PRIORITY CLIMATE ACTION PLAN

STATE OF NEW MEXICO
New Mexico Environment Department
and the
Energy, Minerals and Natural Resources Department

Climate Pollution Reduction Grant (CPRG)
Phase 1

March 1, 2024

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Table of Acronyms and Abbreviations

Acronym	Meaning
µSA	Micropolitan Statistical Area
ABC-NM	Associated Builders and Contractors - New Mexico Chapter
ACT	Advanced Clean Trucks
ACCII	Advance Clean Cars II
APS	Albuquerque Public Schools
AQB	Air Quality Bureau
ARRA	American Recovery and Reinvestment Act of 2009
AVO	Audio, Visual, and Olfactory
AWC	Available Water Content
BEV	Battery Electric Vehicle
BIL	Bipartisan Infrastructure Law
CAA	Federal Clean Air Act
CBO	Community-Based Organization
CCAP	Comprehensive Climate Action Plan
CCB	Climate Change Bureau, New Mexico Environment Department
CCP	Center for Civic Policy
CCRB	Career and College Readiness Bureau
CCTF	Climate Change Task Force
CDL	Commercial Driver's License
CEED	Community Energy Efficiency Development
CFR	Code of Federal Regulations
CH_4	Methane
CID	Construction Industries Division
CIP	Classification of Instructional Program
CJEST	Climate Justice and Equity Tool
CMAQ	Congestion Mitigation and Air Quality
CNEE	Center for the New Energy Economy
CNM	Central New Mexico Community College
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
COG	Council of Governments
COPD	Chronic Obstructive Pulmonary Disease
CPRG	Climate Pollution Reduction Grant
CPWR	Center for Construction Research and Training
CSCNM	Coalition of Sustainable Communities New Mexico
CSR	Corporate Social Responsibility
CTE	Career Technical Education
DC	District of Columbia
DEF	Diesel Exhaust Fluid
DCFC	Direct Current Fast Chargers

DOE	U.S. Department of Energy
DOL	U.S. Department of Labor
DOL-ETA	U.S. Dept of Labor Employment and Training Administration
E3	Energy + Environmental Economics
ECMD	Energy Conservation and Management Division
ECO	Efficient and Clean Operations
ESCO	Energy Service Company
EIA	U.S. Energy Information Administration
EIB	Environmental Improvement Board
EMNRD	New Mexico Energy, Minerals and Natural Resources Department
EnergIIZE	Energy Infrastructure Incentives for Zero-Emission (Commercial Vehicle Project)
ENMU	Eastern New Mexico University
EO 2019-003	Executive Order 2019-003 On Addressing Climate Change and Energy Waste Prevention
EPA	U.S. Environmental Protection Agency
ePTO	Electric Power Take Off
ESB	Electric School Bus
ESEA	Elementary and Secondary Education Act
ESPC	Guaranteed Energy Savings Performance Contracts
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
FCEV	Fuel Cell Electric Vehicle
FHWA	Federal Highway Administration
F-Gases	Fluorinated gases
FTE	Full-Time Employee
FY	Fiscal Year
GGEDC	Greater Gallup Economic Development Corporation
GHG	Greenhouse Gas
GHGEI	Greenhouse Gas Emissions Inventory
GHGRP	Greenhouse Gas Reporting Program
GVWR	Gross Vehicle Weight Rating
HAP	Hazardous Air Pollutant
HDO	Heavy-Duty Omnibus
HFCs	Hydrofluorocarbons
HVAC	Heating, Ventilation, and Air Conditioning
HVIP	Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project
I-40	Interstate-40
IBEW	International Brotherhood of Electrical Workers
ICE	Internal Combustion Engine
ILSR	Institute for Local Self-Reliance
IRA	Inflation Reduction Act
IRC	Internal Revenue Code
IRAC	Inter-Tribal Resource Advisory Council
JATC	Joint Apprenticeship Training Committee
Kg	Kilogram

kWh/m^2/day	Daily Kilowatt-Hours Per Square Meter
LASER	Labor Analysis, Statistics, and Economic Research
LAUS	Local Area Unemployment Statistics
lbs	Pounds
LEAD	Low-Income Energy Affordability Data Tool
LEV	Low Emission Vehicle
LIDAC	Low-Income and Disadvantaged Communities
LULUCF	Land-Use, Land-Use Change, and Forestry
MFA	New Mexico Mortgage Finance Authority
MHD	Medium- and Heavy-Duty
MMBTU	One Million British Thermal Units
MT	Metric Tons
MMT	Million Metric Tons (1,000,0000 Metric Tons)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPO	Municipal Planning Organization
MSA	Metropolitan Statistical Area
MT	Metric Tons (1 MT=2205 lbs, 1000 kg)
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System
NEI	National Emissions Inventory
NEVI	National Electric Vehicle Infrastructure
NF_3	Nitrous trifluoride
NH_3	Ammonia
NHFN	National Highway Freight Network
NLN	Next Level Now
NM	New Mexico
NMAC	New Mexico Administrative Code
NMBCTC	New Mexico Building and Construction Trades Council
NMCEWDS	New Mexico Clean Energy Workforce Development Study
NMDOT	New Mexico Department of Transportation
NMDWS	New Mexico Department of Workforce Solutions
NMED	New Mexico Environment Department
NMEDD	New Mexico Economic Development Department
NMGSD	New Mexico General Services Department
NMPED	New Mexico Public Education Department
NMPRC	New Mexico Public Regulation Commission
NMSA	New Mexico Statutes Annotated
NMSU-A	New Mexico State University – Alamogordo
NMTAX	New Mexico Taxation and Revenue Department
NMTD	New Mexico Tourism Department
NNMIEC	Northern New Mexico Independent Electrical Contractors
NOI	Notice of Intent
NOx	Nitrogen Oxides

NTU	Navajo Technical University
OEWS	Occupational Employment and Wage Statistics
OCD	Oil Conservation Division
OK	Oklahoma
OLÉ	Organizers in the Land of Enchantment
OMB	Office of Management and Budget
PBPA	Permian Basin Petroleum Association
PCAP	Priority Climate Action Plan
PFCs	Perfluorocarbons
$PM_{2.5}$	Particulate Matter (Fine)
PTE	Potential to Emit
Q	Quarter
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QCEW	Quarterly Census on Employment and Wages
RFA	Request for Application
RFI	Request for Information
RFP	Request for Proposal
RIA	Regional Infrastructure Accelerator
RTPO	Regional Transportation Planning Organization
SCSWA	South Central Solid Waste Authority
SDI	Supplemental Demographic Index
SEAC	Sustainable Economy Advisory Council
SEDS	State Energy Data System
SENMC	Southeast New Mexico College
SETF	Sustainable Economy Task Force
SF_6	Sulfur Hexafluoride
SIT	State Inventory Tool
SO_2	Sulfur Dioxide
SNMIEC	Independent Electrical Contractors of Southern New Mexico
SOC	Standard Occupational Classification
TCAT	Transportation Climate Action Team
TCO	Total Cost of Ownership
UI	Unemployment Insurance
UNM	University of New Mexico
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
WAP	Weatherization Assistance Program
WARM	Waste Reduction Model
WCOS	Workforce Connection Online System
WESST	Women's Economic Self-Sufficiency Team
WESTAR	Western States Air Resource Council
WIOA	Workforce Innovations and Opportunities Act
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

YUCCA	Youth United for Climate Crisis Action
ZET	Zero-Emission Truck
ZEV	Zero-Emission Vehicle

1 Introduction

This Priority Climate Action Plan (PCAP) charts a course for a healthier, more prosperous New Mexico by prioritizing ten measures that mitigate climate pollution. Measures include projects, programs, or policies. These select measures unlock tangible benefits for the state, including reduced greenhouse gas (GHG) emissions, cleaner air, greater availability of high-quality jobs, a growing clean economy, and a higher quality of life for every New Mexican.

This PCAP is organized into twelve major sections:

1. Introduction
2. Greenhouse Gas Emissions Inventory (GHGEI)
3. GHG Emissions Reduction Targets
4. Priority Measures
5. Emission Benefits Analysis
6. Low-Income and Disadvantaged Communities (LIDAC) Benefits Analysis
7. Review of Authority
8. Workforce Planning Analysis
9. Coordination and Outreach
10. Conclusion
11. Measure Appendices
12. Technical Appendices

The appendices of the PCAP are divided into two components. A detailed description of the ten measures is included in Appendices A-J; then, Appendices K-N are technical or data rich, describing the methodologies, the detailed demographics of the New Mexico LIDAC census tracts and block groups, and the list of identified stakeholders.

1.1 Agreement, Disclaimer, and Use of PCAP

This project has been funded in part by the United States Environmental Protection Agency (EPA) under assistance agreement 5D-02F3610-0 to the New Mexico Environment Department (NMED), who is the lead author of this PCAP in collaboration with the New Mexico Energy, Minerals and Natural Resources Department (EMNRD).

The contents of this document do not necessarily reflect the views and policies of NMED, EMNRD, or EPA, nor do these agencies endorse trade names or recommend the use of commercial products mentioned in this document.

The measures contained herein should be broadly construed and are available to any entity in the state eligible for receiving funding under the EPA's Climate Pollution Reduction Implementation Grants (CPRG) and other funding streams, as applicable.

2 Greenhouse Gas Emissions Inventory

NMED has developed a New Mexico 2021 statewide inventory of major sources of GHG emissions within New Mexico, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases (F-gases) including hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). The New Mexico 2021 greenhouse gas emissions inventory (GHGEI) combines New Mexico's comprehensive 2020 oil and gas sector analysis with New Mexico's 2021 emission data from all other sectors (Appendix K- Inventory and Quantification Methodology). The GHGEI was prepared using the following data resource(s):

- State-level GHG inventories prepared by the EPA;[1]
- EPA's State Inventory Tool (SIT);[2]
- Data reported to the EPA's Greenhouse Gas Reporting Program (GHGRP);[3]
- Data reported by the Energy Information Administration (EIA) State Energy Data System (SEDS)[4]; and
- State collected information about oil and gas activity.[5]

Detailed methodology and quality assurance (QA) procedures for the preparation of this inventory are contained in Appendix K – Inventory and Quantification Methodology.

The New Mexico inventory includes the following sectors:

- Electricity Generation
- Transportation
- Residential Buildings
- Commercial Buildings
- Industry (Non-Oil and Gas)
- Agriculture
- Coal Mining
- Waste and Materials Management
- Oil and Gas Industry
- Land Use and Land Change

Table 1 details GHG emissions in million metric tons (MMT) of carbon dioxide equivalents (CO_2e) for all economic sectors.

[1] https://www.epa.gov/ghgemissions/state-ghg-emissions-and-removals
[2] https://www.epa.gov/statelocalenergy/state-inventory-and-projection-tool
[3] https://www.epa.gov/ghgreporting/data-sets
[4] https://www.eia.gov/state/seds/
[5] https://service.web.env.nm.gov/urls/ktmiJzVo

Table 1. New Mexico GHG emissions in MMT CO_2e by Sector

Sector/Source	2005[6]	2018[6]	2021 (percent of total)
Electricity Generation	16.3	12.1	17.7 (20.0%)
Transportation	16.5	15. 8	15.3 (17.3%)
Residential Buildings	2.4	2.2	2.2 (2.5%)
Commercial Buildings	1.7	1.7	1.6 (1.8%)
Industry (Non-Oil and Gas)	2.8	2.1	2.1 (2.4%)
Industrial Products and Product Use (IPPU)	1.7	2.7	1.5 (1.7%)
Agriculture	7.3	7.7	10.3 (11.6%)
Coal Mining	1.6	0.9	0.9 (1.0%)
Waste and Material Management	1.6	1.8	1.1 (1.2%)
Oil and Gas Industry	37.9	33.0[7]	
Subtotal Emissions (Sources)	*89.8*	*80.2*	*85.6 (96.6%)*
Land-Use, Land-Use Change, and Forestry (LULUCF) Sector Net Total	4.8	6.1	2.9 (3.3%)
Net Emissions (Sources and Sinks)	*94.6*	*86.2*	*88.6 (100%)*

3 Greenhouse Gas Emissions Reduction Targets

New Mexico Governor Michelle Lujan Grisham's Executive Order On Addressing Climate Change and Energy Waste Prevention (EO 2019-003) directs New Mexico "*to achieve a statewide reduction of greenhouse gas emission of at least 45 percent by 2030 as compared to 2005 levels.*[8] Subsequently, Governor Lujan Grisham also added a long-term target of reaching net-zero GHG emissions by 2050. Implementing the climate pollution reduction measures included in this PCAP will be essential in making progress toward these targets. The state will also need to implement additional measures to be proposed in the subsequent Comprehensive Climate Action Plan (CCAP) to ensure success. Additional information on New Mexico's plans for reducing GHG emissions is included in New Mexico's 2021 Climate Strategy Report.[9]

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[6] See New Mexico's 2018 emissions inventory https://cnee.colostate.edu/wp-content/uploads/2021/01/New-Mexico-GHG-Inventory-and-Forecast-Report_2020-10-27_final.pdf.
[7] Oil and Gas Industry emission are for 2020. See https://service.web.env.nm.gov/urls/ktmiJzVo [8] See https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf
[8] See https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf
[9] See https://www.climateaction.nm.gov/wp-content/uploads/sites/39/2023/07/NMClimateChange_2021_final.pdf.

4 Priority Measures

New Mexico's original primary climate pollution reduction measures are outlined in EO 2019-003, most of which are currently being implemented. The implemented policies include: requiring utilities to produce 100 percent clean electricity by 2050 through a renewable portfolio standard; requiring capture of 98 percent of CH_4 emissions during the production of oil and gas; setting volatile organic compounds (VOCs) emission standards in the production, gathering and boosting, and transmission of oil and gas in eight New Mexico counties; increasing electricity transmission capacity in New Mexico; adopting California's Advanced Clean Cars II (ACCII), Advanced Clean Trucks (ACT), and Heavy-duty Omnibus (HDO) regulations; adopting the 2021 International Energy Conservation Code for buildings; and adopting a market mechanism to lower the carbon intensity of transportation fuels through a clean fuel standard.

New Mexico has prioritized measures in this PCAP that build on the implemented policies from EO 2019-003 and recognize the opportunity for additional progress on some of the measures through the successful award of CPRG implementation grants. This list is not exhaustive of New Mexico's priorities. Instead, the selected priority measures included in this PCAP meet the following criteria:

- The measure is implementation ready, meaning that the design work for the policy, program, or project is complete enough that a full scope of work and budget can be included in a Climate Pollution Reduction Implementation Grant application.
- The measure can be completed in the near term, meaning that all funds will be expended, and the project completed, within the five-year performance period for the Climate Pollution Reduction Implementation Grants.
- The measure received broad community support during the PCAP public engagement process.
- The measure is a high priority for local governments in New Mexico that intend to seek support through the Climate Pollution Reduction Implementation Grant funding.
- The measure advances the following state priorities:
    - Combating climate change and protecting the environment.
    - Protecting and restoring natural resources for the benefit of present and future generations.
    - Ensuring the well-being of all residents through quality healthcare, disease prevention, and access to healthy living.
    - Promoting fairness and justice for all, regardless of race, ethnicity, gender, income, or other factors.
    - Investing in infrastructure, education, and economic opportunities in rural communities.
    - Ensuring that government programs and services are accessible to all residents, regardless of location or circumstance.

- Creating and supporting opportunities for well-paying, secure jobs with benefits.
- Fostering a competitive business climate that attracts new investment and job creation.
- Offering a variety of choices and opportunities for residents to thrive, including education, healthcare, transportation, and housing.

4.1 New Mexico's Ten Priority Climate Measures for this PCAP:

1. **Clean I-40 Transportation Corridor** reduces emissions along the I-40 corridor by installing three clean charging/refueling transportation hubs for medium- and heavy-duty zero-emission trucks in New Mexico, in the Gallup, Bernalillo County, and Tucumcari areas.
2. **Clean Truck Incentives** provides cash-on-the-hood voucher programs for the purchase of zero-emission medium- and heavy-duty (MHD) trucks and associated charging/fueling infrastructure.
3. **Efficient and Clean Operations for Schools (ECO Schools)** builds on the opportunity offered by EPA's Clean School Bus program by adding more zero-emission school buses, associated charging/fueling infrastructure, and providing the schools in ECO Schools program with access to experts and programs that will encourage them to reduce utility costs by increasing school building energy efficiency and installing onsite renewable energy production.
4. **Community Mobility** recognizes a wide variety of projects that reduce vehicle miles traveled and provide healthier, cleaner modes of transportation. Project examples include replacing public transportation fleets with cleaner units and charging infrastructure, developing rural ride or car-share programs, expanding bike and pedestrian-friendly infrastructure, and diversifying transportation for the first and last miles.
5. **Methane Response Project** creates a response process that will increase compliance and enforcement synergy between NMED and EMNRD for methane and co-air pollutants to ensure the agencies can maximize projected emissions reductions under state and federal rules. NMED, in consultation with EMRND, will lead a pilot "Methane Response Project" with goals to: (1) identify and create common data sources, including location-specific satellite imagery; (2) develop a streamlined system between agencies to more efficiently cross-share reporting and inspection results; and (3) create a mechanism whereby inspectors can support field and data observations for both agencies.
6. **Pre-Weatherization for Low-Income New Mexicans** scales up an incentive program to pre-weatherize residential buildings by conducting structural repairs and home health remediation to enable previously deferred or ineligible low-income homes to access incentives for weatherization, energy efficiency, electrification, and renewables.
7. **Community Energy Efficiency Development (CEED) Block Grant Program** expands an existing program to provide block grants to local governments in

collaboration with community-based organizations (CBOs) to implement projects that target the adoption of energy efficiency that result in a decrease in energy consumption without reducing the amount or quality of energy services.

8. **Clean and Resilient Energy for Local Government** supports the installation of resilient solar plus battery storage power systems for local government buildings through grants to local governments.
9. **Integrated and Wholistic Low-Income and Disadvantaged Building-Sector Incentive Programs**, in collaboration with a multistate coalition, contracts with a third-party administrator who will review and integrate existing state and federal building incentive programs and funding streams and design a dedicated program that maximizes decarbonization benefits to residences in LIDAC.
10. **Organic Waste Diversion Program** supports four municipalities to divert organic waste and prevent food waste.

Table 2 summarizes New Mexico PCAP priority measures with anticipated greenhouse gas emission reductions, implementing entities, and geographic scope. Appendices A-J provide the following details on each measure:

- An estimate of the cumulative GHG emission reductions from 2025 through 2030;
- An estimate of the cumulative GHG emission reductions from 2025 through 2050;
- Implementation schedule and milestones;
- Geographic scope;
- Metrics for tracking progress;
- Benefits and co-benefits;
- Impacts on LIDAC;
- Authority to implement, and;
- Workforce analysis.

Table 2. Details on New Mexico PCAP Priority Measures

Priority Measure	Cumulative GHG emission reductions (MMT CO2e)		Implementing Entity	Geographic Scope	Appendix with Additional Details
	2025–2030	2025–2050			
Transportation Sector					
Clean I-40 Transportation Corridor	0.09	1.1	NMED with coalition members from the southwestern US	Southwest US, along the I-40 corridor.	A
Clean Truck Incentives	0.1	0.2	NMED	NM	B
ECO Schools	0.03	0.1	NMED	NM	C
Community Mobility	1.3	23.1	Local governments and entities, including municipal, rural, and regional transportation planning orgs.	NM	D
Industry Sector					
Methane Response Project	41.9	245.3	NMED and EMNRD	NM	E
Buildings Sector					
Pre-Weatherization for Low-Income New Mexicans	2x10-3	0.01	MFA and EMNRD	NM	F
CEED Block Grant Program	0.04	0.3	EMNRD	NM	G
Integrated and Wholistic Low-Income and Disadvantaged Building-Sector Incentives	TBD[10]	TBD	EMNRD	NM	I
Energy Sector					
Clean and Resilient Energy for Local Government	0.03	0.2	EMNRD	NM	H
Natural and Working Lands Sector					
Organic Waste Diversion	5x10-3	0.02	Local governments	NM	J

[10] Emissions will be calculated once this proposal is confirmed as a multistate coalition.

5 Emission Benefits Analysis

This section details the anticipated climate pollution and co-pollutant reductions associated with the implementation of the ten priority measures identified in this PCAP, as well as improved public health outcomes, economic investments, job development, increased climate resilience, and other environmental benefits. In addition, this section identifies mechanisms to track, minimize, and mitigate, to the extent possible, any identified disbenefits resulting from the implementation of the priority measures.

5.1 Greenhouse Gas Emission Reduction

The ten priority measures are projected to reduce cumulative emissions in New Mexico by 43.5 MMT by 2030 and 270 MMT by 2050.

5.2 Inventory for Co-Pollutants

NMED obtained emissions data from EPA's 2020 National Emissions Inventory (NEI) and extracted criteria pollutant and hazardous air pollutant (HAP) emissions data to create a 2020 base county-level inventory for the sectors targeted by the priority measures included in this PCAP.[11] Table 3 presents these nitrogen oxides (NO_x), direct fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), VOCs, and HAP data by sector, county, and pollutant for New Mexico.

[11] Online 2020 NEI Data Retrieval Tool - https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-data accessed on 01/26/2024.

Table 3. 2020 New Mexico Criteria Pollutant and HAP Emissions Inventory by Sector, County, and Pollutant

Sector(s)/County	NO_x (tons)	$PM_{2.5}$ (tons)	SO_2 (tons)	VOC (tons)	HAP (lbs.)
Industrial Processes – Oil and Gas Production					
NM – Chaves	2234.8	46.0	1118.3	3568.4	282.9
NM – Colfax	1470.0	14.9	0.5	545.9	35.8
NM – Eddy	16589.2	668.1	34864.4	73072.2	8109.9
NM – Harding	300.8	5.3	0.1	604.8	124.5
NM – Lea	19681.8	771.2	40973.7	97076.9	9443.5
NM – McKinley	8.5	0.1	0.3	33.4	0.3
NM – Rio Arriba	8976.6	102.9	26.0	23199.2	184.6
NM – Roosevelt	127.7	4.7	216.0	336.8	48.3
NM – San Juan	13037.7	149.4	162.4	30462.7	332.6
NM – Sandoval	231.7	2.8	76.8	2258.2	35.1
NM – Union	338.6	6.0	0.1	651.4	118.1
New Mexico Subtotal	62997.2	1771.5	77438.5	231810.0	18715.7
Mobile – On-Road Diesel Heavy-Duty Vehicles					
NM – Bernalillo	6842.4	203.4	6.2	308.1	58.7
NM – Catron	41.7	1.3	0.0	2.4	0.5
NM – Chaves	510.3	16.9	0.5	25.8	4.8
NM – Cibola	1058.3	27.0	1.1	45.0	8.4
NM – Colfax	330.6	8.6	0.4	14.9	2.8
NM – Curry	303.6	10.2	0.3	15.9	3.0
NM – De Baca	43.2	1.3	0.0	2.3	0.4
NM – Doña Ana	2419.3	69.9	2.4	109.2	20.5
NM – Eddy	715.5	21.5	0.8	34.2	6.6
NM – Grant	422.3	12.3	0.4	20.5	3.8
NM – Guadalupe	853.7	23.3	0.8	36.9	6.8
NM – Harding	5.7	0.2	0.0	0.4	0.1
NM – Hidalgo	382.3	10.2	0.4	16.5	3.0
NM – Lea	780.7	23.1	0.9	38.1	7.3
NM – Lincoln	205.7	5.9	0.2	10.6	2.0
NM – Los Alamos	142.7	4.7	0.1	7.4	1.4
NM – Luna	832.4	23.5	0.7	36.5	6.7
NM – McKinley	1583.6	44.1	1.5	72.2	13.5
NM – Mora	229.4	6.5	0.2	10.7	2.0
NM – Otero	447.2	13.5	0.5	22.3	4.2
NM – Quay	767.7	21.1	0.7	33.4	6.1

Sector(s)/County	NO_x (tons)	$PM_{2.5}$ (tons)	SO_2 (tons)	VOC (tons)	HAP (lbs.)
NM – Rio Arriba	334.8	10.3	0.3	17.2	3.2
NM – Roosevelt	140.2	4.3	0.2	7.5	1.4
NM – San Juan	992.8	29.6	1.0	50.9	9.6
NM – San Miguel	547.8	15.9	0.5	25.4	4.7
NM – Sandoval	1716.4	50.6	1.6	80.4	15.1
NM – Santa Fe	1807.6	53.5	1.8	84.3	15.9
NM – Sierra	349.7	10.2	0.3	16.1	3.0
NM – Socorro	604.6	16.8	0.5	26.3	4.8
NM – Taos	277.1	9.1	0.3	16.5	3.1
NM – Torrance	888.6	24.5	0.8	39.1	7.2
NM – Union	66.0	1.9	0.1	3.5	0.6
NM – Valencia	729.6	21.9	0.7	34.2	6.5
New Mexico Subtotal	27373.5	797.1	26.0	1264.7	237.6
Mobile – On-Road Diesel Light-Duty Vehicles					
NM – Bernalillo	319.5	14.5	0.3	53.4	9.2
NM – Catron	9.7	0.5	0.0	1.8	0.3
NM – Chaves	58.9	2.5	0.1	9.0	1.6
NM – Cibola	41.1	1.9	0.0	6.5	1.1
NM – Colfax	21.9	1.0	0.0	3.6	0.6
NM – Curry	40.6	1.7	0.0	6.8	1.2
NM – De Baca	9.1	0.4	0.0	1.4	0.2
NM – Doña Ana	196.1	8.5	0.2	31.1	5.3
NM – Eddy	91.4	3.5	0.1	12.4	2.2
NM – Grant	35.3	1.7	0.0	6.1	1.0
NM – Guadalupe	43.5	2.1	0.0	6.8	1.2
NM – Harding	1.3	0.1	0.0	0.2	0.0
NM – Hidalgo	13.9	0.6	0.0	2.0	0.3
NM – Lea	96.6	3.8	0.1	13.4	2.3
NM – Lincoln	32.5	1.5	0.0	5.4	0.9
NM – Los Alamos	13.7	0.6	0.0	2.6	0.4
NM – Luna	45.9	2.1	0.0	7.3	1.2
NM – McKinley	76.8	3.6	0.1	12.3	2.1
NM – Mora	14.2	0.7	0.0	2.4	0.4
NM – Otero	58.5	2.6	0.1	9.4	1.6
NM – Quay	43.3	2.1	0.0	6.8	1.2
NM – Rio Arriba	37.0	1.7	0.0	6.6	1.1
NM – Roosevelt	19.5	0.9	0.0	3.2	0.5
NM – San Juan	118.8	5.4	0.1	19.9	3.4
NM – San Miguel	39.2	1.9	0.0	6.9	1.2

SECTOR(S)/COUNTY	NO_x (TONS)	$PM_{2.5}$ (TONS)	SO_2 (TONS)	VOC (TONS)	HAP (LBS.)
NM – Sandoval	119.1	5.4	0.1	19.6	3.4
NM – Santa Fe	152.5	7.1	0.1	26.8	4.7
NM – Sierra	25.6	1.2	0.0	4.1	0.7
NM – Socorro	43.2	2.0	0.0	6.9	1.2
NM – Taos	55.5	2.8	0.0	10.9	1.9
NM – Torrance	53.3	2.6	0.0	8.7	1.5
NM – Union	10.4	0.5	0.0	1.6	0.3
NM – Valencia	57.5	2.5	0.0	9.8	1.7
New Mexico Subtotal	1995.2	90.1	1.8	325.6	56.2
MOBILE – ON-ROAD NON-DIESEL HEAVY DUTY VEHICLES					
NM – Bernalillo	94.5	3.5	0.8	76.5	21.3
NM – Catron	2.1	0.1	0.0	1.7	0.5
NM – Chaves	13.5	0.4	0.1	10.2	2.8
NM – Cibola	21.0	0.5	0.1	8.0	2.2
NM – Colfax	9.7	0.3	0.1	4.1	1.1
NM – Curry	6.5	0.2	0.0	5.8	1.6
NM – De Baca	1.7	0.0	0.0	0.8	0.2
NM – Doña Ana	39.7	1.2	0.3	28.1	7.7
NM – Eddy	11.7	0.5	0.1	10.4	2.8
NM – Grant	12.1	0.3	0.1	7.6	2.1
NM – Guadalupe	18.6	0.4	0.1	6.7	1.8
NM – Harding	0.3	0.0	0.0	0.3	0.1
NM – Hidalgo	6.3	0.1	0.0	2.6	0.7
NM – Lea	14.0	0.6	0.2	11.1	3.0
NM – Lincoln	8.0	0.2	0.0	5.3	1.5
NM – Los Alamos	3.9	0.1	0.0	3.0	0.8
NM – Luna	20.5	0.5	0.1	9.7	2.7
NM – McKinley	22.9	0.7	0.2	9.9	2.7
NM – Mora	6.1	0.2	0.0	2.4	0.7
NM – Otero	17.9	0.5	0.1	11.3	3.1
NM – Quay	19.0	0.4	0.1	7.3	2.0
NM – Rio Arriba	11.1	0.3	0.1	6.5	1.8
NM – Roosevelt	5.0	0.2	0.0	3.3	0.9
NM – San Juan	28.1	0.8	0.2	21.5	5.9
NM – San Miguel	15.6	0.4	0.1	6.9	1.9
NM – Sandoval	28.8	0.9	0.2	17.4	4.8
NM – Santa Fe	42.7	1.3	0.3	26.2	7.2
NM – Sierra	8.8	0.2	0.0	6.0	1.6
NM – Socorro	17.3	0.4	0.1	6.7	1.8

SECTOR(S)/COUNTY	NO_X (TONS)	$PM_{2.5}$ (TONS)	SO_2 (TONS)	VOC (TONS)	HAP (LBS.)
NM – Taos	12.2	0.4	0.1	7.2	2.0
NM – Torrance	23.3	0.5	0.1	8.5	2.4
NM – Union	2.9	0.1	0.0	1.4	0.4
NM – Valencia	16.1	0.4	0.1	12.9	3.5
New Mexico Subtotal	562.0	16.7	3.5	347.2	95.8
MOBILE – ON-ROAD NON-DIESEL LIGHT DUTY VEHICLES					
NM – Bernalillo	1765.1	56.5	14.1	1873.0	517.2
NM – Catron	46.7	0.7	0.1	29.3	8.1
NM – Chaves	253.2	5.3	1.4	238.9	65.8
NM – Cibola	232.4	4.0	1.2	123.8	34.4
NM – Colfax	116.3	2.1	0.6	67.7	18.8
NM – Curry	145.4	3.5	0.8	162.4	44.8
NM – De Baca	39.3	0.5	0.1	16.4	4.5
NM – Doña Ana	935.5	19.4	4.9	918.8	252.7
NM – Eddy	289.9	7.0	2.1	248.6	68.5
NM – Grant	200.8	3.2	0.7	161.7	44.7
NM – Guadalupe	208.7	2.6	0.8	84.9	23.6
NM – Harding	4.9	0.1	0.0	3.8	1.0
NM – Hidalgo	68.3	1.0	0.4	32.3	8.9
NM – Lea	327.0	7.7	2.4	259.1	71.4
NM – Lincoln	142.0	2.9	0.7	105.8	29.3
NM – Los Alamos	71.0	2.0	0.4	78.1	21.7
NM – Luna	270.4	3.7	1.0	168.0	46.4
NM – McKinley	363.8	7.6	2.3	223.0	61.9
NM – Mora	67.0	1.0	0.2	35.7	9.9
NM – Otero	304.0	5.6	1.5	261.6	72.1
NM – Quay	199.2	2.5	0.7	83.5	23.2
NM – Rio Arriba	196.1	4.5	1.0	166.6	46.3
NM – Roosevelt	93.6	1.8	0.5	74.6	20.6
NM – San Juan	608.0	12.9	3.0	500.7	138.9
NM – San Miguel	188.0	3.3	0.7	144.0	39.9
NM – Sandoval	587.0	14.0	3.6	538.4	149.1
NM – Santa Fe	751.4	18.4	3.9	693.3	192.2
NM – Sierra	109.8	1.6	0.4	78.3	21.6
NM – Socorro	196.9	2.7	0.7	105.9	29.3
NM – Taos	221.4	5.0	0.8	191.9	53.4
NM – Torrance	252.4	3.4	0.9	115.4	32.1
NM – Union	53.2	0.8	0.3	22.6	6.3
NM – Valencia	290.3	6.5	1.4	332.1	91.7

SECTOR(S)/COUNTY	NO_X (TONS)	$PM_{2.5}$ (TONS)	SO_2 (TONS)	VOC (TONS)	HAP (LBS.)
New Mexico Subtotal	9599.0	213.8	53.7	8140.4	2250.5
WASTE DISPOSAL					
NM – Bernalillo	51.4	240.6	19.2	200.8	23.0
NM – Catron	1.2	5.6	0.2	1.3	1.4
NM – Chaves	5.6	27.0	1.1	7.8	6.0
NM – Cibola	4.7	22.6	0.8	5.6	5.6
NM – Colfax	2.3	11.1	0.4	3.1	2.7
NM – Curry	2.3	11.1	0.4	3.3	2.6
NM – De Baca	0.6	3.0	0.1	0.6	0.7
NM – Doña Ana	22.8	109.2	6.5	44.7	16.0
NM – Eddy	9.6	45.5	3.2	22.1	4.8
NM – Grant	4.0	19.3	0.7	5.1	4.7
NM – Guadalupe	0.6	3.0	0.1	0.7	0.8
NM – Harding	0.2	1.0	0.0	0.2	0.3
NM – Hidalgo	1.5	7.2	0.2	1.6	1.8
NM – Lea	5.5	26.5	1.3	9.2	5.3
NM – Lincoln	4.3	20.6	0.9	6.9	4.2
NM – Los Alamos	1.2	5.7	0.3	2.6	0.8
NM – Luna	3.2	15.8	0.6	3.9	3.8
NM – McKinley	14.0	67.6	2.7	18.8	15.4
NM – Mora	1.5	7.3	0.3	1.8	1.8
NM – Otero	7.4	35.6	1.6	11.6	7.2
NM – Quay	1.1	5.5	0.2	1.3	1.4
NM – Rio Arriba	6.4	30.9	1.1	8.5	7.5
NM – Roosevelt	2.6	12.6	0.5	3.7	2.7
NM – San Juan	14.7	71.4	2.8	81.4	24.8
NM – San Miguel	5.2	25.1	1.1	7.8	5.2
NM – Sandoval	27.3	128.5	9.6	128.9	18.3
NM – Santa Fe	17.5	83.5	4.5	94.0	22.4
NM – Sierra	1.5	7.1	0.3	2.1	1.6
NM – Socorro	2.6	13.0	0.4	2.8	3.3
NM – Taos	7.7	37.0	1.7	12.5	7.3
NM – Torrance	4.8	23.6	0.8	5.2	6.0
NM – Union	1.4	6.6	0.2	1.5	1.7
NM – Valencia	5.0	24.3	1.1	70.4	13.3
New Mexico Subtotal	241.5	1154.5	65.1	771.8	224.6
FUEL COMBUSTION COMM/INSTITUTIONAL					
NM – Bernalillo	307.0	76.7	5.8	17.3	1.4
NM – Catron	0.1	0.1	0.0	0.0	0.0

SECTOR(S)/COUNTY	NO_X (TONS)	$PM_{2.5}$ (TONS)	SO_2 (TONS)	VOC (TONS)	HAP (LBS.)
NM – Chaves	4.1	5.5	0.3	0.3	0.1
NM – Cibola	1.4	1.9	0.1	0.1	0.0
NM – Colfax	0.8	1.1	0.1	0.1	0.0
NM – Curry	3.3	4.3	0.2	0.2	0.1
NM – De Baca	0.0	0.1	0.0	0.0	0.0
NM – Doña Ana	14.0	18.6	1.1	0.9	0.3
NM – Eddy	4.9	6.5	0.4	0.3	0.1
NM – Grant	1.3	1.8	0.1	0.1	0.0
NM – Guadalupe	0.3	0.4	0.0	0.0	0.0
NM – Harding	0.0	0.0	0.0	0.0	0.0
NM – Hidalgo	0.2	0.3	0.0	0.0	0.1
NM – Lea	4.7	6.3	0.4	0.3	0.0
NM – Lincoln	1.4	1.9	0.1	0.1	0.1
NM – Los Alamos	4.7	6.2	0.4	0.3	0.0
NM – Luna	1.2	1.6	0.1	0.1	0.1
NM – McKinley	4.3	5.7	0.3	0.3	0.0
NM – Mora	0.1	0.1	0.0	0.0	0.1
NM – Otero	3.2	4.2	0.2	0.2	0.0
NM – Quay	0.5	0.7	0.0	0.0	0.0
NM – Rio Arriba	1.4	1.9	0.1	0.1	0.0
NM – Roosevelt	0.8	1.1	0.1	0.1	0.0
NM – San Juan	8.2	10.8	0.6	0.5	0.2
NM – San Miguel	1.7	2.2	0.1	0.1	0.0
NM – Sandoval	6.7	8.9	0.5	0.4	0.1
NM – Santa Fe	13.1	17.4	1.0	0.8	0.3
NM – Sierra	0.5	0.7	0.0	0.0	0.0
NM – Socorro	0.8	1.0	0.1	0.0	0.0
NM – Taos	2.6	3.4	0.2	0.2	0.1
NM – Torrance	0.4	0.5	0.0	0.0	0.0
NM – Union	0.2	0.3	0.0	0.0	0.0
NM – Valencia	2.6	3.5	0.2	0.2	0.1
New Mexico Subtotal	396.5	195.7	12.7	23.0	3.2
FUEL COMBUSTION – RESIDENTIAL					
NM – Bernalillo	946.3	1734.0	43.2	1789.1	703.7
NM – Catron	7.9	44.6	1.3	49.4	19.8
NM – Chaves	62.0	207.1	5.0	223.6	88.8
NM – Cibola	33.8	118.7	3.2	129.5	51.2
NM – Colfax	27.1	100.3	2.8	108.2	42.9
NM – Curry	45.4	160.4	4.0	173.0	69.2

SECTOR(S)/COUNTY	NO_X (TONS)	$PM_{2.5}$ (TONS)	SO_2 (TONS)	VOC (TONS)	HAP (LBS.)
NM – De Baca	1.8	7.8	0.2	8.5	3.4
NM – Doña Ana	255.7	525.6	12.7	558.6	218.6
NM – Eddy	62.0	202.5	4.9	218.5	86.8
NM – Grant	33.4	111.9	2.7	122.9	48.9
NM – Guadalupe	6.1	15.5	0.4	17.6	7.0
NM – Harding	1.0	3.8	0.1	4.2	1.7
NM – Hidalgo	5.0	20.9	0.5	23.3	9.3
NM – Lea	59.1	184.2	4.5	200.3	79.3
NM – Lincoln	33.8	108.0	2.8	117.0	46.1
NM – Los Alamos	31.9	87.5	2.3	90.8	35.5
NM – Luna	23.8	67.9	1.7	75.1	29.7
NM – McKinley	71.5	351.9	9.6	384.8	153.1
NM – Mora	12.5	77.5	2.3	84.8	34.1
NM – Otero	86.3	257.4	6.7	279.4	111.1
NM – Quay	13.5	59.4	1.5	65.3	26.3
NM – Rio Arriba	53.6	209.7	5.8	227.2	90.1
NM – Roosevelt	15.4	72.6	1.9	79.8	32.1
NM – San Juan	170.6	497.7	13.4	541.9	212.7
NM – San Miguel	43.5	215.7	6.1	236.0	95.1
NM – Sandoval	224	693	19	729.7	287.0
NM – Santa Fe	261	790	22	839	330
NM – Sierra	16	39	1	43	17
NM – Socorro	20	52	1	58	23
NM – Taos	56	245	7	266	106
NM – Torrance	25	101	3	111	44
NM – Union	7.3	23.5	0.6	25.7	10.3
NM – Valencia	103	205.9	5.2	219.9	87.0
New Mexico Subtotal	2815.1	7592.0	197.6	8099.9	3200.1

5.3 Co-pollutants Emission Changes from Priority Measures

Table 4 lists anticipated changes in co-pollutants for each measure. Additional details about assumptions and methods for quantification of emissions changes are included in the appendix corresponding to each measure.

Table 4. Cumulative New Mexico Co-Pollutant Emissions Reductions by 2050 Anticipated from Implementation of PCAP Priority Measures

PRIORITY MEASURE	NO_X (TONS)	$PM_{2.5}$ (TONS)	SO_2 (TONS)	VOC (TONS)
Appendix A – Clean I-40 Transportation Corridor	1,863	15.8	7.3	79.1
Appendix B – Clean Truck Incentives	200	2.0	1.8	26.9
Appendix C – Efficient and Clean Operations for Schools	55.6	0.3	1.9	1.5
Appendix D – Community Mobility	31,594	828	151	23,070
Appendix E – Methane Response [12]	120,950	-	-	524,356
Appendix F – Pre-Weatherization for Low-Income New Mexicans Program	8.6	0.04	0.5	<0.1
Appendix G – Community Energy Efficiency Development Block Grant Program	126	0.5	6.9	0.8
Appendix H – Clean and Resilient Energy for Local Government	156	9.2	156	<0.1
Appendix I – Integrated and Wholistic Low-Income and Disadvantaged Building Sector Incentive Programs [13]	TBD	TBD	TBD	TBD
Appendix J – Organic Waste Diversion Programs	TBD	TBD	TBD	TBD
Total	*154,953*	*856*	*326*	*547,534*

[12] Co-pollutant emission reductions are based on only NMED's Oil and Gas Sector Ozone Precursor Pollutants Rule (20.2.50 NMAC). All pollutants are also likely reduced by EMNRD's Methane Waste Rule.
[13] Co-pollutant emission reductions will be calculated once the multistate coalition is finalized and in the implementation grant application.

6 Low-Income and Disadvantaged Communities Benefits Analysis

According to US News and World Report (2023), New Mexico is ranked 47th overall among U.S. states in its overall quality of life. It is ranked 50th in education, 44th in infrastructure, 45th in business environment, and 46th in economic opportunity.[14] Approximately 26 percent of New Mexico's residents speak Spanish at home and 9 percent speak English "less than very well."

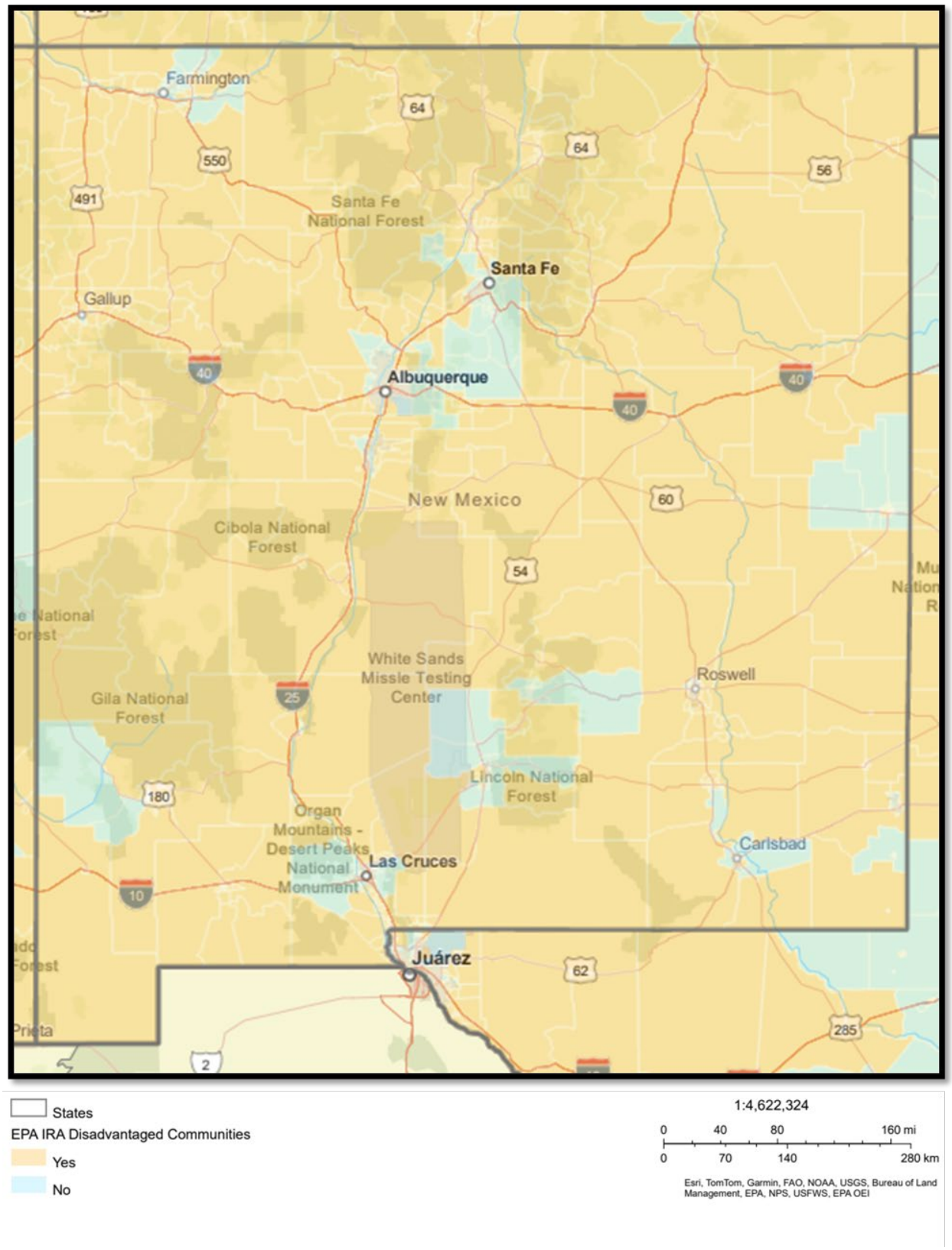
Priority measures must bring economic opportunities to those areas within New Mexico determined to be LIDAC, including specific counties that would benefit disproportionately from non-statewide measures. By identifying the areas that include LIDAC, the New Mexico agencies performed meaningful engagement with residents in LIDAC for the development of this PCAP and are tailoring the implementation of priority climate measures to maximize their benefits to the residents in LIDAC. The New Mexico agencies will also continue to engage with underserved communities in the future during the continued development of the CCAP.

