multiple CPRG awarded grants.	Double funding would result in less projects which would result in fewer GHG reductions in the near term.	Require applicant to show other funding sources used and that those funding sources are not other CPRG grant programs.

The Petrochemical and Refinery Innovation Program accounts for the following industry reduction measures found on page 3-2 of the Climate Pollution Reduction Grants Priority Action Plan for the State of Texas.

- Electrify industrial process equipment or modify to produce or use hydrogen.
- Promote energy efficiency in industry.
- Promote the improvement/expansion of carbon capture.

These measures were selected as a priority because they result in some of the largest emission reductions in one of the highest emitting sectors for Texas. These measures will also advance the goals of the CPRG program by implementing ambitious new technology, reducing emissions in a traditionally hard to decarbonize sector, and will result in cleaner air in areas that have struggled to meet air quality standards.

New Oil and Gas Technology: TCEQ proposes to use $100 million to spur innovative projects that will reduce emissions from oil and gas systems. This grant would not cover projects that would be used to bring facilities into compliance with federal rules. Any applicant eligible for this grant would not be eligible for any other CPRG phase II funded grant opportunity. This grant would cover emissions from petroleum and natural gas systems. The types of activities included in this grant program could include:

- Engine, equipment, and facility replacement or retirements to decrease emissions and increase efficiency;

- Electrification or fuel switching;
- Methane capture for other use; or
- Monitoring to detect emissions.

The New Oil and Gas Technology program will hire a third-party contractor to engage with stakeholders and to develop and administer a competitive application process to award grants to projects implementing the above technologies. TCEQ will work with the third-party contractor to develop scoring criteria based on the following:

- Amount of GHG reductions;
- Amount of criteria pollutant reductions;
- Location; and
- Cost effectiveness.

TCEQ will also work with a contractor to develop and manage a technical assistance program to offer training, application assistance, and outreach to smaller operators. Table 3 below details tasks and milestones for implementation of the New Oil and Gas Technology Program. The period of performance is October 2024 through September 2029. Table 4 below details anticipated risks associated with measure implementation and mitigation strategies for each risk.

Table 3: New Oil and Gas Technology Tasks and Milestones

Task #	Task Description	Anticipated Milestone Dates	Assumptions
1	Begin hiring process for program manager.	September 2024	Hiring process could take up to two months, would start after notification of selection.
2	Selection of program administrator and technical assistance coordinator through competitive procurement.	March 2025	Competitive procurement procedures are anticipated to take six months from receipt of award, process would begin prior to award of grant but after notification of selection.
3	Community and stakeholder engagement around program design specifics.	November 2024 – March 2025	Concurrent with program administrator competitive procurement process.
4	Start development of technical assistance program.	March 2025 – May 2025	Within two months of establishing contract with technical assistance coordinator.
5	Prepare program guide, application, scoring criteria, project funding levels, promotional materials, and stakeholder and community engagement around these materials.	March 2025 – May 2025	Within two months of establishing a contract with the program administrator.
6	Begin technical assistance program with industry outreach and offer program assistance to stakeholders.	May 2025	After development of technical assistance program and continuing throughout the grant performance period.

Task #	Task Description	Anticipated Milestone Dates	Assumptions
7	Educate stakeholders and communities about program guide and solicit applications for projects.	May 2025 – August 2025	Three months following completion and publication of the program guide and promotional materials.
8	Review applications, select projects, and enter into reimbursement agreements with project sponsors for first funding round.	September 2025 – February 2026	One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.
9	Continued community engagement during and following project implementation	Every six months starting in March 2026	Based on agreed upon project duration with project sponsors.
10	Review Grant Progress	Every six months starting in April 2026	Review progress of projects, track grant metrics, track emissions reductions, and track LIDAC benefits.
11	Revise program guide, promotional materials, and application process based on response to previous round.	May 2026 – August 2026; May 2027 – August 2027	Two additional revisions. Three months to evaluate what worked and what should be changed from first round.
12	Review applications, select projects, and enter into reimbursement agreements with project sponsors for next funding round.	September 2026 – February 2027; September 2027 – February 2028	Two additional funding rounds. One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.