6.1 Identification of LIDAC

In the map below (Figure 1), NMED identified LIDAC using the "EPA IRA Disadvantaged Communities" layer under the "Justice40/IRA" data set in the EJScreen map (https://ejscreen.epa.gov/mapper/). This method aligns with the requirements outlined in the grant NOFO.

[14] US News and World Report 2023 States Ranking; https://www.usnews.com/news/best-states/new-mexico

Figure 1. New Mexico LIDAC Map



6.2 Engagement Strategies with LIDAC

Section 9 includes the Coordination and Outreach Plan that NMED and EMNRD created for seeking feedback on community priorities, a record of outreach activities, and a summary of input received during the engagement process. In summary, NMED and EMNRD deployed these strategies, the details of which are included in Table 8 of Section 9:

- Developing a state CPRG webpage: https://www.climateaction.nm.gov/climate-pollution-reduction-grant/;
- Engaging Center for Civic Policy (CCP) as a community outreach contractor to work with Nuevo México Prospera (Prospera) for PCAP outreach. Prospera is "a coalition of grassroots economic, social and environmental justice organizations…working to diversify the state's economy while creating thousands of jobs for communities most impacted by climate change;"
- With CCP, hosting an online survey (https://nmprospera.org/crpg-community-input-survey/) for collecting feedback on PCAP priorities;
    - CCP encouraged survey participation through targeted outreach to member CBOs, social media, push cards, and flyers,
    - New Mexico Environment Department's Climate Change Bureau (CCB) released an alert to its 3,000+ listserv subscribers,
    - On February 9, 2024, Prospera and CCB spoke to the public and distributed 35 push cards at Environment Day during the NM 2024 Legislative Session, and
    - CCB attended community events to disseminate information on how community members can provide input;
- Setting up recurring and ongoing monthly meetings with Tribes, Nations, and Pueblos that received Phase-1 CPRG funding;
- Meeting with all Tribes, Nations, and Pueblos that were not awarded Phase 1 CPRG funding, with one-on-one follow-up meetings with Tribes, Nations, and Pueblos interested in continuing the CPRG discussion;
- Engaging with residents living in rural New Mexico LIDAC at CCP-organized, in-person community meetings in Bayard, Gallup, and Tucumcari, NM;
- Discussing opportunities and overlap with metropolitan and rural transportation planning organizations;
- Reaching out to other New Mexico state agencies including NMDOT, NMEDD, NMDWS, NMPED, and NMMFA;
- Presenting to local city, town, and county governments through meetings with the Coalition of Sustainable Communities NM (CSCNM) (cities of Las Cruces, Albuquerque, Santa Fe, and counties of Los Alamos, and Santa Fe), the New Mexico Municipal League, and NM Counties;
- Presenting at and participating in a statewide virtual meeting organized by CCP; and

- Collaborating in a workshop with the NM Sustainable Economy Advisory Council (SEAC), which is comprised of representatives of disproportionately impacted communities or organizations and representatives from governments of Tribes, Nations, and Pueblos.

6.3 Impact of PCAP Implementation on LIDAC

Through the engagement strategies identified above and independent analyses, NMED has identified statewide and location-specific benefits or potential disbenefits associated with measure implementation to residents living in LIDAC throughout New Mexico (Table 5). Detailed methods and assumptions for the quantitative assessment of benefits are described in the appendices (A-J) associated with each priority measure.

Table 5. LIDAC Affected by Priority Measures

PRIORITY MEASURE	AFFECTED RESIDENTS IN LIDAC	AREA-SPECIFIC INPUT OPPORTUNITIES	ANTICIPATED BENEFITS
Clean I-40 Transportation Corridor	Communities and Tribes along the I-40 corridor; statewide	Gallup and Tucumcari, NM in-person public meetings; Navajo Nation recurring conversations; metropolitan and rural transportation planning organizations; municipal league; survey and phone banking results from affected zip codes along the I-40 corridor; discussions with Greater Gallup Economic Division Corporation on their plans for a clean I-40 regional corridor; discussions with Bernalillo, Sandoval, and Valencia Counties on their plans for a clean I-40 regional corridor; discussions with Mesalands Community College on their work on renewable energy generation and workforce development and training.	Improved air quality; rural and urban economic development; workforce development; enhanced community health
Clean Truck Incentives	Statewide, with focus on LIDAC	Statewide, with focus on LIDAC, including recurring Tribal engagement; Gallup, Bayard, and Tucumcari, NM	Improved air quality; equitable opportunities for fleet operating in or owned by residents of

PRIORITY MEASURE	AFFECTED RESIDENTS IN LIDAC	AREA-SPECIFIC INPUT OPPORTUNITIES	ANTICIPATED BENEFITS
		in-person public meetings; virtual statewide meeting; survey and phone banking results by zip code	LIDAC; significant cost reductions prioritizing women-owned, "minority-owned," and small businesses; enhanced community health
ECO Schools	Statewide, with focus on LIDAC	Recurring Tribal engagement; Gallup, Bayard, and Tucumcari, NM in-person public meetings; virtual statewide meeting; survey and phone banking results by zip code; NMPED	Priority given to schools serving communities with lower incomes; Improved air quality for the state's most vulnerable populations; public health benefits; enabling action to encourage greater uptake of zero-emission buses; economic benefits and tangible cost savings for schools that can be reinvested in students' success; job creation and job quality improvements
Community Mobility	Statewide, with focus on LIDAC	Recurring Tribal engagement; Gallup, Bayard, and Tucumcari, NM in-person public meetings; survey and phone banking results by zip code; Metropolitan and rural transportation planning organizations	Increased access to transportation options and reduced travel time and cost; enhanced community health and well-being; economic empowerment through job creation and supporting local businesses; improved air quality; public health benefits; more livable and connected communities
Methane Response Project	Within counties of Chaves, Doña Ana, Eddy, Lea, Rio Arriba, Sandoval, San Juan, and Valencia	Statewide virtual community meeting; conversation with the Permian Basin Petroleum Association (PBPA); in-person community meetings and stakeholder engagement for this region to be scheduled on the CCAP timeline	Decrease in local air pollution; public health benefits; increased transparency and accountability.

PRIORITY MEASURE	AFFECTED RESIDENTS IN LIDAC	AREA-SPECIFIC INPUT OPPORTUNITIES	ANTICIPATED BENEFITS
Pre-Weatherization for Low-Income New Mexicans	Statewide, with LIDAC requirements for eligibility	Statewide virtual community meeting; NM in-person public meetings; Tribal engagement; meetings with green and affordable housing advocates	Lower energy burden and increased cost savings; removing issues such as mold, asbestos, vermiculite, and other conditions improves air quality, prevents disease and injury, increases the quality of life for residents, and protects vulnerable individuals such as people with asthma, children, the elderly, and immunocompromised individuals, as well as improved housing quality, comfort, and safety; new job opportunities; improved local air quality from reduced energy use
CEED Block Grant Program	Statewide, with focus on LIDAC	Statewide virtual community meeting; NM in-person public meetings; Tribal engagement; meetings with NM municipalities and counties, meetings with green and affordable housing advocates	Lower energy burden and increased cost savings; removing issues such as mold, asbestos, vermiculite, and other conditions improves air quality, prevents disease and injury, increases the quality of life for residents, and protects vulnerable individuals such as people with asthma, children, the elderly, and immunocompromised individuals, as well as improved housing quality, comfort, and safety; new job opportunities; improved local air quality from reduced energy use
Integrated and Wholistic Low-	Statewide, with focus on LIDAC	Statewide virtual community meeting; NM in-person public	Facilitates access to state and federal buildings

Priority Measure	Affected Residents in LIDAC	Area-specific Input Opportunities	Anticipated Benefits
Income and Disadvantaged Building Sector Incentive Programs		meetings; Tribal engagement; meetings with NM municipalities and counties, meetings with green and affordable housing advocates	incentives; maximizes decarbonization benefits to people living in residences located in LIDAC; improves air quality; improves health conditions associated with substandard and energy inefficient housing; lowers energy burden; creates jobs
Clean and Resilient Energy for Local Government	Statewide, with focus on LIDAC	Statewide virtual community meeting; NM in-person public meetings; Tribal engagement; meetings with NM municipalities and counties, meetings with solar advocates	Supports municipalities, counties, Tribes, Nations, and Pueblos whose residents have lower incomes, with difficulty accessing capital to pursue resilient solar and storage systems and benefit from IRA direct pay tax credits; improves grid reliability; ensures services can be provided to LIDAC in emergencies that disrupt the grid
Organic Waste Diversion	Within counties of Doña Ana, Bernalillo, Los Alamos, and Santa Fe Cities of: Las Cruces, Albuquerque, and Santa Fe	Sustainable Communities NM; NM Municipal League; NM Counties	New job opportunities

6.4 Implementation of Priority Climate Measures with a Focus on Benefitting People Living in LIDAC

As New Mexico implements its priority climate measures, the measure-specific programs will continue to focus on the benefits for residents living in LIDAC. The state of New Mexico will continue robust active community communication and engagement. For

those priority measures where benefits are focused on a specific community, agencies will engage with those communities where agencies have not yet had the opportunity for deeper engagement.

NMED will seek implementation funding, including CPRG implementing grants, for technical assistance for each program to ensure that the application process, knowledge, and buildout are not barriers to participation by residents of LIDAC. For implementation, the state will collaborate with workforce development programs that provide skill and educational development opportunities within appropriate institutions in or near LIDAC. Programs will include training, retention, mentoring, career development, and career advancement that will help prepare the workforce and move these new employees into leadership and management roles. The workforce development program will need to address the barriers facing residents in LIDAC, like language accessibility, financial support, child and elder care, and flexibility.

7 Review of Authority

NMED and EMNRD have reviewed existing statutory and regulatory authority to implement each priority measure contained in this PCAP. For any priority measure where authority must still be obtained, this section contains a schedule of milestones for actions needed by key entities (e.g. legislature, administrative agency, etc.) for obtaining any authority needed to implement such measure(s).

7.1 Authority to Implement – In General

New Mexico Governor's EO 2019-003 established the interagency Climate Change Task Force (CCTF), of which EMNRD and NMED are co-chairs. The Executive Order included several directives on climate change and energy waste prevention, specifically that:

> *"… 5. The CCTF shall evaluate policies and regulatory strategies to achieve reductions in greenhouse gas pollution, consistent with the targets set out above, across all categories of emission sources. Such policies and regulatory strategies shall include, but not be limited to, the following:*
>
> *a…*
>
> *b. Adoption of approaches to reduce greenhouse gas and criteria pollutant emissions from light-duty vehicles sold in state, including Low Emission Vehicles (LEV) emission standards and Zero Emission Vehicle (ZEV) performance standards;*
>
> *c. Adoption of building codes; and*
>
> *… 6. That EMNRD and NMED jointly develop a statewide, enforceable regulatory framework to secure reductions in oil and gas sector methane emissions and to prevent waste from new and existing sources and enact such rules as soon as practicable."*

7.1.1 NMED

The New Mexico Environmental Improvement Board (EIB) is the board created by New Mexico's Environmental Improvement Act, New Mexico Statutes Annotated (NMSA) 1978, Sections 74-1-1 to -17, to promulgate regulations to regulate the environment in New Mexico, including regulations to attain and maintain national ambient air quality standards (NAAQS) and to prevent or abate air pollution. NMSA 1978, Section 74-1-5; NMSA 1978, Section 74-2-5(B)(1).

NMED is delegated the power under the Environmental Improvement Act to enforce such promulgated regulations, as well as rules and orders promulgated by the EIB. NMSA 1978, Section 74-1-6(F). Additionally, NMED is delegated the power to enforce environmental management and consumer protection laws for which NMED is responsible. NMSA 1978, Section 74-1-6(F). NMED is specifically delegated the power to enforce rules and standards in the areas of air quality management and solid waste. NMSA 1978, Sections 74-1-7(A)(4) and (14).

Under the Air Quality Control Act, NMED is delegated the power to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMSA 1978, Section 74-2-5.1(F).

Under the Solid Waste Act, NMED, through its Resource Protection Division, is delegated the power "to receive funds and accept, receive and administer grants or other funds or gifts from public or private sources, including the state and federal governments…". NMSA 1978, 74-9-14(P).

NMED is delegated the power to make contracts to carry out its delegated duties and to enter into agreements with environmental and consumer protection agencies of other states and the federal government pertaining to duties of the department, under the Environmental Improvement Act. NMSA 1978, Sections 74-1-6(B) and (C).

7.1.2 EMNRD

The Oil Conservation Division (OCD) of EMNRD is authorized under the Oil and Gas Act, NMSA 1978, Section 70-2-6 to have jurisdiction, authority, and control over the conservation of oil and gas. The Oil Conservation Commission is empowered to make and enforce rules to carry out the purposes of the Oil and Gas Act, NMSA 1978, Section 70-2-11.

The Energy Conservation and Management Division (ECMD) of EMNRD is authorized under the NMSA 1978, Section 9-5A-3A(4). The duties of the ECMD are to plan, administer, review, and provide technical assistance, and monitor state and federal energy conservation and alternative energy technology programs. NMSA 1978, Section 9-5A-4B.

7.2 Transportation

7.2.1 Authority to Implement Clean I-40 Transportation Corridor

NMED is authorized under the state Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMED is delegated the power to make contracts to carry out its delegated duties and to enter into agreements with environmental and consumer protection agencies of other states and the federal government pertaining to the duties of the department. NMSA 1978, Sections 74-1-6(B) and (C).

New Mexico has the authority to provide incentives for charging and fueling station infrastructure. In a program administered through EMNRD, New Mexico provides incentives to building owners for the construction of a new residential or commercial

sustainable building or renovation of an existing commercial building so that it is electric vehicle (EV)-ready. A tax credit is also available to a building owner who installs energy-conserving products, including an EV charger at an existing residential or commercial building. Certain other criteria must also be met to receive a tax credit for an EV-ready building or installation of an EV charger. For a new building, the amount of the tax credit depends on the certification level the building has achieved in the LEED or Build Green New Mexico rating systems and the qualified occupied square footage of the building. The amount of the tax credit for the installation of an EV charger in an existing building depends on whether the owner or occupants are low-income. NMSA 1978, Section 7-2-18.32 is for individual taxpayers. NMSA 1978, Section 7-2A-28.1 is for corporate taxpayers.

The statutes give EMNRD the authority to issue rules regarding the eligibility certification for the 2021 Sustainable Building Tax Credit. The department promulgated rules for the certification process. 3.3.35 NMAC for individual taxpayers; 3.4.22 NMAC for corporate taxpayers.

7.2.2 Authority to Implement Clean Truck and School Bus Incentives

NMED is authorized under the state Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMED is also authorized under the Air Quality Control Act to commence enforcement actions under said Act or a regulation promulgated pursuant to said Act (i.e. the New Motor Vehicle Emission Standards, discussed next). NMSA 1978, Section 74-2-12.

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the New Motor Vehicle Emission Standards under 20.2.91 NMAC. These rules include California's ACCII, ACT, and HDO regulations and establish New Mexico as a Section 177 state. Such rules establish NMED's authority to administer associated programs and determine regulated entities' compliance.

The New Motor Vehicle Emission Standards under 20.2.91 NMAC set emission standards that apply to MHD vehicles and heavy-duty and other engines and require increased delivery of zero-emission vehicles (ZEVs) beginning in model year (MY) 2027. The regulations also require MHD vehicles and engines to meet certain certification, warranty, and labeling requirements. Additionally, the regulations require regulated entities to report regularly and authorize NMED to perform inspections and/or request information and review records. Overall, NMED is authorized to enforce all such standards and ensure regulated entities' compliance.

Furthermore, the New Motor Vehicle Emission Standards apply to school buses, as the exemption under such rules for "excluded buses" does not include school buses in its

definition (20.2.91.103(N) NMAC and Cal. Code Regs. tit. 13, § 1963(c)(11)). Therefore, the inclusion of school buses in the New Vehicle Emission Standards authorizes NMED to regulate the delivery of "new" ZEV school buses within the state.

NMED and EMNRD were directed under EO 2019-003 to adopt approaches to reduce GHG emissions and criteria pollutant emissions from light-duty vehicles sold in the state, including LEV emission standards and Zero Emission Vehicle (ZEV) performance standards. Although school buses are not "light-duty", electric school buses (ESB) are ZEVs and aid in the endeavors to reduce GHG emissions in New Mexico, and thus fall under the purview of EO 2019-003.

7.2.3 Authority to Implement Community Mobility Opportunities

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the New Motor Vehicle Emission Standards under 20.2.91 NMAC. These rules include California's ACCII, ACT, and HDO regulations and establish New Mexico as a Section 177 state. Such rules establish NMED's authority to administer related programs and determine regulated entities' compliance.

Administration under the rules includes a component where NMED maintains discretion to determine if vehicles were provided by manufacturers for use in a "community-based clean mobility program in New Mexico", including for NMED to determine whether such programs qualify in New Mexico. A community-based clean mobility program is one that:

> a) provides access to clean mobility solutions other than vehicle ownership including ZEV car sharing, ridesharing, vanpools, ride-hailing, or on-demand first-mile/last-mile services;
>
> b) serves a community in which at least 75 percent of the census tracts in the project area (where community residents live, and services operate) are a disadvantaged community, a low-income community, or a Tribal community regardless of federal recognition; and
>
> c) is implemented by a CBO, Native American Tribal government regardless of federal recognition, or a public agency or nonprofit organization that has received a letter of support from a project-related CBO or local community group that represents community members impacted by the project or has a service background related to the type of project.[15]

[15] Definitions for terms of art used herein are those provided under California law and differ slightly from definitions utilized under Justice40 and by the EPA in CPRG guidance. However, such definitions do not appear to conflict or cause ineligibility, or to inhibit NMED's authority to implement this measure under Justice40 and EPA guidance.

NMED and EMNRD were directed under EO 2019-003 to evaluate policies and regulatory strategies to achieve reductions in GHG pollution, consistent with the targets set out in such Executive Order, across all categories of emission sources. 'All categories of emission sources' include, but are not limited to, those detailed in this measure.

NMED is authorized under the state Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMED is delegated the power to make contracts to carry out its delegated duties and to enter into agreements with environmental and consumer protection agencies of other states and the federal government pertaining to the duties of the department. NMSA 1978, Sections 74-1-6(B) and (C).

7.3 Industry

7.3.1 Authority to Implement Methane Response Project

OCD of EMNRD is authorized under the Oil and Gas Act, NMSA 1978, Section 70-2-6 to have jurisdiction, authority, and control over the conservation of oil and gas. The Oil Conservation Commission is empowered to make and enforce rules to carry out the purposes of the Oil and Gas Act, NMSA 1978, Section 70-2-11. OCD is authorized to regulate wastes from the exploration, development, production, or storage of oil and gas. NMSA 1978, Section 70-2-12. OCD is also authorized to limit the waste of CH_4 by venting and flaring under the New Mexico Administrative Code (NMAC). 19.15.27.1 to 19.15.27.9 NMAC; 19.15.28 NMAC. Unauthorized releases of CH_4 gas are prohibited and must be reported per 19.15.29 NMAC.

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the Oil and Gas Sector Ozone Precursor Pollutants Rule, 20.2.50.1 to 20.2.50.128 NMAC. The Oil and Gas Sector Ozone Precursor Pollutants Rule sets emission standards and imposes requirements on oil and gas owners or operators to install and/or replace certain types of technology and controls. The objective of these requirements is the reduction in emissions of ozone precursor pollutants (VOCs and oxides of nitrogen) from sources located at well sites, tank batteries, certain types of stations, and natural gas processing plants. 20.2.50.1 to 20.2.50.128 NMAC. The Oil and Gas Sector Ozone Precursor Pollutants Rule also contemplates fugitive methane emission reductions as a co-benefit. Owners or operators are required to report actions taken to comply with rule requirements and to report leak detection results and other data. 20.2.50.112 to 20.2.50.127 NMAC. NMED is authorized to enforce the Oil and Gas Sector Ozone Precursor Pollutants Rule under the Air Quality Control Act and through efforts including, but not limited to, agency monitoring (including inspections)

using information provided by a third party. 20.2.50.128 NMAC and NMSA 1978, Section 74-2-12.

NMED is authorized under the Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government.

7.4 Buildings

7.4.1 Authority to Implement Buildings Sector Measures

ECMD is authorized under NMSA 1978, Section 9-5A-3A(4). The duties of ECMD are to plan, administer, review, provide technical assistance on, and monitor state and federal energy conservation and alternative energy technology programs. NMSA 1978, Section 9-5A-4B.

NMSA 1978, Section 62-17A-3B(4) enables ECMD to approve and enter into contracts to implement selected community energy efficiency projects; provided that the contracts shall include project performance measures, penalties, or other provisions that ensure the successful completion of the projects in accordance with Article IX, Section 14 of the New Mexico Constitution and shall require reporting on project performance, energy savings and non-energy benefits resulting from the energy efficiency measures.

The CEED Block Grant Act defines “affordable housing” to mean residential housing primarily for low-income persons or housing that is affordable to low-income persons based on assessed value, rent, or estimated mortgage. NMSA 1978, Section 62-17A-2. “Energy efficiency” means measures that target efficient energy consumer behavior, equipment, or devices and result in a decrease in energy consumption without reducing the amount or quality of energy services and includes health and safety measures that use efficient equipment or devices to improve indoor air or drinking water quality. NMSA 1978, Section 62-17A-2F.

Under the Efficient Use of Energy Act, it is the policy of the Act that public utilities, cooperatives, and municipal utilities include all cost-effective energy efficiency and load management programs in their energy resource portfolios. NMSA 1978, Section 62-17-3.

14.7.2 NMAC and 14.7.3 NMAC adopt the 2021 Commercial Building Code and 2021 Residential Building Code, respectively. 14.7.9 NMAC establishes minimum standards for energy conservation for commercial construction in New Mexico.

The Energy Efficiency and Renewable Energy Bonding Act creates the energy efficiency assessment revolving fund to perform energy efficiency assessments. NMSA 1978, Section 6-21D-7.

The Sustainable Building Tax Credit applies to residential and commercial buildings. NMSA 1978, Section 7-2A-21. If EMNRD determines that the building owner meets the requirements of the subsection, EMNRD may issue a certificate of eligibility and tax credit in an amount not to exceed $1 Million for commercial buildings.

EMNRD is also authorized to implement the Energy Savings Performance Contract Program in the State of New Mexico by the Energy Efficiency and Renewable Energy Bonding Act (EERE), NMSA 1978, 6-21D-3, and the Public Facilities Energy Efficiency and Water Conservation Act (PFEEWC), NMSA 1978, 6-23-1 to -10.

The EERE program authorizes the New Mexico Finance Authority (NMFA) to issue up to $20 million in bonds backed by the State's Gross Receipts Tax to make loans to state agencies and public schools for eligible renovation work. Under the program, bonds can only be issued if EMNRD finds that the energy cost savings that will result from the renovations will be greater than the amount of the debt service due on those bonds. Participating agencies pay this debt service via a "capture" from their operating budgets of 90 percent of the amount of expected energy utility bill savings.

The PFEEWC program is a similar innovative funding mechanism for energy-efficient facility upgrades, and, like the EERE program, requires an investment-grade energy audit of the proposed project to be certified by EMNRD. Unlike the EERE program, the PFEEWC program is available to all public entities including state agencies, public school districts, institutions of higher education, and local governments. Under the PFEEWC program, a public entity contracts with an established energy service company on New Mexico's State Price Agreement to perform the investment-grade energy audit, and the energy cost savings identified in the audit are guaranteed to the public entity. Currently, the State Price Agreement is being renewed. EMNRD would certify the audit and conduct annual monitoring of the energy savings achieved pursuant to the PFEEWC program guidelines.

The New Mexico Mortgage Finance Authority (MFA) is authorized to implement the United States Department of Energy's (DOE) Weatherization Program in New Mexico by the State of New Mexico Executive Order 97-01.

7.5 Energy

7.5.1 Authority to Implement Clean and Resilient Energy for Local Government

ECMD is authorized under NMSA 1978, Section 9-5A-3A(4). The duties of the ECMD are to plan, administer, review, provide technical assistance, and monitor state and federal energy conservation and alternative energy technology programs. NMSA 1978, Section 9-5A-4B.

7.6 Natural Working Lands and Waste

7.6.1 Authority to Implement Organic Waste Diversion Programs

Under the Environmental Improvement Act, NMED is delegated the power to enforce regulations to regulate the environment in New Mexico, as well as rules and orders promulgated by the EIB. NMSA 1978, Section 74-1-6(F). Additionally, NMED is delegated the power to enforce environmental management and consumer protection laws for which NMED is responsible. NMSA 1978, Section 74-1-6(F). NMED is specifically delegated the power to enforce rules and standards in solid waste. NMSA 1978, Sections 74-1-7(A)(4) and (14).

Under the Solid Waste Act, the EIB is required to promulgate regulations for solid waste. NMSA 1978, Sections 74-9-8 to -10. Under New Mexico solid waste regulations, NMED administers the permitting and registration requirements for solid waste and composting facilities. 20.9.3.27 NMAC and 20.9.3.28 NMAC. Owners and operators are required to apply for a registration to accept and process compost if not already included in the owner or operator's NMED solid waste permit. 20.9.3.27 NMAC and 20.9.3.28 NMAC. Owners and operators are further required to update their registration with NMED to reflect any material change in their operations. 20.9.3.27 NMAC. NMED is delegated the power to enforce these regulations and other requirements for solid waste as set out under the Solid Waste Act and in the NMAC. NMSA 1978, Section 74-9-36.

Under the Solid Waste Act, NMED, through its Resource Protection Division, is delegated the power "to receive funds and accept, receive and administer grants or other funds or gifts from public or private sources, including the state and federal governments…". NMSA 1978, 74-9-14(P).

Note: Through NMED and EMNRD's public engagement endeavors Santa Fe County, South Central Solid Waste Authority (which includes Doña Ana County and the City of Las Cruces), Los Alamos County, and the City of Albuquerque requested that the state include the organic waste diversion measure so that they can apply for Phase 2 Implementation funding. These municipalities intend to submit a coalition application to apply for this funding to expand access to organic waste diversion (composting) programs in their jurisdictions. This coalition of local governmental agencies will include their Authority to Implement within their separate Phase 2 Implementation application and would administer the proposed composting programs through current regulatory requirements administered by NMED's Solid Waste Bureau.

8 Workforce Planning Analysis

Implementation of New Mexico's PCAP measures will create high-quality jobs in New Mexico. This section details NMED and EMNRD's analysis of the jobs required and strategies to provide job quality, strong labor standards, and a diverse, highly skilled workforce. The focus is to create jobs and economic opportunities for residents in LIDAC, including those living in rural communities and within Tribes, Nations, and Pueblos that have been underrepresented in New Mexico's clean energy fields. Training and workforce development services remain a pressing need as New Mexico looks to seize the opportunities provided by the clean energy transition to realize a more just, dynamic, and stable future for its energy workforce.

8.1 Anticipated Labor Changes

8.1.1 Labor Expansion

The measures included in this PCAP will primarily create jobs in the construction and vehicle mechanics trades. New Mexico finds Zero Carbon Consortium's IMPLAN construction estimates to be appropriate for this grant's labor market impacts. For construction, the Consortium estimates that every $1 million invested creates 3.8 direct jobs, 3.8 indirect jobs, and 4.4 induced jobs.

Using this tool, if New Mexico secures $220 million for the Clean I-40 Transportation Corridor, Clean Truck Incentives, and the transportation component of the ECO Schools measures, New Mexico estimates the implementation of those measures creating approximately ***837 direct jobs, 837 indirect jobs, and 986 induced jobs***.

For the CEED Block Grant and Pre-Weatherization and Weatherization for Low-Income New Mexicans measures, New Mexico anticipates that jobs will be in construction and HVAC. Giving a 50/50 weight to the construction and HVAC multipliers, the state finds that these two measures would create ***289 direct jobs, 306 indirect jobs, and 376 induced jobs***.

Jobs created from investment in the buildings component of the ECO Schools measure would be weighted equally between the multipliers for HVAC and solar panel installation. The state anticipates that $11.9 million of investment set aside for buildings for the ECO Schools measure would result in ***34 direct jobs, 37 indirect jobs, and 52 induced jobs***.

According to Standard Occupational Classification (SOC) system code data, published on the NMDWS LASER site, Construction and Extraction[16] and Building and Grounds Cleaning and Maintenance[17] are projected to be two of the fastest growing fields in New Mexico from 2020-2030. LASER data show that there are 67,536 openings in construction and extraction and 44,090 openings in building, grounds cleaning, and maintenance – the sixth and eighth highest, respectively, among the state's labor categories. This represents 11.0 percent and 18.5 percent growth in these fields through 2030, compared to national growth of just 5.7 percent and 7.5 percent.

Such workforce analysis projects a total investment of $100 million for building out New Mexico's EV capacity and infrastructure. According to modeling done by The Zero Carbon Consortium (2020) using IMPLAN, every $1 million invested in new vehicles creates 1.1 direct jobs, 3.4 indirect jobs from the spending of income received from those direct jobs, and 3.5 induced jobs from cross-sector purchases.[18] This would pertain to EV parts manufacturing and assembly, such as Hota's EV parts-making plant to be built this year in Santa Teresa, New Mexico.[19]

LASER projections point to different trends in job growth across different construction sub-sectors. When analyzing job openings by North American Industrial Classification System (NAICS) codes, overall construction job growth[20] from 2020-2030 in New Mexico is projected to nearly double national growth (8.5 percent versus 4.3 percent). However, New Mexico's 2020-2030 projected construction job growth is almost exactly on par with U.S. growth of 4.8 percent in building construction of buildings[21], and 4.1 percent in heavy and civil engineering construction (NAICS 237). It is only in specialty trade contractors[22] – which includes electrical work – where projected job growth in New Mexico significantly exceeds U.S. levels, and by nearly three-fold (11.7 percent in the state and all four of its workforce regions, versus 4.2 percent for the nation as a whole).

The most significant anticipated labor market change will be the growth in demand for workers in the building trades and particularly, trained electricians. Electrification of transportation, including the build-out of EV charging station infrastructure, will expand this demand. Both the welder positions and many electrician positions would require apprenticeships to address current labor market shortages in these fields.

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[16] SOC Construction and Extraction code 47-0000
[17] SOC Grounds Cleaning and Maintenance (SOC code 37-0000)
[18] The Zero Carbon Consortium. "America's Zero Carbon Action Plan." Sustainable Development Solutions Network. 2020.
[19] Wu, Sarah. "Tesla supplier Hota to build first US factory in New Mexico." Reuters. September 20, 2023.
[20] NAICS Code 23
[21] NAICS Code 236
[22] NAICS Code 238

Bus and fleet vehicle drivers will need to be retrained to gain the skillset needed for EV driving. Further, New Mexico's maintenance technician workforce – both independent technicians and those working for auto dealers – will need to acquire expertise in EV maintenance and repair.

Employment in specialty trade contractors and training for those positions is likely to have the greatest impact where the implementation of New Mexico's PCAP measures occurs.

8.1.2 Labor Contraction

Jobs from New Mexico's clean energy transition included in New Mexico's PCAP could be lost or displaced, particularly due to the increase of ZEVs in the state market. In a future with more ZEVs on the roads, jobs associated with the repair and maintenance of internal combustion engine (ICE) automobiles will decrease. Auto service shops may not have the time, bandwidth, or funding to retrain staff in EV maintenance and repair or the means to secure the needed high-tech EV-specific equipment.

New Mexico is the nation's second-largest oil-producing state and fifth-largest natural gas-producing state.[23] Because the long-term national and global market trends are the primary factors impacting oil industry jobs, NMED does not anticipate an adverse impact on this sector from its PCAP.

8.2 Workforce Development Collaborations

NMED and EMNRD will coordinate and collaborate with state agencies, community colleges, universities, unions, registered apprenticeship program sponsors, community organizations, and high school career-technical programs to provide pre-apprenticeship, apprenticeship, and customized educational programs for workers primed to help accomplish the climate pollution reductions and provide opportunities to residents living in LIDAC. This collaboration builds on the many programs identified below that already exist or are in development.

8.2.1 New Mexico Department of Workforce Solutions

NMED and EMNRD are coordinating with the Department of Workforce Solutions (NMDWS) for this PCAP. NMDWS is a key collaborator and well-positioned to help with workforce readiness, as they are the state agency charged with administering the Workforce Innovation and Opportunity Act (WIOA) grants provided by the U.S. Department of Labor. NMDWS works with the state's four workforce development

[23] EIA. Monthly projections for state and national crude oil and marketed natural gas production. With data from EIA-914 Monthly Crude Oil and Natural Gas Production survey.

boards (North, East, Southwest, and Central), which are comprised of representatives from business, labor, and community organizations. WIOA staff at these offices work directly with individuals seeking training, education, and apprenticeships to be reskilled. NMDWS's participation in the implementation of WIOA funding provides NMDWS with a complete picture of the labor market and opportunities to develop workforce skills across all four regions, positioning them to provide critical information on New Mexico's workforce needs associated with implementing the priority climate measures. NMED and EMNRD's communication with NMDWS will integrate the workforce needs with existing organizations and opportunities, directing funds to areas where workforce needs are most pressing, and climate solutions are planned.

NMDWS's involvement with and understanding of the workforce needs outlined in this PCAP would dovetail with ongoing efforts that Workforce Development Boards are carrying out with WIOA Title 1 funding. Such efforts include:

1. Eastern Area Workforce Development Board apprenticeship training with the electrical and automotive industries, conducted in collaboration with local electrical contractors, utility companies, automotive dealerships, small business development centers, and entrepreneurial training providers. The Eastern Workforce Board's efforts would secure and maintain a pipeline of labor market talent ready to build out EV charging infrastructure that matches EV uptake in the state.

2. Northern Area Local Workforce Development Board initiatives are expanding programs that train workers on ICE vehicles into the skills needed to maintain EVs. The Northern Board supports tuition, fees, books, and exam certifications related to the EV maintenance program.

Contingent on funding, these efforts would occur alongside a collaboration that Southeast New Mexico College (SENMC) has formed with Texas-based training provider Skillpoint Alliance to offer a pre-apprentice electrical training course. This course would prepare students for work as entry-level electrical apprentices and combined with the training offered by the Eastern Workforce Board, would put eastern New Mexico in pole position to reap the rewards of the nation's energy transition to a clean energy future.

8.2.2 New Mexico Economic Development Department

New Mexico's Economic Development Department (NMEDD) currently supports programs that can be used for the workforce development needs of the priority climate measures identified in this PCAP. NMEDD has a Job Training Incentive Program that funds classroom and on-the-job training for newly-created jobs in expanding or relocating businesses for up to 6 months; reimburses 50-90 percent of employee wages; and may reimburse custom training at a New Mexico public educational institution.

NMEDD's Office of International Trade supports job creation, retention, and expansion by assisting New Mexico companies to capitalize on opportunities in the competitive global marketplace. New energy technology businesses that wish to move to or start up in New Mexico have resources available through NMEDD's Office of Strategy, Science, and Technology (OSST), which connects innovation infrastructure to the commercial market. OSST strives to lead and execute programs that encourage and enable the startup, growth, and relocation of technology-based industries in and to New Mexico by focusing on growing and diversifying existing technology companies, rapidly commercializing technologies, and promoting research and development in emerging technologies. NMEDD's Office of Justice, Equity, Diversity, and Inclusion works to directly address systemic inequities and barriers to entry for New Mexican business owners and entrepreneurs in EDD by supporting and creating programs and business tools to aid the growth of socially and economically disadvantaged businesses.

Additionally, NMEDD programs support the financial needs of emerging businesses. Under the Local Economic Development Act (LEDA) (NMSA 1978, Sections 5-10-1 to 5-10-13), NMEDD has the authority to administer grants to local governments, and to assist in expanding or relocating businesses that are qualified Entities that will stimulate economic development and produce public benefits. NMEDD considers economic development projects that demonstrate: (1) significant community impact and support; (2) rural and underserved areas of New Mexico; (3) increased wages and job creation; (4) significant new capital investment; and (5) environmentally sustainable outcomes.

8.2.3 College and University Career Development Initiatives

Work done by the University of New Mexico (UNM) Center for Social Policy, Cradle to Career Policy Institute, and the Native American Budget and Policy Institute can also advance workforce readiness. In June 2020, these organizations published the New Mexico Clean Energy Workforce Development Study (NMCEWDS), commissioned by NMDWS following the passage of the Energy Transition Act of 2019.[24,25] This report included input from the Greater Gallup Economic Development Corporation (GGEDC), Diné College, and Navajo Technical University (NTU), among others. It contains information on clean energy career training offered across New Mexico's 29 higher education institutions, cross-referenced with the LASER website.

In addition to developing college and university-level career paths, NMED and EMNRD have spoken with the New Mexico Public Education Department (NMPED) College and Career Readiness Bureau (CCRB). The CCRB's Career Technical Education (CTE) curriculum includes the Build New Mexico initiative, which will assist San Juan College's

[24] UNM and the Power4NM Coalition. "New Mexico Clean Energy Workforce Development Study." Commissioned by the NMDWS, June 2020.
[25] "The Energy Transition Act." *54th New Mexico state legislature*. SB 489. Signed March 22, 2019.

Sustainable and Renewable Energy program. CCRB can play a pivotal role in training EV service technicians, by developing curricula and coordinating efforts with resources like the Central New Mexico Community College (CNM) Automotive Technology program.

8.2.4 Opportunities with Businesses and Labor

NMED and EMNRD have collaborative opportunities to implement New Mexico's PCAP measures with the business and labor community. WattEV provides charging stations to EV trucking fleets and is keen on expanding its charging station infrastructure network in New Mexico. NMED has also conducted initial meetings with the New Mexico Building and Construction Trades Council (NMBCTC). NMBCTC is an alliance of craft unions that includes mechanics from the International Brotherhood of Electrical Workers (IBEW). IBEW Local Union 611 is interested in expanding its apprenticeship program to train workers for the future of electrification of transportation, as considered by climate measures herein.

Collaborations are also critical to achieving workforce readiness for HVAC and related energy efficiency improvements for the buildings portion of the ECO Schools measure, the Expansion of CEED Block Grant measure, and the Pre-Weatherization and Weatherization for Low-Income New Mexicans measure. NMBCTC will be a key connection in these efforts, which will draw upon programs offered by collaborators that include the Plumbers and Pipefitters #412, Bricklayers and Allied Craftsworkers Local #3, Plasterers and Cement Masons #254, Roofers Local #123, and others. Through NMBCTC, the state hopes to leverage training materials through the Center for Construction Research and Training (CPWR), in addition to materials available through the NMDWS Workforce Boards and LASER.

NMED and EMNRD plan to integrate input from UNM, WattEV, and NMBCTC/IBEW into a framework developed with NMDWS for matching workforce participants to EV project developers. Agencies will look to the Workforce Development Boards for guidance, bringing together representatives from business, labor, academia, and community groups. Apprenticeships and job training will be crucial given New Mexico's tight labor market for electricians and the need to rapidly fill EV workforce gaps.

Other potential collaborators include the Northern New Mexico Independent Electrical Contractors (NNMIEC), Independent Electrical Contractors of Southern New Mexico (SNMIEC), Associated Builders and Contractors-New Mexico Chapter (ABC-NM), and the New Mexico Joint Apprenticeship Training Committee for the Electrical Industry (JATC).

8.3 Strengths, Risks, and Opportunities

New Mexico has institutional levers in place that make it primed to capitalize on workforce opportunities compared to many other states. New Mexico's decision to tier

vehicle electrification targets to California's ACCII, ACT, and HDO standards would require that 82 percent of new light-duty vehicles delivered by manufacturers and 40 to 75 percent of new trucks (depending on class) be battery, fuel cell, or plug-in hybrid EVs. This rapid growth in EV sales will place high demand for New Mexico workers to develop skills that will be needed to build EV infrastructure well into the future.

NMED will continue to collaborate with NMDWS to coordinate EV infrastructure buildout efforts with workforce development boards in the North, East, Central, and Southwestern regions to meet the anticipated ACCII and ACT infrastructure demand. NMBCTC, which has a five-year electrician apprenticeship program overseen by the U.S. Department of Labor's Bureau of Apprenticeship Training, aims to double the current of 350-375 electrical apprentices enrolled.

Future workforce development will focus on connecting fossil fuel industry professionals with apprenticeship and training opportunities in EV infrastructure. These include San Juan College and Southeastern New Mexico College, as well as work that NMDWS has done with UNM and Somos Un Pueblo Unido for job retraining in coal and natural gas producing communities in northwestern New Mexico's San Juan Basin and oil and gas producing communities in southeastern New Mexico's portion of the Permian Basin.

Table 6 shows the five Bureau of Labor Statistics Occupational Employment and Wage Statistics (OEWS) survey job categories where New Mexico most exceeds and most trails the U.S. average. Architecture and Engineering (170000) and Construction and Extraction (470000) are two areas where New Mexico's workforce is primed to capitalize on PCAP measures. Construction and Extraction includes Electricians (472111), where New Mexico has 5.83 workers per 1,000 jobs, 25 percent above the national average.

Table 6. Two-Digit Job Categories With New Mexico Employment Shares (Per 1,000 Jobs) That Most Exceed and Most Trail Their Shares of the U.S. Workforce. May 2022.

Occupation	NM	US	Diff (%)
Architecture and Engineering	27.61	16.78	+65%
Construction and Extraction	65.20	41.08	+59%
Healthcare Support	65.68	45.93	+43%
Life, Physical, and Social Science	12.22	8.89	+37%
Protective Service	28.74	23.24	+24%
Management	53.37	66.68	-20%
Business and Financial Operations	51.88	65.44	-21%
Computer and Mathematical	25.08	33.84	-26%
Personal Care and Service	13.51	19.17	-30%
Production	30.72	59.09	-48%

Source: U.S. Census Bureau, OEWS.
Note: Job categories are SOC system codes.

According to the U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS) New Mexico's 2023 unemployment rate was 3.77 percent, slightly above the U.S. rate of 3.63 percent. One challenge is that New Mexico has a significant portion of its workforce employed in natural resources and mining – about 3.6 times the national average (Table 7**)**.

Table 7. Private Natural Resources and Mining Sector Employment as a Percentage of Total Employment. Three-Year, Seven-Year, and 10-Year Averages.

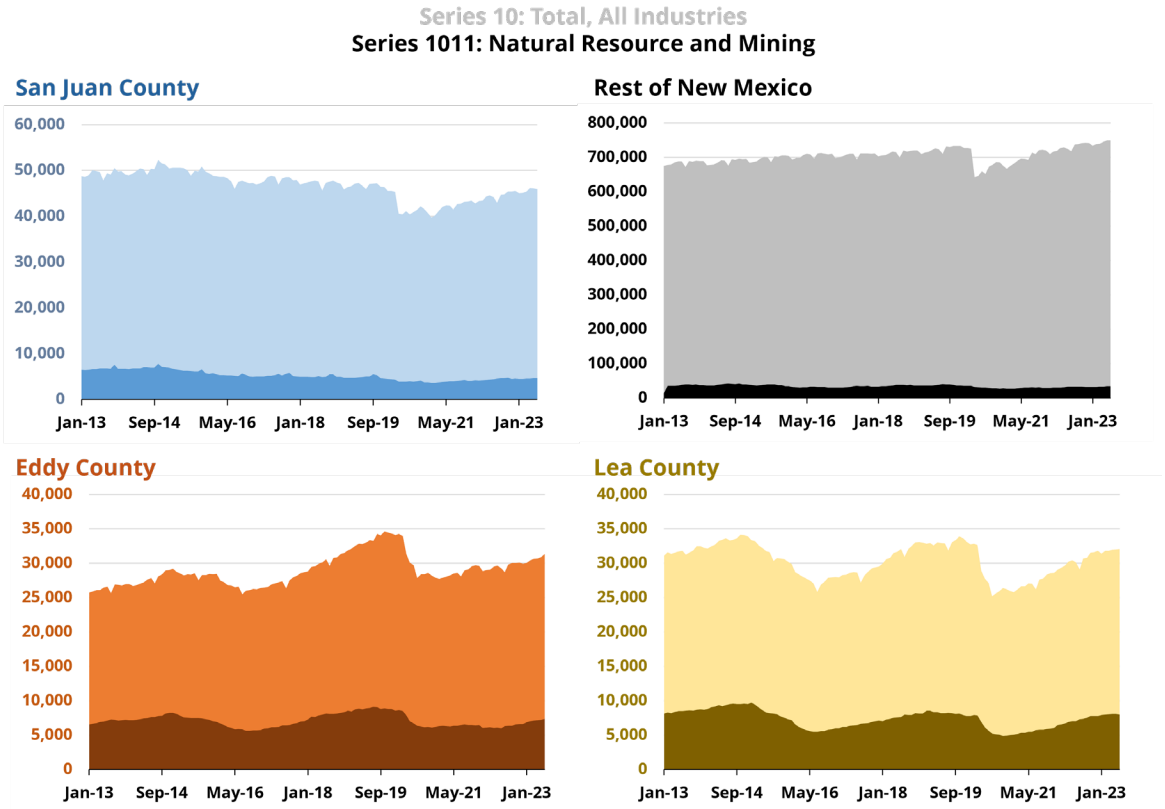
	3YR (JULY 2021-JUNE 2023)	**7YR (JULY 2017-JUNE 2023)**	**10YR (JULY 2014-JUNE 2023)**
New Mexico	4.29%	4.59%	4.71%
United States	1.21%	1.27%	1.31%

Source: U.S. Census Bureau, Quarterly Census on Employment and Wages (QCEW).
Note: New Mexico data from QCEW series ENU350001051011 and ENU3500010010.
United States data from QCEW series ENUUS0001051011 and ENUUS00010010.

Importantly, these sectors are subject to cyclical and structural changes. As with the rest of New Mexico, the northwest and southeast were heavily impacted by the 2020 downturn. Unlike the rest of the state, they are also exposed to energy market changes, such as when crude oil prices fell by over 50 percent from 2014-2016 (Figure *2*).[26,27]

[26] Preciado, James. "High Inventories help push crude oil prices to lowest levels in 13 years." EIA. *Today in Energy*. February 4, 2016.
[27] EIA. "Cushing, Oklahoma West Texas Intermediate Spot Price, Free-on-Board." Annual average of daily spot prices from Thomson-Reuters.

Figure 2. Employment In All Industries and the Natural Resource Mining Industries, for New Mexico and Selected Counties; January 2013 – June 2023.



Source: U.S. Census Bureau, Quarterly Census on Employment and Wages (QCEW).
Note: Data from QCEW series ENU350001051011, ENU3500010010, ENU3501511011, ENU3501510010, ENU350251051011, ENU3502510010, ENU350451051011, and ENU3504510010.

In 2014, the Hobbs micropolitan statistical area (µSA) in Lea County had the state's second-lowest unemployment rate among µSAs at 4.34 percent. By 2016 its unemployment rate more than doubled to 9.33 percent, the second-highest among µSAs. A similar change occurred for the Carlsbad-Artesia µSA. Although unemployment through 2023 in Hobbs and Carlsbad-Artesia µSAs is below the state average, their exposure to fossil fuel market fluctuations remains a an area of concern.

It is unclear how or when a more permanent decline in fossil fuel employment may occur in Lea or Eddy County. However, the fact that the natural resource and mining sector accounts for double the share of their overall employment compared to San Juan County, where its share is itself double that of the state average, suggests that proactive steps must be taken to prepare Lea and Eddy County for the global energy transition. This becomes even more pressing given the International Energy Agency projections that world oil demand will peak by 2030.[28]

[28] International Energy Agency. "World Energy Outlook 2023." October 2023.

Workforce needs for PCAP measures, like the Clean Truck Incentives measure, could help mitigate the effects of the energy transition in southeastern and northwestern New Mexico. Workforce retraining initiatives could launch right away, leveraging the workforce's existing skillsets. These efforts can use relationships with existing community organizations like Somos Un Pueblo Unido and educational institutions including Southeastern New Mexico College and Eastern New Mexico University (ENMU). NMCEWDS survey data found that 100 percent of all respondents in the Permian region would accept free job retraining with convenient hours and locations.

New Mexico faces an additional challenge in the Four Corners area to the northwest, where there have been structural declines in both the fossil fuel industry and overall employment. These have coincided with the closure of the San Juan coal mine and coal-fired power plant and falling production of conventional (non-shale) natural gas in areas like Farmington, New Mexico.

However, NMDWS has been developing workforce plans to address the energy transition. The "Building the EV Bridge" program was designed to leverage strategies and lessons learned from EPA-funded cleanups of abandoned uranium mines in the Four Corners. For workforce development, NMDWS conducted extensive research, including a survey of establishments providing remediation consulting and cleanup services, complemented with employment and job openings data from the Northern Area Local Workforce Development Board. They found that there were 715 Unemployment Insurance (UI) claimants who had worked in a uranium mine cleanup and remediation-related occupation, and 1,796 postsecondary students who completed a program for uranium mine cleanup and remediation in 2020-2021.

According to uranium mine cleanup reporting, 82.9 percent of New Mexico's unemployed workforce as of April 2023 had a high school diploma or equivalent, and 46.7 percent had some college or associate degree or higher (versus 86 percent and 52 percent nationally).[29] For New Mexico's overall population, 2022 U.S. Census data indicates that 88 percent of state residents 25 years or older had a high school diploma or equivalent (versus 89.6 percent nationally), and 30.5 percent had a Bachelor's degree or higher (versus 35.7 percent nationally).[30]

Figure 3 profiles the educational requirements for many of the jobs needed to implement the climate measures identified in this PCAP. All five job categories in Figure 3 provide opportunities for New Mexico's unemployed jobseekers and new entrants. With adequate vocational support, all of them can be harnessed as sectors of nemployment growth for workers across the state.

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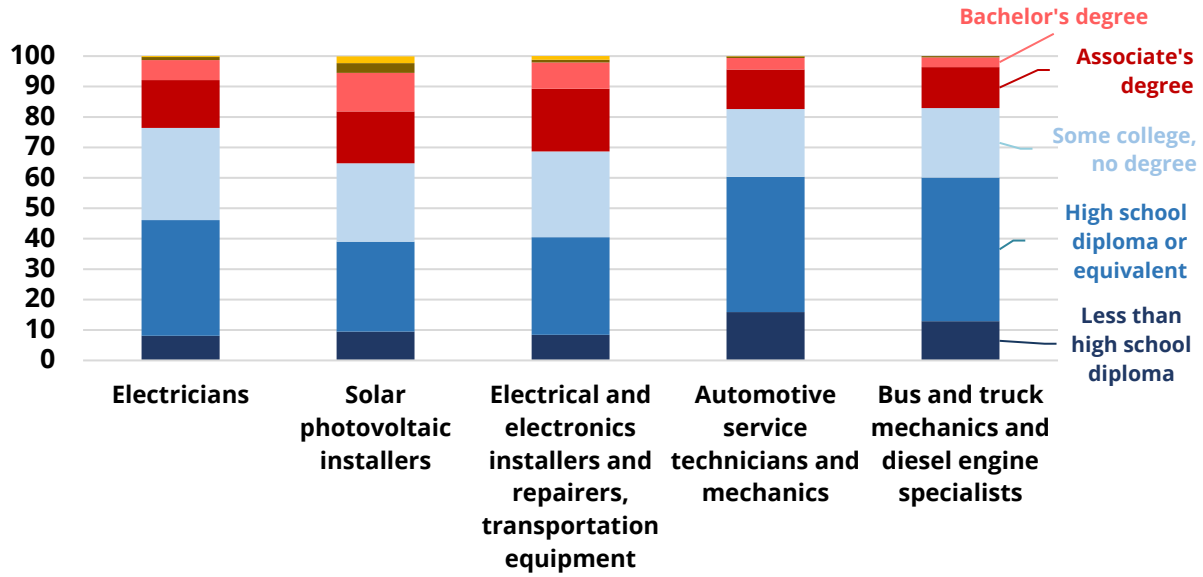
[29] U.S. Bureau of Labor Statistics. Current Population Survey for December 2023. Series IDs LNU03027659, LNU03027660, LNU03027689, and LNU03027662.
[30] U.S. Census Bureau. "American Community Survey." 2022.

Figure 3. Educational Attainment of Workers in Five Key PCAP Job Categories



Source: U.S. Bureau of Labor Statistics. Employment Projections, Table 5.3.
Note: For workers 25 and older, 2019 and 2021.
Note: For 2022 National Employment Matrix codes 47-2111, 47-2231, 49-2093, 49-3023, and 49-3031.

To implement the priority climate measures in the PCAP, NMED would coordinate with educational programs, apprenticeship providers, and test preparation and certification contractors to discuss the best ways that the state could fill labor force skills gaps related to the measures in this PCAP. These efforts could include providing retraining vouchers for currently employed workers whose employers may be unable to fund such retraining out-of-pocket. In addition, the project leaders would leverage the best practices gained from previous NMDWS workforce training efforts to accomplish this and integrate lessons learned. Key amongst those is the understanding from past efforts that many NM workers will need equitable training that is:

1. Free or low-cost,
2. In their residential locations (particularly for rural communities);
3. At night or on the weekends to accommodate existing professional and/or other daytime commitments;
4. Supported with skills training like computer literacy and test-taking; and
5. Accompanied by supportive services that include childcare and stipends.

Furthermore, the state plans in all efforts to follow these nine recommendations developed as best practices from the focus groups surveyed in the NMCEWDS (New Mexico Clean Energy Workforce Development Study):

1. Prioritize training among diverse populations;
2. Center training in rural communities with culturally appropriate practices;
3. Include community members in decision-making processes and leadership roles;

4. Offer flexible training options;
5. Offer training across ages;
6. Incentivize training with scholarships, stipends, and childcare support;
7. Implement flexible language delivery strategies;
8. Prioritize funding for training programs that rebuild the workforce in counties dependent on oil, gas, and other extractive industries, and;
9. Pair training opportunities with ongoing community capacity-building efforts that support clean energy jobs.

To implement their PCAP measures, NMED and EMNRD will take advantage of existing programs and seek additional funding resources. For example, New Mexico's unemployed jobseekers can benefit from pre-employment training offered by the U.S. Department of Labor Employment and Training Administration's (DOL-ETA) Workforce Development Solutions program, which offers 50 percent reimbursement for employers providing on-the-job training. NMED and EMNRD would also tap into resources offered by the federal Office of Apprenticeship.

DOL-ETA's Workforce GPS Next Level Now (NLN) Collaborative can be a critical asset in braiding together workforce development opportunities offered through DOL-ETA and existing federal Workforce Innovation and Opportunity Act resources to provide jobseekers and employers with comprehensive support. NLN's career coaching strategies could provide a particularly helpful way to fill service gaps for New Mexicans looking to join the new energy economy – both for the unemployed and those looking to shift to more meaningful careers. Braiding would also identify strategies to offset the array of costs that students face in vocational programs. This would relieve jobseekers of the most pressing financial, personal, and logistical burdens that may otherwise jeopardize training the workforce needed to carry out the PCAP measures.

The NMCEWDS study highlighted a key concern regarding the energy transition in New Mexico: that the job benefits from such measures will be limited to those with advanced degrees living in urban areas. To address this, they recommend a proactive approach that examines demographic data to help recruit students whose race, socioeconomic status, or gender are underrepresented. They also recommend providing paid apprenticeships and internships to ensure access for students of varying backgrounds and needs. Leveraging resources to cover such costs would ensure that implementing these PCAP measures addresses the equity issues faced in New Mexico's underserved communities.

One crucial best practice in this PCAP's Workforce Development component is to leverage New Mexico's network of two-year community colleges. Figure 4 below from the NMCEWDS study showcases the various green-energy programs available at New Mexico's community colleges as of June 2020.

Figure 4. Green Energy-Focused Programs at New Mexico's Community Colleges, as of June 2020, By Region and Green Energy Technology Type.

	Solar	Wind	Biofuels	Energy Technology
Northwest	†			Navajo Tech Univ San Juan College*
North Central	Northern NM* UNM-Los Alamos			Northern NM UNM-Taos
Central	Santa Fe CC* CNM*		Santa Fe CC*	Santa Fe CC
Central West				NMSU-Grants
East		Mesalands Clovis CC*		ENMU-Portales
South	Dona Ana CC NMSU-Alamogordo			Dona Ana CC NMSU-Alamogordo Western NM*

*Programs eligible for WIOA funding for green job training

†San Juan College has solar curriculum, but is not currently offering courses.

Source: UNMand the Power4NM Coalition. "NMCEWDS." Commissioned by the New Mexico Department of Workforce Solutions. June 2020.

8.4 Equity and Underserved Communities

The issue of equity and underserved communities is of high importance to New Mexico. New Mexico has the third-highest percentage of families living below the poverty line (13.8 percent) among all 50 states and the District of Columbia (DC), behind only Mississippi and Louisiana. New Mexico is second only to DC in the percentage of its population over the age of 16 not in the labor force (42.7 percent). New Mexico also has the highest percentage of its population receiving food stamps or Supplemental Nutrition Assistance Program benefits (17.5 percent) and the highest percentage with public health coverage (49.8 percent).[31] The investments needed to implement the measures in this PCAP will go a long way in improving the standard of living for the residents in LIDAC. Maintaining access to the necessary services for New Mexico's job seekers will also be key to preparing its workforce to implement these PCAP measures.

Within New Mexico, 27 of the state's 33 counties have a poverty rate for families that is above the 8.9 percent national average. The state's highest poverty rates are in McKinley County (29.0 percent and Cibola County (24.1 percent) in the northwest, followed by Luna County in the south (21.5 percent). All the state's counties besides Los Alamos have a median household income that is below the national level of $74,755 per year, and 13 of its 33 counties have a median household income of below $40,000 per year.[32] These counties – predominantly in the south, east, and northwest of the state – must be a focal point for efforts to achieve equity under all measures' Workforce Development components.

In the U.S., American Indian and Alaska Native populations and Hispanic or Latino populations have been traditionally underserved and underrepresented in the nation's clean energy workforce – a trend that this PCAP seeks to actively change. New Mexico has the second-highest American Indian and Alaska Native population out of all 50 states (9.2 percent), and the highest Hispanic or Latino population – a majority of the state at 50.2 percent.[33] McKinley County has the state's highest American Indian and Alaska Native population, at 77.7 percent, while Doña Ana County has its highest Hispanic or Latino population among counties surveyed, at 69.1 percent.[34] In implementation of these PCAP measures, New Mexico is committed to ensuring these communities are not left behind.

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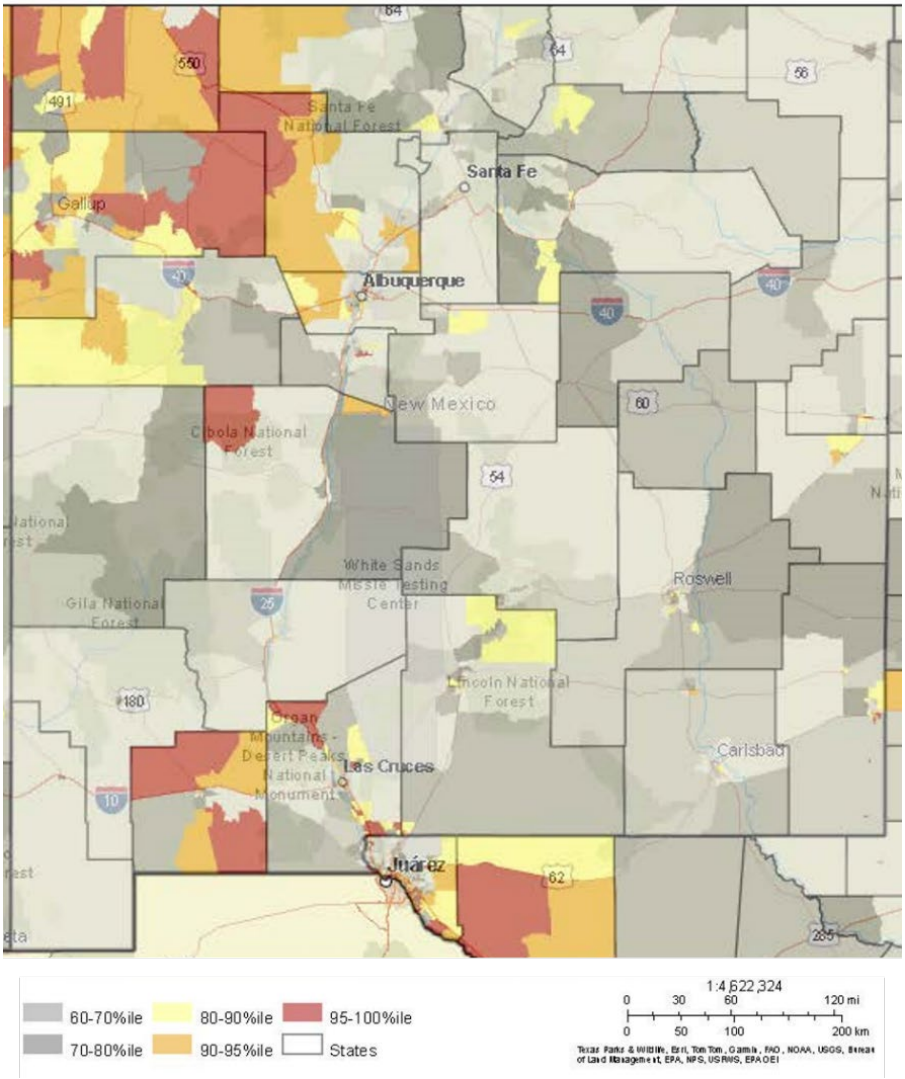
[31] U.S. Census Bureau. American Community Survey. 5-Year Estimates Selected Population Data Profiles. Table DP-03: Selected Economic Characteristics. 2021. Calculations exclude Puerto Rico.
[32] U.S. Census Bureau. American Community Survey. 5-Year Estimates Selected Population Data Profiles. Table DP-03: Selected Economic Characteristics. 2021.
[33] U.S. Census Bureau. American Community Survey. 1-Year Estimates Data Profiles. Table DP-05: ACS Demographic and Housing Estimates. 2022. Calculations exclude Puerto Rico.
[34] U.S. Census Bureau. American Community Survey. 1-Year Estimates Data Profiles. Table DP-05: ACS Demographic and Housing Estimates. 2022.

To ensure these communities can fully participate in New Mexico's clean energy economy, New Mexico recognizes that it must understand existing socioeconomic conditions. Figure 5 below shows regional assessments from the EPA's EJ Screening Tool, using its Supplemental Demographic Index (SDI) – a measure that accounts for income, unemployment, education, English proficiency, and life expectancy. Areas with the highest combined score across these indicators are San Juan, McKinley, and Cibola County, and parts of Sandoval and Rio Arriba County to the northwest, and Luna and Doña Ana Counties to the south. They are shaded dark-red in Figure 5, denoting SDI scores in the 95-100th percentile of the state.

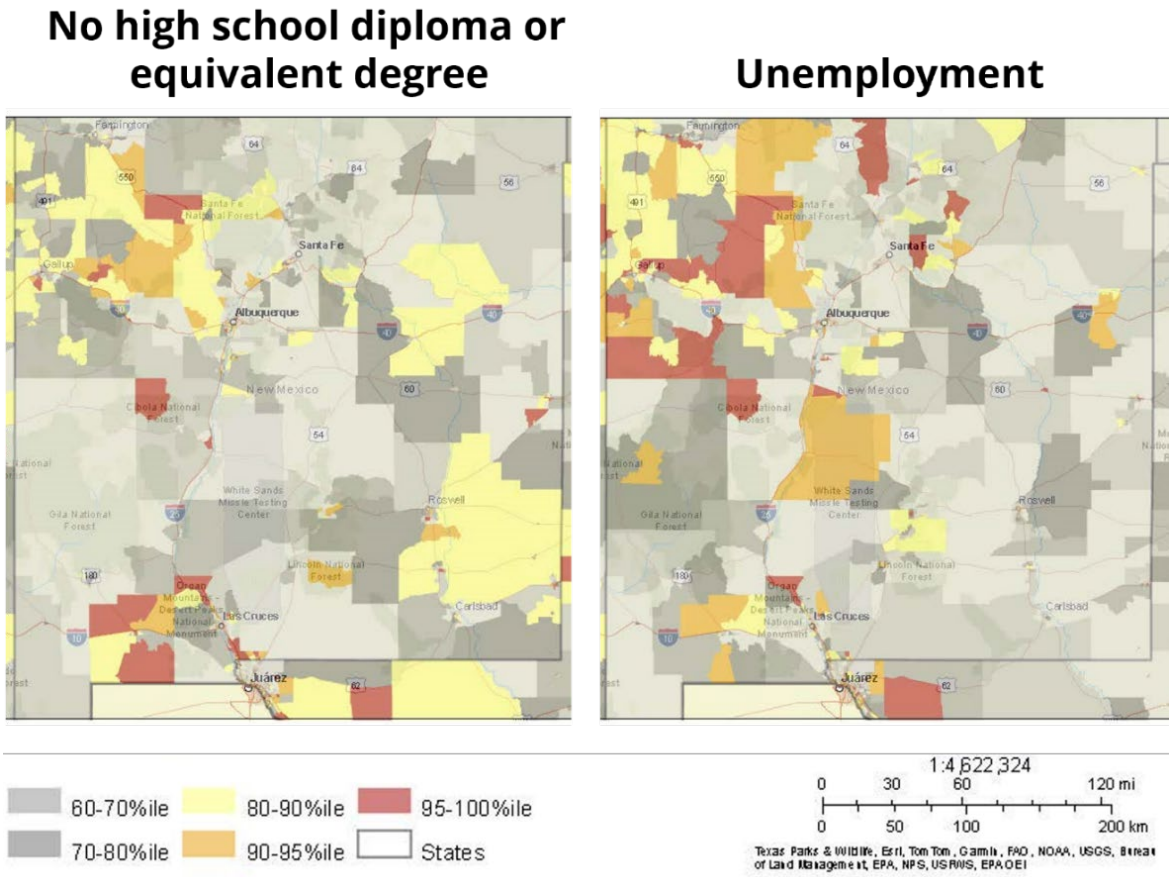
Figure 5. Supplemental Demographic Index Percentiles for U.S. Census Tracts in New Mexico



Source: U.S. Environmental Protection Agency (EPA). EJ Screening Tool, Version 2.2.
Note: The SDI is a weighted score that accounts for income, unemployment, education, English proficiency, and life expectancy.
Note: Unshaded areas are at or below the 60th percentile.

The metropolitan statistical areas (MSAs) with the highest unemployment rates in the state are Farmington (San Juan County) and Las Cruces (Doña Ana County). The µSAs with the highest unemployment in the state are Grants (Cibola County), Gallup (McKinley County), and Deming (Luna County). As Figure 6 shows, unemployment is only one issue facing these areas. A separate and critical issue is the relatively high proportion of the workforce – particularly in Luna and parts of Sandoval County – who do not have a high school diploma or equivalent degree and thus face fewer opportunities for employment and advancement.

Figure 6. Education and Unemployment Risk Percentiles for U.S. Census Tracts in New Mexico



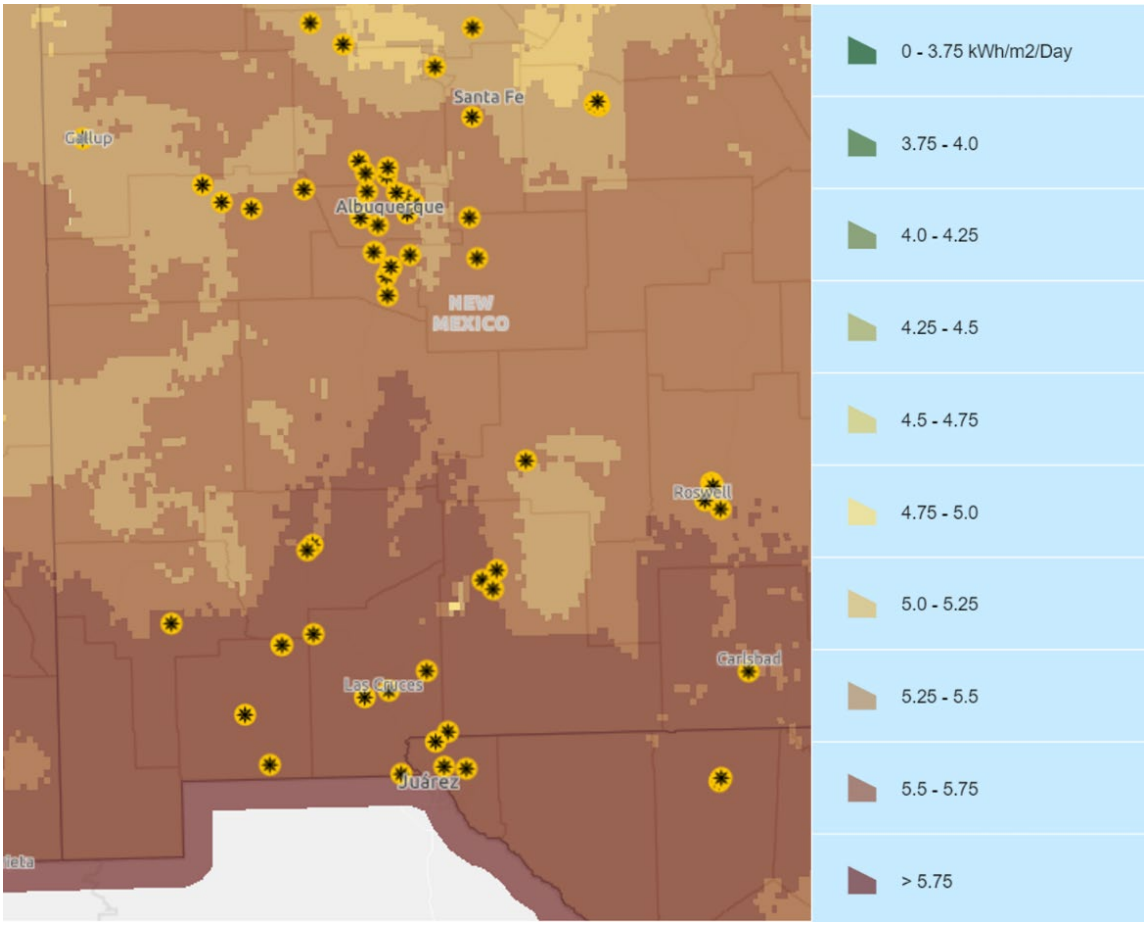
Source: EPA. EJ Screening Tool, Version 2.2.
Note: Unshaded areas are at or below the 60th percentile.

In western New Mexico, some communities, like Gallup and Grants, have the advantage of being geographically located along the Clean I-40 Transportation Corridor. This will allow them to directly benefit from job opportunities that arise from this climate measure. Other communities like Farmington are already the site of retraining initiatives like the uranium mine cleanup effort already noted, and the San Juan 1 Solar Project.

Recruitment efforts among participating organizations will proactively connect with individuals and communities that have traditionally lacked representation among those groups participating in clean energy sectors. To implement these measures, the agency plans to collaborate with the GGEDC, Diné College, and NTU, which allows for greater outreach to traditionally underrepresented communities. NMED would plan to coordinate this effort with NMDWS, the Northern Workforce Development Board, and Workforce Connection Centers in Farmington and Gallup. Towards this end, NMED would plan to leverage connections that NMDWS forged during its "Building the EV Bridge" work with the chair of Northern New Mexico College's trades department and San Juan College's Associate Vice President of Workforce, Economic, and Resource Development, as well as local unions.

Deming and Las Cruces are well-positioned to benefit from many of the planned PCAP initiatives. Their excellent solar capacity provides them with a unique opportunity to realize significant job gains from the CEED Block Grant and the ECO Schools – Buildings measures. As seen from the darkest portions of Figure 7 below, the southern region that includes Deming and Las Cruces is the only part of the state with solar generation capacity above 5.75 daily kilowatt hours per square meter of land ($kWh/m^2/day$).

Figure 7. Solar Generation Capacity and Generation Locations in New Mexico



Source: EIA., U.S. Energy Atlas.
Note: Shading represents solar generating capacity, in daily kilowatt hours per square meter of land (kWh/m2/day).
Note: Sun icons represent locations of grid-connected solar power generating facilities.

The large number of freight vehicles passing through southern New Mexico along the I-25 and I-10 corridors also means that this southern region is a major focal point for jobs created via the Clean Truck Incentives measure. Importantly, Las Cruces Public Schools already has an electric school bus program in place, with an order placed for five Thomas Built Safe-T-Liner C2 340TS electric buses for delivery this year, along with plans to install commensurate charging stations. This means that beginning in 2027 the public schools can benefit from selling their clean fuel credits under the recently authorized New Mexico Clean Fuel Standard program (House Bill 41). For this region, additional outreach is planned with Doña Ana Community College, New Mexico State University – Alamogordo (NMSU-A), the Southwestern Area Workforce Development Board, and Workforce Connection Centers in Deming and Las Cruces.

8.5 Messaging Opportunities

Observations from both the NMCEWDS study and NMDWS efforts to plan the workforce training needed can aid the state's understanding of how to connect with job seekers in traditionally underrepresented communities. The first two of the nine best practices recommended in the NMCEWDS are related to how to proactively expand awareness in those communities about the employment opportunities created by the measures in this PCAP.

1. Prioritize training among diverse populations;
2. Center training in rural communities with culturally appropriate practices.

As discussed in section 8.6, NMED needs program coordinators to implement the incentive programs. Outreach coordinator duties will include working with NMDWS to help cultivate the numerous collaborations already initiated with labor, community, and educational organizations in non-white and rural communities throughout the state. The department also needs funds for road travel, which will be vital for them to hold in-person meetings and visits to provide information and answer key questions about the opportunities in this PCAP to work in clean energy jobs largely available to those with greater access to capital, services, and job networks at-present.

Since not all community members would be able to meet in person due to personal and work commitments, virtual outreach options must also be explored. These could include monthly, quarterly, or yearly webinars with high-level project updates and announcements of available openings and training opportunities. Outreach coordinators would be encouraged to provide ample time for questions and answers. Meeting material would be summarized in a report published annually on the state's project website, summarizing comments received and responses, with quantifiable measures where appropriate.

A successful workforce plan will engage in proactive outreach to connect workers across the state transitioning out of the fossil fuel industries with apprenticeship and training opportunities in EV infrastructure. NMDWS planned to accomplish this by reaching out to communities using a "wrap-around" service model. Under this model, NMDWS ensures that programs are available for retraining, apprenticeships, and vocational programs. In addition, they provide case management assistance, equipment, and travel funds. Before connecting an applicant to a training program, the wrap-around model requires the workforce services administrator to assess them and determine how to minimize their barriers to enrollment.

Key to successful workforce planning is an up-to-date list of community and labor organizations engaged in workforce development efforts. Agencies will maintain a record of notes on conversations and additional opportunities presented for organizational collaborations that will allow the provision of wrap-around services.

Given the multitude of cultures in New Mexico, it will be of paramount importance that agencies tailor their workforce approach to the needs and preferences of each community. For example, in the Four Corners, much of the state's outreach will be to many Tribes, Nations, and Pueblos. Native Americans accounted for 42 percent of workers laid off from the San Juan coal mine and coal-fired power plant when that plant was shut down. This will make outreach to Tribal communities a vital component of the work that outreach coordinators perform. NMED's Climate Change Bureau (CCB) will provide these coordinators with the resources and insights gained from ongoing community engagement with the Tribes, Nations, and Pueblos. CCB will also make sure that the coordinators ask Tribes, Nations and Pueblos for guidance on how to tailor implementation to best meet their needs and ensure government-to-government obligations are honored.

In southeastern NM, the state will also target outreach to families in the fossil fuel industries, but through a different cultural lens. Many of the rural communities surveyed in the NMCEWDS expressed concerns about clean energy jobs being taken by metropolitan communities and creating rural-urban wealth transfers. Outreach will need to account for this perspective and be done in ways that can effectively explore and address it.

In many if not all parts of the state, it will be important to provide outreach materials in various media formats that are accessible to non-English speakers.

NMED and EMNRD also plan to follow NMDWS's lead in proactively engaging local schools. This can be modeled after efforts like the "Be Pro Be Proud" semi-truck simulator to spark students' interest in electrical trades and working with high school career counselors with students enrolled in career and technical education programs related to EV infrastructure.

Other key outreach avenues, in addition to those already noted, are as follows:

- The Workforce Connection Online System (WCOS) case management tool. This tool can be used to identify individuals who are or are about to become unemployed. WCOS includes information on gender, geographical location, and other aspects to channel outreach and educational materials;
- Working with relevant industry bodies to develop recognized certifications and accreditations for EV infrastructure careers. These include the JATC and similar collaborators providing EV infrastructure certification and accreditations.
- Tapping into Corporate Social Responsibility (CSR) initiatives to encourage private companies to allocate a portion of their CSR budgets to support clean energy workforce development programs;
- Collaborating with Women's Economic Self-Sufficiency Team (WESST), Family Friendly New Mexico, and other groups focused on women in the workforce;

- Presenting the project's outcomes and successes at regional and national conferences related to workforce development, clean energy, and EVs;
- Utilizing online platforms and social media to share project updates, resources, and success stories with a broader audience;
- Creating a dedicated website or portal to house project-related materials; and
- Conducting peer-to-peer exchanges with interested organizations from other states or regions to facilitate knowledge transfer.

Lastly, it will be crucial to identify and reach out to those businesses already posting job openings under NAICS code 238 – Specialty Trade Contractors. Such entities are not only projected to provide almost three-quarters of New Mexico's 2020-2030 construction sector job growth according to current job openings data, but they will be fulfilling the most vital workforce needs outlined in this PCAP's measures. Coordinating between them and the organizations listed above is thus imperative to the state's success.

9 Coordination and Outreach

New Mexico conducted extensive coordination and outreach in the development of this PCAP. This section describes the framework New Mexico used to support robust and meaningful engagement strategies to ensure comprehensive stakeholder representation and overcome obstacles to engagement, including linguistic, cultural, institutional, geographic, and other barriers.

9.1 Identification of Stakeholders

New Mexico identified stakeholders representative of the entities, groups, and individuals who may be impacted by the implementation of this PCAP. Stakeholders included:

- Tribes, Pueblos, and Nations;
- CBOs;
- Residents of New Mexico;
- Other state agencies;
- Trade unions and associations;
- Metropolitan planning organizations;
- Municipalities;
- Economic development organizations;
- Environmental advocates;
- Industrial associations;
- Utilities;
- Waste management organizations;
- Industrial organizations;
- Local elected officials; and
- Other interested organizations.

To identify stakeholders, New Mexico contacted local elected officials, community organizations, and advocacy organizations known to be interested in clean energy infrastructure and practices. The list of identified stakeholders as of the publication of this PCAP is included in Appendix M – Identified Stakeholder List. New Mexico will update this list of stakeholders as needed.

9.2 Interagency and Intergovernmental Coordination

9.2.1 Interagency

NMED and EMNRD conducted extensive interagency outreach throughout the entirety of the PCAP process. Upon receiving the CPRG Phase 1 funds, NMED granted a sub-award to EMNRD and signed a Memorandum of Understanding (MOU) to facilitate collaboration between the two agencies. The MOU detailed each agency's contribution

to the PCAP process, including measure selection, outreach and engagement, and review of authority among other items. The roles and responsibilities outlined in the MOU were executed through holding twice-weekly meetings, creating a shared email account and file structure, and consistent communication. This collaboration facilitated a cross-sector approach that allowed New Mexico's PCAP to be thorough and inclusive.

NMED and EMNRD also engaged other state agencies through the state's CCTF. NMED and EMNRD lead the CCTF, which includes nine smaller, interagency climate action teams responsible for proposing, planning, and implementing strategies to reduce GHG emissions and enhance New Mexico's ability to adapt to climate change. NMED particularly engaged with the CCTF's Transportation Climate Action Team (TCAT) to ensure the transportation measures outlined in the PCAP reflected interagency priorities in this sector.

Similarly, NMED and EMNRD engaged state agencies through the Sustainable Economy Task Force (SETF).[35] The SETF's mission is to develop a strategic plan to transition the state economy away from reliance on natural resource extraction. NMED and EMNRD engaged the 12 agencies that comprise the SETF by presenting and collecting feedback on proposed PCAP measures in a special CPRG Workshop, which included the SEAC, and members of the public.

9.2.2 Intergovernmental

Intergovernmental coordination was a priority throughout the PCAP process. NMED and EMNRD invited all Tribes, Pueblos, and Nations that share boundaries with New Mexico to collaborate in the CPRG process through coordinating virtual meetings with both Phase 1 CPRG Tribal recipients and Tribal non-recipients. An initial meeting was set up for each group to solicit feedback on the state's proposed PCAP measures, both verbally and via a follow-up survey. The team continues to hold recurring monthly meetings with the Phase-1 CPRG Tribal recipients to coordinate CPRG efforts, continue collaboration on the state's development of the PCAP, and support their efforts to apply for Phase 2 CPRG funding. In addition, NMED and EMNRD held one-on-one meetings with all Tribes, Pueblos, and Nations who expressed interest. The feedback collected assisted in informing the measures included in the PCAP, and the relationships built will be fostered further throughout the remainder of the CPRG planning process.

The team initiated municipal engagement by reaching out to the CSCNM. The CSCNM is comprised of the Cities of Albuquerque, Las Cruces, and Santa Fe, as well as the counties of Santa Fe and Los Alamos. Recurring meetings with these municipalities were held twice a month to facilitate discussion of the state's proposed PCAP measures, as well as support them in their goals to apply for Phase 2 CPRG funding. Organic Waste Diversion programs quickly arose as a priority climate action for these municipalities, which they

[35] https://edd.newmexico.gov/about-us/setf.

requested to add to the state's PCAP for eligibility to apply for Phase 2 funding. NMED and EMNRD accepted this request and assisted them in the development of the required analyses associated with the measure.

NMED also initiated outreach to municipalities and counties in New Mexico by sending a meeting invite to all members of the New Mexico Municipal League and New Mexico Counties; however, no members responded to the invitation. During the CCAP process, the planning team will seek expanded opportunities for follow-up engagement.

Finally, NMED and EMNRD worked with other CPRG states to determine areas of alignment and potential collaboration.

9.3 Community Outreach Plan

This plan outlines the efforts of Prospera (https://nmprospera.org) to educate, engage, and mobilize supporters and stakeholders across the state in the planning and implementation of New Mexico's CPRG grants. Prospera used its extensive network to conduct an intentional, layered campaign to engage community members online, in person, and on the phone.

Prospera is a statewide coalition, consisting of the following organizations:

- CCP La Semilla Food Center
- Naeva, an Indigenous-led organization
- NM CAFé, a network of diverse Southern NM organizations
- NM Dream Team, a statewide network for undocumented, LGBTQ+, and mixed-status families
- NM Working Families Party
- Organizers in the Land of Enchantment (OLÉ)
- Sierra Club - Rio Grande Chapter
- The Wilderness Society
- Youth United for Climate Crisis Action (YUCCA)

9.3.1 Principles Regarding Processes to Develop and Implement Climate Policies

Prospera adopted the CCTF's equity principles in the development and implementation of their community engagement work for NMED, as follows:

A. **Engage Overly Burdened Communities:** Prospera must make measurable efforts to solicit and incorporate the ideas, concerns, and solutions from overly burdened communities and their leadership in creating and implementing climate policy, including the process of aligning policies with these equity principles. Where possible and permitted by law and available

funding, Prospera compensates and recognizes communities for their time and intellectual labor.

B. **Respect Tribal Sovereignty and Require Collaboration and Consultation:** Climate policy must respect Tribal sovereignty and be created with Tribal collaboration, and where appropriate, consultation with New Mexico's Nations, Tribes, and Pueblos. Collaboration and consultation will support indigenous well-being, health, energy independence, traditional knowledge, and cultural sustainability. *Prospera recognizes that consultation may not equal consent* and will continue to engage early and often with the state's Nations, Tribes, and Pueblos in this work.
C. **Maintain Accountability and Transparency:** Prospera policies must be measured against these equity principles, including input from overly burdened communities. In providing publicly available reporting, Prospera must explain how equity principles were or were not adhered to, including the methodology and the extent to which data collected or used in policymaking represents overly burdened communities.

9.3.2 Principles Regarding Design and Effects of Climate Policies

Prospera adopted the CCTF's equity principles in the development and implementation of their community engagement work for NMED, as follows:

A. **Incorporate Traditional Knowledge and Experience:** While providing education on science-based climate solutions, Prospera considers overly burdened communities' historical, cultural, and environmental experience and knowledge of the land, water, plants, medicine, and peoples, including New Mexico's Nations, Tribes, and Pueblos. When developing climate policy, Prospera encourages policymakers to honor and protect the values and intention of overly burdened communities as an integral part of envisioning a just transition.

B. **Advance Equitable Economic Transition:** Prospera shall advance economic policies that support a just transition for overly burdened New Mexicans in rural and extractive-industry-dependent communities. Prospera will do this by providing adequate job training and placement for living wage and leadership positions, workforce development opportunities, and early investments in economic diversification initiatives and infrastructure.

C. **Prioritize Creating and Maintaining Universal Access to Utilities:** When decarbonizing energy or increasing the resilience of infrastructure, Prospera shall prioritize strategies that:
    a) create and maintain overly burdened communities' full access to sustainable utility infrastructure, including running water, renewable electricity, safe roads with multimodal transportation options, and broadband;

b) ensure that these communities are not further underserved, burdened, or harmed;
c) reduce the energy burden on low- and no-income households; and
d) provide adequate funding and technical support for climate change adaptation in these communities.

D. **Reduce Health and Environmental Impacts:** Prospera policies must assess any potential unintended consequences to overly burdened communities, including health impacts and racial disparities.

E. **The benefits of climate policies cannot result in increased negative health impacts or environmental degradation of overly burdened communities experiencing the effects of climate change:** Instead, Prospera policies should reduce or eliminate these burdens to the furthest extent practicable and maximize benefits to impacted communities to achieve equity objectives.

9.3.2.1 Prioritize Engagement Strategies Based on Audience

A. Customize engagement approaches for each stakeholder group, including tailored messaging and meetings. For example, government officials may require in-depth briefings, while community leaders might benefit from localized workshops.

9.3.2.2 Communication and Engagement Tactics

With these detailed communication strategies and a clear focus on the key stakeholders, this engagement plan aimed to effectively inform decision-makers in the state, ultimately preparing them to apply for the grant from the EPA to support climate pollution reduction efforts based on community input.

A. **Digital Engagement**
   1. **Website Updates and Optimization:**
      a) Regularly update a dedicated page on the Prospera website and the NM Climate Action website with relevant information, policy updates, and progress reports.
   2. **Social Media Campaigns:**
      a) Utilize platforms such as X (Twitter), Instagram, and Facebook to share key milestones and updates.
      b) Create visually engaging content and infographics to simplify complex information.
   3. **Email Outreach:**
      a) Develop an email newsletter with CPRG updates, event invitations, and progress reports.

B. **Phone and Text Outreach**
    1. **Phone Surveys:**
        a) Conduct brief phone surveys to collect input from community members on specific aspects of CPRG
    2. **Text Message Alerts:**
        a) Send timely text message updates regarding important events, policy developments, or grant application deadlines.
        b) Include links for further information or actions needed.

C. **Events and Workshops**
    1. **Town Hall Meetings:**
        a) Organize town hall meetings with community leaders and members to discuss CPRG strategies.
        b) Provide opportunities for questions and answers and open discussions
    2. **Webinars and Online Workshops:**
        a) Host webinars on specific policy areas or technologies related to pollution reduction.
        b) Invite experts to present and engage in panel discussions.
    3. **Community Forums:**
        a) Create forums where government officials can interact directly with community members to understand their concerns and priorities.
        b) Gather valuable input for policy development.
    4. **Training Sessions for Coalition Collaborators:**
        a) Conduct training sessions within the coalition to ensure consistent messaging and a unified approach when engaging with government stakeholders.

9.3.3 Collaboration

A. Leverage existing collaborations with environmental organizations, universities, and research institutions to access experts and data that can be shared with government stakeholders.

9.3.4 Language Access and Inclusivity

A. Provide translation services for materials and meetings to ensure inclusivity for non-English-speaking government stakeholders.

9.3.5 Evaluation and Feedback

A. Implement a feedback mechanism to provide input on the engagement process and information received.
B. Regularly assess engagement metrics such as website traffic, email open rates, and event attendance.