Table 4: New Oil and Gas Technology Risks and Mitigation Strategies

Risk	Effect on GHG emission reductions	Mitigation Strategy
Delays in program administrator procurement process.	Delays may reduce cumulative GHG emission reductions in the near-term (2025 – 2030).	Develop request for proposals documentation between announcements of awardees and receipt of assistance agreement to build in more time.
Program undersubscribed in certain areas.	GHG emission reductions and criteria co-benefits may not occur over the same geographic scope as anticipated.	Tracking of applicant locations and targeted outreach to undersubscribed areas. Annual program review to reassess strategy and program parameters.
Delays in awarded projects.	Incomplete projects result in less GHG reductions in the near-term.	Require risk identification and mitigation plans with project applications. Require progress reporting from each project sponsor.

Risk	Effect on GHG emission reductions	Mitigation Strategy
Projects attempt to use funding from multiple CPRG awarded grants.	Double funding would result in less projects which would result in fewer GHG reductions in the near term.	Require applicant show other funding sources used and that those funding sources are not other CPRG grant programs.
Projects attempt to use funding to comply with federal regulations.	Less funding available to other projects will result in a decrease of GHG reductions.	Require applicant to show that the project would not be used to comply with federal regulations.

The New Oil and Gas Technology program's proposed measure relates to the following oil and gas reduction measures found on page 3-2 of the Climate Pollution Reduction Grants Priority Action Plan for the State of Texas:

- Electrify industrial process equipment or modify to produce or use hydrogen;
- Promote energy efficiency in industry;
- Replace pneumatic controllers, motors, and pumps, add surveillance, add monitoring, and remove redundant equipment to reduce fugitive emissions from oil and gas activities; and
- Reduce flaring and capture methane from oil and gas activities.

The above measures were selected as a priority because they result in some of the largest, cost-effective emission reductions in one of the highest emitting sectors for Texas. These measures will also advance the goals of the CPRG program by implementing ambitious new technology, reducing emissions in a large emitting sector, providing assistance to small operators, and will result in cleaner air in a large majority of the state.

Electric Power Innovation Program: TCEQ proposes to use $200 million to fund innovative new technologies for clean energy. This program will focus on new clean energy technologies that could transform energy production in Texas such as molten salt reactors, modular nuclear reactors, or geothermal energy. The program will fund pilot projects to demonstrate these new technologies. The program will also fund rebates for renewable energy storage projects. Finally, the program will fund low or no emission energy generation, increased electric production, and increased distribution efficiency, such as load shifting, demand reduction, or transmission upgrades. Any applicant eligible for this grant would not be eligible for any other CPRG funded grant opportunity.

This program will hire a third-party contractor to engage with stakeholders and to develop and administer a pilot program for an innovative new energy generation project using either molten salt reactors, modular nuclear reactors, or geothermal energy. The third-party contractor will also develop an application process to fund renewable energy storage projects. Finally, the administrator will develop a competitive grant program to fund increased clean energy generation projects, grid upgrades to improve distribution, or demand reduction projects. TCEQ will work with the third-party contractor to develop scoring criteria based on the following:

- Amount of GHG reductions;
- Amount of criteria pollutant reductions;
- Location; and
- Cost effectiveness.

Table 5 below details tasks and milestones for implementation of the Electric Power Innovation Program. The period of performance is October 2024 through September 2029. Table 6 below details anticipated risks associated with measure implementation and mitigation strategies for each risk.

Table 5: Electric Power Innovation Program Tasks and Milestones

Task #	Task Description	Anticipated Milestone Dates	Assumptions
1	Begin hiring process for program manager.	September 2024	Hiring process could take up to two months, would start after notification of selection.
2	Selection of program administrator through competitive procurement.	March 2025	Competitive procurement procedures are anticipated to take six months from receipt of award, process would begin prior to award of grant but after notification of selection.
3	Community and stakeholder engagement around program design specifics.	November 2024 – March 2025	Concurrent with program administrator competitive procurement process.
4	Prepare the three program guides, application, scoring criteria, project funding levels, promotional materials, and stakeholder and community engagement around these materials.	March 2025 – June 2025	Within two months of establishing a contract with the program administrator.
5	Educate stakeholders and communities about program guide and solicit applications for projects.	June 2025 – September 2025	Three months following completion and publication of the program guide and promotional materials.
8	Review applications, select projects, and enter into reimbursement agreements with project sponsors for first funding round.	September 2025 – February 2026	One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.
9	Continued community engagement during and following project implementation	Every six months starting in March 2026	Based on agreed upon project duration with project sponsors.
10	Review Grant Progress	Every six months starting in April 2026	Review progress of projects, track grant metrics, track emissions reductions, and track LIDAC benefits.
11	Revise program guide, promotional materials, and application process based on response to previous round.	May 2026 – August 2026; May 2027 – August 2027	Two additional revisions. Three months to evaluate what worked and what should be changed from first round.
12	Review applications, select projects, and enter into reimbursement agreements with project sponsors for next funding round.	September 2026 – February 2027; September 2027 – February 2028	Two additional funding rounds. One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.