9.4 Strategies to Overcome Linguistic, Cultural, Institutional, Geographic, and Other Barriers to Participation

NMED and EMNRD made a concerted effort to be inclusive of linguistic, cultural, institutional, and geographic backgrounds in all community engagement efforts. A primary piece of doing so was collaborating with the CCP, which is a trusted CBO in NM, to organize and lead all community engagement efforts during the PCAP process. The CCP worked with numerous other CBOs through the Prospera Coalition to reach the diverse communities of NM. In collaborating with the Prospera Coalition, NMED and EMNRD were able to engage a broader and more diverse group of New Mexicans, with organizations they trusted as hosts, in ways that made them feel most comfortable. It also provided the space necessary to build relationships that will continue to inform the state's work beyond the CPRG process.

To overcome linguistic barriers, all community engagement notices and surveys were sent in both English and Spanish, the two most spoken languages in the state of NM. In addition, Spanish translation was offered at all in-person and online community engagement events. Geographic barriers were overcome by hosting two in-person meetings. One meeting was held in southwest NM, in Bayard, and the other was held in the northwest corner of NM, in Gallup. A third meeting was hosted virtually to reach communities outside of these geographic regions, and a fourth meeting was held in Tucumcari, NM, located in eastern NM. Lastly, NMED and EMNRD engaged the NM SEAC, which is comprised of 14 community members representing disproportionately impacted communities or organizations, local governments, Tribal governments, or industries, from all over NM.

9.5 Outreach and Coordination Documentation

Table 8 provides a log of interagency and intergovernmental coordination and stakeholder and public engagement efforts associated with the development of this PCAP. Meeting and outreach materials and resources are available at the NM CPRG site.[36]

[36] https://www.climateaction.nm.gov/climate-pollution-reduction-grant.

9.6 Outreach and Coordination Collected Input Summary

A summary report of the input collected through the online survey, phone survey, and public meetings is included as Appendix N – Community Outreach and Engagement Input Report. The surveys and meetings were co-hosted with CCP, representing Nuevo México Prospera (Prospera).

Table 8. PCAP Outreach and Coordination Log

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
Recurring/ Ongoing	State Agency	Twice weekly NMED and EMNRD PCAP Collaboration Meetings	EMNRD	Teams Meetings and In-Person	Online/ In-person	NMED met with EMNRD twice a week to facilitate meaningful and thorough collaboration between the agencies. This resulted in consistent input and participation from EMRND on the measures included in the PCAP, the outreach and engagement process, and much more.
10/19/2023	Tribal	Presentation on Phase 1 and Phase 2 CPRG Opportunities for Collaboration to the participating Tribes of the Inter-Tribal Resource Advisory Council (IRAC)	Nambe Pueblo, Picuris Pueblo, Pojoaque Pueblo, San Ildefonso Pueblo, Ohkay Owingeh, Tesuque Pueblo, Santa Clara Pueblo, Taos Pueblo	Zoom Meeting	Online	Introduced CPRG opportunities, received initial feedback and interest levels, and initiated relationships necessary with the participating IRAC Tribes to conduct meaningful engagement throughout the CPRG process. Next steps include sharing the state's draft list of priority climate action measures to be included in the PCAP and soliciting their feedback through follow-up meetings.
11/2/2023	Municipal	Introductions and initiation of collaboration on State and Metropolitan Statistical Area (MSA) CPRG efforts	City of Albuquerque Sustainability Dept. (CPRG MSA Recipient)	Teams Meeting	Online	The City of Albuquerque and the State of New Mexico kicked off their collaboration which will continue throughout the entirety of the CPRG process. Next steps include sharing draft priority climate measures lists, discussing implementation efforts, and including other municipalities in the conversation.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
11/7/2023	NM Agencies	CPRG Phase 1 and Phase 2 overview, presentation of opportunities to collaborate	TCAT Agencies: NMED CCB, NMED AQB, NMDOT, NMGSD, NMPRC, NMTAX, NMDWS, NMTD, EMNRD	Teams Meeting	Online	Raised awareness of CPRG efforts and opportunities within NM state agencies that are involved in the transportation sector. Next steps are to follow up with agencies that expressed interest, which was the NMDOT.
11/17/2023	Municipal	Introductions, CPRG Phase 1 and Phase 2 opportunities overview, development of next steps	City of Albuquerque Sustainability Dept., City of Santa Fe Sustainability Dept., City of Las Cruces Sustainability Dept.	Teams Meeting	Online	Gained an understanding of the participating municipalities' interests and goals within the CPRG program and where there is potential or necessity to collaborate. Next steps include sending the participating municipalities the state's draft list of priority climate measures for their review, organizing a follow-up meeting to facilitate getting feedback on the draft, ensuring that any measures they intend to apply for in Phase 2 of the grant are included in the list, assessing the best method(s) to pursue in either individually or jointly applying for Phase 2 funding, and including other interested municipalities in the conversation.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
11/30/2023	Stakeholder	Introductions, CPRG Phase 1 and Phase 2 opportunities overview, NM Building and Construction Trades Council work overview, opportunities for collaboration through the CPRG program	New Mexico Building and Construction Trades Council, NMDWS, NMED, EMNRD, NMEDD	Teams Meeting	Online	Gained an understanding of how the New Mexico Building and Construction Trades Council, NMED, EMNRD, NMDWS, and NMEDD might work together through the CPRG program to develop strong workforce solutions surrounding building and construction trades. Next steps include identifying draft priority climate measures that might require workforce planning for the building and construction trades and developing those plans under this collaboration.
12/5/2023	Municipal	Planning session for the content and facilitation of the state's jointly led Tribal Engagement Sessions	City of Albuquerque Sustainability Dept.	Teams Meeting	Online	Planned facilitation of joint Tribal engagement sessions. Next step is to conduct meetings.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
12/6/2023	Tribal	CPRG discussion with Pueblos, Tribes, and Nations that received Phase 1 funding. Overview of the CPRG and opportunities to collaborate between the State, City of Albuquerque MSA, and Tribes. Open discussion about where all participants are in the CPRG process and next steps to take in collaboration	Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Tesuque, Pueblo of Nambe, Pueblo of Pojoaque, San Ildefonso Pueblo, Pueblo of Picuris, Navajo Nation	Teams Meeting	Online	Initiated a relationship with Phase 1 tribes to collaborate throughout the CPRG process. Received feedback via polling that they would like to meet with the state monthly. Received feedback via polling that most of the participating tribes do not have a draft list of priority climate actions to share quite yet, but they would be interested in sharing once they do. Shared the state's draft list of priority climate actions for review. Initiated conversation about Phase 2 applications and the potential of coalitions. Next step is to set up monthly meetings, reciprocally share draft priority climate action lists as available, and develop coalition ideas further.
12/6/2023	Tribal	Survey to collect Tribal feedback on the state's draft list of priority climate actions	Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Tesuque, Pueblo of Nambe, Pueblo of Pojoaque, San Ildefonso Pueblo, Pueblo of Picuris, Navajo Nation	Survey	Microsoft Forms	Requested feedback on each draft priority climate action measure through a survey. Specifically, the survey requested information on whether the tribe approved or opposed each measure, how the measure would benefit their community, general comments, or questions, and if they are interested in joining a coalition for that measure. Next step is reviewing and integrating feedback into the draft list of actions.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
12/6/2023	Tribal	CPRG discussion with the Navajo Nation and addressing technical assistance questions on the GHG inventory and QAPP requirements of the CPRG	Navajo Nation Fish and Wildlife Service Climate Change Program	Teams Meeting	Online	Offered resources and assistance to the Navajo Nation in their efforts to complete their QAPP and GHG Inventory. Next steps include attending any meetings they have regarding their GHG inventory and sharing the state's QAPP once complete.
12/8/2023	Municipal	Introductions, CPRG overview, Implementation application discussion	Los Alamos County Sustainability and Water Resources Programs	Teams Meeting	Online	Informed Los Alamos County of the CPRG opportunities and learned that they are interested in applying. Invited them to start meeting with NMED EMNRD, and other interested municipalities so that they can get started on their implementation application efforts.
12/8/2023	Municipal	NMED hosts interested municipalities for open discussion about climate action planning and implementation grant applications	City of Albuquerque Sustainability Dept., City of Santa Fe Sustainability Dept., City of Las Cruces Sustainability Dept., Bernalillo County, Los Alamos County	Team Meeting	Online	Reviewed and got feedback on the first half of the state's draft priority climate action list, which aided the state in further selecting priority actions for the PCAP. Discussed coalition logistics and how the municipalities could apply as a coalition for measure(s). Requested a list of measures they intend to apply for so that the state can include those measures in its PCAP list. Next steps include getting feedback on the second half of the draft PCAP measure list and including their priority measures in the list.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
12/12/2023	Tribal	CPRG Discussion with the Tesuque CPRG Coalition on CPRG opportunities	Pueblo of Tesuque CPRG Coalition	Teams Meeting	Online	Answered general CPRG and technical assistance questions.
12/13/2023	Community and NM Agencies	SEAC and SETF CPRG Engagement Workshop	Sustainable Economy Task Force (SETF) and Advisory Council (SEAC) members, as well as an open invitation to the public	Workshop	Online	Introduced the CPRG opportunities with the SEAC and SETF, which are composed of state agencies and community representatives. Members of the public also joined. Each group was split into breakout rooms and gave feedback on the CPRG process, and the draft list of priorities was collected. Next steps include sending out a survey that formally requests feedback for each proposed PCAP measure.
12/14/2023	Stakeholder	Review of NM's CPRG efforts and current status, review of Together for Brothers works and current projects, and discussion of how to collaborate throughout the CPRG process.	Together for Brothers	Teams Meeting	Online	Initiated a relationship with the Together for Brothers organization and learned of their interest in public transit and air quality justice, particularly in overburdened communities. Both parties agreed that the CPRG is a great opportunity to collaborate and will include the other when appropriate engagement events arise.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
12/15/2023	Tribal	CPRG discussion with all NM Pueblos, Tribes, and Nations that didn't receive Phase 1 CPRG funds and are interested in participating in the CPRG process	All non-Phase 1 NM Tribes, Pueblos, and Nations in NM	Teams Meeting	Online	Introduced the state's current progress and opportunities offered by the CPRG program. Got initial feedback on the state's draft priority climate action list and an idea of potential measures that the participating Tribes may be interested in. Connected Santo Domingo Pueblo with the City of Albuquerque because the Pueblo is located within the City's MSA region. Next steps include keeping these Tribes, Pueblos, and Nations apprised of continued efforts and involving them as they wish in any planning or implementation efforts to come.
12/15/2023	Tribal	Survey to collect Tribal feedback on the state's draft list of priority climate actions	All non-Phase 1 NM Tribes, Pueblos, and Nations in NM	Survey	Microsoft Forms	Requested feedback on each draft priority climate action measure through a survey. Specifically, the survey requested information on whether the tribe approved or opposed each measure, how the measure would benefit their community, general comments or questions, and if they are interested in joining a coalition for that measure. Next step is reviewing and integrating feedback into the draft list of actions.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
12/15/2023	Municipal	Introductions and discussion of CPRG opportunities	County of Santa Fe Sustainability Office	Teams Meeting	Online	Made the County of Santa Fe aware of the CPRG opportunities and invited them to the next joint municipal meeting with the other Coalition of Sustainable Communities municipalities. Shared the draft list of priority climate actions for their review. Next steps are to receive feedback on the draft list of PCAP measures and receive any proposed measure for addition to the PCAP.
12/15/2023	Municipal	Review of overlap between the state and Albuquerque MSA PCAPs and coordination of positioning for the Implementation Grant	City of Albuquerque Sustainability Dept.	Teams Meeting	Online	Discussed overlap in measures between the MSA and State PCAPs, community feedback the City of Albuquerque has received on a few of the state's draft measures, and the potential value of adding an organic waste diversion measure to the state's PCAP. Next steps include continued discussion on overlapping measures to determine the best course of action to not duplicate efforts.
12/20/2023	Municipal	NMED hosts participating members of the New Mexico Coalition for Sustainable Communities for open discussion about climate action planning and implementation grant applications	City of Albuquerque Sustainability Dept., City of Santa Fe Sustainability Dept., City of Las Cruces Sustainability Dept., Bernalillo	Teams Meeting	Online	Set deadlines for requesting measures to be included in the State PCAP and discuss potential coalitions and application options. Next steps include receiving measure inclusion requests, analyses for measures to be included, and municipalities discussing coalition logistics.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
			County, Los Alamos County			
12/21/2023	NM Agencies	Conversation with Veronica Alonzo at the Department of Workforce Solutions (Workforce Innovation and Opportunities Act Coordinator for the state)	NMDWS	Teams Meeting	Online	Ms. Alonzo gave very good guidance on labor needs for clean school buses; already working on electric vehicle application with EMNRD, and can share application info. Will be helpful contact going forward.
12/21/2023	NM Agencies	Clean School Bus PCAP measure inclusion and implementation discussion	Albuquerque Public Schools (APS), City of Albuquerque Sustainability Department, NMED, EMNRD, PED, and NM Indian Education Bureau.	Teams Meeting	Online	Discussed overlap in the City of Albuquerque and NMED's PCAP regarding Clean School Bus Measures. Determined the state would include this measure in the PCAP, and the City of Albuquerque would not, to not duplicate efforts. Discussed funding gaps and needs within APS that could be covered by this measure. Next steps are to flesh out the details of the measure and provide it to all parties in attendance for input and review.
12/21/2023	NM Agencies	All transportation sector measures in the draft PCAP	NMDOT, EMNRD	Teams Meeting	Online	Discussed all proposed transportation sector measures in the draft list of measures for the PCAP. NMDOT detailed where they are with each measure and what gaps need to be filled, or how they could potentially be involved in measures that they haven't worked on yet.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
1/3/2024	Municipal	NM Municipal Coalition for Organic Waste Diversion	Los Alamos County, Santa Fe County, City of Las Cruces, City of Albuquerque	Teams Meeting	Online	Discussed the PCAP addition request of Organic Waste Diversion from the NM Sustainable Cities Coalition.
1/4/2024	Tribal	Recurring monthly meetings to communicate and collaborate with Tribes that received Phase 1 CPRG funding	Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Tesuque, Pueblo of Nambe, San Ildefonso Pueblo, Pueblo of Picuris, Navajo Nation	Teams Meeting	Online	Got an update from each Tribe present on their CPRG progress. Went through the state's revised PCAP list in more detail and received valuable feedback on how these measures might benefit them.
1/4/2024	Municipal	NM Municipal Metropolitan Planning Organizations (MPO's) discussion on draft PCAP measures	All NM MPO's	Teams Meeting	Online	Got great feedback on transportation sector PCAP measures. Santa Fe Public School district highly supported the ECO Schools Program measure, as well as suggested that Safe Routes to School be considered for the Community Mobility measure. Next steps are to meet with the Safe Routes to School Coalition to discuss how the CPRG can fit into their efforts.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
1/4/2024	Municipal	NM Municipal Metropolitan Planning Organizations (MPO's) discussion on draft PCAP measures	All NM MPOs, NMDOT, City of Albuquerque, State Association of Council of Governments (COGs)	Teams Meeting	Online	Got great feedback on transportation sector PCAP measures. Focused on Community Mobility and current projects that the organizations were working on under this umbrella. Discussed how these projects could be replicable and scalable across the state and how the CPRG could fill gaps in funding for these projects. Next steps are to receive overviews of these programs by email and try to incorporate these ideas into a PCAP measure under Community Mobility.
1/5/2024	Community	NM CPRG Website Deployment	Public	Website	Online	Deployed a website with NM's CPRG information, draft PCAP list, and outreach/ engagement opportunities.
1/5/2024	Municipal	Regional Infrastructure Accelerator (RIA) Grant I-40 Transportation Corridor recipients' conversation	Bernalillo County, Sandoval County	Teams Meeting	Online	Discussed the Clean I-40 Transportation Corridor PCAP measure and how it aligns with the RIA I-40 Transportation Corridor efforts. It aligned very well, and a coalition application is planned. Next steps include requesting more information on GHG emissions, LIDAC benefits, and cost estimates.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
1/8/2024	Municipal	City of Las Cruces proposed PCAP measures	City of Las Cruces Sustainability Dept.	Teams Meeting	Online	Discussed two projects that the City of Las Cruces is interested in funding through the CPRG and how they might fit into the PCAP. One measure was determined to not fit well within the CPRG guidelines and timeline; however, another warranted further discussion with EMNRD. Next step is to have a discussion with the City of Las Cruces and EMNRD.
1/8/2024	States	Oklahoma and New Mexico coalition on transportation supercenter hubs	State of Oklahoma	Teams Meeting	Online	Discussed the potential for a NM x OK coalition on Transportation Supercenter Hubs and the logistics and timing of completing this task.
1/9/2024	Stakeholder	Training for electricians in New Mexico	New Mexico Building and Construction Trades Council	Teams Meeting	Online	Received information about the workforce needed here in New Mexico to make transportation electrification a reality.
1/12/2024	States	Oklahoma and New Mexico coalition on transportation supercenter hubs	State of Oklahoma	Teams Meeting	Online	Solidified intent to apply as a coalition for a Clean I-40 Transportation Corridor. Next steps are to inquire if Arizona is interested and begin the application process.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
1/23/2024	Municipal	Discuss CPRG opportunities for municipalities in NM	All entities involved in the Municipal League of NM and NM Counties	Teams Meeting	Online	No participants attended.
1/23/2024	Stakeholder	Introduce PBPA (Permian Basin Petroleum Association) to the PCAP draft list the state has created and get feedback and suggestions for how to include the oil and gas industry in the CPRG program process	Permian Basin Petroleum Association (PBPA)	Teams Meeting	Online	Discussed measures the PBPA proposed as potential fits for the CPRG program and discussed further collaboration for CCAP efforts.
1/24/2024	State Agencies	Discuss PCAP Transportation measures, request a letter of support	EMNRD, NMDOT	Teams Meeting	Online	Confirmed inter-agency support for all CPRG transportation sector measures and requested a letter of support for the Clean I-40 Transportation Corridor from NMDOT.
1/26/2024	States	Arizona, Oklahoma, and New Mexico coalition on transportation supercenter hubs	State of Oklahoma, State of Arizona	Teams Meeting	Online	Solidified intent to collaborate on Clean I-40 Transportation Corridor plans to create a scalable and replicable priority climate action measure.
1/26/2024	Municipal	Attended the Greater Gallup Economic Roundtable	Industry and community leaders from Gallup, NM	Roundtable	Santa Fe, NM	Learned more about Gallup's plans for an inland corridor location and discussed how the CPRG could potentially fund a clean energy aspect to these plans. Developed community interest in the

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
						CPRG program and followed up with a public meeting in Gallup on 2/10/2024.
2/1/2024	Tribal	Recurring monthly meetings to communicate and collaborate with Tribes that received Phase-1 CPRG funding	Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Tesuque, Pueblo of Nambe, San Ildefonso Pueblo, Pueblo of Picuris, Navajo Nation	Teams Meeting	Online	Check-in before PCAP submission on how each Tribe is doing with their PCAP process and how NMED can assist. Review of NM's proposed PCAP measures to address any changes that have been made since the last meeting with this group and to receive final comments or questions.
2/2/2024	Community	Community meeting in Bayard, NM to discuss the state's CPRG progress and solicit feedback and conversation on the priority climate measures proposed for the PCAP	Community leaders and members from across SW NM	Public Engagement Meeting	Bayard, NM	Received feedback on all proposed PCAP measures and how each measure would benefit or disbenefit their communities. Discussed their experience with climate change and what measures or assistance would be most helpful to them. Began the discussion on what measures they would like to see included in the CCAP.
2/6/2024	Stakeholder	Discussion with Greater Gallup Economic Division Corporation on their plans for a clean I-40 regional corridor site in Gallup, NM, and how the CPRG could assist with this project	Greater Gallup Economic Division Corporation staff	Teams Meeting	Online	Discussed implementation potential within the Clean I-40 Transportation Corridor measure and the benefits this measure would bring to the Gallup area.

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
2/6/2024	Stakeholder	Discussion with Mesalands Community College on their aspirations for a clean I-40 regional complex in Tucumcari, NM, and how the CPRG could assist with this project	Mesalands Community College Staff	Teams Meeting	Online	Discussed implementation potential within the Clean I-40 Transportation Corridor measure and the benefits this measure would bring to the Tucumcari area.
2/7/2024	Community	Virtual community meeting to discuss the state's CPRG progress and solicit feedback and conversation on the priority climate measures proposed for the PCAP	Community leaders and members from across all areas of NM	Virtual Public Engagement Meeting	Online	Received feedback on all proposed PCAP measures and how each measure would benefit or disbenefit their communities. Discussed their experience with climate change and what measures or assistance would be most helpful to them. Began the discussion on what measures they would like to see included in the CCAP.
2/10/2024	Community	Community meeting in Gallup, NM to discuss the state's CPRG progress and solicit feedback and conversation on the priority climate measures proposed for the PCAP	Community leaders and members from across NW NM.	Public Engagement Meeting	Gallup, NM	Received feedback on all proposed PCAP measures and how each measure would benefit or disbenefit their communities. Discussed their experience with climate change and what measures or assistance would be most helpful to them. Began the discussion on what measures they would like to see included in the CCAP.
2/12/24	Community-Based Organization	Workforce development, particularly in Southeastern NM	Somos Un Pueblo Unido	Teams Meeting	Online	Discussed Somos Un Pueblo Unido's work surrounding workforce development in NM and how to include some of their expertise and suggestions

Date of Event	Stakeholder Type	Topic	Organizations Invited	Coordination/ Outreach Method	Location	Outcome(s) and Next Steps
						to the state's workforce analysis in the PCAP. Next steps are to engage with this group from the start of the CCAP process to meaningfully collaborate on the workforce analysis required for that plan.
2/23/2024	Community	Community meeting in Tucumcari, NM to discuss the state's CPRG progress and solicit feedback and conversation on the priority climate measures proposed for the PCAP	Community leaders and members from across NE NM.	Public Engagement Meeting	Tucumcari, NM	Received feedback on all proposed PCAP measures and how each measure would benefit or disbenefit their communities. Discussed their experience with climate change and what measures or assistance would be most helpful to them. Began the discussion on what measures they would like to see included in the CCAP.

10 Conclusion

This PCAP is a major deliverable under the CPRG planning grant awarded to NMED and EMNRD. As New Mexico's lead agencies continue to address climate change, NMED and EMNRD have identified – with significant input –priority action measures that will deliver tangible community benefits across New Mexico and beyond. Practically, the ability to implement the projects, programs, and policies will depend on many factors including securing the necessary funding and, in some cases, buttressing political will.

With the remaining CPRG planning grant funds, NMED and EMNRD will continue development and engagement on climate actions that reduce emissions; invest in sustainable infrastructure, technologies, and practices; build the state's clean economy; and enhance the quality of life for all New Mexicans. The results of that effort will be the CCAP that establishes equitable and sustainable economic development strategies that reduce emissions across all sectors. For each climate measure, the CCAP will include near- and long-term emissions projections, a suite of emission reduction measures, a robust analysis of measure benefits, plans to leverage federal funding, and a workforce planning analysis.

In 2027, New Mexico will publish a status report that details implementation progress for measures included in the PCAP and CCAP, any relevant updates to PCAP and CCAP analyses, and next steps and future budget and staffing needs to continue implementation of CCAP measures.

If you have questions about this PCAP or suggestions for the upcoming CCAP and status report, contact the NMED and EMNRD CPRG team at nm.cprg@env.nm.us.

Measure Appendices

Appendices A through J each detail one priority climate measure listed above.

Appendix A – Clean I-40 Transportation Corridor

A.1 Measure Description:

A strategic crossroads and burgeoning clean corridor: New Mexico sits at the heart of one of the largest east-west freight corridors nationwide – Interstate 40 (I-40). To showcase how transportation and logistics can be cleaner and less polluting, NMED intends to lead a coalition of state agencies along I-40 in a bold proposal for CPRG Phase 2 funding.

The Clean I-40 Transportation Corridor: The New Mexico-led coalition's transformative vision centers on establishing a network of electric charging and hydrogen refueling stations specifically designed for medium- and heavy-duty (MHD) zero-emission trucks (MHD ZETs) along I-40. This infrastructure will:

A. Facilitate the clean, sustainable transportation of goods between California's Port of Los Angeles and Arizona, New Mexico, Texas, Oklahoma, and beyond.
B. Empower communities by strategically placing clean transportation complexes to deliver access to a clean energy economy, directly creating workforce development opportunities and improving air quality, particularly for residents in LIDAC along the corridor.
C. Catalyze tailpipe emission reductions that translate to improved public health, fewer pollution-related illnesses and deaths, and a significant contribution to local, state, and national climate goals.

Aligned with national momentum: Demand for clean transportation infrastructure is skyrocketing, fueled by corporate sustainability goals and federal and state investments and regulations. Recognizing this critical need, the U.S. Department of Transportation (USDOT) designated the interstate from the Port of Los Angeles to Albuquerque, NM as a national priority for a clean transportation corridor.[37]

Building on that momentum: The USDOT's 2021 Regional Infrastructure Accelerator (RIA) Grant award to Bernalillo County, NM, Kingman, AZ, and Winslow, AZ kick-started crucial infrastructure planning in these key locations. This CPRG proposal leverages this foundational work by:

A. Providing initial implementation funding at these three planned sites, rapidly accelerating the deployment of electric charging and hydrogen refueling stations.

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[37] Alternative Fuel Corridors: FHWA Office of Natural Environment, Sustainable Transport and Resilience Team. Alternative Fuel Locations: Department of Energy Alternative Fuels Data Center. https://hepgis-usdot.hub.arcgis.com/pages/alternative-fuel-corridors

B. Expanding the corridor through replication of the RIA model to plan and implement additional sites along I-40, maximizing the impact of public funding by attracting private investment and building economic opportunities.

Focused on MHD ZETs, CPRG implementation funds will directly support:

A. Installation of electric vehicle (EV) charging stations,
B. Deployment of stationary and mobile hydrogen refueling stations,
C. On-site renewable energy generation with storage (primarily for battery electric ZETs), and
D. Planning and implementation of additional sites beyond the initial three RIA locations.

The Clean I-40 Transportation Corridor is not just an infrastructure project; it's a catalyst for sustainable economic growth, environmental protection, and healthier communities. During the outreach process, some community members expressed concern about the use of hydrogen for future trucking; New Mexico is committed to promoting clean hydrogen resources, regardless of the origin of the feedstock, and to evaluating the impact on New Mexico's limited and valuable water resources.

A.1.1 Key Implementing Agencies

NMED proudly leads a diverse coalition, composed of key stakeholders committed to the Clean I-40 Transportation Corridor's success. This robust coalition represents a powerful synergy of governments, united in their pursuit of a cleaner, more prosperous future for the I-40 corridor.

A.1.2 Geographic Scope

The geographic scope of the measure spans Interstate-40, across the southwest United States, including through additional states such as California, Arizona, Texas, and Oklahoma.

A.1.3 Metrics for Tracking Progress

To evaluate the post-project efficacy of the Clean I-40 Transportation Corridor, the following metrics will be monitored from the outset of the project:

A.1.3.1 Environmental impactmin

- **Reduction in GHG emissions:** Track the total tons of climate pollution avoided annually by MHD ZETs using data from the charging stations compared to baseline diesel truck emissions.
- **Reduction in co-pollutant emissions:** Track the total tons of air pollution avoided annually by MHD ZETs using data from the charging stations compared to baseline diesel truck emissions.
- **Renewable energy generation:** Measure the amount of clean energy generated by on-site renewable energy projects.

A.1.3.2 Economic impact

- Job creation: Track the number of jobs created directly and indirectly through the project, including construction, station operation, and related industries.
- Private investment: Monitor the amount of private investment attracted to the corridor due to the project's infrastructure.
- Economic development: Measure changes in economic indicators like business growth and tax revenue in communities near clean transportation complexes.

A.1.3.3 Community Impact

- Equity and access: Monitor the distribution of benefits and ensure stations are accessible to all communities, including LIDAC.
- Community engagement: Track satisfaction and participation of communities in the project through surveys and community meetings.

A.1.3.4 Project implementation

- Station utilization: Monitor the usage rates of charging and refueling stations to assess project demand and optimize resource allocation.
- Project completion rates: Track the timely completion of planned infrastructure and ensure adherence to budgets and timelines.

A.1.4 Implementation Schedule and Milestones

To implement this measure, there are two primary stages. Stage 1 involves implementing the RIA plans to begin construction of the first three locations. Stage 2 includes planning and then construction of additional sites. The timelines below (1) indicate the expected schedules for full implementation, and (2) are presented as time to complete from the date of award.

A.1.4.1 Stage 1

- Construction: 2-3 years
    - Permitting and Infrastructure
    - Technology Integration
    - Testing and Commissioning
        - Testing various components of the infrastructure

A.1.4.2 Stage 2

- Siting / Feasibility Assessments, Planning, and Design: 2 years
    - Conducting feasibility studies for potential locations
    - Engaging in community outreach
    - Developing a comprehensive project plan
    - Developing architectural and engineering designs

    - Issuing RFPs and finalizing contracts and arrangements
    - Implementing funding and application structure
- Construction: 2-3 years
    - Permitting and Infrastructure
    - Technology Integration
    - Testing and Commissioning
        - Testing various components of the supercenter

A.2 Benefits

A.2.1 Primary Benefits

A.2.1.1 GHG Emission Reductions

The calculations below in Table 9 are based on sight configuration from the RIA locations, and are likely to change.

Table 9. Estimate of Cumulative GHG Emission Reductions in New Mexico

Category	GHG Emission Reductions 2025 – 2030 (MT CO2e)	GHG Emission Reductions 2025 – 2050 (MT CO2e)
Large transportation complex (e.g., Albuquerque)	49,740	479,088
Small transportation complex (e.g., Gallup)	18,598	317,199
Small transportation complex (e.g., Tucumcari)	18,210	318,680
Total	*86,548*	*1,114,966*

A.2.2 Co-benefits

A.2.2.1 Health Benefits

Emissions from gasoline and diesel vehicles are major contributors to air pollution, including harmful pollutants like nitrogen oxides (NOx), ozone, and particulate matter ($PM_{2.5}$). These pollutants are linked to a range of health problems, including respiratory illnesses, heart disease, and even cancer. Both EVs and hydrogen fuel cell vehicles produce zero tailpipe emissions, meaning they wouldn't contribute to air pollution along the I-40 corridor. This measure would lead to improved air quality in

nearby communities, especially around densely populated areas and major intersections, and subsequently a reduction in respiratory illness, heart disease, and cancer in the communities along the I-40 corridor.

A.2.2.2 Environmental Benefits

A.2.2.2.1 Air Quality Benefits

Table 10 Annual and Lifetime Co-Pollutant Benefits

POLLUTANT	ANNUAL CO-POLLUTANT REDUCTION (TONS/YEAR)	LIFETIME CO-POLLUTANT REDUCTION (TONS)
NO_x	21.8	1,862.7
$PM_{2.5}$	0.2	15.8
SO_2	0.1	7.3
VOC	0.9	79.1

A.2.2.2.2 Water Quality Benefits

This measure provides distinct and significant environmental benefits to New Mexico's water quality. By reducing the use of fossil fuels, the measure decreases the contamination of surface and groundwater throughout the "well to wheel" system. This includes crude oil leaks and spills at production sites, in collection, refining, and distribution pipelines from storage tanks, from storage tanks, and the end use in internal combustion engines (ICE). Contamination can lead to surface and groundwater quality degradation, potentially driving water quality below the standards and threatening those (humans, fish, and wildlife) that rely on these water resources for health and survival. By providing the infrastructure necessary to fuel zero-emission vehicles (ZEVs) and transitioning away from the use of ICE vehicles, this measure addresses the degradation of the state's precious water resources.

A.2.2.2.3 Land and Soil Benefits

In addition to water quality degradation, oil leakage from ICE vehicles can contaminate land and soil along roadways and lots. Soil degradation due to pollution can lead to a reduction in the ecosystem's functions and services, a decline in soil fertility, and adverse changes in chemical composition, which can lead to excessive erosion and, subsequently, flooding. Providing the infrastructure necessary to fuel ZEVs and transition away from the use of ICE vehicles will reduce contamination of land and soil and minimize these harmful effects.

A.2.2.2.4 Ecological Benefits

Aside from the ecological benefits associated with improving water and soil quality listed above, providing the infrastructure necessary to fuel ZEVs and transition away from the use of ICE will result in a reduction of noise pollution. Noise pollution is an invisible

threat to the health and well-being of wildlife. It can affect the communication, distribution, foraging, or homeostasis of organisms. A reduction in noise pollution will not only create a better environment for the communities along the I-40 corridor but also the wildlife that humans share the environment with.

A.2.2.3 Economic Benefits

This measure promises a clean economic win-win for the Southwest, stimulating trade with its Port of Los Angeles connection, sparking regional infrastructure upgrades, and igniting economic opportunity in LIDAC. Regional economic benefits include new clean energy jobs and transportation complexes, increased private investment, and healthier, more productive workforces, all fueled by cleaner, more efficient freight transportation. This measure is not just about infrastructure, it's a strategic investment in a cleaner, more prosperous future for the entire region.

A.3 Low-Income and Disadvantaged Communities Benefits Analysis

Tailpipe emissions have varying deleterious effects on public health, with populations closer to and downstream of the source most impacted. However, the entire state is impacted by these emissions to some degree. Thus, this measure's benefits accrue to all US Census Tract Block Groups in New Mexico, which are provided in Appendix L – New Mexico Census Tract Block Groups Identified by EPA as LIDAC.

A.3.1 Benefits

A.3.1.1 Improved air quality

Reduced tailpipe emissions from MHD ICE trucks will significantly improve air quality for residents in LIDAC along the I-40 corridor, leading to a decrease in respiratory illnesses and healthcare costs.

A.3.1.2 Economic development

Clean transportation complexes mindfully placed in proximity to people living in LIDAC can offer new job opportunities and attract private investment, boosting local economies and potentially leading to higher wages and better living standards.

A.3.1.3 Workforce development

Programs tailored to training residents from LIDAC for jobs in the clean energy sector (e.g., installation and maintenance of charging stations) can provide valuable career pathways and upward mobility.

A.3.1.4 Enhanced community health

Improved air quality and economic opportunities can contribute to the overall well-being of people living in LIDAC, potentially leading to lower crime rates, better educational outcomes, and stronger social cohesion.

A.3.1.5 Environmental justice

Focusing on infrastructure development and economic benefits for residents in LIDAC can help address historical inequities and ensure a more just distribution of environmental and economic benefits.

A.3.2 Disbenefits and Mitigation Strategies

A.3.2.1 Displacement

Clean transportation complex development could potentially lead to gentrification and displacement of low-income residents.

- **Mitigation:** Meaningful community engagement, affordable housing initiatives, and policies prioritizing local hiring can help prevent displacement and ensure people living in LIDAC benefit from the project.

A.3.2.2 Limited access to benefits

Residents living in LIDAC may face barriers to accessing new jobs or training opportunities.

- **Mitigation:** Targeted outreach, training programs, and transportation assistance can help overcome these barriers and ensure equitable access to opportunities.

Overall, the measure has the potential to significantly improve the lives of people living in LIDAC along the I-40 corridor. However, careful planning and implementation are necessary to ensure that the program delivers its benefits equitably and avoids unintended negative consequences.

A.4 Authority to Implement Measure:

Under the state Air Quality Control Act, NMED is delegated the power to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMSA 1978, Section 74-2-5.1(F).

Under the state Environmental Improvement Act, NMED is delegated the power to make contracts to carry out its delegated duties and to enter into agreements with environmental and consumer protection agencies of other states and the federal

government pertaining to the duties of the department. NMSA 1978, Sections 74-1-6(B) and (C).

The EIB is the board created by New Mexico's Environmental Improvement Act, New Mexico Statutes Annotated (NMSA) 1978, Sections 74-1-1 to -17, to promulgate regulations to regulate the environment in New Mexico, including regulations to attain and maintain NAAQS and to prevent or abate air pollution. NMSA 1978, Section 74-1-5; NMSA 1978, Section 74-2-5(B)(1).

NMED is delegated the power under the Environmental Improvement Act to enforce such promulgated regulations, as well as, rules and orders promulgated by the EIB. NMSA 1978, Section 74-1-6(F). Additionally, NMED is delegated the power to enforce environmental management and consumer protection laws for which NMED is responsible. NMSA 1978, Section 74-1-6(F). NMED is specifically delegated the power to enforce rules and standards in air quality management. NMSA 1978, Sections 74-1-7(A)(4).

Applying the above, NMED is authorized to enforce the New Motor Vehicle Emission Standards under 20.2.91 NMAC. These rules include California's Advanced Clean Cars, Advanced Clean Trucks (ACT), and Heavy-Duty Omnibus (HDO) regulations and establish New Mexico as a Section 177 state. Such rules establish NMED's authority to administer associated programs and determine regulated entities' compliance. While the New Motor Vehicle Emission Standards largely apply to vehicles and engines and not infrastructure, the proposed developments under this measure certainly aid in the endeavors to reduce GHG emissions in New Mexico from the transportation sector.

Lastly, NMED and EMNRD were directed under EO 2019-003 to evaluate policies and regulatory strategies to achieve reductions in GHG pollution, consistent with the targets set out in such Executive Order, across all categories of emission sources. 'All categories of emission sources' include, but are not limited to, those proposed to be deployed under this measure and that could improve upon emissions from existing sources. This measure aligns with the directives under EO-2019-003, and as stated above, will certainly aid in the endeavors to reduce GHG emissions in New Mexico.

Appendix B – Clean Truck Incentives

B.1 Measure Description

New Mexico is taking a historic step towards cleaner air and transportation with the recent adoption of the ACT rule, originally promulgated by the California Air Resources Board, via § 177 of the Clean Air Act. This forward-thinking regulation requires manufacturers to significantly increase the percentage of medium- and heavy-duty zero-emission trucks (MHD ZETs) delivered for sale in the state. To facilitate and accelerate this transition, NMED proposes the Clean Truck Incentives Program, a comprehensive measure providing targeted financial incentives. It offers point-of-sale vouchers to bridge the price gap between clean and conventional trucks, as well as funding for installing essential charging and refueling infrastructure for battery electric and fuel cell electric models. This impactful program promises to deliver multiple benefits: reducing climate pollution, improving air quality, fostering clean workforce development opportunities, and enhancing public health outcomes, particularly in LIDAC. The program will complement and include program elements of NMED's existing Diesel Emission Reduction Act (DERA) program that provides competitive grants to fleet operators to reduce diesel emissions.

B.1.1 Eligibility

B.1.1.1 Eligible Applicants and Geographic Scope

Under this measure, fleet[38] owners operating New Mexico-registered zero-emission trucks (ZETs)[39] or domiciling and operating out-of-state-registered ZETs within New Mexico could apply for vouchers on purchases or leases of new ZETs. Fleets could also apply for incentives for electric charging or hydrogen refueling stations.

B.1.1.2 Prioritizing Applicants to Deliver Benefits Where They Are Needed

To address environmental equity concerns, NMED proposes that fifty percent (50%) of the program funds will be exclusively earmarked and awarded to eligible applicants who domicile ZETs or primarily operate ZETs in LIDAC. Additionally, up to twenty-five percent (25%) of the total program funds will be exclusively earmarked and awarded to State of New Mexico departments/agencies and local incorporated governments'

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[38] "Fleet" for the purposes of this program means the owners or operators of Class 2b through Class 8 vehicles (i.e., trucks), operated for commercial purposes, regardless of the number of trucks owned or operated, and includes independent truck owner/operators.

[39] "Zero-Emission Trucks" (ZETs) for the purposes of this program are defined as new, on-road Class 2b through 8 battery electric vehicles (BEVs) or (hydrogen-powered) fuel cell electric vehicles (FCEVs), including drayage trucks, but excluding pickup trucks.

departments/agencies. This government-focused approach will support the state's efforts to lead by example and deliver on Governor Lujan Grisham's Executive Order 2023-0138, Transitioning the State of New Mexico's Vehicle Fleet to Net Zero Emissions. The remaining twenty-five percent (25%) or greater will be available to all eligible applicants.

New Mexico's small entities have fewer resources to access and deploy these technologies and are, therefore, at risk of being left behind in the national clean transportation transition. Accordingly, the program incorporates a tiered cap on the total number of vouchers that an awardee may receive to ensure small entities can equitably gain the benefits, as displayed in Table 11.

Table 11. Voucher Caps by Entity Size

GROSS ANNUAL REVENUE[40]	CATEGORY NAME	MAXIMUM NUMBER OF VOUCHERS THAT MAY BE AWARDED WITH CPRG FUNDS
≥$50M	Large Entities	2
$15M to < $50M	Medium Entities	5
<$15M	Small Entities	No limit

B.1.1.3 Eligible Truck Manufacturers and Dealers

Under this program, manufacturers or their contractually approved dealerships would have to be pre-approved by NMED to receive and apply the voucher to the sale or lease. To receive approval, NMED will require participating manufacturers and dealers to complete a training and sign an agreement regarding the program's terms and conditions, which will both be published upon award of this grant application.

B.1.1.4 Eligible ZETs

To provide manufacturers, dealers, and fleets with consistent and predictable parameters, eligible ZETs would only be those battery electric and fuel cell electric trucks included on the California Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) Eligible Vehicles list, available at https://californiahvip.org/vehicles/.[41] However, NMED reserves the right to amend the list of eligible ZETs at its discretion to achieve the program's goals.

[40] Gross Annual Revenue is determined across the United States for the most recent tax year. May be adjusted for inflation throughout the performance period.
[41] Note: Trucks equipped with electric power take off (ePTO) systems are not considered eligible ZETs for this program.

B.1.1.5 Eligible Charging and Refueling Station Installers

Installers of electric charging or hydrogen refueling stations would have to be pre-approved by NMED to receive and apply for the incentives. To receive approval, NMED will require participating installers to complete training and sign an agreement regarding the program's terms and conditions, which will both be published upon receiving award funds.

B.1.1.6 Eligible Infrastructure

To provide manufacturers, dealers, and fleets with consistent and predictable parameters, eligible infrastructure would only be equipment included in the California EnergIIZE (Energy Infrastructure Incentives for Zero-Emission) Commercial Vehicles Project's Technology Catalog, available at https://www.energiize.org/infrastructure. However, NMED reserves the right to amend eligible infrastructure at its discretion to achieve the program's goals. Generally, eligible equipment would include:

B.1.1.6.1 Electric charging equipment:

- Electric vehicle supply equipment (EVSE), including Level 2 and Level 3 (i.e., Direct Current Fast-Chargers (DCFC));
- Inductive charging equipment,
- Transformers and electric panels;
- Utility service upgrades;
- Third-party network providers;
- Stub-outs; and
- Demand management equipment and software.

B.1.1.6.2 Hydrogen refueling equipment:

- Dispenser with hoses and nozzles;
- Hydrogen storage;
- Electrolyzers;
- Chillers;
- Compressors;
- Piping and pipelines;
- Liquid and gaseous hydrogen pumps; and
- Point-of-sale systems.

B.1.2 Voucher Funding Mechanism

Point-of-sale ZET vouchers will be awarded to manufacturers or their contractually approved dealerships for eligible applicants seeking to purchase or lease eligible ZETs. Point-of-sale infrastructure vouchers will be awarded to installers or dealers for eligible applicants seeking to purchase and install eligible charging and refueling infrastructure. If determined to be appropriate and advisable, these point-of-sale vouchers may be provided to program beneficiaries as Participant Support Costs through a subsidy program to promote environmental stewardship. NMED reserves the right to amend this mechanism to ensure effective outcomes.

ZET vouchers fund a percentage of the incremental cost between the ZET and a comparable diesel or gas vehicle, capped at $250,000 per class 2b – 6 ZET and $400,000 per class 7 – 8 ZET. The value of the voucher shall be no more than the incremental cost necessary to reach price parity between eligible ZETs and equivalent non-eligible trucks after other available incentives are applied.

Infrastructure vouchers may not exceed 100 percent of the eligible costs and are capped at the following approximate rates: Level 2 station - $25,000; Level 3 or better station - $100,000; and hydrogen refueling station - $500,000.

ZET manufacturers or their contractually approved dealerships and infrastructure installers or dealers must reduce the purchase cost, equal to the voucher value, for the consumer at the point-of-sale. The receipt that is ultimately delivered to the consumer and provided to the Program Administrator must indicate the voucher value and include the following statement, “Voucher awarded by the New Mexico Environment Department and funded by the Inflation Reduction Act of 2022.”

B.1.3 Voucher “Add-Ons”

To further invest in business leaders that serve as cornerstones of prosperous New Mexico communities and economic development, voucher values would be permitted to exceed the limits listed above only for each of the following prescribed adders:

B.1.3.1 Public Accessibility Add-Ons

For charging and hydrogen refueling stations, awardees that site the station in a publicly accessible location may receive an additional value of up to $2,000 per installed plug/nozzle to incentivize publicly accessible infrastructure promoting high utilization rates.

B.1.3.2 Equitable Fleet Add-On

"Minority-owned,"[42] **veteran-owned**,[43] and/or **tiny**[44] fleets may receive an additional value of up to $10,000 for awarded vouchers to ensure equitable outcomes that sustainably invest in local communities and spur economic growth. NMED retains the discretion to determine recipients that may receive such additional value and the amount of additional value.

B.1.3.3 Optional Scrappage Add-On

To prioritize replacing older, more polluting vehicles, an additional value would be offered for scrapping a model year (MY) 2009 or older diesel or gasoline truck upon eligible vehicle purchase and voucher award. As funds allow, a greater bonus will be made available to applicants that scrap MY 2009 or older diesel or gasoline vehicles domiciled or primarily operated in LIDAC. Table 12 shows the applicable values. This additional scrappage mechanism would be optional for applicants but would have to be submitted with the voucher application.

Table 12. Scrappage Value by Vehicle Class

CLASS:	2B AND UP	3	4	5	6	7	8
Scrappage Value (regular)	$5,000	$10,000	$12,500	$15,000	$17,500	$20,000	$25,000
Scrappage Value (primarily domiciled or operated in LIDAC)	$10,000	$20,000	$25,000	$30,000	$35,000	$40,000	$50,000

B.1.4 Key Implementing Agency

NMED will be solely responsible for implementing the program but intends to contract a third-party vendor through an RFP process to administer technical program components and assistance. Often, fleets lack staff engineers or experts to tap for planning ZET adoption and procurement, route selection, infrastructure installation, and driver

[42] "Minority-owned" fleets for the purposes of this program are those that are at least 51 percent owned and controlled by i) one or more socially disadvantaged persons as defined in 13 C.F.R. § 124.103; or ii) one or more women.
[43] "Veteran-owned" fleets for purposes of this program are those that are at least 51 percent owned and controlled by one or more veterans as defined in 38 U.S.C. § 101(2), including New Mexico National Guard service members.
[44] "Tiny" fleets for purposes of this program are fleets that own or operate three or fewer (≤3) Class 2b through Class 8 vehicles (i.e., trucks), excluding pickup trucks, across the United States.

training.[45] Therefore, the selected vendor will bridge the technical expertise gap by pairing businesses and non-profits with a technical consultant who will work with fleet owners to analyze their fleet and come up with an electrification plan that is tailored to their business. This service will be provided free of charge to the fleet owners.

B.1.5 Collaboration

NMED will collaborate with truck manufacturers, dealerships, electric utilities, and infrastructure installers to streamline the adoption process and ensure adequate infrastructure is available. Similarly, NMED will launch an outreach campaign to educate fleets about the program's benefits and encourage participation.

B.1.6 Implementation Schedule and Milestones

Awards will be proportionally issued over four separate phases, each publicly announced at least sixty (60) calendar days in advance and once opened for submission, reviewed and awarded on a first-come, first-served basis. The four-phase approach will allow NMED to review and evaluate program efficacy and make changes as needed to achieve the program's goals. All four phases would be complete by the end of the calendar year 2030.

B.2 Metrics for Tracking Progress

Program evaluation will include collecting data and assessing it to determine efficacy. Data that will be collected includes:

- Planned and actual operating routes for trucks,
- Number/rate/character of truck routes,
- Number/rate/character of trucks added and removed from fleets, and
- Number/rate/character of vehicle miles traveled (VMT).

B.3 Benefits

B.3.1 Primary Benefits

B.3.1.1 GHG Emission Reductions

The GHG emission reductions calculated below in Table 13 are based on the number of units. The number of units is likely to change as planning continues.

[45] CALSTART, 2023. "Voucher Incentive Programs: A Tool for Clean Commercial Vehicle Deployment." P. 60. https://calstart.org/voucher-incentive-programs-2023/

Table 13. Zero-Emission Incentive GHG Emission Reductions

Unit Type	Number of Units	Annual GHG Emission Reduction Per Unit (MT CO_2E)	GHG Emission Reductions 2025 – 2030 (MT CO_2E)	GHG Emission Reductions 2025 – 2050 (MT CO_2E)
ZET Class 2b-3	300	13	20,003	60,010
ZET Class 4-6	150	23	17,214	51,641
ZET Class 7-8	50	118	29,461	88,382
Level 2 Charging Infrastructure	200	180	1,224	3,673
Level 3 Charging Infrastructure	250	6	6,435	19,305
Total			*74,337*	*223,012*

B.3.2 Co-benefits

B.3.2.1 Health Benefits

Providing incentives for MHD ZETs can lead to a significant cascade of health benefits for individuals and communities, primarily through improvements in air quality. For example:

B.3.2.1.1 Reduction in harmful pollutants

- MHD ZETs produce zero tailpipe emissions, eliminating significant sources of air pollution like NOx, $PM_{2.5}$, and ozone. These pollutants are linked to a wide range of health problems, including:
  - Respiratory issues: asthma, chronic obstructive pulmonary disease (COPD), lung cancer,
  - Cardiovascular diseases: heart attacks, strokes, high blood pressure,
  - Cognitive decline and dementia, and
  - Birth defects and developmental problems in children.

B.3.2.1.2 Specific health benefits

- Reduced rates of asthma attacks and respiratory illnesses: Studies have shown that transitioning to MHD ZETs can significantly reduce asthma rates in communities near major trucking corridors.
- Lower risk of heart disease and stroke: Cleaner air has been linked to a decrease in cardiovascular disease events like heart attacks and strokes.
- Improved cognitive function: Research suggests that exposure to air pollution can negatively impact cognitive function, and cleaner air may lead to improved cognitive performance in children and adults.

- Reduced healthcare costs: The economic burden of air pollution-related illnesses is substantial. By reducing air pollution, MHD ZETs can lead to significant cost savings for healthcare systems and individuals.

B.3.2.2 Environmental Benefits

B.3.2.2.1 Air Quality Benefits

Table 14. Co-Pollutant Emission Reductions Zero-emission incentives

POLLUTANT	ANNUAL CO-POLLUTANT REDUCTION (TONS/YEAR)	LIFETIME CO-POLLUTANT REDUCTION (TONS)
NO_x	13.3	200.1
$PM_{2.5}$	0.1	2.0
SO_2	0.1	1.8
VOC	1.8	26.9

B.3.2.2.2 Water Quality/Quantity Benefits

This measure provides distinct and significant environmental benefits to New Mexico's water quality. By reducing the use of fossil fuels, the measure decreases the contamination of surface and groundwater throughout the "well to wheel" system. This includes crude oil leaks and spills at production sites, in collection, refining, and distribution pipelines from storage tanks, and the end use in ICE vehicles. Contamination can lead to surface and groundwater quality degradation, potentially driving water quality below the standards and threatening those (humans, fish, and wildlife) that rely on these water resources for health and survival. By replacing ICE vehicles with ZEVs, this measure addresses the degradation of the state's precious water resources.

B.3.2.2.3 Land and Soil Benefits

In addition to water quality degradation, oil leakage from ICE vehicles can contaminate land and soil. Soil degradation due to pollution can lead to a reduction in the ecosystem's functions and services, a decline in soil fertility, and adverse changes in chemical composition, which can lead to excessive erosion and, subsequently, flooding. The transition from ICE to ZEVs will reduce contamination of land and soil and minimize these harmful effects.

B.3.2.2.4 Ecological Benefits

Aside from the ecological benefits associated with improving water and soil quality listed above, the transition from ICE to electric engine vehicles results in a reduction of noise pollution. Noise pollution is an invisible threat to the health and well-being of wildlife. It can affect the communication, distribution, foraging, or homeostasis of organisms. Electric trucks can be up to 25 decibels quieter than internal combustion trucks, which

not only creates a better environment for the communities along transportation corridors but also the wildlife that humans share the environment with.

B.3.2.3 Economic Benefits

The Clean Truck Incentives program promises a double-pronged economic boost for New Mexico: it will invigorate the clean energy sector by sparking demand for ZETs and charging infrastructure, creating new jobs, and fostering technological innovation. Simultaneously, it will save money for both businesses and consumers, offering price parity with conventional trucks and reducing fuel costs, ultimately leading to a cleaner, healthier, and more prosperous future for all.

B.4 Impacts on Low-Income and Disadvantaged Communities

As fifty percent of vouchers would be awarded to trucks operating or domiciling in LIDAC, the expected outcomes include reducing tailpipe pollution mostly in these communities. Likewise, the voucher adders are designed to offer extra incentives for smaller fleets and to remove the most polluting trucks from New Mexico's roads. This structure further reduces pollution in LIDAC and ensures fleets in these communities have greater access to these clean technologies so that they are not left behind in the national clean transportation transition.

Without implementing the measure, it is impossible at this stage to identify which census block groups would receive the awards and thus the most benefits. Nonetheless, tailpipe emissions have varying deleterious effects on public health, with populations closer to and downstream of the source most impacted. However, the entire state is impacted by these emissions to some degree. Thus, this measure's benefits accrue to all US Census Tract block groups in New Mexico, which are provided in. Otherwise, other key benefits and disbenefits are listed below.

B.4.1 Benefits

B.4.1.1 Improved air quality

Reduced emissions from diesel and gasoline trucks will lead to cleaner air, particularly in the many areas where LIDAC are concentrated near truck routes or freight hubs. This can lead to improved respiratory health and fewer lung-related illnesses.

B.4.1.2 Reduced noise pollution

ZETs are significantly quieter than conventional trucks, leading to a quieter environment for residents within LIDAC. This can improve sleep quality, reduce stress, and create a more pleasant living environment.

B.4.1.3 Public health benefits

Cleaner air and reduced noise pollution can lead to overall improvements in public health, especially for vulnerable populations within LIDAC. This can translate to fewer hospital visits, lower healthcare costs, and a healthier quality of life.

B.4.1.4 Job creation

The Clean Truck Incentives program's focus on infrastructure and clean workforce development could create new employment opportunities for job seekers in LIDAC communities, particularly in areas like installation, maintenance, and repair of charging and refueling stations and trucks. These jobs can offer upward mobility and financial stability.

B.4.1.5 Increased access to clean transportation

Residents in LIDAC often rely on public transportation or older, less fuel-efficient vehicles. The program's incentives make zero-emission buses more affordable and accessible, improving mobility and reducing transportation costs.

B.4.2 Disbenefits and Mitigation Strategies

B.4.2.1 Affordability of remaining costs

Even with the Clean Truck Incentives program's vouchers, ZETs may still be more expensive than traditional ones. Ensuring long-term affordability will be crucial for widespread adoption.

B.4.2.2 Access to charging infrastructure

The program's effectiveness hinges on the availability of charging stations and hydrogen refueling stations, particularly for owners and operators within LIDAC. Targeted investments are needed but supported by this program to avoid exacerbating existing infrastructure disparities.

B.4.2.3 Workforce training and development

Jobseekers within LIDAC need access to training programs and resources to prepare them for the new jobs created by the program. Coordination with community colleges and vocational training centers will be crucial.

B.4.2.4 Community engagement and education

Active engagement with people in LIDAC is essential to ensure the measure meets their needs and addresses their concerns. Educational campaigns will raise awareness about the benefits of the program and encourage participation.

By addressing these challenges and ensuring equitable access to the program's benefits, the Clean Truck Incentives Program has the potential to significantly improve the lives of residents within LIDAC in New Mexico.

B.5 Authority to Implement Measure

NMED is authorized under the state Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMED is also authorized under the Air Quality Control Act to commence enforcement actions under said Act or a regulation promulgated pursuant to said Act (i.e. the New Motor Vehicle Emission Standards, discussed next).

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the New Motor Vehicle Emission Standards under 20.2.91 NMAC. These rules include California's ACCII, ACT, and HDO regulations and establish New Mexico as a Section 177 state. Such rules establish NMED's authority to administer associated programs and determine regulated entities' compliance.

The New Motor Vehicle Emission Standards under 20.2.91 NMAC set emission standards that apply to MHD vehicles and heavy-duty and other engines and require increased delivery of ZEVs beginning in MY 2027. The regulations also require MHD vehicles and engines to meet certain certification, warranty, and labeling requirements. Additionally, the regulations require regulated entities to report regularly and authorize NMED to perform inspections and/or request information and review records. Overall, NMED is authorized to enforce all such standards and ensure regulated entities' compliance.

Appendix C – Efficient and Clean Operations for Schools

C.1 Measure Description

New Mexico is committed to providing its children with the best possible education and a healthy environment in which to thrive. Yet, many students face the dual challenge of polluted air and outdated school infrastructure, impacting their health and learning potential. However, a bright future is on the horizon, fueled by cutting-edge, clean technology and a vision for sustainable transformation.

The Challenge: Protecting children from air pollution and reducing climate pollution.

- **Health Risks:** New Mexico's children are exposed to air pollution from tailpipe emissions, disproportionately impacting a vulnerable population at risk of increased respiratory problems, cognitive impairments, and absenteeism.
- **Outdated Infrastructure:** Many schools struggle with aging buildings that are energy-inefficient and vulnerable to extreme temperatures, further impacting student well-being and learning.
- **Limited Resources:** Public schools often lack the budget and expertise to implement green solutions.

The Solution: NMED is proud to propose the ECO Schools Program, an initiative to transform select public schools across the state into beacons of environmental responsibility. Through a multi-pronged approach, the ECO Schools Program will:

- **Electrify School Transportation by:**
  - Funding the installation of approximately 150 Electric School Bus (ESB) charging stations, removing a critical barrier to ESB adoption.
  - Providing vouchers covering the full cost of approximately 85 ESBs, accelerating the transition to clean transportation.[46]

- **Empower Schools with Building Efficiency Improvements by:**
  - Connecting schools with New Mexico's Guaranteed Energy Savings Performance Contracts (ESPC) program at EMNRD using investment grade energy audits performed through an Energy Service Companies (ESCO) to minimize the total energy of the school facility. With an ESPC, schools will be able to find suitable financing options to pay for the energy-saving capital improvements with savings in their gas and electricity utility bills.

The Benefits: A win-win for children, the climate, and New Mexico's future. ECO Schools promises a multitude of benefits, including:

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[46] "School bus" means the same in this PCAP as it is defined under NMSA 1976, Section 66-1-4.16, 60.40.2.7 NMAC, and/or Cal. Veh. Code Section 545, as applicable.

- **Improved Health:** Cleaner air and more comfortable classrooms will lead to healthier students and reduced absenteeism.
- **Enhanced Learning:** Modern, energy-efficient schools will provide hands-on examples of sustainable stewardship, while creating a healthier environment more conducive to learning and thus improve academic performance.
- **Cost Savings:** Reduced energy and fuel consumption will reduce operational costs and may free up resources for essential educational needs.
- **Environmental Stewardship:** Reduced climate pollution and cleaner air will benefit the entire state and contribute to a sustainable future.

ECO Schools is an enabling action, designed to provide schools with an opportunity to experience the benefits of clean technologies and ultimately persuade schools to further invest in them. It is also a collaborative program between NMED, school districts, communities, and parents. By investing in children's health, education, and the environment, the program will build a brighter future for all New Mexicans.

C.1.1 Funding Mechanism

CPRG funds will be awarded via grants and vouchers to eligible applicants until expended. If determined to be appropriate and advisable, some funds may be administered and distributed as rebates, subsidies, or point-of-sale vouchers (or something similar) to program beneficiaries as Participant Support Costs through a subsidy program(s) to promote environmental stewardship. All awards are expected to be granted no later than the close of calendar year 2030.

The technical assistance center will conduct outreach to school districts and/or schools that apply for ESBs to connect them with EMNRD's ESPC program. Working with the technical assistance center and a suitable ESCO, schools will be able to find suitable financing options to pay for the energy-saving capital improvements. School districts and/or schools repay the infrastructure cost through energy cost savings over the term of the contract, and after the end of the contract, cost savings accrue to the school districts and/or schools.

C.1.1.1 Eligible Applicants and Geographic Scope

Eligible applicants would be limited to public school districts, public schools, public charter schools (collectively referred to as "districts" and "schools" respectively), and Tribal governments that are operating licensed schools serving the children of NM's Tribes, Nations, and Pueblos within the state of New Mexico.[47]

[47] For the purpose of this program, Tribal governments, schools, or districts are considered serving disadvantaged communities.

C.1.1.2 Award Priorities and Evaluation Criteria

NMED expects to issue awards on a first-come, first-served basis to applicants meeting all program criteria. Primary priority reviews and awards will be made first to [A] schools that meet **Title 1 status**[48] (i.e., low-income) or [B] schools and districts that serve census tract block groups considered disadvantaged. Secondary prioritization will be for schools and school districts with inadequate charging capability for existing ESBs or existing purchase orders for ESBs.

C.1.1.2.1 ESB Charging Station Grant (only)

To receive ESB charging station grants, applicants would be required to submit a receipt or executed purchase order for one electric bus per station requested for funding. Alternatively, applicants could submit a non-binding Notice of Intent (NOI) to procure one ESB (per charging station installed with awarded funds) within five years of receiving an award. NOIs will have to be signed and executed by a quorum of the school board or the school or district superintendent, chief financial officer, or equivalent person who retains authority and intends to dedicate resources to procure ESBs. To receive ESB charging station grants, the applicant will have to describe the use case of the intended or purchased ESB(s), including a description or map of expected or current routes, the number of students served, and the expected annual mileage (i.e., VMT).

C.1.1.2.2 ESB Voucher (only)

To receive vouchers for ESB, the applicant will have to describe the vehicles' use case, including a description or map of expected routes, the number of students served, the expected annual mileage (i.e., VMT), and plans for charging.

C.1.1.2.3 Guaranteed Energy Savings Performance Contracts program (only)

The ECO School Program will not provide additional funding to the ESPC Program. Rather, applicants for the ESB programs, with the help of the technical assistance services and the ESCO, can identify potential or known inefficiencies in current buildings and see if the ESCO program can help make the capital improvements to reduce their energy burden.

C.1.1.2.4 Packaged Awards

In addition to applying for only one of the three award types listed above, eligible applicants may apply for two or all three opportunities. In other words, packaged awards may be solicited and granted in an "al la carte" manner. To receive a packaged award, each of the applicable requirements listed above must be met.

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[48] Title 1 schools are determined under the federal Elementary and Secondary Education Act (ESEA) by PED. The Title I program helps students in high-poverty schools and neglected or delinquent children and hyouth meet the same high academic standards expected of all children. For this program, Title 1 status may also be determined by the U.S. Census Bureau's Small Area Income and Poverty Estimates program.

C.1.2 Key Implementing Agencies

NMED will be solely responsible for implementing the program and plans to expand its staffing capacity, including with newly created NMED program coordinators (i.e., technical assistance center) to effectively administer this program.

C.1.3 ECO-School Collaborators

NMED will collaborate with the New Mexico Public Education Department, the New Mexico Department of Transportation (NMDOT), ESB manufacturers, dealerships, electric utilities, infrastructure installers, trade groups and technical education centers, and qualified ESCOs to streamline the adoption process and ensure adequate uptake. Similarly, NMED will launch an outreach campaign to educate schools about the program's benefits and encourage participation.

C.1.4 Implementation Schedule and Milestones

Awards will be proportionally issued over four separate phases, each publicly announced at least sixty (60) calendar days in advance and once opened for submission, prioritized, reviewed, and awarded on a first-come, first-served basis. The four-phase approach will allow NMED to review and evaluate program efficacy and make changes as needed to achieve the program's goals. All four phases will be complete by the end of calendar year 2030.

C.2 Metrics for Tracking Progress

C.2.1 Stage 1: First Five Years, Post-Award (Monitoring Outputs)

Focus – Measuring direct impacts and program utilization:

- **Charging Station Operational Status:**
  - Maintain/Update: Track the number of functioning stations and any technical issues encountered.
  - Utilize Data: Analyze charging patterns to optimize station placement and future deployments.
- **Electric School Bus (ESB) Utilization:**
  - VMT and Route Data: Collect VMT data by bus and route to understand operational patterns and target potential expansion.
  - Emissions Reductions: Calculate and report specific reductions in GHG, NOX, SO2, PM2.5, and PM10 based on VMT and emission factors.
- **Energy Savings Performance Contracts (ESPC):**
  - Cost Savings and Energy Reduction: Track and report actual cost savings and reductions in energy use for participating schools.

    - Project Details: Gather data on implemented energy-saving technologies and project costs for future replication.
- **Monetary Savings of Interventions:**
    - Cost-Benefit Analysis: Compare annual operational costs of ESBs and energy savings from ESPC improvements to traditional alternatives (ICE buses and standard energy use) to quantify direct financial benefits.

C.2.2 Stage 2: Long-term Program Evaluation (Monitoring Outcomes)

Focus – Broader program outcomes and long-term impact:

- **Electric Bus Fleet Growth:**
    - Track the number, type, and distribution of charging stations and ESBs added to school fleets across the state.
    - Analyze the characteristics of schools adopting EVs (e.g., rural/urban, fleet size) to identify factors influencing adoption.
- **ICE Bus Retirements:**
    - Monitor the number and characteristics of ICE buses removed from operation due to program efforts.
    - Analyze trends in ICE bus retirements to assess the program's effectiveness in transitioning to cleaner transportation.
- **Reduced VMT from ICE Buses:**
    - Track the overall reduction in VMT from ICE buses across the state, attributing it to program interventions where possible.
    - Analyze data to identify effective strategies for further reducing ICE bus usage and VMT.
- **ESPC Adoption and Impact:**
    - Track the number, type, and cost of school building renovations undertaken through ESPC.
    - Monitor and report the actual energy savings and cost reductions achieved by participating schools.
    - Analyze data to identify successful ESPC models and best practices for wider adoption.

C.3 Benefits

C.3.1 Primary Benefits

Schools have informed NMED that the charging stations must come before the electric buses. Accordingly, infrastructure capacity will be enhanced with the requirement for an NOI to procure ESBs. The non-binding NOI commits a school to deploy one charging station (with two plugs) for each ESB anticipated to be added to their fleet. Initially, this system will result in more plugs deployed than buses, which will enable some benefits to begin to accumulate immediately but also expand and accumulate greater benefits beyond the 2030 award period. For example, as approximately 150 charging stations (with approximately 300 plugs) are deployed, and 85 electric school buses become operational exclusively under this program, a net positive increase of 215 plugs becomes available for ESB procurement through other funding mechanisms beyond 2030. Thus, 9.8 percent of these charging stations' carbon pollution reduction benefits are calculated (i.e., added) into each time frame below.

C.3.1.1 GHG Emission Reductions

Table 15. GHG Emission Reductions for Varying Categories

Category	GHG Emission Reductions 2025 – 2030 (MT CO2e)	GHG Emission Reductions 2025 – 2050 (MT CO2e)
Electric School Buses	7,479.7	17,951.4
Charging Stations	1,303.0	3,127.1
Building Efficiency Improvements	16,444	82,221
Total	*25,227*	*103,300*

C.3.2 Co-benefits

C.3.2.1 Health Benefits

Using annual co-pollutant reduction from the Air Quality Benefits section below, emission reductions from this measure result in the following annual health outcomes for New Mexicans:[49]

[49] Source: https://cobra.epa.gov/

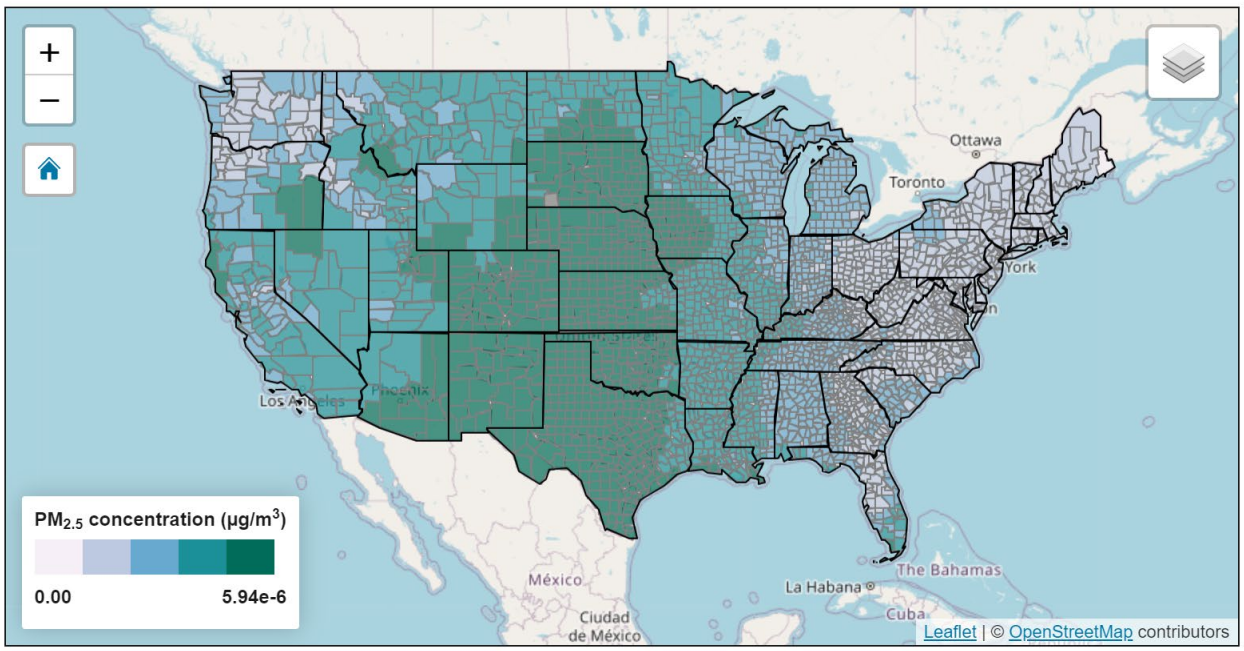
Table 16. Annual Health Outcomes

Health Endpoint	Change in Incidence (cases, annual)		Monetary Value (dollars, annual)	
	Low	High	Low	High
Mortality *	0.000	0.001	$3,790	$8,601
Nonfatal Heart Attacks *	0.000	0.000	$5	$45
Infant Mortality	0.000	0.000	$26	$26
Hospital Admits, All Respiratory	0.000	0.000	$3	$3
Hospital Admits, Cardiovascular **	0.000	0.000	$4	$4
Acute Bronchitis	0.001	0.001	$0	$0
Upper Respiratory Symptoms	0.010	0.010	$0	$0
Lower Respiratory Symptoms	0.007	0.007	$0	$0
Emergency Room Visits, Asthma	0.000	0.000	$0	$0
Asthma Exacerbation	0.010	0.010	$1	$1
Minor Restricted Activity Days	0.270	0.270	$24	$24
Work Loss Days	0.046	0.046	$9	$9
Total Health Effects			*$3,862*	*$8,713*

* The Low and High values represent differences in the methods used to estimate some of the health impacts in COBRA. For example, high and low results for avoided premature mortality are based on two different epidemiological studies of the impacts of $PM_{2.5}$ on mortality in the United States.
** Except heart attacks.

Annual health outcomes from this measure are also improved beyond New Mexico, with benefits extending across several states, as displayed below:

Figure 8. ECO Schools – Change in PM2.5 Concentrations



C.3.2.2 Environmental Benefits

C.3.2.2.1 Air Quality Benefits

Total air pollutant emissions from school buses from the 2020 National Emissions Inventory (NEI) and annual and lifetime air pollutant emission reductions from this measure are shown in Table 17.

Table 17. Co-Pollutant Emission Reductions from ECO Schools

POLLUTANT	2020 NEI SCHOOL BUS EMISSIONS (TONS/YEAR)	ANNUAL CO-POLLUTANT REDUCTION (TONS/YEAR)	LIFETIME CO-POLLUTANT REDUCTION (TONS)
NO_x	529.14	1.97	23.69
$PM_{2.5}$	20.70	0.01	0.16
SO_2	0.53	0.02	0.19
VOC	56.98	0.10	1.19

ESBs have lifetime air pollutant emissions significantly lower than diesel school buses. Importantly, emissions from charging ESBs also happen further away from the children riding the buses. These emissions will also benefit from emission reductions due to the

increasing use of green energy. Replacement of existing school buses with ESBs will reduce air emissions both in a statewide manner and in the air that children breathe.

C.3.2.2.2 Water Quality/Quantity Benefits

This measure provides distinct and significant environmental benefits to New Mexico's water quality. By reducing the use of fossil fuels, the measure decreases the contamination of surface and groundwater throughout the "well to wheel" system. This includes crude oil leaks and spills at production sites, in collection, refining, and distribution pipelines from storage tanks, and the end use in ICE vehicles. Contamination can lead to surface and groundwater quality degradation, potentially driving water quality below the standards and threatening those (humans, fish, and wildlife) that rely on these water resources for health and survival. Through transitioning from ICE buses to electric buses, this measure reduces the degradation of the state's precious water resources.

C.3.2.2.3 Land and Soil Benefits

In addition to water quality degradation, oil leakage from ICE vehicles can contaminate land and soil. Soil degradation due to pollution can lead to a reduction in the ecosystem's functions and services, a decline in soil fertility, and adverse changes in chemical composition, which can lead to excessive erosion and, subsequently, flooding. The transition from ICE to electric engine vehicles in school bus fleets will reduce contamination of land and soil and minimize these harmful effects.

C.3.2.2.4 Ecological Benefits

Aside from the ecological benefits associated with improving water and soil quality listed above, the transition from ICE to electric engine vehicles results in a reduction of noise pollution. Noise pollution is an invisible threat to the health and well-being of wildlife. It can affect the communication, distribution, foraging, or homeostasis of organisms.[50] Electric buses can be up to 25 decibels quieter than ICE buses, which not only creates a better environment for the students who rely on them but also the wildlife that humans share the environment with.

C.3.2.3 Economic Benefits

The ECO Schools program not only protects student health and improves learning environments, but also unlocks significant economic benefits. Electric buses bring operational cost savings compared to diesel, while energy-efficient buildings through the capital improvements under ESPCs reduce utility bills and free up resources for educational needs. Moreover, the program creates local jobs in green technologies like charging station installation and renewable energy, further boosting the state's economy.

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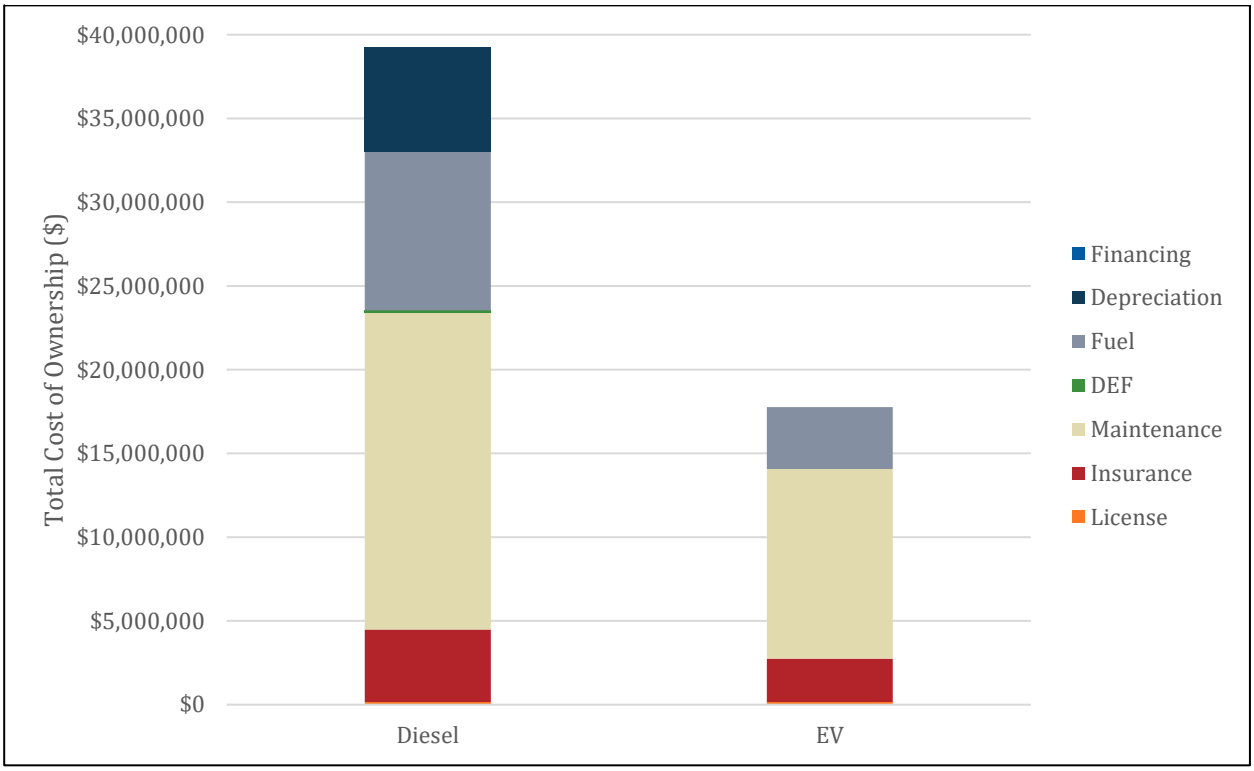
[50] Hansjoerg P. Kunc and Rouven Schmidt. 2019. The effects of anthropogenic noise on animals: a meta-analysis. The Royal Society Biology Letters. 15, 11. https://doi.org/10.1098/rsbl.2019.0649.

Ultimately, ECO Schools delivers a triple win: healthier children, a cleaner environment, and a stronger financial future for New Mexico.

C.3.2.3.1 Total Cost of Ownership (TCO)

The effective TCO over a twelve-year lifecycle for approximately 85 ESBs will be nearly 55 percent lower for awarded applicants than if they procured diesel school buses in the absence of this program (see Figure 9 and Table 18).[51] Recipients would directly benefit from a $0 purchase price for ESBs, compared to a $100,000 purchase price for diesel buses. Regardless, this tangible outcome would save awarded applicants $8,500,000 in total to reinvest in their schools, for example, for energy efficiency projects and program development, curriculum support, or improved staffing, all resulting in improved learning outcomes for students.

Figure 9. Effective TCO for 85 ESBs Delivered to Eligible Applicants



[51] Source: https://afleet.es.anl.gov/afleet/public/.

Table 18. Effective Total Cost of Ownership for 85 ESBs Delivered to Eligible Applicants

Cost Category	Powertrain	
	Diesel	EV
Financing	$0.00	$0.00
Depreciation	$6,269,159.87	$0.00
Fuel	$9,473,243.39	$3,693,797.08
Diesel Exhaust Fluid (DEF)	$133,957.53	$0.00
Maintenance	$18,930,180.34	$11,324,414.93
Insurance	$4,324,411.20	$2,585,973.80
License	$158,603.15	$158,603.15
Total Cost of Ownership	*$39,289,555.48*	*$17,762,788.96*

Otherwise, Argonne National Laboratory also estimates that an ESB's TCO is currently six percent greater than diesel school buses over a twelve-year lifecycle when accounting for the purchase price. Several national and international investments in transportation electrification are driving ESBs to reach TCO price parity with diesel school buses before 2030. Again, this measure enables schools to experience ESBs, understand their benefits, and debunk myths that currently limit greater uptake. Therefore, when price parity is achieved, this measure empowers the economic theory that consumers will naturally increase their uptake of ESBs beyond what the requested CPRG funds can support.

C.4 Low-Income and Disadvantaged Communities Benefits Analysis

Tailpipe emissions have varying deleterious effects on public health, with populations closer to and downstream of the source most impacted. However, the entire state is impacted by these emissions to some degree. Thus, this measure's benefits would accrue to all US Census Tract Block Groups in New Mexico, which are provided in Appendix L – New Mexico Census Tract Block Groups Identified by EPA as LIDAC.

C.4.1 Benefits

The ECO Schools Program offers a multitude of benefits for residents in LIDAC, addressing environmental justice, health concerns, and even economic inequalities.

C.4.1.1 Environmental Justice

- Cleaner air: Low-income communities are often disproportionately burdened by air pollution, including emissions from diesel school buses. Electric buses eliminate tailpipe emissions, improving air quality in neighborhoods served by these routes. This can significantly reduce

respiratory illnesses like asthma, especially prevalent in children, whose lungs are still developing.
- Climate change mitigation: Electric buses reduce GHG emissions compared to diesel buses, contributing to the fight against climate change. This benefits everyone, but disadvantaged communities are often hit hardest by its consequences like extreme weather events.

C.4.1.2 Health Benefits

- Reduced exposure to diesel exhaust: Diesel exhaust contains air pollutants like $PM_{2.5}$ and NOx linked to various health problems, including asthma, heart disease, and cancer. Electric buses eliminate this exposure, promoting the health and well-being of students, especially those with pre-existing respiratory conditions.
- Quieter environment: Electric buses are much quieter than diesel buses, creating a less stressful and more conducive learning environment for students. This can be particularly beneficial for children with sensory sensitivities.

C.4.1.3 Economic Benefits

- Lower energy costs: Energy-efficient school buildings reduce energy consumption and save money on utility bills. This can free up resources for disadvantaged school districts to invest in educational programs, teacher salaries, and other critical needs.
- Bus operation, maintenance, and fuel savings: While the upfront cost of electric buses is higher than diesel buses, electric buses have lower operating costs due to reduced fuel and maintenance needs. This can free up resources for school districts serving low-income communities, allowing them to invest in other crucial areas like education and infrastructure.
- Job creation: The transition to electric buses creates new jobs in manufacturing, installation, and maintenance of charging infrastructure. This can provide good-paying opportunities for residents of disadvantaged communities, boosting local economies.
- Job Quality: Reduced exposure to noise pollution and diesel exhaust for bus drivers creates a healthier and more enjoyable work experience.

C.4.2 Disbenefits and Mitigation Strategies

Equitable implementation is crucial to ensure the above benefits exist. The ECO Schools Program will address challenges and ensure equitable implementation in the following ways:

C.4.2.1 Program Access

ESBs, charging infrastructure, and energy efficiency upgrades require significant upfront investments, and low-income school districts often struggle to secure funding for such projects. Simultaneously, funding opportunities often come with complex application processes and eligibility requirements, which can be challenging for districts with limited administrative resources. This can further disadvantage low-income districts which may lack the staff to navigate the bureaucratic hurdles.

- **Mitigation:** To minimize the financial burden placed on low-income and disadvantaged school districts, primary priority reviews and awards will be made first to [A] schools that meet **Title I status**[52] (i.e., low-income) or [B] schools and districts that serve census tract block groups considered disadvantaged. Secondary prioritization will be for schools and school districts with inadequate charging capability for existing ESBs or existing purchase orders for ESBs. The application process will also be streamlined and adequately staffed by program coordinators to minimize strain on the limited resources of low-income and disadvantaged schools.

Overall, the ECO Schools Program will be a powerful tool for addressing environmental injustice, improving health outcomes, and creating economic opportunities for people living in LIDAC.

C.5 Authority to Implement Measure

NMED is authorized under the state Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMED is also authorized under the Air Quality Control Act to commence enforcement actions under said Act or a regulation promulgated pursuant to said Act (i.e. the New Motor Vehicle Emission Standards, discussed next). NMSA 1978, Section 74-2-12.

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the New Motor Vehicle Emission Standards under 20.2.91 NMAC. These rules include California's ACCII, ACT, and HDO regulations and establish New Mexico as a Section 177 state. Such rules establish NMED's authority to administer associated programs and determine regulated entities' compliance.

[52] Title 1 schools are determined under the federal Elementary and Secondary Education Act (ESEA) by the PED. The Title I program helps students in high-poverty schools and neglected or delinquent children and youth meet the same high academic standards expected of all children.

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the New Motor Vehicle Emission Standards under 20.2.91 NMAC, which include ACCII, ACT, and HDO regulations. These rules set emission standards that apply to MHD vehicles and heavy-duty and other engines and require increased delivery of ZEVs beginning in MY 2027. The regulations also require MHD vehicles and engines to meet certain certification, warranty, and labeling requirements. Additionally, the regulations require regulated entities to report regularly and authorize NMED to perform inspections and/or request information and review records. Overall, NMED is authorized to enforce all such standards and ensure regulated entities' compliance.

Furthermore, the New Motor Vehicle Emission Standards apply to school buses, as the exemption under such rules for "excluded buses" does not include school buses in its definition. 20.2.91.103(N) NMAC and Cal. Code Regs. tit. 13, § 1963(c)(11). Therefore, the inclusion of school buses in the New Vehicle Emission Standards authorizes NMED to regulate the delivery of "new" ZEV school buses within the state.

NMED and EMNRD were directed under EO 2019-003 to adopt approaches to reduce GHG emissions and criteria pollutant emissions from light-duty vehicles sold in the state, including Low-Emission Vehicles (LEVs) emission standards and Zero-Emission Vehicle (ZEV) performance standards). Although school buses are not "light-duty", ESB are ZEVs and aid in the endeavors to reduce GHG emissions in New Mexico.

Appendix D – Community Mobility

D.1 Measure Description

Community mobility can take several forms, including public transit, infrastructure for safe and effective bike and pedestrian transit, ride-sharing, and more. However, the core of each form is reducing VMT, while improving a community's quality of life. Transportation is the second largest source of GHG emissions in New Mexico, so decreasing VMT is essential for the state to reach its emissions reduction targets. The added benefits of reduced transportation costs, decreased traffic, and enjoyment of commute make community mobility a top priority for the state.

D.1.1 Program Mechanism

Municipalities, counties, municipal planning organizations (MPOs), and regional transportation planning organizations (RTPOs) produce community mobility plans that suit their target population's needs and goals. These entities then apply for applicable grants to fulfill the implementation costs of the plans, including the implementation phase of the CPRG program.

D.1.2 Key Implementing Agencies

NMDOT is a key implementing agency of projects within this measure.

D.1.3 Collaboration

- New Mexico Safe Routes to School Partnership
- New Mexico MPO's
- New Mexico RTPO's
- New Mexico municipalities
- Together for Brothers

D.1.4 Implementation Schedule and Milestones

Community mobility measures will be implemented locally by municipalities, counties, MPOs, and RTPOs through a variety of grant funds, so the implementation schedules and milestones will vary by project.

D.1.5 Geographic Scope

This measure is applicable state-wide. Funds will be focused within municipalities; however, mobility between municipalities is also a priority.

D.2 Metrics for Tracking Progress:

- Quantification of reduction in VMT;
- Reduction of GHG Emissions;
- General population served per project;
- LIDAC population served per project;
- Percentage of population that feels safe and comfortable using the project as a method of transportation.

D.3 Benefits

D.3.1 Primary Benefits

D.3.1.1 GHG Emission Reductions

NMED's goal for implementing community mobility projects and programs at the municipal level is a 5 percent reduction in VMTs by 2030 and a 20 percent reduction by 2050. If both targets are met, the associated GHG emissions reductions would be as follows:

Table 19. NMED-Associated GHG Emission Reductions

Category	MT CO_2e
5% decrease in VMT	1,270,790
20% decrease in VMT	23,086,025

D.3.2 Co-benefits

D.3.2.1 Health Benefits

Implementing community mobility projects can have the following positive health benefits for individuals and communities:

D.3.2.1.1 Increased physical activity:

- Reduced reliance on cars: Projects that encourage walking, cycling, and public transportation lead to more active commutes and daily errands, contributing to increased physical activity levels.
- Safer and more accessible streets: Improved sidewalks, bike lanes, and crosswalks make it easier and safer for people of all ages and abilities to be physically active outdoors.
- Active recreation spaces: Investing in parks, plazas, and green spaces provides opportunities for recreational activities like walking, running, playing sports, and gardening.

D.3.2.1.2 Improved air quality:

- Reduced car traffic: By promoting alternative modes of transportation, community mobility projects lead to fewer cars on the road, thus reducing air pollution and improving respiratory health.
- Increased green spaces: Parks and green spaces act as natural filters, absorbing pollutants and improving air quality in surrounding areas.

D.3.2.1.3 Reduced stress and improved mental health:

- Active commutes: Studies have shown that walking, cycling, and using public transportation can be less stressful than driving, leading to lower anxiety and improved mental well-being.
- Connecting with nature: Access to green spaces is associated with reduced stress, improved mood, and increased cognitive function.
- Stronger communities: Community mobility projects foster social cohesion and inclusion, contributing to positive mental health outcomes.

D.3.2.1.4 Additional health benefits:

- Reduced risk of chronic diseases: Increased physical activity can prevent or manage heart disease, type 2 diabetes, and some cancers.
- Improved bone health: Weight-bearing activities like walking and running can help strengthen bones and reduce the risk of osteoporosis.
- Safer streets: Well-designed streets with dedicated pedestrian and cycling infrastructure can lead to fewer traffic accidents and injuries.

D.3.2.2 Environmental Benefits

D.3.2.2.1 Air Quality Benefits

Total air pollutant emissions from on-road diesel and non-diesel light-duty vehicles from the 2020 NEI and air pollutant emission reductions by 2030 and 2050 from this measure are shown in Table 20.