Table 6: Electric Power Innovation Program Risks and Mitigation Strategies

Risk	Effect on GHG emission reductions	Mitigation Strategy
Delays in program administrator procurement process.	Delays may reduce cumulative GHG emission reductions in the near-term (2025 – 2030).	Develop request for proposals documentation between announcements of awardees and receipt of assistance agreement to build in more time.
Program undersubscribed in certain areas.	GHG emission reductions and criteria co-benefits may not occur over the same geographic scope as anticipated.	Tracking of applicant locations and targeted outreach to undersubscribed areas. Annual program review to reassess strategy and program parameters.
Delays in awarded projects.	Incomplete projects result in less GHG reductions in the near-term.	Require risk identification and mitigation plans with project applications. Require progress reporting from each project sponsor.
Projects attempt to use funding from multiple CPRG awarded grants.	Double funding would result in less projects which would result in fewer GHG reductions in the near term.	Require applicant to show other funding sources used and that those funding sources are not other CPRG grant programs.

The Electric Power Innovation Program's proposed measure relates to the following electric power sector measures found on page 3-4 of the Climate Pollution Reduction Grants Priority Action Plan for the State of Texas:

- Upgrade transmission lines to improve capacity;
- Promote nuclear energy with molten salt reactors and modular reactors and promote geothermal energy by using oil and gas infrastructure;
- Add grid scale renewable energy storage; and
- Lower demand with load shifting, load management, and energy efficiency.

These measures were selected as a priority because they result in increased energy generation, reduced demand, and an increase in new energy technologies. Increasing electrification in industrial processes requires an increase in clean energy generation and these projects will increase reliable sources of energy generation. With the abundance of solar and wind energy in Texas, these projects will help provide reliability and will open new markets for clean energy in Texas. These measures will advance the

goals of the CPRG program by implementing ambitious new technology, reducing emissions from energy generation within the state, and providing stability to the grid.

Rural Clean Vehicle Program: TCEQ proposes to spend $50 million to provide rebates for zero emission medium- and heavy-duty vehicles and equipment. This will cover counties that are not covered by the Texas Emissions Reduction Plan (TERP). Areas that participate in the Rural Clean Vehicle Program are not eligible to receive funding through other CPRG implementation grant funding. The Rural Clean Vehicle Program will also create a technical assistance program to assist in grant application and outreach to smaller communities.

The Rural Clean Vehicle Program will hire a third-party contractor to engage with stakeholders and to develop and administer a competitive application process to award rebates for medium- and heavy-duty vehicles and equipment. TCEQ will work with the third-party contractor to develop scoring criteria based on the following:

- Amount of GHG reductions;
- Amount of criteria pollutant reductions;
- Location; and
- Cost effectiveness.

TCEQ will also work with a contractor to develop a technical assistance program to offer application assistance and outreach to smaller owners and communities. Table 7 below details tasks and milestones for implementation of Rural Clean Vehicle Program. The period of performance is October 2024 through September 2029. Table 8 below details anticipated risks associated with measure implementation and mitigation strategies for each risk.

Table 7: Rural Clean Vehicle Tasks and Milestones

Task #	Task Description	Anticipated Milestone Dates	Assumptions
1	Begin hiring process for program manager.	September 2024	Hiring process could take up to two months, would start after notification of selection.
2	Selection of program administrator and technical assistance coordinator through competitive procurement.	March 2025	Competitive procurement procedures are anticipated to take six months from receipt of award, process would begin prior to award of grant but after notification of selection.
3	Community and stakeholder engagement around program design specifics.	November 2024 – March 2025	Concurrent with program administrator competitive procurement process.
4	Start development of technical assistance program.	March 2025 – May 2025	Within two months of establishing contract with technical assistance coordinator.