Table 20. Air Pollution Emission Reductions for 2020, 2030, and 2050

Pollutant	2020 NEI on-road light-duty diesel and non-diesel vehicle emissions (tons/year)	Cumulative Co-pollutant reductions from a 5% reduction in VMT by 2030 (tons)	Cumulative Co-pollutant reductions from a 20% reduction in VMT by 2050 (tons)
NO_X	11,594	1,739	31,594
$PM_{2.5}$	303.9	45.6	828
SO_2	55.5	1,270	151
VOC	8466.0	1,625.26	23,070

Source: NEI Online Data Browser, 2020.

D.3.2.2.2 Water Quality/Quantity Benefits

This measure provides distinct and significant environmental benefits to New Mexico's water quality. By reducing the use of fossil fuels, the measure decreases the contamination of surface and groundwater throughout the "well to wheel" system. This includes crude oil leaks and spills at production sites, in collection, refining, and distribution pipelines from storage tanks, and the end use in ICE vehicles. Contamination can lead to surface and groundwater quality degradation, potentially driving water quality below the standards and threatening those (humans, fish, and wildlife) that rely on these water resources for health and survival. By reducing VMT by ICE vehicles, this measure addresses the degradation of the state's precious water resources.

D.3.2.2.3 Land and Soil Benefits

In addition to water quality degradation, oil leakage from ICE vehicles can contaminate land and soil along roadways and lots. Soil degradation due to pollution can lead to a reduction in the ecosystem's functions and services, a decline in soil fertility, and adverse changes in chemical composition, which can lead to excessive erosion and, subsequently, flooding. The reduction in VMT by ICE vehicles due to community mobility projects will reduce contamination of land and soil and minimize these harmful effects.

D.3.2.2.4 Ecological Benefits

Aside from the ecological benefits associated with improving water and soil quality listed above, the reduction in VMT due to community mobility projects will result in a reduction in noise pollution. Noise pollution is an invisible threat to the health and well-being of wildlife. It can affect the communication, distribution, foraging, or homeostasis of organisms. A reduction in VMT not only creates a better environment for the communities implementing community mobility projects but also for the wildlife that humans share the environment with.

D.4 Low-Income and Disadvantaged Communities Benefits Analysis

Tailpipe emissions have varying deleterious effects on public health, with populations closer to and downstream of the source most impacted. However, the entire state is impacted by these emissions to some degree. Thus, this measure's benefits accrue to all US Census Tract Block Groups in New Mexico, which are provided in Appendix L – New Mexico Census Tract Block Groups Identified by EPA as LIDAC.

D.4.1 Benefits

Community mobility projects, when designed and implemented thoughtfully, can offer a range of benefits to residents in LIDAC, including:

D.4.1.1 Increased Access to Opportunities

- Improved transportation options: Public transit, bike-sharing programs, and micro-mobility solutions like scooters can connect residents to jobs, healthcare, education, and essential services they might otherwise lack access to due to car dependence or limited financial resources.
- Reduced travel time and cost: Efficient and affordable transportation saves residents time and money they can spend on other necessities, improving their overall well-being and economic potential.

D.4.1.2 Enhanced Community Health and Well-being

- Reduced air pollution: By encouraging alternatives to car use, community mobility projects can contribute to cleaner air, especially in neighborhoods often disproportionately burdened by traffic pollution. This can lead to improved public health outcomes, particularly for vulnerable populations.
- Promoting active lifestyles: Walking, cycling, and using micro-mobility options can increase physical activity levels, contributing to better physical and mental health for residents.
- Stronger social connections: Improved mobility can facilitate interaction and build stronger social ties within communities, fostering a sense of belonging and support.

D.4.1.3 Economic Empowerment

- Job creation: Community mobility projects can create new jobs in areas like public transit operation, bike maintenance, and micro-mobility management, providing valuable employment opportunities for local residents.
- Supporting local businesses: Increased foot traffic and accessibility can benefit local businesses in disadvantaged communities, boosting the local economy.

D.4.1.4 Environmental Sustainability

- Reduced GHG emissions: By promoting low-carbon transportation options, community mobility projects can contribute to mitigating climate change and protecting the environment.
- More livable communities: Reduced car dependence can create safer and more pleasant streets with less traffic congestion and noise pollution, improving the overall quality of life in disadvantaged neighborhoods.

D.4.2 Disbenefits and Mitigation Strategies

It is important to note that not all community mobility projects are created equally. Without proper engagement and consideration, community mobility projects can come with some disbenefits to people living in LIDAC. Below are potential disbenefits of community mobility projects and how the state intends to mitigate them:

D.4.2.1 Displacement and gentrification

- Increased property values: Improvements in transportation infrastructure and connectivity can lead to increased property values and demand for housing in the surrounding area. This can push out low-income residents who can no longer afford rent or mortgages.
- Loss of affordable housing: Demolition of existing affordable housing to make way for new development or infrastructure projects can exacerbate housing shortages and displacement.
- Changes in the character of the community: New businesses and residents attracted by improved mobility projects may not reflect the existing character and needs of the community, leading to cultural displacement and loss of social cohesion.

D.4.2.2 Accessibility and affordability of new transportation options

- Cost of fares and passes: Public transportation systems, bike-sharing programs, or e-scooter services may have fares or fees that are unaffordable for low-income residents, limiting their access to these new mobility options.
- Digital divide: Many new transportation systems rely on smartphone apps or online ticketing, which can exclude individuals without reliable internet access or digital literacy.
- Physical accessibility: Design considerations for new infrastructure might not prioritize the needs of people with disabilities or those with limited mobility, creating new barriers.

D.4.2.3 Mitigation Strategies

- Community engagement: Involving residents in the planning and implementation process ensures that projects address their actual needs and concerns.
- Affordability: Transportation options should be accessible and affordable for everyone, including low-income residents. This might involve fare subsidies, discounts, or income-based pricing models. For example, the Albuquerque Area Rapid Transit system offers zero-dollar fares and should serve as a model for other transit authorities.
- Accessibility: Infrastructure and services should be accessible for people with disabilities and those with limited mobility.
- Safety: Projects should prioritize safety for all users, including pedestrians, cyclists, and other vulnerable groups.

By ensuring equitable design and implementation, community mobility projects can be a powerful tool for empowering LIDAC, improving their quality of life, and creating a more sustainable and just future.

D.5 Authority to Implement Measure:

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the New Motor Vehicle Emission Standards under 20.2.91 NMAC, which include ACCII, ACT, and HDO regulations. Such rules establish NMED's authority to administer related programs and determine compliance. Administration under the rules includes a component where NMED retains the discretion to determine if vehicles were provided by manufacturers for use in a "community-based clean mobility program in New Mexico", including for NMED to determine whether such programs qualify in New Mexico. A community-based clean mobility program is one that:

1. Provides access to clean mobility solutions other than vehicle ownership including ZEV car-sharing, ride-sharing, vanpools, ride-hailing, or on-demand first-mile/last-mile services;
2. Serves a community in which at least 75 percent of the census tracts in the project area (where community residents live and services operate) are: a disadvantaged community, a low-income community, or a Tribal community regardless of federal recognition; and
3. Is implemented by a community-based organization (CBO), Native American Tribal government regardless of federal recognition, or a public agency or nonprofit organization that has received a letter of support from a project-related CBO or local community group that represents community members that will be impacted by the project or have a service background related to the type of project.[53]

NMED and EMNRD were directed under EO 2019-003 to evaluate policies and regulatory strategies to achieve reductions in GHG pollution, consistent with the targets set out in such Executive Order, across all categories of emission sources. 'All categories of emission sources' include but are not limited to, those detailed in this Appendix.

NMED is authorized under the state Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government. NMED is delegated the power to make contracts to carry out its delegated duties and to enter into agreements with environmental and consumer protection agencies of other states and the federal government pertaining to the duties of the department. NMSA 1978, Sections 74-1-6(B) and (C).

[53] Definitions for terms of art used herein are provided under California law and differ slightly from definitions utilized under Justice40 and by the EPA in the CPRG guidance. However, such definitions do not appear to conflict or cause ineligibility, or to inhibit NMED's authority to implement this measure under Justice40 and EPA rules and guidance.

Appendix E – Methane Response Project

E.1 Measure Description:

In January 2019, during her first month in office, New Mexico Governor Lujan Grisham signed Executive Order 2019-003, Addressing Climate Change and Energy Waste Prevention.[54] The Executive Order recognizes that human activity is changing the global climate by increasing the concentration of carbon dioxide (CO_2) methane (CH_4) and other GHGs in the atmosphere, which trap heat near the earth's surface, and acknowledges that the planet has little time remaining for humans to take meaningful climate action to limit the increase in global average temperature to 1.5 degrees Celsius – the level necessary to forestall extreme and dramatic climate changes.

The Executive Order directs NMED and EMNRD to "jointly develop a statewide, enforceable regulatory framework to secure reductions in oil and gas sector methane emissions and to prevent waste from new and existing sources."

NMED and EMNRD undertook more than two years of stakeholder outreach and technical research to compose rules that together are the strongest regulation of CH_4 emissions from the oil and gas industry in the nation. EMNRD codified 19.15.27 New Mexico Administrative Code (NMAC), Venting and Flaring of Natural Gas and 19.15.28 NMAC, Natural Gas Gathering Systems, collectively known as the Methane Waste Rule, with the effective date of 05/25/2021. NMED codified 20.2.50 NMAC, Oil and Gas Sector – Ozone Precursor Pollutants (also referred to as the Part 50 rule). This rule had an effective date of August 5, 2022.

In December 2023, the EPA issued its own New Source Performance Standards (NSPS) and Emission Guidelines (EG) to reduce volatile organic compounds (VOC) and CH_4 emissions from oil and gas production operations (EPA-HQ-OAR-2021-0317) that are under review by NMED within the context of New Mexico's unique regulatory landscape.

This measure creates a response process that will increase compliance and enforcement synergy between NMED and EMNRD for methane and co-air pollutants to ensure the agencies can maximize projected emissions reductions under state and federal rules. NMED, in consultation with EMRND, will lead a pilot "Methane Response Project" with goals to: (1) identify and create common data sources, including location-specific satellite imagery; (2) develop a streamlined system between agencies to more efficiently cross-share reporting and inspection results; and (3) create a mechanism whereby inspectors

[54] https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf

can support field and data observations for both agencies. Although included in the PCAP, NMED has identified funding for this project outside of CPRG.

E.1.1 Mechanism

The Methane Waste Rule directly regulates CH_4 release as a waste of natural resources. The rules require extensive reporting of natural gas loss from oil and gas production and midstream operations; prohibit routine venting and flaring; require attainment of an increasing gas capture target, culminating in a 98 percent requirement; and give EMNRD the ability to deny drilling permits if gas capture targets are not achieved.

The Oil and Gas Sector Ozone Precursor Pollutants Rule regulates the release of NO_x and VOCs from the oil and gas sector as ozone precursors. The reduction of VOC emissions has the co-benefit of reducing CH_4 emissions. The Oil and Gas Sector Ozone Precursor Pollutants Rule has requirements for engines and turbines, compressor seals, control devices and closed vent systems, natural gas well liquid unloading, glycol dehydrators, heaters, hydrocarbon liquid transfers, pig launching and receiving, pneumatic controllers and pumps, storage vessels, well workovers, produced water management units, and flow back vessels and preproduction operations. It also requires contains requirements that owners or operators of facilities conduct periodic audio, visual, and olfactory (AVO) inspections of thief hatches, closed vent systems, pumps, compressors, pressure relief devices, open-ended valves or lines, valves, flanges, connectors, piping, and associated equipment to identify defects and leaking components.

EPA's new federal rule is like New Mexico's unique methane waste and Ozone Precursor Pollutants Rule and thus ensures similar emission reductions.

E.1.2 Key Implementing Agencies

EMNRD implements and enforces the Methane Waste Rule (19.15.27 NMAC and 19.15.28 NMAC). NMED implements and enforces the Oil and Gas Sector Ozone Precursor Pollutants Rule (20.2.50 NMAC).

E.1.3 Collaboration

NMED and EMNRD will collaborate with entities that provide real-time and recorded open-source emissions data that the agencies can utilize for more efficient and effective compliance strategies. The agencies will also collaborate with technology companies that can synthesize such data for public accessibility.

E.1.4 Implementation Schedule and Milestones

The Methane Waste Rule is implemented in two phases. Phase 1 of the rules began October 1, 2021, and required extensive reporting of CH_4 loss. Phase 2 of the rules began April 1, 2022, and requires incremental increases in the percentage of gas captured based on the operators beginning capture rate, cumulating in a 98 percent capture rate by the end of 2026.

The Oil and Gas Sector Ozone Precursor Pollutants Rule phases in requirements starting at the effective date of the rule, August 5, 2022. All requirements of the Oil and Gas Sector Ozone Precursor Pollutants Rule will be in effect by January 1, 2030. The complete compliance timelines required can be found on NMED's website.[55]

E.1.5 Geographic Scope

The Methane Waste Rule applies to oil and gas exploration and production in all areas of New Mexico. Oil and gas production in New Mexico occurs principally in Chaves, Eddy, Lea, Rio Arriba, Sandoval, and San Juan counties.

The Oil and Gas Sector Ozone Precursor Pollutants Rule applies in the counties in New Mexico under NMED's air quality jurisdiction where monitoring has revealed ozone concentrations that exceed ninety-five percent of the National Ambient Air Quality Standard (NAAQS). These counties are Chaves, Doña Ana, Eddy, Lea, Rio Arriba, Sandoval, San Juan, and Valencia. Bernalillo County is currently regulated by and within the jurisdictional boundaries of a local board (the Albuquerque-Bernalillo County Air Quality Control Board) and does not have significant oil and gas activity.

E.2 Metrics for Tracking Progress:

The following metrics can be used to track progress in CH_4 emission reductions from the rules:

- Required monthly reports to EMNRD from operators of vented and flared volumes of CH_4, broken down by source type and reason for non-capture.
- Annual reports of VOC emissions from major (Title V) air-regulated sources.
- Triannual reports of VOC emissions from minor air-regulated sources.[56]
- Self-disclosure of violations from operators to EMNRD and NMED.
- Violations found during EMNRD and NMED inspections.

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[55] https://cloud.env.nm.gov/air/?r=29021&k=1e2d232383.

[56] Minor air regulated sources are sources with a potential to emit (PET) lower than the Title V thresholds, but higher than state requirements for a permit or registration.

E.3 Benefits

E.3.1 Primary Benefits

E.3.1.1 GHG Emission Reductions

E.3.1.1.1 Estimate of the Cumulative GHG Emission Reductions (2025 – 2030, and 2025 - 2050)

VOC reductions expected from 20.2.50 NMAC were applied to CH_4 emissions in the projected inventories in those counties where the rule is applicable. Rule requirements for certain emission sources are phased in over time and will not be fully implemented until 2030. Therefore, the estimated reductions for the 2025 projected inventory for these emission sources have been adjusted to reflect the expected reductions in place by 2025. As these reductions were estimated for the oil and gas industry overall (they are not segment-specific), they have been applied to each industry segment equally. No reductions are assumed for CO_2 emissions based on the Part 50 rule.

In addition to the NMED Part 50 rule, EMNRD implemented a prohibition on the venting and flaring of associated gas (with some exceptions) through the Methane Waste Rule. The projected inventories for both CH_4 and CO_2 apply a 95 percent reduction in emissions from associated gas venting and flaring to account for this prohibition, which only allows venting or flaring under certain conditions.

Table 21 provides the estimated CO_2 and CH_4 reductions for affected emission sources for the 2025 and 2030 inventories based on the impacts of the Part 50 rule and the natural gas waste rule. Emission sources not shown in Table 21 were not assumed to have regulatory reductions in the projected inventories. Table 21 shows the results of the projected oil and gas sector inventories, using EIA's Annual Energy Outlook 2023 (*AEO2023*) Reference case.

Table 21. Estimated Annual 2030 GHG Reductions from New Mexico State Oil and Gas Rules

Emission Type	Emissions Reductions
2030 annual CO2 emission reductions (MMT/ year)	0.8
2030 annual CH4 emission reductions (MMT/ year)	0.3
2030 annual emission reductions (MMT/year CO2e)	10.2
2025 – 2030 Cumulative emission reductions (MMT CO2e)	41.9
2025 – 2050 Cumulative emission reductions (MMT CO2e)	245.3

E.3.2 Co-benefits

E.3.2.1 Health Benefits

While the primary focus of monitoring and verifying CH_4 emissions is on climate change mitigation, there are also surprising health benefits associated with this practice, as follows:

E.3.2.1.1 Reduced Air Pollution:

- Lower ozone levels: CH_4 reacts with other pollutants in the atmosphere to form ozone, a key component of smog. Lower CH_4 emissions lead to less ozone formation, improving air quality and reducing respiratory problems like asthma, COPD, and even heart disease.
- Decreased exposure to harmful chemicals: Many oil and gas production facilities also emit VOCs alongside CH_4. VOCs can contribute to the formation of harmful ground-level ozone and can also cause irritation and even cancer. Reduced CH_4 emissions often result in lower VOC emissions as well, leading to further health benefits.

E.3.2.1.2 Improved Environmental Justice:

- Lower exposure to pollution for communities living near production sites: Oil and gas facilities are often located near residential areas, disproportionately impacting low-income and non-white communities. By reducing emissions, the health of these communities can be significantly improved.
- Reduced risk of water contamination: CH_4 can migrate through soil and into your home or well, potentially causing risks of explosion or asphyxiation. Monitoring and verifying emissions can help prevent such contamination, safeguarding public health.

E.3.2.1.3 Indirect Benefits:

- Reduced healthcare costs: Lower air pollution and improved environmental quality can lead to lower healthcare costs associated with respiratory and other illnesses.
- Increased worker safety: Some of the technologies used to monitor CH_4 emissions can also detect other hazardous gases, improving worker safety at production sites.

It's important to note that these health benefits are often indirect and depend on the specific circumstances of each production site and its surrounding community. However,

the potential for improved public health is a valuable additional benefit to consider alongside the climate change mitigation benefits of monitoring and verifying CH_4 emissions.

E.3.2.2 Environmental Benefits

E.3.2.2.1 Air Quality Benefits

NO_x and VOC emission reductions due to the Oil and Gas Sector Ozone Precursor Pollutants Rule are shown in Table 22. This analysis does not account for emission reductions due to equipment malfunctions and leaks that were discovered and repaired due to inspection requirements. There are also significant co-pollutant reductions from the Methane Waste Rule, however those have not been quantified at this time.

Table 22. NOx Emission Reductions due to NMAC 20.2.50

Equipment Type	NOx Baseline Emissions[57] (tons /year)	VOC Baseline Emissions[57] (tons /year)	NOx Emission Reductions[58] (tons /year)	VOC Emissions Reductions[58] (tons /year)
Dehydrators	262	1,988	-	952
Engines	47,631	19,643	4,225	1,100
HC Liquid Transfers	-	9,432	-	1,092
Tanks	-	24,382	-	11,244
Heaters	1,307	-	44	-
Turbines	2,249	273	745	100
Total	51,448	55,718	5,013 (10%)	14,488 (26%)
Cumulative 2050 reductions (tons)			120,950	524,356

E.4 Low-Income and Disadvantaged Communities Benefits Analysis

The counties that can expect large air pollution reductions from this measure are Chaves, Eddy, Lea, Rio Arriba, Sandoval, and San Juan counties. These counties have a large portion of their populations that are considered LIDAC.

[57] Based on equipment counts, actual reported emissions for 2023, and permitted potential to emit (PTE) on the effective date of the rule (08/05/2022)
[58] Following full implementation of the rule in 2030, assuming no industry growth

Table 23. Methane Emission Reduction Co-Pollutant Emission Reductions

County	Oil Production[59] (barrels)	Gas Production[59] (MCF)	Number of Disadvantaged Census Block Groups / Number of Census Block Groups
Chaves	137,366	811,671	46 / 53
Eddy	21,656,456	116,383,425	30 / 44
Lea	31,962,810	97,032,187	43 / 61
Rio Arriba	65,888	17,423,701	30 / 30
Sandoval	183,269	861,496	31 / 88
San Juan	631,896	23,158,363	63 / 102

E.4.1 Benefits

Specifically, monitoring and enforcing CH_4 emissions from oil and gas production operations will have the following benefits to the surrounding LIDAC:

E.4.1.1 Improved Air Quality

Reduced exposure to harmful pollutants: CH_4 and ozone precursors, such as VOCs and NOx, contribute to ground-level ozone formation. Ozone is a harmful air pollutant that can trigger respiratory problems, worsen asthma, and increase the risk of heart disease, especially in vulnerable populations like children, older adults, and people with pre-existing health conditions. Reducing these emissions can improve air quality, leading to better health outcomes for residents in communities located near oil and gas operations, which often disproportionately impact LIDAC.

Addressing environmental injustices caused by pollution exposure is crucial. By reducing air pollution, monitoring and verifying CH_4 emissions can help ensure that people living in LIDAC breathe clean air.

E.4.1.2 Economic Benefits

- Job creation: Prioritizing the monitoring and verification of CH_4 emissions can create new jobs in environmental monitoring, inspection, and enforcement, potentially providing opportunities for residents in affected communities.
- Reduced healthcare costs: Improved air quality can lead to lower healthcare costs associated with respiratory illnesses and other health

[59] January – November 2023 average from EMNRD County Production and Injection Summary https://wwwapps.emnrd.nm.gov/ocd/ocdpermitting/Reporting/Production/CountyProductionInjectionSummary.aspx.

problems linked to air pollution, which can benefit individuals and families with limited financial resources.

E.4.1.3 Community Engagement

- Increased transparency and accountability: Effective monitoring and verification can increase transparency and accountability from oil and gas companies, potentially leading to improved relationships between communities and industry.
- Empowerment: Community involvement in monitoring efforts can empower residents to take ownership of their environment and advocate for their health and well-being.

Overall, monitoring and verifying CH_4 emissions can offer significant benefits for LIDAC in New Mexico by improving air quality, promoting environmental justice, and creating economic opportunities. However, addressing enforcement challenges, ensuring community engagement, and mitigating potential economic impacts are crucial considerations for maximizing these benefits.

E.5 Authority to Implement Measure:

OCD of EMNRD is authorized under the Oil and Gas Act, NMSA 1978, Section 70-2-6 to have jurisdiction, authority, and control over the conservation of oil and gas. The Oil Conservation Commission ("Commission") is empowered to make and enforce rules to carry out the purposes of the Oil and Gas Act, NMSA 1978, Section 70-2-11. The Division is authorized to regulate wastes from exploration, development, production, or storage of oil and gas. NMSA 1978, Section 70-2-12. The Division is authorized to limit the waste of CH_4 from venting and flaring under NMAC. 19.15.27.1 to 19.15.27.9 NMAC; 19.15.28 NMAC. Unauthorized releases of methane gas are prohibited and must be reported, 19.15.29 NMAC.

NMED is authorized under the Environmental Improvement Act, NMSA 1978, Sections 74-1-1 to -17, to enforce rules, regulations, and orders promulgated by the EIB, including the Oil and Gas Sector Ozone Precursor Pollutants Rule, 20.2.50.1 to 20.2.50.128 NMAC. The Rule sets emission standards and imposes requirements on oil and gas owners or operators to install and/or replace certain types of technology and controls. The objective of these requirements is the reduction in emissions of ozone precursor pollutants (VOCs and oxides of nitrogen) from sources located at well sites, tank batteries, certain types of stations, and natural gas processing plants. 20.2.50.1 to 20.2.50.128 NMAC. The Rule also contemplates fugitive CH_4 emission reductions as a co-benefit. Owners or operators are required to report actions taken to comply with rule requirements and to report leak detection results and other data. 20.2.50.112 to 20.2.50.127 NMAC. NMED is authorized to enforce this Rule under the Air Quality Control Act and through efforts including, but not limited to, agency monitoring

(including inspections) or information provided by a third party. 20.2.50.128 NMAC and NMSA 1978, Section 74-2-12.

NMED is authorized under the Air Quality Control Act, NMSA 1978, Sections 74-2-1 to -17, to accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government.

Appendix F – Pre-Weatherization for Low-Income New Mexicans

F.1 Measure Description

This measure will use CPRG funds to scale up New Mexico's incentive program to pre-weatherize residential buildings by conducting structural repairs and home health remediation. These repairs will enable previously deferred low-income homes to access the wide range of incentives New Mexico has and expects to implement for weatherization, efficiency, electrification, and renewables.

F.1.1 Mechanism

Pre-weatherization incentive programs provide funding to remediate structural deficiencies and home health hazards in previously deferred income-eligible residences. Under the existing Weatherization Readiness program, New Mexico hires contractors to remediate moisture, standing water, electrical and wiring issues, environmental contaminants, and structural and roofing deficiencies. This work remediates issues that would cause a home to be deferred from the Department of Energy's Weatherization Assistance Program (WAP), and electrification and renewable programs like the Home Energy Rebate Program and Solar for All, because the conditions would render the weatherization and other measures unsafe or ineffective. The existing funding sources used for this work are limited, and will be expended by the end of June of 2025, unless more sources are available. Without this funding source, 8 percent of eligible applicants will be deferred, or about 70 homes per year. Weatherization Readiness funding also allows the program to service homes that normally would not have applied. This is an additional 15 homes that not only receive the corrected services but also receive full weatherization. Existing funding sources are insufficient to address the backlog of homes that require weatherization readiness assistance, and this funding would make New Mexico's current WAP more effective. The deferral rate due to home repair issues in New Mexico has dropped from eight percent to less than one percent since the start of the Weatherization Readiness program.

F.1.2 Key Implementing Agencies

The New Mexico Mortgage Finance Authority (MFA) oversees the program, and the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) will support it by facilitating access to additional building incentive programs.

F.1.3 Collaboration

MFA partners with three single-family agencies that cover the entire state. These agencies include Central New Mexico Housing Corporation which services the northern part of the state, Red Feather Development servicing the Navajo Nation, and Southwest

Regional Housing and Community Development which services the southern part of the state.

F.1.4 Implementation Schedule and Milestones

F.1.4.1 Work Plan Outline

- Grant administration
- Outreach
- Income qualification
- Scope of work determination
- Retrofit measure implementation
- Reporting/closeout

F.1.4.2 Project Timeline

- Grant administration
    - Grant application and allocation to service provider process
    - Sourcing of funding/financing
- Project management/program reporting: Q1
    - Develop a project management plan
    - Develop program structure
    - Reporting/invoicing monthly: Q1-Q12
- Outreach and education: Q1-Q9
    - Development of outreach plan: Q2-Q3
    - Targeted outreach to properties/households: Q2-Q6
    - Provision of technical assistance: Q2-Q10
- Income qualification: Q2-Q11
- Scope of work development: Q2- Q11
    - Conducting of energy audits: Q2-Q10
    - Scope of work development Q3-Q11
        - Determining of best-fit measures: Q3-Q11
        - Securing of commitment from property owners: Q3-Q11
- Retrofit execution: Q4-Q12
    - Sourcing service providers/contractors: Q3-Q11
    - Execution of retrofit work: Q3-Q12
    - Inspection of work performed: Q4-Q12

F.1.4.3 Milestones

- Milestone 1: Conducted outreach, identified, and qualified a minimum of 15 residences by the end of Q4.
- Milestone 2: Completed retrofit work for a minimum 45 residences by the end of Q8.
- Milestone 3: Finalized work on the project, having completed 65 units by the end of Q12.

F.1.5 Geographic Scope

To be eligible for the program, applicants must have proof of ownership or a landlord-tenant agreement, current utility bills, and a gross household income (total annual cash receipts) at or below 200 percent of the federal poverty level as established by the Director of the Office of Management and Budget (OMB); or receive cash assistance payments under Title IV or Title XVI of the Social Security Act or in accordance with applicable State or local law, at any time during the past one year preceding the determination of eligibility. Acceptable programs include:

- Temporary Aid to Needy Families (TANF)
- Supplemental Security Income (SSI)
- Social Security Disability Insurance (SSDI)
- Aid to Needy Disabled (AND)
- Old Age Pension (OAP)
- Supplemental Nutrition Assistance Program (SNAP)
- Department of Housing and Urban Development (HUD) means-tested programs at 80 percent AMI.

F.2 Metrics for Tracking Progress:

MFA uses an online reporting and invoicing system that requires partners to enter details of each unit completed before payment. The completed unit data is captured for each partner and shows the projected energy savings in MMBTUs and dollars.

Before the start of any unit, the agencies upload photos, estimated costs, and descriptions of the project. MFA either approves these projects or asks for more information from the service provider before approval.

In addition to having the ability to view what projects are complete and the funding used, MFA regularly follows up with the service providers to determine the status of approved units, and when they are scheduled for full weatherization. MFA runs monthly and quarterly reports that show the number of homes that have been approved, those that received the first layer of readiness services, and those that have been fully weatherized. All homes that receive pre-weatherization or repairs through this program are expected to be fully weatherized.

F.3 Benefits

F.3.1 Primary Benefits

F.3.1.1 GHG Emission Reductions

F.3.1.1.1 Estimate of the Cumulative GHG Emission Reductions (2025 – 2030, and 2025 - 2050)

Table 24. Total Estimated GHG Reductions from Natural Gas Avoided by Pre-Weatherization

Category	GHG Emission Reductions 2025 – 2030 (MT CO2e)*	GHG Emission Reductions 2025 – 2050 (MT CO2e)
TOTAL	***1,946.1***	***9,730.6***

*Assuming all pre-weatherization projects are completed between 2025-2030

F.3.2 Co-benefits

F.3.2.1 Health Benefits

The measure can result in direct health benefits, e.g., removing issues such as mold, asbestos, vermiculite, and other conditions, which improves air quality, prevents disease and injury, increases the quality of life for residents, and protects vulnerable individuals such as people with asthma, children, the elderly, and immunocompromised individuals, as well as improved housing quality, comfort, and safety. Decreased electricity generation required as a result of this measure can result in decreased pollution, which improves indoor and local air quality and reduces adverse health effects, particularly asthma.

F.3.2.2 Environmental Benefits

F.3.2.2.1 Air Quality Benefits

Total air pollutant emissions from natural gas avoided from the E3 PATHWAYS model and air pollutant emission reductions annually and by 2050 from this measure are shown in Table 25.

Table 25. Pollutant Emissions Reductions Due to Natural Gas Avoided by Pre-Weatherization

Pollutant	Annual Co-pollutant reductions from Natural Gas Avoided (kg)	Cumulative Co-pollutant reductions from Natural Gas Avoided by 2050 (kg)
NH_3	1	29
NOx	235	5885
$PM_{2.5}$	1	25
PM_{10}	1	35
SO_2	13	324

F.3.2.3 Economic Benefits

This measure can reduce utility bills (reducing energy burden allows individuals to spend more on groceries and medicine) and create high-quality jobs and workforce

development opportunities for people living in LIDAC; and enables solar generation development on roofs, which can also reduce utility bills.

F.4 Low-Income and Disadvantaged Communities Benefits Analysis:

When a home receives pre-weatherization services, oftentimes the dignity of the occupants is restored in addition to the obvious benefit of the home being eligible for weatherization. When these types of major repairs to homes are done, the lives of the occupants are changed by enabling them to live in their homes safely. Children can have a safe place to live, eat, sleep, and complete homework for example.

Approximately 22 percent of the state's households live below 200 percent of the federal poverty level as established by the Director of the OMB. Many of these homes are in rural undeveloped areas and use propane as a heat source increasing the energy burden.

Those who are served by this funding include residents in LIDAC, who often pay excessive portions of their income for housing, utilities, and healthcare. This funding will provide individuals and families struggling with high housing and energy cost burden to gain access to energy efficiency and home repair.

People with lower incomes are also more likely to reside in housing that is associated with poor health related to or caused by substandard housing. Examples include a higher likelihood of lead paint exposure, asthma, allergies, and other respiratory diseases.

F.5 Authority to Implement Measure:

The Energy Conservation and Management Division (ECMD) of EMNRD is authorized under NMSA 1978, Section 9-5A-3A(4). The duties of ECMD are to plan, administer, review, provide technical assistance, and monitor state and federal energy conservation and alternative energy technology programs. NMSA 1978, Section 9-5A-4B.

Under the Efficient Use of Energy Act, it is the policy of the Act that public utilities, cooperatives, and municipal utilities include all cost-effective energy efficiency and load management programs in their energy resource portfolios. NMSA 1978, Section 62-17-3.

The MFA is authorized to implement the United States Department of Energy's (DOE) Weatherization Program in New Mexico by the State of New Mexico, Executive Order 97-01.

Appendix G – Community Energy Efficiency Development Block Grant Program

G.1 Measure Description:

The New Mexico Community Energy Efficiency Development (CEED) Program was developed to facilitate targeted energy efficiency improvements for people living in LIDAC by providing block grants to local governments in partnership with CBOs. In New Mexico, individuals living below the federal poverty level pay on average 14 percent of their income on home energy expenses, and as high as 37 percent in some rural communities. The CEED Program provides funding for improvements to residential buildings in LIDAC to reduce energy consumption, energy-related operating costs, and/or the carbon intensity of energy consumption. This measure will expand this program, thus expanding New Mexico's efforts to reduce the energy burden for residents living in LIDAC while also working toward the state's emissions reduction and resilience goals.

G.1.1 Mechanism

The CEED Program provides block grants to local governments in partnership with CBOs to implement projects that target the adoption of energy-efficient consumer behavior, equipment, or devices in LIDAC that result in a decrease in energy consumption without reducing the amount or quality of energy services.

EMNRD will solicit applications through a statewide Request for Application (RFA) process. This RFA will result in grants issued to local governments for projects that achieve one or more of the program objectives in local government projects. The State will utilize the competitive application process established by the New Mexico Department of Financial Administration to select projects based on program goals. Grant applications will be evaluated according to the following criteria: alignment with program purpose and objectives, needs, impact, cost-benefit, budget reasonableness, feasibility, and administrative capability.

The State emphasizes the funding of projects that leverage additional resources, collaborate with partner entities, persist beyond the funding period, and institutionalize energy efficiency, conservation, and renewable energy efforts. Priority will be given to projects benefitting people living in historically energy-burdened and LIDAC, in line with state objectives and the federal Justice40 initiative. EMNRD will provide subgrants in the form of cash grants within 60 days of approval of the application.

G.1.2 Key Implementing Agencies

EMNRD oversees the program.

G.1.3 Collaboration

The CEED Program is unique in that it has a component requiring governmental applicants to partner with local community organizations experienced and trusted within the LIDAC being served. In this model, grantees are encouraged to work with known organizations to identify, train, and compensate leaders from the community to conduct outreach. This is a beneficial approach to actively involve historically excluded residents as co-creators of a just energy transition while helping to overcome any trust barriers that may be present. Also encouraged is a commitment by service providers to employ apprentices from a registered apprenticeship program that promotes diversity or to provide paid internships to individuals from LIDAC. Proposed partners include Prosperity Works, Plugged in for Good Alliance, Mesa to Mesa, Habitat for Humanity, and the Coalition for Sustainable Communities New Mexico.

G.1.4 Implementation Schedule and Milestones

G.1.4.1 Project Timeline

- Grant Administration
    - Grant application and allocation to service provider process
    - Sourcing of funding/financing
- Project management/program reporting: Q1
    - Develop a project management plan
    - Develop program structure
    - Reporting/invoicing monthly: Q1-Q12
- Outreach and education: Q1-Q9
    - Development of outreach plan: Q2-Q3
    - Targeted outreach to properties/households: Q2-Q6
    - Provision of technical assistance: Q2-Q10
- Income qualification: Q2-Q11
- Scope of work development: Q2- Q11
    - Conducting of energy audits: Q2-Q10
    - Scope of work development Q3-Q11
        - Determining of best-fit measures: Q3-Q11
        - Securing of commitment from property owners: Q3-Q11
- Retrofit execution: Q4-Q12
    - Sourcing service providers/contractors: Q3-Q11
    - Execution of retrofit work: Q4-Q12
    - Inspection of work performed: Q4-Q12

G.1.4.2 Milestones

- Milestone 1: Conducted outreach, identified, and qualified a minimum of 300 residences by the end of Q4.
- Milestone 2: Completed retrofit work for a minimum 200 residences by the end of Q8.
- Milestone 3: Completed retrofit work for an additional 500 residences by the end of Q12.
- Milestone 4: Completed retrofit work for an additional 800 residences by the end of Q16.
- Milestone 5: Finalized work on the project, having completed on 2500 units by the end of Q20.

G.1.5 Geographic Scope

Eligible applicants include counties, cities, and Tribes, Nations, and Pueblos located wholly or in part in New Mexico, and the MFA, which administers the state WAP.

G.2 Metrics for Tracking Progress

- Number of residences reached, identified, and qualified by the end of each quarter.
- Number of residences receiving retrofit work by the end of each quarter.
- Number of residences with completed retrofit work by the end of each quarter.
- Final number of residences with completed retrofit work by the end of the implementation period.

G.3 Benefits

G.3.1 Primary Benefits

G.3.1.1 GHG Emission Reductions

G.3.1.1.1 Estimate of the Cumulative GHG Emission Reductions (2025 – 2030, and 2025 - 2050)

Table 26. Total Estimated GHG Reductions from Natural Gas Avoided by CEED Program

Category	GHG Emission Reductions 2025 – 2030 (MT CO2e)	GHG Emission Reductions 2025 – 2050 (MT CO2e)
TOTAL	***39,429.8***	***305,847.4***

G.3.2 Co-benefits

G.3.2.1 Health Benefits

CEED can address many conditions of substandard housing that are associated with poor health outcomes. Examples include lead paint exposure, asthma, allergies, and other respiratory diseases. Decreased electricity generation required as a result of this measure can result in decreased pollution, which improves indoor and local air quality and reduces adverse health effects, particularly asthma.

G.3.2.2 Environmental Benefits

G.3.2.2.1 Air Quality Benefits

Total air pollutant emissions from natural gas avoided from the E3 PATHWAYS model and air pollutant emission reductions annually and by 2050 from this measure are shown in Table 27.

Table 27. Pollutant Emissions Reductions due to Natural Gas Avoided by CEED Program

Pollutant	Annual Co-pollutant reductions from Natural Gas Avoided (kg)	Cumulative Co-pollutant reductions from Natural Gas Avoided by 2050 (MT)
NH_3	0.00977	1
NO_x	1.99315	114
$PM_{2.5}$	0.00857	0.5
PM_{10}	0.01196	1
SO_2	0.10962	6

G.3.2.3 Economic Benefits

This measure can reduce utility bills (reducing energy burden allows individuals to spend more on groceries and medicine); create high-quality jobs and workforce development opportunities in disadvantaged communities; and enable solar generation development on roofs, which can also reduce utility bills.

G.4 Low-Income and Disadvantaged Communities Benefits Analysis:

New Mexico will benefit from funding for several reasons, including a greater need for assistance, a high energy burden, and a climate that requires both heating and cooling. New Mexico has the fourth lowest median household income in the country, demonstrating the need for the financial assistance that CEED provides. In addition, a large share of the population experiences cold winters and hot summers and requires energy and weatherization resources for both heating and cooling.

As a result, New Mexicans use more energy per capita than most other states (18th in the nation). This environmental inequality can begin to be addressed through CEED Program funding by facilitating financial stability through reduced bill costs, reduce interruption in utility services, decrease environmental-related health issues, and increase understanding of household equipment and maintenance, home values, and resiliency while potentially reaching populations that are historically less likely to take advantage of energy services and rebates. New Mexico also has a great deal of potential for solar energy that has yet to be taken advantage of–ranked third in the nation according to the U.S. Energy Information Administration–amplifying the climate benefits of energy efficiency measures. Finally, this program has the potential to drive more investment in the clean energy economy by expanding the market for contractors and others who can implement these measures.

Approximately 22 percent of the state's households live below 200 percent of the federal poverty level as established by OMB. Many of these homes are in rural undeveloped areas and use propane as a heat source increasing the energy burden.

Those that are served by this funding include residents in LIDAC, which are often people who pay excessive amounts of their income for housing, utilities, and healthcare. This funding will provide individuals and families struggling with high energy cost burden to gain access to energy efficiency and home repair.

Residents with lower incomes are also more likely to reside in housing that is associated with poor health that is related to or caused by substandard housing. Examples include higher likelihood of lead paint exposure, asthma, allergies, and other respiratory diseases.

G.5 Authority to Implement Measure:

ECMD is authorized under NMSA 1978, Section 9-5A-3A(4). The duties of the ECMD are to plan, administer, review, and provide technical assistance, monitor state and federal energy conservation and alternative energy technology programs. NMSA 1978, Section 9-5A-4B.

NMSA 1978, Section 62-17A-3B(4) enables ECMD to approve and enter into contracts to implement selected community energy efficiency projects; provided that the contracts shall include project performance measures, penalties or other provisions that ensure the successful completion of the projects in accordance with Article 9, Section 14 of the New Mexico Constitution and shall require reporting on project performance, energy savings and non-energy benefits resulting from the energy efficiency measures.

The CEED Block Grant Act defines "affordable housing" to mean residential housing primarily for low-income persons or housing that is affordable to low-income persons based on assessed value, rent or estimated mortgage. NMSA 1978, Section 62-17A-2.

“Energy efficiency” means measures that target efficient energy consumer behavior, equipment or devices and result in a decrease in energy consumption without reducing the amount or quality of energy services and includes health and safety measures that use efficient equipment or devices to improve indoor air or drinking water quality. NMSA 1978, Section 62-17A-2F.

The MFA is authorized to implement the DOEs Weatherization Program in New Mexico by the State of New Mexico, Executive Order 97-01.

Appendix H – Clean and Resilient Energy for Local Government

H.1 Measure Description:

This measure supports the installation of resilient power systems for local government buildings and community facilities through grants to local governments. Solar energy systems are a critical component of New Mexico's ability to meet its climate and clean energy goals, and also contributes significantly in building the resilience of the state's electric grid. New Mexico, with a statewide average solar irradiance value of 6.49 ($kWh/m^2/day$) and a large land area, has significant technical potential for solar resource development. Rural municipalities, counties, and Tribes, Nations, and Pueblos in New Mexico currently lack the funding to plan and implement solar but would develop solar to power public buildings and infrastructure if accessible funding were available. Solar energy systems combined with battery storage could reduce emissions while ensuring facilities remained available to provide services to residents and support first responders in the event of interruptions to the grid, which is particularly crucial in rural communities. Solar and storage systems can also improve grid reliability by reducing peaks in demand. Grants could enable local governments that often have difficulty accessing capital to fund installation of their own energy systems to leverage funds available through direct pay of tax credits through the IRA.

H.1.1 Mechanism

EMNRD will participate in a multistate coalition to offer funding or financing to local governments to support the purchase and installation of PV solar and grid battery storage eligible for federal direct pay energy tax credits. Eligible entities are counties, municipalities, school districts or Tribes, Nations, or Pueblos located wholly or partially in New Mexico. Grants can be used by eligible entities to plan, design, construct, purchase, install and equip solar energy systems and battery storage used to power buildings and infrastructure located within New Mexico that are owned and operated by an eligible entity.

Each award that the state provides to local governments will fund the total project cost after taking into account full federal tax credit eligibility [usually 30 percent but higher in some cases] of a total project cost, or [$300,000], whichever is less. Local governments are expected to receive 30 percent reimbursement through direct pay renewable energy tax credits after the project is placed in service. Projects eligible for bonus credits can achieve greater levels of reimbursement.

Each state in the coalition will individually select key features of their state's program upon submission of the Implementation Grant application:

- Whether the state's program will be administered by:
    - the third-party administrator contracted by the lead state (with input from interested coalition members); or
    - a third-party administrator selected individually through the state's own procurement process to work in that state; or
    - the state or an existing state-adjacent entity.
- Whether to offer grants or loans to its local governments for the development and/or purchase of eligible renewable energy technologies. Loans may include the creation of or use of an existing state revolving loan fund to finance low-cost construction bridge loans.

H.1.2 Key Implementing Agencies

EMNRD will oversee the program with the support of either a third-party administrator or another state agency.

H.1.3 Collaboration

EMNRD will implement this measure as a coalition with other states to maximize the measure's transformative impact. EMNRD will also work with the third-party administrator to ensure they are actively partnering with trusted CBOs and seek feedback from CBOs on program design, co-creating programs from the bottom-up to ensure that programs are designed to maximize trust and address the needs of the communities they serve.

H.1.4 Implementation Schedule and Milestones

An implementation schedule and milestones will be developed by EMNRD or the third-party administrator based on a needs assessment of local government and community facilities that could benefit from solar + storage and a review of other state and federal incentives and funding streams in order to maximize the reach and benefits of this program for LIDAC.

H.1.5 Geographic Scope

Any county, municipality, school district or Tribe, Nation, or Pueblo located wholly or partially in New Mexico with a focus on maximizing benefits in LIDAC.

H.2 Metrics for Tracking Progress

Metrics for tracking progress will be developed by EMNRD or the third-party administrator based on a needs assessment of local government and community facilities that could benefit from solar + storage and a review of other state and federal incentives

and funding streams and their recommended program design to maximize the reach and benefits of this program for LIDAC in the state.

H.3 Benefits

H.3.1 Primary Benefits

H.3.1.1 GHG Emission Reductions

H.3.1.1.1 Estimate of the Cumulative GHG Emission Reductions (2025 – 2030, and 2025 - 2050)

Table 28. Total Estimated GHG Reductions from Natural Gas Avoided by Solar + Battery Storage

Category	GHG Emission Reductions 2025 – 2030 (MT CO2e)	GHG Emission Reductions 2025 – 2050 (MT CO2e)
TOTAL	***30,453.3***	***152,266.3***

Full benefits and co-benefits will be assessed once the details of the multistate coalition are finalized. Greenhouse gas emissions and criteria emissions reductions will be calculated based on a case evaluation using the National Renewable Energy Lab's PVWatts and ReOpt Tools, and data from projects that have received New Mexico's Solar Market Development Tax Credit. For the evaluated case, a 387 kW rooftop solar installation with 60 kW battery power and 153 kWH battery capacity were assumed. GHG emissions reductions will be calculated as follows based on the funding allocated to each state in the multistate coalition:

Near-term cumulative GHG emission reductions (2025 - 2030): <=0.7*(approximately $30M allocated per state/817,154)*237*5 MT CO_2e

Long-term cumulative GHG emission reductions (2025 - 2050): =0.7*(approximately $30M allocated per state /817,154)*237*25 MT CO_2e

H.3.1.2 Environmental Benefits

H.3.1.2.1 Air Quality Benefits

Annual air pollutant emissions from natural gas avoided from the National Renewable Energy Lab's PVWatts and ReOpt Tools from this measure are shown in Table 29.

Table 29. Pollutant Emissions Reductions due to Natural Gas Avoided by Solar + Battery Storage for the Clean and Resilient Energy for Local Government Measure

Pollutant	Annual Co-pollutant reductions from Natural Gas Avoided (MT)
NOx	6.2
$PM_{2.5}$	0.37
SO_2	6.2

H.4 Low-Income and Disadvantaged Communities Benefits Analysis:

People living in LIDAC in New Mexico bear the brunt of high energy costs, as their homes are less energy efficient, their appliances are often outdated, and their finances are more strained. Many New Mexican households carry a high energy cost burden. As reported by the DOE's Low-Income Energy Affordability Data (LEAD) Tool, the average energy burden for households in New Mexico with the lowest incomes is nine percent higher than the national average. Indigenous communities in New Mexico endure an even higher average energy burden of 10.7 percent. And over 150,000 New Mexican households spend over 15 percent of their income on electricity. Local governments in these communities are equally constrained, and this funding presents an opportunity to equitably ease these burdens as well as enable trusted community facilities to provide services during emergencies that cause interruptions to the grid. In dispersed rural communities, the proximity of these services is essential.

Jobseekers in LIDAC also stand to benefit from the workforce development opportunities associated with this measure. According to a 2022 DOE report, energy jobs account for 7.3 percent of New Mexico's total employment but currently 42 percent of those energy jobs are in the fossil fuel industry, among the highest rates in the region. Targeting workforce development resources in the many traditional energy communities of the state will be key to ensuring these workers can benefit from the state's transition to clean energy.

As part of its Solar for All program, EMNRD plans to collaborate with the New Mexico Department of Workforce Solutions (NMDWS) to refine a workforce strategy that will support businesses and jobs with high road labor accommodations, including providing family-sustaining benefits, predictable work schedules, retirement contributions, safe working conditions, and the free and fair choice to join a union. New Mexico's Statewide Workforce Innovation and Opportunity Act Strategic Plan for 2024-2028 will highlight energy transition and climate resilience as top goals for the state's workforce system. Solar For All workforce development funds will aid in workforce initiatives to provide New Mexicans with comprehensive solar energy training or retraining for those who are

currently in fossil fuel industries. Through outreach, job training, pre-apprenticeship, and apprenticeship opportunities, NMDWS will help create pipelines to solar jobs for New Mexicans living in LIDAC, rural, and traditional energy communities.

H.5 Authority to Implement Measure:

ECMD is authorized under the NMSA 1978, Section 9-5A-3A(4). The duties of ECMD are to plan, administer, review, and provide technical assistance, monitor state and federal energy conservation and alternative energy technology programs. NMSA 1978, Section 9-5A-4B. ECMD, the New Mexico State Energy Office, designated by the US Department of Energy, is well poised to contract with New Mexico counties, municipalities, school districts, and Nations, Tribes, and Pueblos to successfully implement and steward this proposed measure.

Appendix I – Integrated and Wholistic Low-Income and Disadvantaged Building Sector Incentive Programs

I.1 Measure Description:

This measure will use CPRG funds to contract with a third-party administrator (Administrator) who will review and integrate existing state and federal building incentive programs and funding streams and design a dedicated program that maximizes decarbonization benefits residences owned by people in LIDAC. The Administrator will also use CPRG funds to create programs for pre-weatherization and workforce development and to begin implementing a pre-weatherization program as part of the overall program. The concept builds off experience from other states understanding the unique challenges presented by housing in LIDAC that require tailored program design and delivery to achieve maximum housing improvement and decarbonization benefits for residents.

I.1.1 Mechanism

EMNRD will issue a Request for Information (RFI) and RFP to contract with an experienced Administrator, who the departments will task with helping to improve and decarbonize housing units within LIDAC. The Administrator will:

- Take stock of existing state programs and new federal funding streams for residential decarbonization, housing improvement, workforce development, and community economic development;
- Develop new programs that integrate with and expand services offered, with design criteria focused on the unique challenges of the housing sector within LIDAC; and
- Integrate the full suite of available funding streams, tax credits and programs to create and implement customized long-term market transformation strategies to upgrade housing for residents with lower incomes.

Studies have estimated that this integrated and streamlined approach can lead to seven times the uptake of energy efficiency programs.[60]

In addition to their work on program design, integration, and market transformation as a whole, the Administrator will also design new programs for workforce development and

[60] Energy Efficiency for All, *One Stop Shops for the Multi-family Sector*, https://assets.ctfassets.net/ntcn17ss1ow9/30B8LUDt8GTegjPE8clalF/4b334a9fb7f2a5fa658e2f751c4e5575/EEFA_OneStopShop_Fact_Sheet__2_.pdf.

pre-weatherization.

- The Administrator will create a workforce development program to build a local workforce trained to perform pre-weatherization, electrification, or renewables projects. The program will also serve LIDAC by creating opportunities for community members to access high quality jobs and new business opportunities.

The pre-weatherization incentive programs will provide funding to remediate structural deficiencies and home health hazards in previously deferred income-eligible residences. Under the program, the state would partner with the Administrator to remediate moisture, standing water, electrical and wiring issues, environmental contaminants, and structural and roofing deficiencies. This work remediates issues that would cause a home to be deferred from the DOE's WAP and renewable programs (e.g., Solar for All), because the conditions would render the weatherization measures unsafe or ineffective. State deferrals from WAP can be as high as 80 percent. The deferral rate for WAP in New Mexico has dropped from eight percent to less than one percent since the start of the Weatherization Readiness program.

I.1.2 Key Implementing Agencies

EMNRD will issue a competitive RFP for a third party (the Administrator) to run the program and coordinate among the agencies in the state that deliver housing programs (e.g., air, energy, housing, health, resilience) and building incentives programs, including the MFA, which leads the state WAP.

I.1.3 Collaboration

New Mexico is planning to implement this measure as a coalition with other states to maximize the measure's transformative impact. EMNRD will work with the Administrator to ensure they are actively partnering with trusted CBOs. CBOs will provide feedback on program design, co-creating programs from the bottom-up to ensure that programs are designed to maximize trust and address the needs of the communities they serve.

I.1.4 Implementation Schedule and Milestones

An implementation schedule and milestones will be developed by the Administrator based on their review of existing state and federal building incentive programs and funding streams and the Administrator will design a program that maximizes decarbonization benefits to people living in LIDAC in the state.

I.1.5 Geographic Scope

The state of New Mexico, prioritizing LIDAC and considering eligibility requirements of existing and anticipated state and federal building incentive programs and funding streams.

I.2 Metrics for Tracking Progress

Metrics for tracking progress will be developed by the Administrator based on their review of existing state and federal building incentive programs and funding streams and their recommended program design to maximize decarbonization benefits to residents of LIDAC in the state.

I.3 Benefits

I.3.1 Primary Benefits

I.3.1.1 GHG Emission Reductions

Incentive buildings programs will reach more homes because of this program.

Greenhouse gas emissions reductions come from:

- Weatherization and efficiency measures, which will reduce the total amount of electricity used per home. EMNRD will look to existing utility program data for an estimate of emissions reductions associated with weatherization and efficiency.
- Electrification of gas heating and appliances will reduce additional emissions, but existing state programs may not have data on this. Scholarly articles illustrate many estimates of the emissions savings from home heat and appliance electrification.[61]
- Installation of renewables, including rooftop solar, will drive further emissions reductions benefits. Public sources also demonstrate these benefits.[62]
- The emissions benefits of this program will be considered in terms of additional homes reached and additional retrofits completed.

The formula for calculating emissions per dollar could look like:

$$\frac{ER * T * H_{Add}}{(P * Y) + Program}$$

[61] Pistochini, et. al. "Greenhouse gas emission forecasts for electrification of space heating in residential homes in the US." Energy Policy. Volume 163. April 2022. https://www.sciencedirect.com/science/article/pii/S0301421522000386

[62] IEA (2022), Approximately 100 million households rely on rooftop solar PV by 2030, IEA, Paris https://www.iea.org/reports/approximately-100-million-households-rely-on-rooftop-solar-pv-by-2030, Licence: CC BY 4.0.

ER = Emission reductions per home per year
T = Start year – End year
H_{Add} = Homes added due to program during T
P = Pre-weatherization cost per home
Y = # of LIDAC homes requiring pre-weatherization during T
Program = Administrator costs + facilitator/reviewer costs + additional FTE + development costs

Estimating number of Homes added due to program during T (H_{Add}):

- Can use data on historic metric of deferred homes
- Can use data on municipal and other Administrator-run program outreach outcomes
- *baseline/trendline measures used typically may not be unreliable due to IRA fund influx

I.3.2 Co-benefits

To the extent this measure drives additional electrification, EMNRD will see decreased criteria pollutants including NOx, SO_2, PM, and CO. To the extent, this measure drives additional pre-weatherization, EMNRD will see additional decreased criteria pollutants due to reduced use of natural gas and propane such as NH3, NOx, PM, and SO2.

I.4 Low-Income and Disadvantaged Communities Benefits Analysis:

The measure can result in many direct health benefits for people living in LIDAC:

- By improving indoor air quality and reducing criteria pollutants, electric appliances and heat pumps can have direct health benefits to people living in LIDAC who suffer from higher rates of asthma and other respiratory illnesses.
- Efficiency measures and renewables can help consumers save up money on their energy bills, which could reduce the energy burden for residents living in LIDAC.
- Pre-weatherization health benefits come from removing issues such as mold, asbestos, vermiculite, and other conditions, which improves air quality, prevents disease and injury, increases the quality of life for residents, and protects vulnerable individuals such as people with asthma, children, the elderly, and immunocompromised individuals) as well as improved housing quality, comfort, and safety.

This measure also helps households reduce their utility bills. Reducing energy burden allows individuals to spend more on groceries, healthcare, education, and quality of life improvements. Decreased electricity generation and resulting pollution improves local air quality in communities located near fossil fuel-based energy generation and reduces adverse health effects, particularly asthma. Creation of high-quality jobs and workforce development opportunities for jobseekers in LIDAC can have intergenerational wealth-building benefits.

I.5 Authority to Implement Measure:

ECMD is authorized under the NMSA 1978, Section 9-5A-3A(4). The duties of ECMD are to plan, administer, review, and provide technical assistance, monitor state and federal energy conservation and alternative energy technology programs. NMSA 1978, Section 9-5A-4B.

MFA is authorized to implement the DOEs Weatherization Program in New Mexico by the State of New Mexico, Executive Order 97-01.

Appendix J – Organic Waste Diversion Programs

J.1 Measure Description:

In a groundbreaking initiative, four prominent New Mexico entities – Santa Fe County; South Central Solid Waste Authority (SCSWA), which includes Doña Ana County and the City of Las Cruces, which is within ñ County; Los Alamos County; and the City of Albuquerque are forming a coalition to tackle climate change by composting food scraps and green waste and implementing food waste prevention initiatives. This statewide composting revolution aims to dramatically reduce GHG emissions. By 2030, the measure targets a 4,873 MT CO_2e reduction, with a staggering 24,456 MT CO_2e reduction by 2050. This translates to a cleaner, healthier planet for generations to come.

J.1.1 Key Strategies Include Expanding Access to Composting and Empowering Communities Through Food Waste Prevention and Education

Planned coalition members' efforts include:

J.1.1.1 South Central Solid Waste Authority New Mexico:

- Divert 3,500 tons of green waste annually through a composting operation.

J.1.1.2 Los Alamos County:

- Divert 4,500 tons of food scraps and green waste annually from the landfill into a municipal composting operation. Provide conveniently located drop-off sites for residents and curbside collection for commercial customers such as schools, restaurants, and grocery stores to increase participation in the composting program. Provide the community with educational materials and workshops on how to compost correctly and how to reduce food waste.

J.1.1.3 Santa Fe County:

- Divert 68 tons of food waste annually through commercial waste pickup services and composting at senior centers and detention centers serving congregate meals.

J.1.1.4 City of Albuquerque:

- Provide outreach and technical assistance to educate residents and local restaurants about food waste prevention and composting, particularly in low-income areas through three initiatives:

(1) Residential Food Waste Prevention: Avoid generating 135 tons of food waste per year by providing toolkits and educational materials to community members.
(2) Technical Assistance for Small Restaurants: Support food waste prevention, food rescue, and food waste recycling of 104 tons per year by providing food waste technical assistance services to small, local restaurants.
(3) Increase Community Composting: Grow and support community composting and divert 17 tons per year by adding 7 sites and a paid coordinator position to support the long-term success of community composting in the metro area.

J.1.2 Mechanism

If this measure is selected for EPA grant funding, the city of Las Cruces will act as the lead applicant, responsible for receiving and distributing the funds among coalition members. The distribution of funds will strictly adhere to established procurement rules or any specific terms outlined in the signed memorandum of agreement or as agreed upon by the coalition members.

J.1.3 Key Implementing Municipalities/Agencies

- SCSWA, which includes Doña Ana County and the City of Las Cruces
- Los Alamos County – Environmental Services Division
- Santa Fe County – Sustainability Division
- City of Albuquerque – Sustainability Office

J.1.4 Geographic Scope

The coalition members' jurisdictions cover the following cities and counties in New Mexico: Doña Ana County and the City of Las Cruces (jurisdiction for the SCSWA), Los Alamos County, Santa Fe County, and the City of Albuquerque.

J.1.5 Collaboration

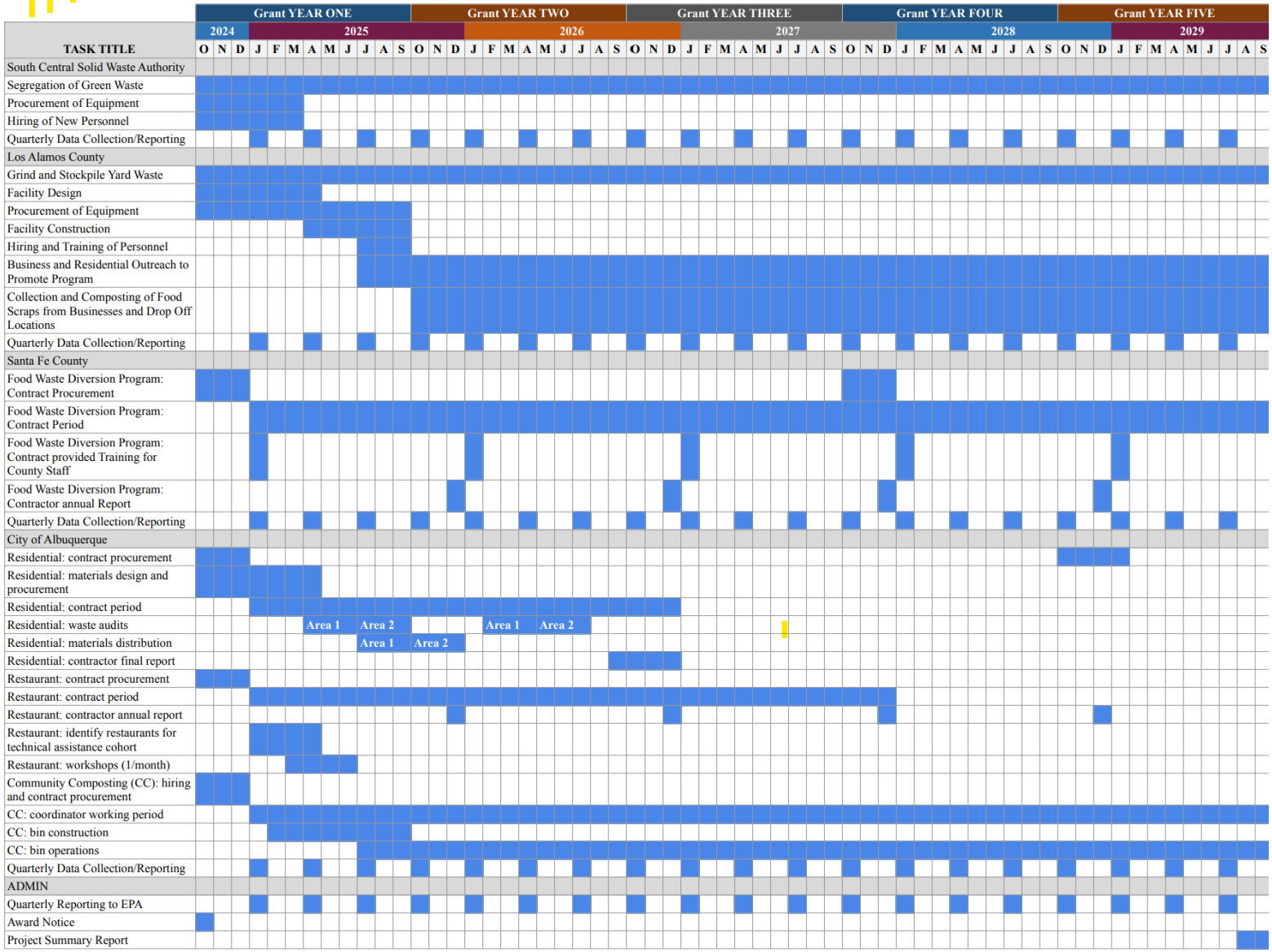
Table 30. Collaborators on the Organic Waste Diversion Program

Coalition Member	Project / Program	Community Collaborator
SCSWA	Green Waste Landfill Diversion	Local landscape businesses and residents of Doña Ana County and City of Las Cruces

Coalition Member	Project / Program	Community Collaborator
Los Alamos County	Expanded Organic Waste Diversion: Composting and Food Waste Prevention Initiative	To reduce GHG emissions and reduce environmental impacts, Los Alamos County is collaborating with residents and key community players, such as schools, restaurants, grocery stores, senior centers, detention centers, fire, and police stations, and the national laboratory, to maximize diversion of food scraps and yard trimmings materials.
Santa Fe County	Food Waste Diversion Project	Santa Fe County is working both internally and externally with local stakeholders to carry out its own GHG emission reduction plan and climate action plan. This project will support implementing internal practices related to food waste diversion and include bolstering local community composting efforts.
City of Albuquerque	Residential Project	The City of Albuquerque has partnered with local CBOs, interested community members, and other key stakeholders to inform the project design, and will continue those collaborations to effectively share the educational materials with community members in LIDAC (low tracts within the Albuquerque MSA.
City of Albuquerque	Restaurant Project	The City of Albuquerque has worked with community members, CBOs, other agencies, and community members to shape this project.
City of Albuquerque	Community Composting Project	The City of Albuquerque is working with community members, key stakeholders, and agencies (including Bernalillo County) in LIDAC across the Albuquerque MSA to identify the best locations for the additional community composting sites.

J.1.6 Implementation Schedule and Milestones

Figure 10. Schedule and Milestones



J.2 Metrics for Tracking Progress:

Table 31. Metrics for Tracking Progress on the Organic Waste Diversion Program

Coalition Member	Project / Program	Metrics for Tracking Progress
SCSWA	Green Waste Landfill Diversion	Quarterly tracking of green waste tonnage diverted from landfill to compost area.
Los Alamos County	Expanded Organic Waste Diversion: Composting and Food Waste Prevention Initiative	To demonstrate the effectiveness of the organics diversion program, Los Alamos County will measure the total weight of incoming organics material using a calibrated industrial scale. This provides a clear metric of landfill diversion. Additionally, the county will track the number of containers used by commercial entities, such as restaurants and grocery stores, to gauge their participation and engagement in the program.
Santa Fe County	Food waste diversion project	Santa Fe County will require annual reporting by the contracting organization on the total food waste diverted from serviced County facilities in weight and provide an estimate on the quantity of compost produced from diverted food waste.
City of Albuquerque	Residential project	Participant survey with each toolkit with an incentive to return the survey and a food waste prevention diary. Pre and post-intervention waste audits (sample includes control and a subset of intervention sites). All data will be collected according to best practices.
City of Albuquerque	Restaurant project	To track the effectiveness of the project and inform efforts after the grant period, the City will require the contractor to conduct a walk-through assessment (qualitative) and waste audit (quantitative) before and at the end of technical support for each restaurant. Diversion data and progress tracking will be required for restaurants that receive technical services. All data will be collected according to best practices. Each workshop will include a survey to better understand the needs and opportunities at additional restaurants across the area.
City of Albuquerque	Community composting project	The City of Albuquerque will track inputs, outputs, training, and participants, according to the best practices developed by the Institute of Local Self-Reliance (ILSR).

J.3 Cost Estimates for Implementation:

Table 32. Cost Estimate for Implementation Per Agency

Agency Name: South Central Solid Waste Authority (SCSWA) (Doña Ana County and City of Las Cruces)			
Item	**Description**	**Range**	**Best Estimate**
Transportation	Ship material to the compost area	40 miles one way $80.00 per trip 6 loads per week $480/ week	$24,960/year
Labor	Per the EPA WARM (Waste Reduction Model) Tool	1,783 hrs X $21.9161/ hr	$39,076.40/ year
Equipment	Annual cost grinder loader, windrower	$1,080,000	$216,000/ year
Processing	Operations and Maintenance Equipment	30% annual cost	$64,800
Total			***$344,776 per year $1,723,880 per 5 years***

Agency Name: Los Alamos County			
Item	**Description**	**Range**	**Best Estimate**
SCS Engineers	Design Services		$100,000
Construction	Site Improvements (Infrastructure – electric and water)		$450,000
Equipment	Loader	$250K - $350K	$300,000
Equipment	Skid steer	$60K - $100K	$80,000
Equipment	Dump Truck	$150K - $250K	$200,000
Equipment	Power Washer	$7,500 - $15K	$10,000
Equipment	Box Truck/Refuse Truck	$150K - $400K	$300,000
Equipment	Screener	$250K - $350K	$300,000
Equipment	Roll Cart Lifter	$10K - $20K	$15,000

Agency Name: Los Alamos County			
Equipment	250 Bear Cart Containers	$60K – $100K	$100,000
Marketing and education	Educate the community on organics composting and food waste prevention (annually for 3 years)	$20K per year = $60K	$60,000
Total			***$1,915,000***

Agency Name: Santa Fe County			
Item	**Description**	**Range**	**Best Estimate**
Food Waste Diversion Project	Commercial food waste collection service contract (for 5 years)	$32,000/year	$160,000
Total			***$160,000***

Agency Name: City of Albuquerque			
Item	**Description**	**Range**	**Best Estimate**
Residential Project: Supplies	Bilingual campaign materials	$45,000-$85,000	$60,000
Residential Project: Contractual	Contract(s) for Community-Based Social Marketing, Waste Audits, Advertising, Printing, Community Organizing, graphics	$130,000-$150,000	$145,000
Residential Project: Travel	Mileage	$75-$200	$125
Restaurant Project: Contractual	Restaurant Technical Services Contract (for 3 years)	$100,000/year	$300,000
Community Composting Project: Supplies	Tools for operations	$300-$500	$350
Community Composting Project: Contractual	Contractor to purchase materials and construct the bins	$55,000-$100,000/site with 7 sites (depending	$500,000

Agency Name: City of Albuquerque			
		mainly on whether or not a pad is needed)	
Community Composting Project: Labor	One FTE coordinator salary and benefits	$40,000-$55,000 salary + 20% fringe for 5 years	$300,000
Total			***$1,305,475***

Total Cost

Table 33. Total Cost for Implementation Per Agency

Collaborator	Project / Program	Total Cost
South Central Solid Waste Authority (Doña Ana County and City of Las Cruces)	Green Waste Landfill Diversion	$344,776 per year 5 years = $1,723,880
Los Alamos County		$1,915,000
Santa Fe County	Food Waste Diversion Project	$160,000 ($32,000/year*5)
City of Albuquerque	Residential project	$205,125
City of Albuquerque	Restaurant project	$300,000
City of Albuquerque	Community composting project	$800,350
Grand Total		***$5,104,355***

J.4 Intersection with Other Funding Availability:

Table 34. Intersection with Other Funding Availability

Collaborator	Project / Program	Intersection with Other Funding Availability
South Central Solid Waste Authority (Doña Ana County and City of Las Cruces)	Green Waste Landfill Diversion	Possible funds from other New Mexico state grants such as RAID, NMED, and/or capital outlay
Los Alamos County	Expanded Organic Waste Diversion: Composting and Food Waste Prevention Initiative	In 2023, Los Alamos County applied for EPA Solid Waste Infrastructure Recycling Grant Funding. However, the application was not successful and Los Alamos County did not receive grant funding.
Santa Fe County	Food Waste Diversion Project	N/A
City of Albuquerque	Residential project	Available funding opportunities: None identified Past relevant funding opportunities, if there is another application round: EPA's Recycling Education and Outreach opportunity; NRDC's (Natural Resources Defense Council's) Food Matters project assistance–these funds are often too small to cover one round of this project.
City of Albuquerque	Restaurant project	Available funding opportunities: None identified Past relevant funding opportunities, if there is another application round: EPA's Recycling Education and Outreach opportunity; NRDC's Food Matters project assistance–these funds are often too small to cover one round of this project.

Collaborator	Project / Program	Intersection with Other Funding Availability
City of Albuquerque	Community composting project	Available funding opportunities: NMED's Recycling and Illegal Dumping annual grant (only for infrastructure, not staff support); USDA's Composting and Food Waste Reduction Grant Past relevant funding opportunities, if there is another application round: EPA's Solid Waste Infrastructure Program.

J.5 Benefits

J.5.1 Primary Benefits

J.5.1.1 GHG Emission Reductions

J.5.1.1.1 Estimate of the Cumulative GHG Emission Reductions (2025 – 2030)

Total: 4,873 MT CO_2e

Table 35. GHG Calculation Estimates

Coalition Member	MT CO_2e	Calculations
South Central Solid Waste Authority (Doña Ana County and City of Las Cruces)	1,111	EPA WARM Tool, based on 3,500 tons of green waste
os Alamos County	3,482.75	EPA WARM Tool, based on 1,500 tons of food scraps and 3,000 tons of yard trimmings
Santa Fe County	Food Waste Diversion Project: 118.99	GHG emissions were calculated using the EPA WARM Tool. Food waste estimates for Santa Fe County Senior Centers are 7.9 tons/year. The Santa Fe County Detention Center food waste estimates are 60.225 tons/year. Cumulated food waste estimates utilized for annual GHG emission estimates were 68.125 tons/year or 340.625 tons/5 years. These estimates were calculated to result in a reduction of 23.8 MT CO_2e/year and 119 MT CO_2e over five years.

Coalition Member	MT CO_2e	Calculations
		*Food Waste Diverted: 68.125 tons * 5 = 340.625 tons (2025-2030).* *GHG Reductions: 23.8* MT CO_2e*/year; 119 MT CO_2e / 5 years*
City of Albuquerque (CABQ)	CABQ total: Residential project: 47 Restaurant project: 108 Community composting project: 87	GHG emissions were calculated using the EPA WARM Tool. Residential: Background: The World Resources Institute's residential campaign study results showed a 20 percent reduction in food waste (though there are challenges to that number as well); USDA estimates that 290 pounds (lbs) of food is wasted per capita per year, which means the program could reduce up to 58 lbs (0.029 tons) of food waste per person per year. Using census data for the average household size in Albuquerque of 2.32 people and a project reach of 2,000 households (in two communities), that is a reach of 4,640 people. Impact: 135 tons per year. For the GHG calculation, using the EPA WARM tool for composting (a conservative calculation since the reduction will be through prevention, which has higher GHG reduction values) for 138 tons yields 15.95 MT CO_2e for the year after implementation. Assumptions: 100 percent of the potential GHG reduction for the first year after each campaign (July to the following June), 75 percent for the following year (assuming 25 percent revert to old practices), and 40 percent for each subsequent year (assuming half the people who wanted to take part adopt life-long waste reduction habits); (found 0 studies to reference, so used conservative numbers). Community 1 distribution completed before October 2025 and Community 2 before January 2026. GHG=28.2=15.95+.75*15.95+.15.95*.4*4.125 Restaurant: Workshops: quarterly, each on a different topic, free to chefs and kitchen staff from small, local restaurants. Technical assistance: 5 restaurants, at least 3 located in or primarily serving customers in LIDAC. Background: NRDC estimated restaurant employees generate 3,000 lbs. (1.5 tons) of food waste per employee per year (see page 118 https://www.nrdc.org/sites/default/files/food-waste-city-level-technical-appendices.pdf). The project will

Coalition Member	MT CO_2e	Calculations
		support composting, food repurposing, and food donations among several small, local restaurants (100 employees total, an average of 20/restaurant—you will need to ask restaurants interested in participating how many staff they have and change this number accordingly) for 40 weeks (first 12 weeks of the 1-year project are devoted to restaurant onboarding and assessment). Based on Denver case study results, 90 percent of food waste is expected to be prevented/diverted at each of the participating restaurants. It's estimated that 104 tons of food waste from restaurants will be diverted due to project implementation. This is calculated by taking: 1) 1.5 tons per employee year x 100 employees divided by 52 weeks = 2.88 tons weekly estimated food waste; 2) 2.88 tons x 90 percent waste diversion = 2.9 tons diverted weekly; 3) 2.9 tons x 40 weeks = 104 tons. Using the EPA WARM tool for composting (a conservative calculation since a significant portion will be prevented or rescued, which have higher GHG reduction values) for 104 tons yields 12.02 MT CO_2e for 1st year. Project replicated for Y2. Caveats: This calculation does not take into account things they might already be doing to reduce food waste. Also, CABQ is not adding in the GHG reduction from the workshops. Different restaurants will be supported each year for three years. Estimate 50 percent of potential GHG reduction during the implementation year since restaurants will be learning; 100 percent of potential for the next year; 50 percent for the following 4 years; and 30 percent for all subsequent years (found 0 studies to reference, so used conservative numbers). GHG=84.1=12.02*.5+12.02+12.02*5*4 [impacts of 1st year] + 12.02*.5+12.02+12.02*5*3 [impacts of 2nd year] 12.02*.5+12.02+12.02*5*2 [impacts of 3rd year] Community composting: Based on Lancaster Community Composting Co-ops, where 186 members diverted on average 35.325 pounds of food waste per household each month. *each site can serve about 75 households and divert up to 33,750 lbs. (16.88 tons) of food waste each year (based on interviews with Lancaster staff) and 5.57 tons of browns each year (estimated at ⅓ of food waste weight based on Lancaster white paper),*

Coalition Member	MT CO_2e	Calculations
		*diverting a total of 22.45 tons of material. Using the EPA WARM Tool and entering the browns as leaves, it is estimated to sequester 2.25 MT CO_2e per site annually. Plan: Construct seven new sites in 2025 and hire a coordinator to help the systems get up and running and then transition them to more independent running (or permanently fund the position). Used MT CO_2e for the calc. Assumed all sites would be operational by July 2025 (½ year for 2025). GHG=87=(2.25*7*.5)+2.25*5*7*
Total	*4,955 MT CO2e*	

J.5.1.1.2 Estimate of the Cumulative GHG Emission Reductions (2025 – 2050)

Total: 24,456 MT CO_2e

Table 36. GHG Emission Calculations

Coalition Member	MT CO_2e	Calculations
South Central Solid Waste Authority (Doña Ana County and City of Las Cruces)	5,556	GHG emissions were calculated using the EPA WARM tool, based on the diversion of 3,500 tons of green waste for the 25-year period
Los Alamos County	17,413.75	GHG Emissions were calculated using the EPA Warm Tool, Based on the diversion of 1,500 tons of food scraps and 3,000 tons of yard trimmings annually for a 25-year period.
Santa Fe County	Food Waste Diversion Project: 594.95	GHG emissions were calculated using the EPA WARM Tool. Food waste estimates for Santa Fe County Senior Centers are estimated at 7.9 tons/year. The Santa Fe County Detention Center food waste estimates are 60.225 tons/year. Cumulated food waste estimates utilized for annual GHG emission estimates were 68.1 tons/year or 1,703.1 tons/ 25 years. *Food Waste Diverted: 68.125 * 25 = 1,703.125 (2025-2050).*

Coalition Member	MT CO_2e	Calculations
		GHG Reductions: 23.8 MT CO_2e/year; 595 MT CO_2e/ 25 years
City of Albuquerque	CABQ total: Residential project: 177 Restaurant project: 332 Community composting project: 402	GHG emissions were calculated using the EPA WARM Tool. Residential: background provided in the previous table. GHG=181.8=15.95+.75*15.95+.15.95*.4*24.125 Restaurant: Background provided in the previous table. GHG=307.7=12.02*.5+12.02+12.02*.5*4+12.02*.3*20 [impacts of 1st year] + 12.02*.5+12.02+12.02*.3*19 [impacts of 2nd year] 12.02*.5+12.02+12.02*.3*18 [impacts of 3rd year] Community composting: Sustained 16 MT CO_2e/site for the full duration (after implementation), since all 7 will be operational for that time. GHG=402=7*2.25*0.5+7*2.25*25
Total	*24,476 MT CO2e*	

J.5.2 Co-benefits:

J.5.2.1 Health Benefits

Table 37. Health Benefits

Coalition Member	Project / Program	Health Benefits
South Central Solid Waste Authority (Doña Ana County and City of Las Cruces)	Green Waste Landfill Diversion	General health and safety improvements from preventing climate effects (drought, dust, floods, extreme weather, increases in disease) by reducing over 5,000 MT CO_2e GHG emissions.
Los Alamos County	Expanded Organic Waste Diversion:	Composting organic materials such as food scraps and yard trimmings, helps mitigate climate change by preventing the release of CH_4, a harmful GHG. In addition,

Coalition Member	Project / Program	Health Benefits
	Composting and Food Waste Prevention Initiative	composting reduces the risk of water contamination by diverting organic waste from landfills, where leachate can seep into groundwater supplies and render water unsuitable for drinking. Diverting organic materials and eliminating the need to transport materials to distant landfills contributes to healthy air quality and avoids harmful air pollution along the transportation route. By composting organic material locally, the county minimizes transportation emissions and improves air quality in local communities, benefiting everyone's respiratory health.
Santa Fe County	Food Waste Diversion Project	A reduction in net GHG emissions by 119 MT CO_2e over 5 years will provide a better quality of health to residents. Additionally, compost produced will be available locally and provide more nutritious produce than commercial foods, as well as reducing the use of chemical fertilizers that can lead to nitrosamine in foods. Nitrosamine is a chemical that contributes to Alzheimer's disease, diabetes mellitus, non-alcoholic steatohepatitis, DNA damage, oxidative stress, lipid peroxidation, and pro-inflammatory cytokine activation. Reference: Farhidi, Faraz, Kaveh Mahdani, and Rohan Crichton. "How the US Economy and Environment Can Both Benefit From Composting Management." Sage Journals. Volume 16. January-December 2022. https://journals.sagepub.com/doi/full/10.1177/11786302221128454.
City of Albuquerque	Residential project	Food waste prevention educational materials will teach people how to use their senses to understand if items are still good to eat, which can reduce food-related illness. It will also provide materials on how to best store perishable foods, increasing the amount of healthy foods consumed instead of wasted.
City of Albuquerque	Restaurant project	Generating less food waste at restaurants and diverting food waste from the landfill (and the dumpster) reduces the weight of the trash bags staff need to haul to (and often lift into) the trash dumpsters. Helping chefs and food preparation staff understand how to use more of the ingredients they order in their dishes supports restaurants in serving more healthy foods, especially edible portions of vegetables that are often thrown away (e.g., beet greens).

Coalition Member	Project / Program	Health Benefits
City of Albuquerque	Community composting project	Community composting has many health-related benefits, including: ● Mental health benefits through the community mentality of participating and a connection to nature ● Increased outdoor physical activity ● Recycles nutrients from input items that are available to grow local food without the need for synthetic fertilizers, which are linked to health issues (see Santa Fe County's description for details) ● Spurs community and youth engagement and deepens community connections, which are shown to support mental health ● Improves climate resiliency for communities and crops against extreme weather and natural disasters like flooding and heat island effects that often hit frontline communities the hardest. Reference: ILSR's Community Composting and Priority Climate Action Plans Guide.

J.5.2.2 Environmental Benefits

J.5.2.2.1 Air Quality Benefits

Diverting food from the landfill and aerobically recycling the nutrients locally avoids GHG emissions from transportation and CH_4 generation from the landfill. Applying the finished compost locally builds healthy soils and reduces erosion from wind events, which reduces airborne $PM_{2.5}$ during and after high wind events. Additionally, eliminating the need to transport waste to landfills will decrease air pollution throughout the transport routes to landfills.

J.5.2.2.2 Water Quality/Quantity Benefits

Incorporating compost generated from this project into local soils by community members and businesses will assist in promoting water retention and available water content (AWC) for plants. This will provide additional natural filtering and pollutant capture of stormwater run-off and support Santa Fe County Sustainability program goals for Nature-based Climate solutions.[63]

[63] Stan et al. "Waste Recycling and Compost Benefits." Notulae Botanicae Horti Agrobotanici Cluj-Napoca. 37 (2) 2009, 9-13. https://www.researchgate.net/publication/40424185_Waste_Recycling_and_Compost_Benefits.

In an arid environment, locally applying the finished compost builds soil health, including the soil's ability to absorb water during storm events and retain moisture.

J.5.2.2.3 Land and Soil Benefits

Food scraps and yard trimmings will be composted and made available to the community. This method of waste management will provide opportunities to support restorative soil practices for agriculturalists, carbon sequestration, slope stabilization, and water retention.

The finished product of compost is nutrient-rich and can be land applied to amend the soil, providing plants with essential nutrients like nitrogen, phosphorus, and potassium. Compost reduces reliance on chemical fertilizers, benefiting gardens, farms and local ecosystems. Additionally, when applied to land, compost retains moisture, resulting in the need to water less frequently, saving water and mitigating erosion. Compost can also help remediate contaminated and depleted soils, revegetate disturbed land, and sequester carbon in the soil.

J.5.2.2.4 Ecological Benefits

As stabilized organic matter, compost can be utilized for the recovery of degraded soils and restoring fertility, carbon sequestration, and reducing the use of chemical inputs such as fertilizers, pesticides, and fuel, resulting in a decrease in production costs and negative environmental impacts. These efforts will work in tandem with County programs aimed at developing nature-based climate solutions.[64]

J.5.2.3 Economic Benefits

J.5.2.3.1 General Economic Benefits

Preventing food waste can save residents up to $1,500 per year for an average 4-person household.[65] Providing technical assistance to small, local restaurants on how to prevent food waste helps the small restaurant business sector save money by keeping more of their purchased materials in their final products. Generating compost locally improves access to soil amendment material that supports a resilient food system and can spur the local, small-scale agricultural economy.[66]

J.5.2.3.2 Economic Value of Health Benefits

This project supports an overall reduction of GHG emissions through the diversion of food waste from landfills and supporting locally produced agricultural products through increased availability of compost. Increased availability and use of compost in agriculture can reduce the use of chemical fertilizers. A 2022 study found that nitrosamine, which can be generated from nitrogen fertilizers, contributes to a variety of health conditions like Alzheimer's disease, diabetes mellitus, non-alcoholic steatohepatitis, and pro-inflammatory cytokine activation, among others. In

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[64] Pergola, et al. 2018. "Composting: the way for a sustainable agriculture." Applied Soil Ecology, 123, 744-750. https://doi.org/10.1016/j.apsoil.2017.10.016.
[65] USDA, 2024. https://www.usda.gov/foodlossandwaste/consumers.
[66] EPA, Community Composting Basics, last updated 2023; EPA, Composting Food Scraps in Your Community: A Social Marketing Toolkit, 2023; and Ayilara, M.S., et al., *Sustainability* 2020, 12(11):4456.

addition to the reduction of GHGs, potential health risks would be reduced through these waste diversion efforts, especially for residents in LIDAC, thus saving money for residents on health care.[67]

J.5.2.3.3 Economic Value of Environmental Benefits

Keeps profits and benefits nearby, creating a sustainable ecosystem responsive to community needs with greater personal investment and higher-quality products. Launches and scales up more quickly and is less expensive than landfills or incinerators.

J.5.2.3.4 Total Cost of Ownership

Table 38. Total Cost of Ownership Per Collaborator

Coalition Member	Project / Program	Total Cost of Ownership
South Central Solid Waste Authority (Doña Ana County and City of Las Cruces)	Green Waste Landfill Diversion	Not available
Los Alamos County	Expanded Organic Waste Diversion: Composting and Food Waste Prevention Initiative	Beyond the initial capital cost investment of ~1.9M for the development of the compost facility (infrastructure needs) and purchase of equipment such as trucks, loaders, and collection containers, Los Alamos County estimates an annual operation and maintenance cost of $580K, which includes three full-time employees to operate a 7 day/week operation as well as fuel, maintenance of equipment and ongoing education and outreach.
Santa Fe County	Food Waste Diversion Project	N/A, procured service does not include additional materials or maintenance.
City of Albuquerque	Residential project	N/A, procured items will be distributed to residents
City of Albuquerque	Restaurant project	N/A, the project involves services, not assets
City of	Community	The value of the bin materials and tools is $6,000 -

[67] Farhidi, Faraz, Kaveh Mahdani, and Rohan Crichton. "How the US Economy and Environment can Both Benefit From Composting Management." Sage Journals. Volume 16. January-December 2022. https://journals.sagepub.com/doi/full/10.1177/11786302221128454.

Coalition Member	Project / Program	Total Cost of Ownership
Albuquerque	composting project	$10,000, depending on the initial site condition (if a pad is needed, etc.) PLUS, occasional tool replacement as needed, which is estimated to be less than $500/year for all sites. The systems are designed to last for at least 25 years

J.5.2.3.5 Workforce Needs and Quality of Jobs

Table 39. Workforce Needs and Quality of Jobs Per Collaborator

Coalition Member	Project / Program	Workforce Needs and Quality of Jobs
South Central Solid Waste Authority (Doña Ana County and City of Las Cruces)	Green Waste Landfill Diversion	The project requires one (1) additional skilled position $21.92 per hour wage for one Heavy Equipment Operator
Los Alamos County	Expanded Organic Waste Diversion: Composting and Food Waste Prevention Initiative	This project will require a minimum of three (3) FULL-TIME positions ranging in pay from $17.96 - $32.25 per hour plus benefits.
Santa Fe County	Food Waste Diversion Project	No additional positions will be required for this project.
City of Albuquerque	Residential project	No additional positions will be required for this project.
City of Albuquerque	Restaurant project	This project gives a CBO the chance to hire a 0.5 FTE employee to run the three-year program. The services provided will help local restaurants located in and serving community members in LIDAC to save money along with preventing/reducing/diverting food waste, which will improve the resiliency of the local restaurant economy, the most vulnerable portion of the restaurant economy, and one that is still recovering from challenges during the

Coalition Member	Project / Program	Workforce Needs and Quality of Jobs
		COVID-19 lockdown era. The contractor will charge between $45 and $55 per hour of staff time, which covers benefits, and administrative overhead, and still directs between $20 and $30 to the employee.
City of Albuquerque	Community composting project	This project will require hiring one (1) full-time position ranging in pay from $17.96 - $32.25 per hour plus benefits. The person will coordinate the expansion, train site managers and volunteers, and help the community take over operations of the system by the end of the grant period. The value of this position, shown during this pilot period, will also help leverage City and other funds to maintain a funded community compost system coordinator position beyond the grant period.

J.6 Low-Income and Disadvantaged Communities Benefits Analysis:

Table 40. LIDAC Benefits/Analysis Per Collaborator

Coalition Member	Project / Program	General Measure Impacts
SCSWA	Green Waste Landfill Diversion	According to US Census data, 24.5 percent of the population (219,561) of Doña Ana County are below the poverty level.
Los Alamos County	Expanded Organic Waste Diversion: Composting and Food Waste Prevention Initiative	Los Alamos County is currently hauling waste 90 miles to the Rio Rancho landfill, soon to close in 6 years. This is not only unsustainable but also disproportionately impacts people living in LIDAC along the transport route. With the Rio Rancho landfill closing, waste will be hauled an even farther distance to the Valencia County landfill, increasing transportation costs, GHG emissions, and environmental impacts. By effectively managing organic materials like food scraps and yard trimmings within the county, Los Alamos County and residents in LIDAC along the transport route will reap significant benefits. By reducing landfill dependence, diverting organics from the landfill extends its lifespan and delays the need for a new, potentially farther, facility.