Task #	Task Description	Anticipated Milestone Dates	Assumptions
5	Prepare program guide, application, scoring criteria, rebate funding levels, promotional materials, and stakeholder and community engagement around these materials.	March 2025 – May 2025	Within two months of establishing a contract with the program administrator.
6	Begin technical assistance program with stakeholder outreach and offer program assistance to stakeholders.	May 2025	After development of technical assistance program and continuing throughout the grant performance period.
7	Educate stakeholders and communities about program guide and solicit applications for rebates.	May 2025 – August 2025	Three months following completion and publication of the program guide and promotional materials.
8	Review applications, select applicant awards, and distribute rebates for first funding round.	September 2025 – February 2026	One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.
9	Continued community engagement during and following project implementation	Every six months starting in March 2026	Based on agreed upon project duration with project sponsors.
10	Review Grant Progress	Every six months starting in April 2026	Review progress of projects, track grant metrics, track emissions reductions, and track LIDAC benefits.
11	Revise program guide, promotional materials, and application process based on response to previous round.	May 2026 – August 2026; May 2027 – August 2027	Two additional revisions. Three months to evaluate what worked and what should be changed from first round.
12	Review applications, select applicant awards, and distribute rebates for next funding round.	September 2026 – February 2027; September 2027 – February 2028	Two additional funding rounds. One month to evaluate and select successful applications and two months to enter into agreements with project sponsors.

Table 8: Rural Clean Vehicle Risks and Mitigation Strategies

Risk	Effect on GHG emission reductions	Mitigation Strategy
Delays in program administrator procurement process.	Delays may reduce cumulative GHG emission reductions in the near-term (2025 – 2030).	Develop request for proposals documentation between announcements of awardees and receipt of assistance agreement to build in more time.

Risk	Effect on GHG emission reductions	Mitigation Strategy
Program undersubscribed in certain areas.	GHG emission reductions and criteria co-benefits may not occur over the same geographic scope as anticipated.	Tracking of applicant locations and targeted outreach to undersubscribed areas. Annual program review to reassess strategy and program parameters.
Delays in awarded rebates.	No rebate may result in less GHG reductions in the near-term.	Require risk identification and mitigation plans with applications. Require progress reporting from each project sponsor.
Projects attempt to use funding from multiple CPRG awarded grants.	Double funding would result in less rebates which would result in fewer GHG reductions in the near term.	Require applicant to show other funding sources used and that those funding sources are not other CPRG grant programs.

The Rural Clean Vehicle Program relates to the following transportation reduction measures found on page 3-3 of the Climate Pollution Reduction Grants Priority Action Plan for the State of Texas:

- Expand programs for zero emissions medium- and heavy-duty trucks;
- Incentivize school bus replacement with zero emission school busses; and
- Replace government fleets with zero emission vehicles.

These measures were selected as a priority because they would expand existing transportation to often underserved areas of the state who may struggle to meet new $PM_{2.5}$ standards. These measures will also advance the goals of the CPRG program by expanding the clean vehicle fleet across Texas, providing assistance to small owners and communities, and will result in cleaner air in a large majority of the state.

b. Demonstration of Funding Need

CPRG funding is necessary to fully implement the incentive programs outlined in Texas' Priority Action Plan (PAP). The Energy Policy Simulator (EPS) tool estimates over $41 billion dollars would be required to achieve full implementation of the four measures included in the PAP. Table 9 below lists possible funding sources for each measure in addition to the need for CPRG funding. Applicants that may be eligible for one or more of the programs in Table 9 must demonstrate the need for CPRG funding that is above and beyond the existing funding need.

Table 9: Possible Funding Sources in Addition to CPRG Funding

Measure	Funding Source	Funding Status	Need for CPRG Funding
Petrochemical and Refinery Innovation; New Oil and Gas Technology	48C Tax Credit	U.S. Department of Energy (DOE) accepted applications for the current round in December 2023; awards are expected in spring 2024.	The $4 billion in federal funding is expected to be oversubscribed nationwide.

Measure	Funding Source	Funding Status	Need for CPRG Funding
Petrochemical and Refinery Innovation; New Oil and Gas Technology	45Q Tax Credit	Facilities can receive up to $85 per ton of CO_2 sequestered.	Facilities would be required to take into account the 45Q tax credit.
Petrochemical and Refinery Innovation; New Oil and Gas Technology	45V Tax Credit	Hydrogen production that meets U.S. Treasury guidelines gets funding through tax credit.	Facilities would be required to consider the 45V tax credit.
Petrochemical and Refinery Innovation; New Oil and Gas Technology	DOE FY24 Energy and Emissions Intensive Industries	$83 million nationwide to support applied research, development, and demonstration (RD&D) for the highest GHG-emitting industrial subsectors, specifically: chemicals and fuels; iron and steel; food and beverage; building and infrastructure materials (including cement and concrete, asphalt pavements, and glass); and forest products.	Facilities would be required to take into account support received.
Petrochemical and Refinery Innovation; New Oil and Gas Technology	DOE IEDO Fiscal Year 2024 Cross-Sector Technologies	$38 million nationwide to advance the strategies identified in the DOE's Industrial Decarbonization Roadmap through cross-sector approaches for industrial decarbonization.	Facilities would be required to take into account support received.
Petrochemical and Refinery Innovation; New Oil and Gas Technology	DOE Carbon Capture Demonstration Projects Program	$189 million nationwide to support Carbon Capture Demonstration Projects Program to de-risk integrated carbon capture and sequestration (CCS) demonstrations and catalyze significant follow-on investments from the private sector for commercial-scale, integrated CCS demonstrations on carbon emissions sources across industries in the U.S.	Funding opportunity has closed.

Measure	Funding Source	Funding Status	Need for CPRG Funding
Petrochemical and Refinery Innovation; New Oil and Gas Technology	DOE Clean Energy Manufacturing Innovation Institute for Industrial Decarbonization through Electrification of Process Heating	$70 million nationwide for the development of a new institute that will conduct research, development, and demonstration (RD&D) focused on developing and scaling electrified processes that reduce emissions, improve flexibility, and enhance energy efficiency of industrial process heating.	Funding opportunity closed. May help facilities identify measures to undertake.
Petrochemical and Refinery Innovation; New Oil and Gas Technology	DOE Clean Hydrogen Electrolysis, Manufacturing, and Recycling	$6 billion in federal funds for projects that will validate low-GHG emitting industrial facilities capable of manufacturing products and materials with low-carbon footprints. DOE aims to fund projects in the highest emitting, hardest-to-abate industries where rapidly deployed decarbonization technologies can have the greatest impact: iron, steel, steel mill products, aluminum, cement, concrete, glass, pulp, paper, industrial ceramics, chemicals, and other energy intensive industrial processes.	Funding opportunity has closed.
Petrochemical and Refinery Innovation; New Oil and Gas Technology; Electric Power Innovation	TERP New Technology Implementation Grant (NTIG)	$9.8 million in grants awarded in fiscal year 2023 to implement technologies that reduce pollutant emissions from facilities and other stationary sources in Texas.	Funding opportunity closed.
Electric Power Innovation	U.S. Department of Agriculture (USDA) Empowering Rural America	$9.7 billion in loans, grants, loan and grant combinations, and loan refinancing or modification to make efficiency improvements to eligible generation and transmission systems, to purchase, build, or deploy renewable energy, zero-emission systems, carbon capture storage systems, or to purchase renewable energy.	Funding opportunity closed.

Measure	Funding Source	Funding Status	Need for CPRG Funding
Electric Power Innovation	USDA Power Affordable Clean Energy Program	$1 billion in loans to finance wind, solar, hydropower, geothermal, biomass renewable energy, or renewable energy storage projects.	Funding opportunity closed.
Electric Power Innovation	DOE Grid Resilience and Innovation Partnerships Program	$10.5 billion to deploy transformative projects to ensure reliability of the power sector's infrastructure.	Funding opportunity closed.
Rural Clean Vehicle Program	TERP Texas Clean School Bus Program	Will depend on revenue in TERP fund. Replaces pre-2007 diesel-fueled school busses.	Only covers school busses for Public and Charter School Districts.
Rural Clean Vehicle Program	TERP Texas Hydrogen Infrastructure, Vehicles, and Equipment Program	$16 million over fiscal year biennium of 2024 – 2025 for heavy-duty on-road and non-road hydrogen powered equipment and hydrogen infrastructure.	Many Texas counties not eligible for this funding
Rural Clean Vehicle Program	Texas Clean Fleet Program	Will depend on revenue in TERP fund. Replaces heavy-duty and light-duty vehicles.	Funding opportunity closed. Many Texas counties not eligible for this funding

c. Transformative Impact

The four measures proposed in this application have the potential to be truly transformative in their impact. These measures have the potential to make a significant impact on emissions in Texas. Texas is home to the most crude oil refineries and has the largest refining capacity in the nation, it is the largest oil and natural gas producing state in the U.S., and produced more electricity than any other state.[1] New technologies used in petrochemical facilities, refineries, or even on oil and gas systems have the potential to impact the entire industry across the nation as industry has typically been a hard to abate sector for GHG reductions. Innovative new pilot projects in molten salt reactors, modular nuclear reactors, or geothermal energy could transform energy production across the state. These new energy technologies could transform the market in Texas and provide additional pathways for industrial decarbonization as the transition to new fuels and electrification and will need a reliable energy source.

Much of Texas already has clean vehicle programs though the TERP program, but the program rarely covers rural and smaller cities in Texas. With new, stricter air quality standards, the Rural Clean Vehicle Program can help many of these areas that do not have any other opportunity for clean medium- and

[1] Information from the U.S. Energy Information Administration: https://www.eia.gov/state/?sid=TX

heavy-duty vehicles. This will accelerate deployment of zero emission vehicles and equipment and lead to further development of clean corridors.

2. Impact of GHG Reduction Measures

a. Magnitude of GHG Reductions from 2025 through 2030

Table 10 below summarizes the impact of the four proposed measures from 2025 through 2030 in metric tons (MT) of carbon dioxide equivalents (CO_2e).

Table 10: Cumulative GHG Reductions from Texas' Four Proposed Measures from 2025 through 2030

Measure	Cumulative GHG Reduction from 2025-2030 (MT CO_2e)
Petrochemical and Refinery Innovation	2,743,437
New Oil and Gas Technology	2,352,838
Electric Power Innovation Program	1,811,763
Rural Clean Vehicle Program	187,247
Total	7,095,285

b. Magnitude of GHG Reductions from 2025 through 2050

Table 11 below summarizes the impact of the four proposed measures from 2025 through 2050 in MT CO_2e.

Table 11: Cumulative GHG Reductions from Texas' Four Proposed Measures from 2025 through 2050

Measure	Cumulative GHG Reduction from 2025-2050 (MT CO_2e)
Petrochemical and Refinery Innovation	2,663,739
New Oil and Gas Technology	3,967,370
Electric Power Innovation Program	84,727
Rural Clean Vehicle Program	438,520
Total	7,154,356

c. Cost Effectiveness of GHG Reductions

Implementation of this proposal is highly cost-effective. The cost-effectiveness of this proposal, inclusive of all measures in this application, is $71 per ton of CO_2e reduced. Since the measures proposed by TCEQ will use incentives and rebates, this cost may vary depending on the technologies used.

d. Documentation of GHG Reduction Assumptions

See attached technical appendix for a documentation of GHG reduction assumptions.

3. Environmental Results – Outputs, Outcomes, and Performance Measures

a. Expected Outputs and Outcomes

Outputs from this proposal include:

- Number of innovative industry grants awarded;
- Number of new technologies installed at oil and gas systems;
- Number of battery storage projects;
- Amount of clean power generated;
- Number of medium- or heavy-duty vehicles replaced;
- Number of staff hired to implement the four measures;
- Number of contracts awarded for grant administration;
- Semi-annual progress reports;[2] and
- Detailed final report.

Outcomes from this proposal include:

- Reduction in cumulative metric tons of GHG emissions:
    - 2025 through 2035: 7,095,285 metric tons CO_2e
    - 2025 through 2050: 7,154,356 metric tons CO_2e
- Reduction in annual criteria air pollutant (CAP) or CAP precursors from 2025 through 2030:
    - Nitrogen Oxide (NO_X): 111,019 tons
    - Fine Particulate Matter ($PM_{2.5}$): 8,838 tons
    - Coarse Particulate Matter (PM_{10}): 3,500 tons
    - Black Carbon (BC): 461 tons
    - Organic Carbon (OC): 910 tons
    - Volatile Organic Carbon (VOC): 134,850 tons
    - Sulfur Oxide (SO_X): 3,180 tons
    - Carbon Monoxide (CO): 111,161 tons

b. Performance Measures and Plan

TCEQ will establish the following performance measures to track progress concerning successful processes and output and outcome strategies. These performance measures will be tracked for each of the four measures included in this application.

- Number of contracts executed.
- Number of grant funds awarded.
- Number of completed projects.
- Tons of GHG reduced.
- Tons of criteria pollutants reduced.

[2] Beginning with the second semi-annual report, reporting will include detailed quantified benefits to low-income and disadvantaged communities, including changes in co-pollutant emissions, and provide updates on ongoing and planned community engagement.

TCEQ will work with a contractor to develop a technical approach that will quantify actual GHG reductions associated with each completed project. TCEQ will track the progress for each performance measure and will provide a status update with respect to each performance measure to EPA in the semi-annual reports and final report.

c. Authorities, Implementation Timeline, and Milestones

TCEQ has existing legal authority to carry out the roles and responsibilities under this proposal. TCEQ's authority is found in both the Texas Water Code (TWC) and the Texas Clean Air Act (TCAA). The TCAA is codified as Chapter 382 of the Texas Health and Safety Code. The TCAA is frequently amended for various purposes during the biennial legislative sessions.

The general authority of TCEQ is found in TWC, Chapter 5. TWC, Chapter 5, Subchapters A - F, H - J, and L, include the general provisions, organization, and general powers and duties of TCEQ, and the responsibilities and authority of the executive director. TWC, Chapter 5, also provides TCEQ with authority to award grants for any purpose regarding resource conservation or environmental protection.

The TCAA, Subchapters A - D, authorize TCEQ to conduct research and investigations; to prescribe monitoring requirements; to enter into contracts and execute instruments; to formulate rules; and to issue, establish, and operate a system of permits for construction or modification of facilities.

TCEQ will be the lead on this grant project and will be responsible for the reporting requirements of this grant. For each measure, TCEQ will work with a third-party administrator to set program goals, develop program guides, outline scoring criteria for competitive applications, perform stakeholder outreach, review and select grant applications, and administer the rebate and incentive portions of the grant. A contractor will also be hired to track progress on the grant, provide technical assistance to grantees on applicable measures, and to analyze and track actual emission reductions. A detailed implementation timeline for each measure, including tasks, key milestones, and key actions needed to meet measure goals and objectives by the end of the grant period, is provided in Section 1.a of this proposal.

4. Low-Income and Disadvantaged Communities

a. Community Benefits

The implementation of the measures outlined in this workplan are anticipated to provide significant benefits to all Texans including but not limited to those in low-income and disadvantaged communities (LIDACs) throughout the state.

The improved air quality resulting from the four measures in this workplan will benefit all Texans, including LIDAC. Benefits to Texas communities, including LIDAC, are listed in Table 12 below. A complete list of specific LIDAC census tracts that will benefit from these measures is included in the attachments to this application.[3] Texas plans to track the number of projects occurring in these

[3] TCEQ identified LIDAC using the Climate and Economic Justice Screening Tool (CEJST): https://screeningtool.geoplatform.gov/en/

communities. TCEQ will use continuing community engagement to ensure that the communities are not experiencing disbenefits.

Table 12: Community Benefits Associated with Each Measure

Benefit	Related Measure
Improved public health due to co-pollutant reductions of ozone, nitrogen oxides (NO_X) volatile organic compounds (VOC), sulfur dioxide (SO_2), fine particulate matter ($PM_{2.5}$), coarse particulate matter (PM_{10}), black carbon, organic carbon, and carbon monoxide (CO).	Petrochemical and Refinery Innovation New Oil and Gas Technology Rural Clean Vehicle Program Electric Power Innovation Program
Less heat exposure, less premature heat related deaths, less labor hours lost, and increased quality of life due to mitigation of extreme temperatures.	All measures.
Decreases in traffic, decreased property loss, and decreased deaths due to less coastal flooding.	All measures.
Creation of high-quality jobs, increased opportunities for small businesses, increased training in new and emerging technologies.	All measures.
Enhanced community engagement.	All measures.
Improved access to services and community amenities.	Rural Clean Vehicle Program.
Lower energy costs and grid stability.	Electric Power Innovation Program.

b. Community Engagement

TCEQ has performed extensive community outreach, including to LIDACs, during development of its PAP. TCEQ used the following strategies for engagement various communities, including LIDACs, to seek input on creation of the measures included in this proposal:

- State CPRG webpage;
- Email list;
- Survey to submit ideas;
- Meetings across the state with options for in-person, livestream, and video conference participation;
- Targeted outreach to known community-based organizations; and
- Public input on the draft priority measures.

See TCEQ's priority action plan for additional details on the results of this engagement effort.

As described in the description for each measure included in this workplan, TCEQ intends to continue meaningful engagement with interested parties, various communities, including LIDACs, throughout and following implementation. TCEQ will require that pass-through grant recipients include community engagement as part of their project. As strategies move through implementation, TCEQ will continue community engagement to determine what is working and what may need to be changed in future programs. TCEQ may offer translation services during engagement opportunities as reasonable.

5. JOB QUALITY

The four programs proposed in this workplan will bring high quality jobs to Texas in a variety of ways. The programs all budget for high level state employees to maintain the grant. The New Oil and Gas Technology and the Rural Clean Vehicle program will offer Technical Assistance to smaller businesses. The new technologies in all four programs will allow for new high-quality jobs throughout these industries.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Past Performance and Reporting Requirements

TCEQ has successfully implemented numerous federal grants and currently has over $300 million in active federal awards with various federal agencies and environmental programs. Four federally funded assistance agreements that TCEQ is performing or has performed within the last three years are detailed below. All four of the grants listed are currently active and ongoing.

- Project Title: Texas Fiscal Year 24-25 Performance Partnership Grant (PPG)
    - Agreement Number (FAIN): 99662724
    - Assistance Listing #/CFDA: 66.605
    - Description of Agreement: This agreement provides funding for the operation of the TCEQ continuing environmental programs while giving it greater flexibility to address its highest environmental priorities, improve environmental performance, achieve savings and strengthen the partnership between TCEQ and the EPA. This agreement funds State continuing environmental programs for air, water, land, pollution prevention and chemical safety.
    - Grantor Project Officer: Mariama Mitchell, Mitchell.Mariama@epa.gov, 214-665-6778
    - Grantor Grants Specialist: Lisa Kapsh, Kapsh.Lisa@epa.gov, 214-665-7335
    - Reporting Requirements: Meeting all programmatic and financial reporting requirements and deliverables under the award.
- Project Title: Fiscal Year 23 Inflation Reduction Act (IRA) - Climate Pollution Reduction Grants (CPRG) Planning
    - Agreement Number (FAIN): 02F35501
    - Assistance Listing #/CFDA: 66.046
    - Description of Agreement: This agreement provides funding under the IRA to TCEQ to develop a comprehensive, economy-wide climate mitigation plan or update an existing plan in collaboration with air pollution control districts, and large and small municipalities statewide, and tribal governments that will support actions to reduce greenhouse gases (GHG) and harmful air pollutants and to conduct meaningful engagement with low- income and disadvantaged communities.
    - Grantor Project Officer: Mariama Mitchell, Mitchell.Mariama@epa.gov, 214-665-6778
    - Grantor Grants Specialist: Lisa Kapsh, Kapsh.Lisa@epa.gov, 214-665-7335
    - Reporting Requirements: Meeting all programmatic and financial reporting requirements and deliverables under the award.
- Project Title: Fiscal Year 22 Section 103 $PM_{2.5}$ Air Monitoring Program
    - Agreement Number (FAIN): 02F06701
    - Assistance Listing #/CFDA: 66.034

    - Description of Agreement: The purpose of this cooperative agreement is to maintain fine particulate matter ($PM_{2.5}$) monitoring networks. The primary objective of this project is to collect quality assured data on ambient air concentrations of $PM_{2.5}$ as well as chemical composition and precursors. Data will be used for: (1) providing air pollution data to the general public in a timely manner, (2) $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) comparisons, (3) development and tracking of implementation plans, (4) assessments of regional haze, and (5) assistance for health studies and other ambient aerosol research activities.
    - Grantor Project Officer: Mariama Mitchell, Mitchell.Mariama@epa.gov, 214-665-6778
    - Grantor Grants Specialist: Lisa Kapsh, Kapsh.Lisa@epa.gov, 214-665-7335
    - Reporting Requirements: Meeting all programmatic and financial reporting requirements and deliverables under the award.
- Project Title: Fiscal Year 2023 Clean Water Act, Section 319(h), Nonpoint Source Categorical Grants (State Fiscal Year 2024)
    - Agreement Number (FAIN): 99614628
    - Assistance Listing #/CFDA: 66.460
    - Description of Agreement: This agreement provides support to the state of Texas to implement its nonpoint source management program, focusing on watersheds with water quality impairments caused by polluted run-off from nonpoint sources. Nonpoint source implementation projects include best management practice installations for animal wastes, sediment, pesticide and fertilizer control, a variety of other structural and nonstructural practices, watershed planning, monitoring, technology demonstrations, and a variety of education/outreach programs.
    - Grantor Project Officer: Anthony Suttice, Suttice.Anthony@epa.gov, 214-665-8590
    - Grantor Grants Specialist: Lisa Kapsh, Kapsh.Lisa@epa.gov, 214-665-7335
    - Reporting Requirements: Meeting all programmatic and financial reporting requirements and deliverables under the award.

b. Staff Expertise

TCEQ is the environmental agency for the state of Texas with over 2800 employees. TCEQ has a base of skilled, professional personal that enable successful completion of a wide variety of environmental based projects and activities. TCEQ's Office of Air has extensive experience in air grants, planning, analysis, and administration of awards that will be utilized to implement these programs.