Coalition Member	Project / Program	General Measure Impacts
		Furthermore, the initiative will reduce environmental impacts such as truck traffic through these communities, noise pollution, air quality concerns, and potential safety hazards.
Santa Fe County	Food Waste Diversion Project	This project will support senior centers and a detention center in Santa Fe County. Four of the five senior centers included in this project are identified as disadvantaged or partially disadvantaged by the US Climate and Economic Justice Screening Tool (CEJST). One senior center and the detention center are identified as not disadvantaged. According to US Census data, 12 percent of the total population (155,664) of Santa Fe County are below the poverty level (EPA Quickfacts). Climate impacts and risks: all identified communities are at risk for extreme heat and urban heat island effects, drought, and wildfire. Air pollution and public health improvements: removal of 23.8 MT CO2e/year. Energy costs savings: reduction in waste collection services costs at county facilities that serve people living in LIDAC . Economic development and job creation: developing local composting organizations and local capacity for compost. community capacity building. Additional benefits include: increased availability of compost to reduce use of fertilizer in local agricultural areas, increased availability of food more nutritious than mass produced food products, annual training for county staff on food diversion practices and the benefit of composting at facilities.
City Of Albuquerque	Residential Project	The toolkit distribution will take place in ABQ's international district and south valley, and educational materials will be distributed across all communities in the metro area. Thus, residents living in these LIDACs will benefit from all types of resources, and all the benefits listed in the co-benefits section for this project will be realized by people living in these LIDAC. International District – LIDAC tracts are (6 total): 35001000501, 35001000603, 35001000604, 35001000901, 35001000903, 35001000904. There are no non-LIDAC tracts in this community. South Valley – LIDAC tracts are (8 total): 35001002300, 35001004401, 35001004300, 35001004502,

Coalition Member	Project / Program	General Measure Impacts
		35001004501, 35001004001, 35001004604, 35001004602. Census tracts that are not LIDAC are (2 total): 35001004402, 35001004603.
City Of Albuquerque	Restaurant Project	Since 100 percent of the restaurants who will receive technical services will be located in or serve customers in LIDAC, these communities in the Albuquerque metro area will see all the benefits mentioned in the co-benefits section. The contractor will identify restaurants serving customers in LIDAC in the Albuquerque metro area and will use the climate and economic justice screening tool (CEJST) to verify that each restaurant is located in a LIDAC tract. The LIDAC tract numbers in the Albuquerque metro area include: 35001000129, 35001000203, 35001000205, 35001000208, 35001000501, 35001000603, 35001000604, 35001000708, 35001000712, 35001000713, 35001000901, 35001000903, 35001000904, 35001001102, 35001001200,35001001300, 35001001400, 35001001500, 35001002000, 35001002100, 35001002300, 35001002401, 35001002402, 35001002500, 35001002700, 35001003201, 35001003202, 35001003400, 35001003501, 35001003714, 35001003733, 35001003736, 35001004001, 35001004300, 35001004401, 35001004501, 35001004502, 35001004604, 35001004712, 35001004713, 35001004715, 35001004733, 35001004734, 35001004735, 35001004736, 35001004737, 35001004738, 35001004739, 35001004741, and 35001004749.
City Of Albuquerque	Community Composting Project	The new sites will be located in and/or serve residents living in LIDAC . Thus, benefits mentioned in the co-benefits section will be realized by those living in LIDAC communities. The LIDAC tract numbers in the Albuquerque metro area include: 35001000129, 35001000203, 35001000205, 35001000208, 35001000501, 35001000603, 35001000604, 35001000708, 35001000712, 35001000713, 35001000901, 35001000903, 35001000904, 35001001102, 35001001200, 35001001300,

Coalition Member	Project / Program	General Measure Impacts
		35001001400, 35001001500, 35001002000, 35001002100, 35001002300, 35001002401, 35001002402, 35001002500, 35001002700, 35001003201, 35001003202, 35001003400, 35001003501, 35001003714, 35001003733, 35001003736, 35001004001, 35001004300, 35001004401, 35001004501, 35001004502, 35001004604, 35001004712, 35001004713, 35001004715, 35001004733, 35001004734, 35001004735, 35001004736, 35001004737, 35001004738, 35001004739, 35001004741, and 35001004749.

J.7 Authority to Implement Measure:

Under the Environmental Improvement Act, NMED is delegated the power to enforce regulations to regulate the environment in New Mexico, as well as enforce rules and orders promulgated by the EIB. NMSA 1978, Section 74-1-6(F). Additionally, NMED is delegated the power to enforce environmental management and consumer protection laws for which NMED is responsible. NMSA 1978, Section 74-1-6(F). NMED is specifically delegated the power to enforce rules and standards in the area of solid waste. NMSA 1978, Sections 74-1-7(A)(4) and (14).

Under the Solid Waste Act, the EIB is required to promulgate regulations for solid waste. NMSA 1978, Sections 74-9-8 to -10. Under New Mexico solid waste regulations, NMED administers the permitting and registration requirements for solid waste and composting facilities. 20.9.3.27 NMAC and 20.9.3.28 NMAC. Owners and operators are required to apply for a registration to accept and process compost if not already included in the owner or operator's NMED solid waste permit. 20.9.3.27 NMAC and 20.9.3.28 NMAC. Owners and operators are further required to update their registration with NMED to reflect any material change in their operations. 20.9.3.27 NMAC. NMED is delegated the power to enforce these regulations and other requirements for solid waste as set out under the Solid Waste Act and in NMAC. NMSA 1978, Section 74-9-36. NMSA 1978, Section 74-9-36.

Under the Solid Waste Act NMED, through its Resource Protection Division, is delegated the power "to receive funds and accept, receive and administer grants or other funds or gifts from public or private sources, including the state and federal governments…". NMSA 1978, 74-9-14(P).

Note: Through NMED and EMNRD's public engagement endeavors, three municipalities which did not receive CPRG Phase I funding communicated that this Organics Diversion measure was one for which they would like to submit an implementation grant application (Phase II). These municipalities intend to submit a coalition application to apply for such funding to expand access to organics diversion (composting) programs in their jurisdictions. One other municipality, an MSA that did receive Phase I funding, may join in on this coalition application. All of these municipalities will include their authority to implement within their coalition or separate implementation grant applications, as the case may be, and would administer such composting programs through current registrations administered by NMED. All aspects of the Organic Waste Diversion project described in this appendix are contingent on EPA granting the collaborators/coalition Phase 2 CPRG funding.

Technical Appendices

The following appendices each describe the technical analysis and provide information that supports the results of the PCAP and its Measure Appendices.

Appendix K – Inventory and Quantification Methodology

K.1 Inventory and Quantification Methodology

Methodology for the GHG emissions inventory and emission reduction calculations can be found in the attached document “PCAP Appendix K.1 – Inventory and Quantification Methodology”.

K.2 Emission Reduction Calculations

A spreadsheet with the emission reduction calculations is attached, titled “PCAP Appendix K.2 – Emission Reduction Calculations.xlsx”.

K.3 Quality Assurance Project Plan

NMED has submitted a Quality Assurance Project Plan (QAPP) to the EPA Region Six for approval, the submitted QAPP has been included as “PCAP Appendix K.3 – NMED CPRG QAPP”.

Appendix L – New Mexico Census Tract Block Groups Identified by EPA as LIDAC

L.1 Online Map of LIDAC

NMED identified LIDAC using the "EPA IRA Disadvantaged Communities" layer under the "Justice40/IRA" data set in the EJScreen map (https://ejscreen.epa.gov/mapper/). To access the layer, open the link, click the "Locations" tab on the top left, click "Justice40/IRA," then select "EPA IRA Disadvantaged Communities" and navigate to New Mexico.

L.2 Block Groups Identified as LIDAC

Otherwise, the appended spreadsheet (entitled, "PCAP Appendix L – New Mexico Census Tract Block Groups Identified by EPA as LIDAC") contains a comprehensive list of US Census Tract Block Groups in New Mexico and identifies if they meet LIDAC criteria.

Appendix M – Identified Stakeholder List

The appended spreadsheet (entitled, “PCAP Appendix M – Identified Stakeholder List”) contains a comprehensive list of identified stakeholders, which NM will continue to build upon in further outreach and engagement efforts.

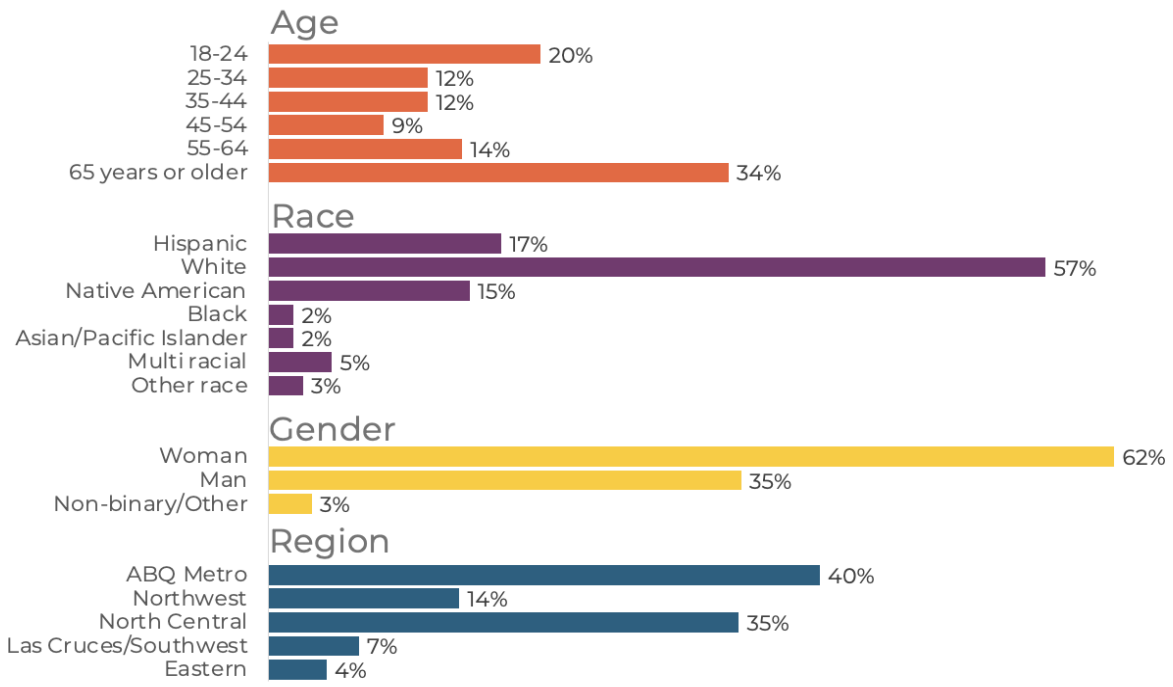
Appendix N – Community Outreach and Engagement Input Report

In December of 2023, the New Mexico Environment Department (NMED) contracted the Center for Civic Policy (CCP), representing the Nuevo México Prospera (NMP) coalition to conduct community engagement activities and to solicit public input for the State of New Mexico's Priority Climate Action Plan (PCAP). NMP is a state coalition that includes 8 grassroots environmental justice, conservation, and community-based organizations. Activities included three in-person community meetings in Bayard, Gallup, and Tucumcari, a statewide virtual meeting, a survey, and a phone bank. This report provides a summary of the public input from these activities.

N.1 Online Survey Results

N.1.1 Respondent Demographics

Figure 11. Outreach and Engagement Online Survey – Demographics of Respondents



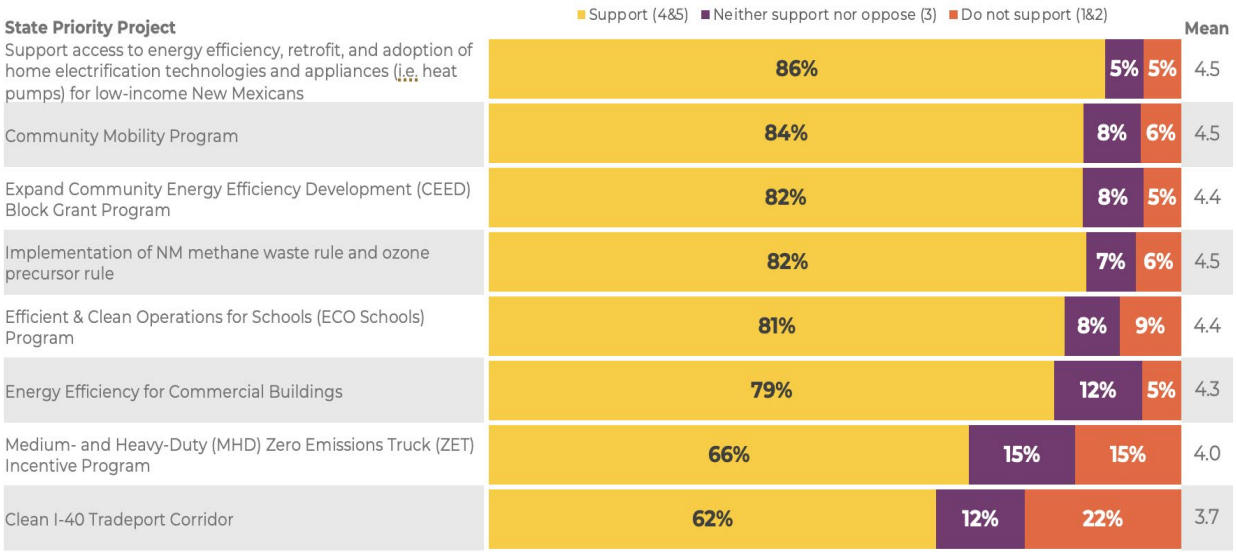
More than two-thirds of respondents live in Bernalillo County; Bernalillo County represents 32% of the total population of New Mexico. Three-quarters of respondents live in either Bernalillo, Santa Fe, Sandoval, or Doña Ana Counties. About 10% of respondents live in the northwestern counties of San Juan, Rio Arriba, McKinley, and Cibola. A handful of respondents live in the southeast part of the state.

People who responded to this online survey are older, more white, and more likely to be women than the general population of New Mexico. Hispanics were significantly underrepresented among online survey respondents, making up only 17% of survey respondents, while Hispanics comprise about 50% of the population of New Mexico. This survey also represents an oversample of Native American populations, and more young people (18-24) than the state as a whole.

N.1.2 Support for Proposed Measures

Respondents were provided with descriptions of the proposed CPRG measures and asked to rate their support on each measure using a five-point scale where 5 was strongly supportive and 1 was not supportive at all. These results are presented below, sorted from most support to least support.

Figure 12. Outreach and Engagement Online Survey – Results from Respondents on Proposed Measures

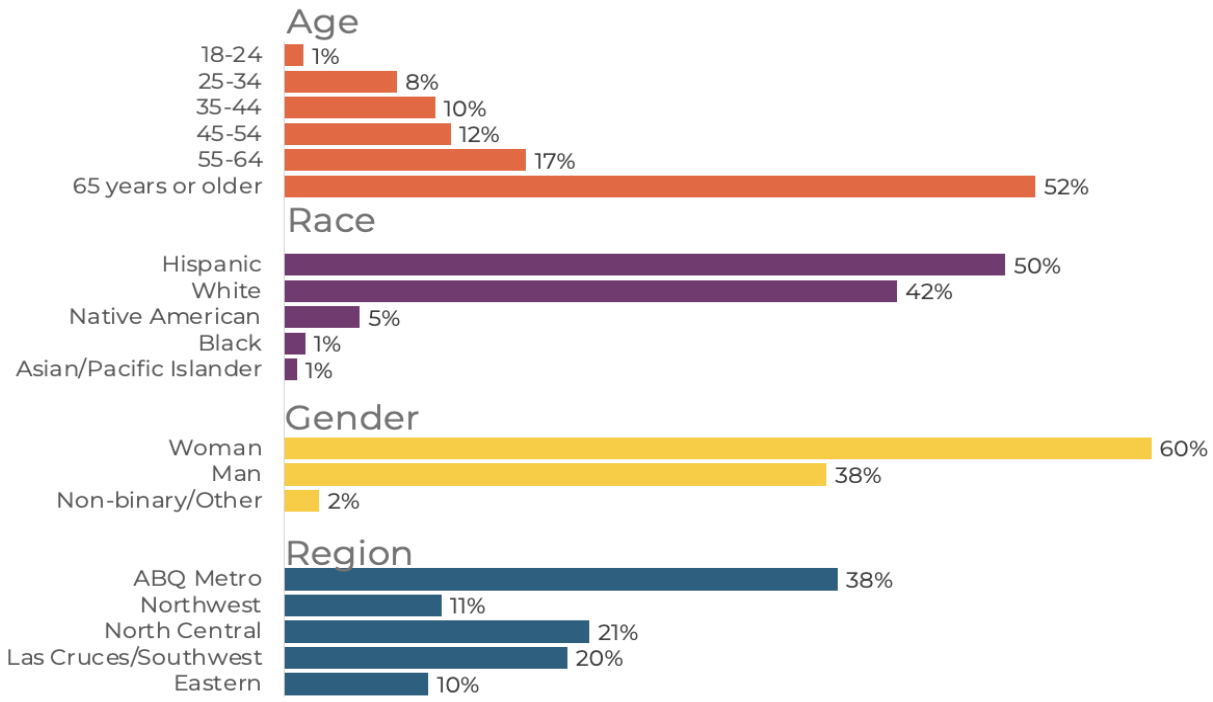


All measures received an approval rate of 62% or higher, with mean approval scores representing neutral to highly supportive responses. Respondents were most likely to support providing low-income New Mexicans access to energy efficiency, retrofit, and home electrification technologies and appliances. Only 5% of respondents did not support this measure. More than 80% of respondents supported community mobility programs, expanding the CEED block grant program, implementation of the methane waste rules, and efficient and clean operations for schools. A sizable percentage of respondents also supported energy efficiency for commercial buildings, but a larger proportion of respondents rated their support for this measure as neutral. The medium and heavy-duty zero-emission truck incentive program received 66% support and the Clean I-40 Transportation Corridor received 62% support. 22% of do not support the Clean I-40 Transportation Corridor.

N.2 Phone Survey Results

N.2.1 Respondent Demographics

Figure 13. Outreach and Engagement Phone Survey – Demographics of Respondents



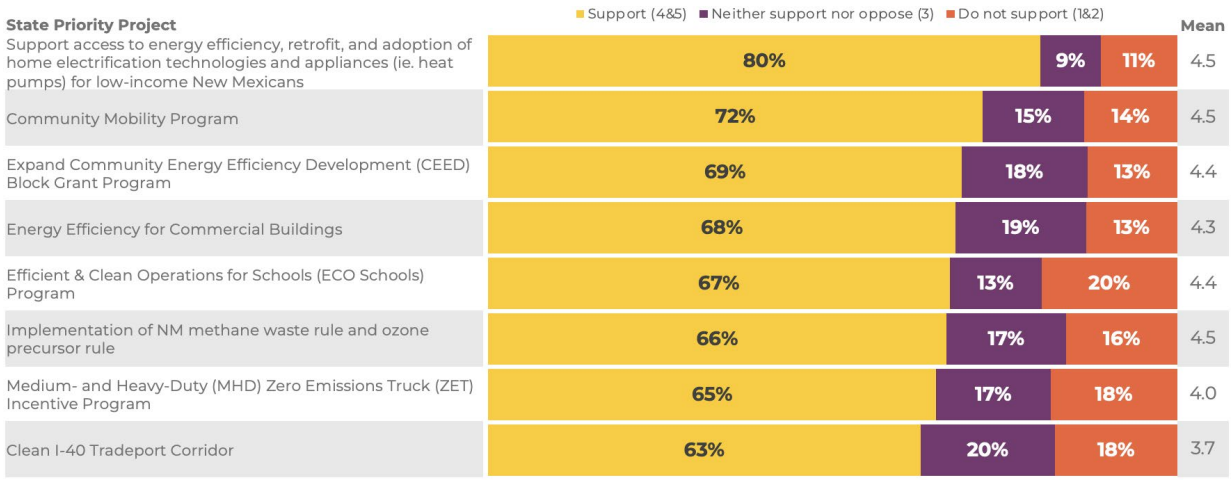
Every county in New Mexico is represented by at least one respondent to the phone survey. The distribution of respondents by county is similar to the proportion of county residents in the general population. Lea and San Juan Counties are slightly underrepresented among respondents.

People who responded to the phone survey are significantly older, more white, and more likely to be women than the general population of New Mexico. Native American, Black, and Asian/Pacific Islander respondents are underrepresented among phone respondents. The proportion of Hispanic survey respondents is similar to the proportion of Hispanic residents in New Mexico.

N.2.2 Support for Proposed Measures

Respondents were provided with descriptions of the proposed CPRG measures and asked to rate their support on each measure using a five-point scale where 5 was strongly supportive and 1 was not supportive at all. These results are presented below, sorted from most support to least support.

Figure 14. Outreach and Engagement Phone Survey – Results from Respondents



All measures received an approval rate of 63% or higher, with mean approval scores representing neutral to highly supportive responses. Respondents were most likely to support providing low-income New Mexicans access to energy efficiency, retrofit, and home electrification technologies and appliances. Almost three-quarters of respondents supported community mobility programs.

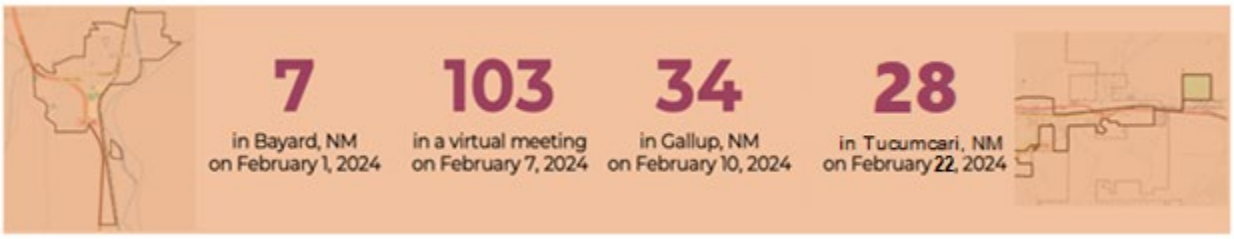
The rest of the measures were supported by around two-thirds of respondents. The highest percentage of respondents reported "do not support" the Efficient and Clean Operations for Schools program. One in five respondents did not support this measure. The fewest respondents supported the Clean I-40 Transportation Corridor.

N.3 Public Meeting Results

N.3.1 Overview

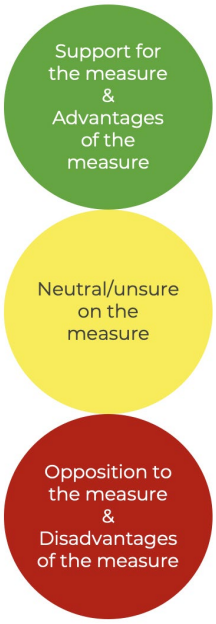
The Prospera team convened four public meetings to solicit input on the proposed measures for the State of New Mexico's Climate Action Plan. One meeting was held virtually and the other three meetings were held in person in Bayard, Gallup, and Tucumcari.

Figure 15. Outreach and Engagement Public Meetings – Attendance at Each Meeting



7 people participated in person in Bayard, 103 people attended the virtual statewide meeting, 34 community members participated in the meeting in Gallup, and 28 community members participated in the meeting in Tucumcari.

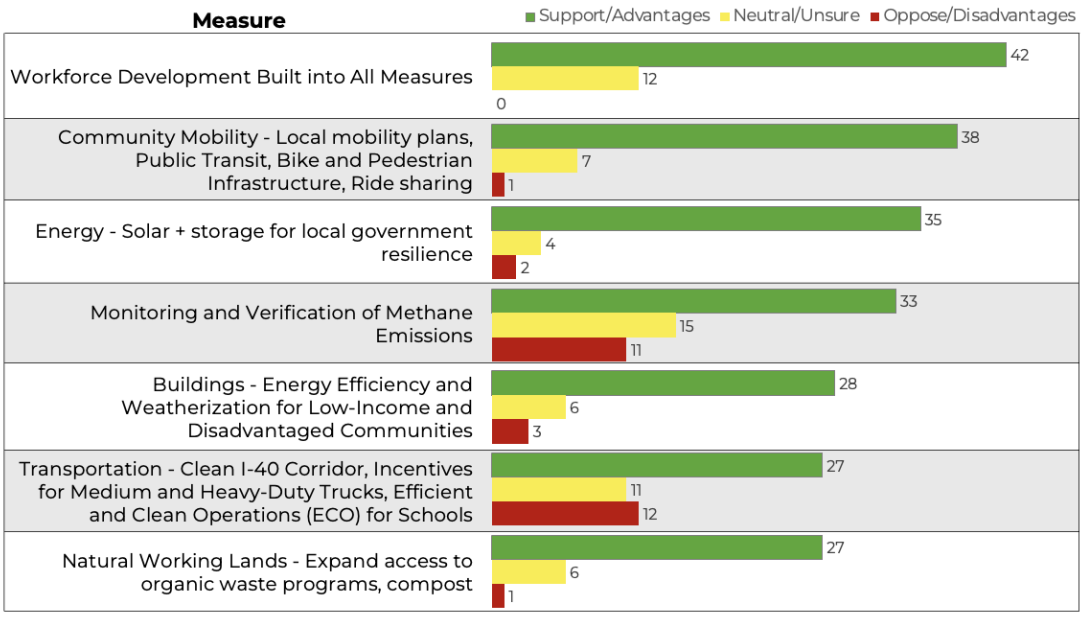
N.3.2 Support for Proposed Measures



At the virtual, Gallup, and Bayard meetings, participants were asked to provide feedback on the state's proposed Climate Action Plan measures using red, yellow, and green colored dots to indicate support for or opposition to the proposed measures. Participants were also allowed to comment on what they perceived to be the advantages and disadvantages of each measure. The colored dots were not available for the Tucumcari meeting, however very valuable input on potential advantages and disadvantages of each measure within their community was collected and recorded.

The results of this exercise are reported below, sorted by the number of green dots each measure received across the first three meetings.

Figure 16. Outreach and Engagement Survey – Results from Report



At the community meetings, participants were asked to convey their level of support, as well as any advantages or disadvantages each measure would have within their communities. Participants were most supportive of workforce development programs being built into all measures and community mobility measures. No participants across any of the meetings opposed including workforce development and only one participant

opposed community mobility programs. Participants were also generally supportive of solar energy and storage for local government resilience. Only a few participants did not support this measure.

Support for monitoring and verification of methane emissions was slightly more mixed with a sizable group of participants supporting, but an almost equal number of participants either neutral or opposed. Fewer participants supported energy efficiency and weatherization for LIDAC. The transportation and natural working lands measures garnered the lowest levels of support among participants, with a significant amount of disadvantages or concerns noted on how the transportation measures would be implemented.

Taken together, these findings suggest that the community is primarily interested in how the state can leverage the federal CPRG funds to positively and directly impact their communities through workforce development, strengthening alternative mobility programs, and local access to renewable energy.

Appendix K Inventory and Quantification Methodology

K.1 Greenhouse Gas Emissions Inventory Methodology

K.1.1 Statewide Greenhouse Gas Emissions Inventory Reports

New Mexico currently has several existing GHG inventories; a 2020 report on 2005 and 2018 economy-wide emissions prepared by E3[1]; a 2022 report on 2020 emissions from the oil and gas sector prepared by ERG[2]; and a 2024 report on 2005 from the oil and gas sector by ERG[3] with future-year emission projections for 2025 and 2030. The existing GHG inventories were prepared using the best available information, including state-specific information when available.

E3 is currently in the process of updating New Mexico's GHG inventory with future-year emission projections. This updated inventory will include 2005 back-cast projections and 2021 emissions inventory with 2030 future-year business as usual (BAU) projections, 2050 BAU projections, 2030 control strategy projections, and 2050 control strategy projections. The final report for this inventory is expected to be available in May of 2024, however, preliminary emissions for 2021 have been included in Table 1 of this PCAP.

E3's estimates of emissions from the oil and gas industry in their report on 2005 and 2018 emissions have been replaced by estimates made by ERG in their reports on 2020 and 2005 emissions. ERG's reports are based on more specific state-level data than what was available at the time of E3's 2005 and 2018 estimates.

K.1.2 Calculation method by sector

Table K- 1 Summary of calculation methods by sector

Sector/Source	2005	2018	2021
Electricity Generation	**Based on emissions data for in-state electricity generation. Data sources include EPA and EIA**		**Preliminary: EPA State-Level Emissions Data**
Transportation	**Direct SIT outputs**	**Input EIA SEDS energy into LEAP with EPA SIT emission factors**	**EIA SEDS energy demand by fuel with emission factors from E3 (sourced from federal)**

[1] https://cnee.colostate.edu/wp-content/uploads/2021/01/New-Mexico-GHG-Inventory-and-Forecast-Report_2020-10-27_final.pdf
[2] https://service.web.env.nm.gov/urls/ktmiJzVo
[3] Report will be prepared by February 29, 2024

Sector/Source	2005	2018	2021
Residential Buildings	Direct SIT outputs	Input EIA SEDS energy into LEAP with EPA SIT emission factors	EIA SEDS energy demand by fuel with emission factors from E3 (sourced from federal)
Commercial Buildings	Direct SIT outputs	Input EIA SEDS energy into LEAP with EPA SIT emission factors	EIA SEDS energy demand by fuel with emission factors from E3 (sourced from federal)
Industry (Non-Oil and Gas)	Direct SIT outputs net fossil fuel industry fuel consumption	Input EIA SEDS energy into LEAP with EPA SIT emission factors after removing fossil fuel industry energy consumption	EIA SEDS energy demand by fuel with E3 emission factors after removing fossil fuel industry energy consumption
Agriculture		Direct SIT outputs (2018 data not available, assume same as 2017)	EPA State Level Emissions Data (IPCC Sector: Agriculture)
Coal Mining	Direct SIT outputs		EPA State Level Emissions Data (IPCC Sector: Energy. Subsector: Coal Mining)
Waste and Material Management	Direct SIT outputs		EPA State Level Emissions Data (IPCC Sector: Waste)
Oil and Gas Industry	2005 emissions are scaled from 2020 using oil production, gas production, and well counts. Assumptions are made on changes in control technology by basin based on	2020 emissions calculations are sector segment specific but were generally based on the NMED minor source emissions inventory, EMNRD well counts, U.S. EPA's GHGRP, U.S. EPA's GHGI, and U. S. EPA's NEI	

Sector/Source	2005	2018	2021
	the best available evidence.		
Land-Use, Land-Use Change, and Forestry (LULUCF) Sector Net Total	Direct SIT outputs	Direct SIT outputs (2018 data not available, assume same as 2017)	EPA State Level Emissions Data (IPCC Sector: LULUCF)

K.2 Quality Assurance Project Plan

A Quality Assurance Project Plan (QAPP) has been submitted to the U.S. EPA and is currently under review. A copy of the submitted QAPP is included in this PCAP as Appendix K.3.

K.3 Emission Reduction Quantification by Measure

K.3.1 Clean I-40 Transportation Corridor

K.3.1.1 Emission Reductions Estimate Method:

Planning for three transportation hubs to be built in New Mexico: one in Gallup, one in Albuquerque, and one in Tucumcari. Each transportation hub will include MDHV electric vehicle charging and/or H_2 refueling stations and on-site renewable energy generation and storage capacity. Each hub was based on planning done under the U.S. D.O.T.'s Regional Infrastructure Accelerator (RIA) grant. The RIA grant funded planning for transportation hubs in Albuquerque NM, Winslow AZ, and Kingman AZ.

It is assumed that the hubs in Gallup NM and Tucumcari NM will be the same size as the hubs in Winslow AZ and Kingman AZ.

GHG and CAP emission reductions are calculated with a combination of AFLEET, energy savings, and information from the RIA grant application.

K.3.1.2 Measure Implementation and Emission Reduction Estimate Assumptions:

The following key assumptions about the electric school buses' and chargers' component of this measure were used to quantify emission reductions for this measure:

- Each hub serves a mixture of vehicles:
    - Albuquerque NM:
        - 96 EV trucks per day at maximum utilization
            - 15% combo long haul
            - 25% combo short haul
            - 60% single unit short haul

        - 70 Hydrogen trucks per day at maximum utilization (all combo long haul)
        - 5.76 GWh year of solar energy production
    - Gallup NM:
        - 24 EV trucks per day at maximum utilization
            - 60% combo long haul (keeping the number of combo long haul EV units consistent between hubs)
            - 12% combo short haul
            - 28% single unit short haul
        - 70 Hydrogen trucks per day at maximum utilization (all combo long haul)
        - 19.98 GWh year of solar energy production
    - Tucumcari NM:
        - 24 EV trucks per day at maximum utilization
            - 60% combo long haul (keeping the number of combo long haul EV units consistent between hubs)
            - 12% combo short haul
            - 28% single unit short haul
        - 70 Hydrogen trucks per day at maximum utilization (all combo long haul)
        - 5.76 GWh year of renewable energy production
- Vehicle efficiency and VMT:
    - Combo long haul:
        - 170,000 miles/year
        - Deisel 7.2 MPGDE, EV 12.7 MPGDE, HFCV 7.9 MPGDE
    - Combo short haul:
        - 65,000 miles/year
        - Deisel 7.2 MPGDE, EV 12.7 MPGDE
    - Single unit short haul:
        - 16,500 miles/year
        - Deisel 6.5 MPGDE, EV 26.1 MPGDE
- Infrastructure:
    - EV charging and H_2 fueling infrastructure construction will be complete by January 1, 2027
    - Onsite renewable energy production construction will be complete by July 1, 2025
    - EV charging utilization will be 20% in 2027, 40% in 2028, 60% in 2029 and 80% in 2030. In 2031 and the following years utilization will be 100%.
    - EV charging will use renewable energy generated on-site and will produce no GHG emissions.
    - H_2 charging utilization will be 1% in 2027, 2% in 2028, 4% in 2029, 8% in 2030, 16% in 2031, 32% in 2032, 64% in 2033, and 90% in 2034. In 2035 and the following years utilization will be 100%.
    - H_2 used on site will have a decreasing carbon intensity over time:

- 15.6 CO_2e / kg H_2 in 2024, based on the average carbon intensity of H_2 produced from North American Fossil Natural Gas sold in California.
- 10 kg CO_2e / kg H_2 when the stations open in 2027, based on a linear decrease to
- 4 kg CO2e / kg H_2 in 2030, followed by a linear decrease to
- 0.45 kg CO2e / kg H_2 in 2050

K.3.1.3 Emission Reduction Calculations:

$$Aggregate\ GHG\ Reductions = EV\ Charging\ GHGs + HFCV\ Refueling\ GHGs + Renewable\ Energy\ GHGs$$

$$EV\ Charging\ GHGs = Trucks\ per\ day * GHG\ reduction\ per\ truck * Capex\ Ratio$$

$$HFCV\ Refueling\ GHGs = Trucks\ per\ day * GHG\ reduction\ per\ truck * Capex\ Ratio$$

$$Renewable\ Energy\ GHGs = Energy\ Production * Reference\ Case\ Emission\ Factor$$

$$Capex\ Ratio = \frac{Station\ Cost}{Station\ Cost + Unit\ Cost\ of\ Vehicle * Number\ of\ Vehicles\ simultaneously\ chargable}$$

K.3.1.4 Reference Case Scenario:

For vehicle emissions, the reference case is the utilization of diesel medium and heavy-duty vehicles for the same number of VMTs.

For renewable energy production, the reference case is the use of grid energy. The grid emissions factor used for this measure was 0.363 MT CO_2e/MWh, which is the emissions factor for the natural gas combined cycle, which produces the plurality of New Mexico electricity (Dept. of Energy).

K.3.1.5 Measure-Specific Activity Data and Implementation Tracking Metrics:

- Number and class of vehicles fueled
- Amount of electricity generated
- Amount of electricity used for charging EVs
- Amount of Hydrogen dispensed
- Amount, source, and carbon intensity of hydrogen delivered

K.3.1.6 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 21,903 MT CO_2e per year with 86,458 cumulative $MTCO_2e$ for the period between 2025 – 2030, and 1,114,966 cumulative $MTCO_2e$ for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 1,863 tons of NO_x, 15.8 tons of $PM_{2.5}$, 7.3 tons of SO_2, and 79.1 tons of VOC over the lifespan of the measure.

K.3.2 Clean Truck Incentive Program

K.3.2.1 Emission Reductions Estimate Method:

Emissions reductions for EVs and H_2 fuel cells were modeled using the AFLEET Tool in this measure, as were corresponding air quality impacts. For the electric vehicle charger and H_2 refueling station component of this measure, the percentage of capital expenditure measure was used to estimate resultant emissions reductions.

K.3.2.2 Measure Implementation and Emission Reduction Estimate Assumptions:

The following key assumptions about the electric school buses' and chargers' component of this measure were used to quantify emission reductions for this measure:

- Numbers of Equipment (midpoint of range):
  - Class 2b-3: 300
  - Class 4-6: 150
  - Class 7-8 EV: 50
  - EV Truck Class 2 Chargers: 200
  - EV Truck Class 3 150 kW Chargers: 250
- VMT:
  - Class 2b-3: 24,000 Miles/year
  - Class 4-6: 16,500 Miles/year
  - Class 7-8: 65,000 Miles/year
- MPGGE:
  - Class 2b-3 EV 44.6 MPGGE
  - Class 2b-3 Gasoline 13 MPGGE
  - Class 4-6 EV 26.1 MPGGE
  - Class 4-6 Diesel 6.5 MPGGE
  - Class 7-8 EV 14.3 MPGGE
  - Class 7-8 Diesel 4.5 MPGGE
- Annual GHG short tons CO_2e under GWP100
  - Class 2b-3 EV - 7.1
  - Class 2b-3 Gasoline - 21.8
  - Class 4-6 EV - 9.6
  - Class 4-6 - 34.9
  - Class 7-8 EV - 69.0
  - Class 7-8 Diesel - 198.9
- Vehicle Operating Lifetime 15 years

K.3.2.3 Emission Reduction Calculation:

The following equation was used to calculate GHG emission reductions from each class range of vehicles.

$$Truck_{GHG} = \#_T * (D_{GHG} - EV_{GHG}) * TL$$

$$Charger_{GHG} = \#_C * \#_{TS} * (D_{GHG} - EV_{GHG}) * \frac{\$C}{\$C + (\#_{TS} * \$T)}$$

Where:

$$Truck_{GHG} = Truck\ GHG\ Reductions\ for\ each\ class\ of\ vehicle$$

$$\#_T = Number\ of\ Trucks\ of\ each\ class\ subsidized$$

$$D_{GHG} = GHG\ emissions\ from\ a\ diesel\ vehicle\ of\ that\ class$$

$$EV_{GHG} = GHG\ emissions\ from\ an\ EV\ vehicle\ of\ that\ class$$

$$TL = Truck\ Lifetime$$

$$Charger_{GHG} = GHG\ emission\ reductions\ attriutable\ to\ the\ chargers$$

$$\#_C = Number\ of\ each\ charger\ type\ subsidized$$

$$\#_{TS} = the\ number\ of\ trucks\ served\ per\ charger\ (differs\ for\ Class\ 2\ and\ Class\ 3)$$

$$\$C = Cost\ of\ charger\ equipment\ and\ instalation$$

$$\$T = Cost\ of\ a\ Truck$$

K.3.2.4 Reference Case Scenario:

The reference case assumes that absent from the implementation of this measure the trucks replaced by this measure will be gasoline or diesel, not electric or hydrogen.

K.3.2.5 Measure-Specific Activity Data and Implementation Tracking Metrics:

- Planned and actual operating routes for trucks,
- Number/rate/character of truck routes,
- Number/rate/character of trucks added and removed from fleets, &
- Number/rate/character of vehicle miles traveled.

K.3.2.6 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 14,867 MT CO_2e per year with 74,337 cumulative $MTCO_2e$ for the period between 2025 – 2030, and 223,012 cumulative $MTCO_2e$ for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 200.1 tons of NO_x, 2.0 tons of $PM_{2.5}$, 1.8 tons of SO_2, and 26.9 tons of VOC over the lifespan of the measure.

K.3.3 ECO Schools

K.3.3.1 Emission Reductions Estimate Method:

GHG and CAP emissions reductions for electric school buses were modeled using the AFLEET Tool. For the electric vehicle charger component of the measure, a percentage of capital expenditure measure was used to estimate resultant emissions reductions. For the buildings component GHG and CAP emission reductions were modeled using projected energy savings and emissions savings based on the 2023 Innovative Energy Financing Projects Report by EMNRD.

K.3.3.2 Measure Implementation and Emission Reduction Estimate Assumptions:

The following key assumptions about the electric school buses and chargers component of this measure were used to quantify emission reductions for this measure:

- A school bus lifetime of 12 years
- 85 Electric School Buses
- 150 charging stations and ancillary equipment
- Average annual bus miles driven 15,000 miles per bus per year
- Diesel bus fuel efficiency of 22.5 MPDGE
- EV bus fuel efficiency of 7 MPDGE

The Socorro Consolidated School District was used as a prototype for what school districts could achieve through implementing the building component of this measure. The following key assumptions about the buildings component of this measure were used to quantify emission reductions for this measure:

- Building improvements at 10 school districts
- 329.5 kW DC solar PV installed per district
- 533 MWh/year electricity generation per district
- Annual financial savings of $154,856 / year per district
- Annual energy Savings of 31.9%
- Natural gas fuel savings of 425 MMBtu/year
- A New Mexico Grid Emissions Factor of 0.363 MT CO_2e /MWh
- A natural gas emission factor of 0.0531 MT CO_2e/MMBtu

K.3.3.3 Emission Reduction Calculation:

$$Bus\ GHG\ Reductions = \#\ of\ Buses * (Diesel\ GHG - EV\ GHG) * Bus\ Life$$

$$Charger\ GHG\ Reductions = \#\ of\ Chargers * (Diesel\ GHG - EV\ GHG) * Bus\ Life * \frac{Charger\ Cost}{(Charger\ Cost + Bus\ Cost)}$$

$$Solar\ PV\ GHG\ Reductions = Solar\ Generation * Grid\ Emission\ Factor$$

$$Building\ Retrofit\ GHG\ Reductions = Natural\ Gas\ Savings * Natural\ Gas\ Emissions\ Factor$$

K.3.3.4 Reference Case Scenario:

The reference case assumes that absent from implementation of this measure the school districts assisted by this measure continue to utilize diesel school buses, and do not access the ESCO program.

K.3.3.5 Measure-Specific Activity Data and Implementation Tracking Metrics:

The activity used to calculate actual GHG and CAP emission reductions from this measure will include:

- Annual VMT for each bus awarded
- Annual VMT of EV buses charged by charging stations awarded
- Grid energy savings at participating schools
- Natural gas energy savings at participating schools

K.3.3.6 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 5,045 MT CO_2e per year with 25,227 cumulative $MTCO_2e$ for the period between 2025 – 2030, and 103,300 cumulative $MTCO_2e$ for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 55.6 tons of NO_x, 0.3 tons of $PM_{2.5}$, 1.9 tons of SO_2, and 1.5 tons of VOC over the 12-year lifespan of the EV buses.

K.3.4 Community Mobility Opportunities

K.3.4.1 Emission Reductions Estimate Method:

Emission reductions from community mobility opportunities were estimated as a percentage reduction of current light-duty vehicle miles traveled.

K.3.4.2 Measure Implementation and Emission Reduction Estimate Assumptions:

The following key assumptions about this measure were used to quantify emission reductions:

- Light-duty vehicle miles traveled will be reduced by 5% by 2030
- Light-duty vehicle miles traveled will be reduced by 20% by 2050
- VMT reductions between 2026 - 2030 are linear
- VMT reductions between 2030 - 2050 are linear

K.3.4.3 Emission Reduction Calculation:

$$Cumulative\ emission\ reductions = \sum_{year} 2021\ Emissions * yearly\ \%\ VMT\ Reduction$$

K.3.4.4 Reference Case Scenario:

The reference case for the measure is current light-duty vehicle emissions. Current light-duty vehicle emissions are calculated based on transportation gasoline use in New Mexico in 2021.

K.3.4.5 Measure-Specific Activity Data and Implementation Tracking Metrics:

This measure can be tracked using gasoline sales in New Mexico.

K.3.4.6 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 423,597 MT CO_2e per year with 1,270,790 cumulative MT CO_2e for the period between 2025 – 2030, and 23,086,025 cumulative MTCO_2e for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 31,594 tons of NO_x, 828 tons of $PM_{2.5}$, 151 tons of SO_2, and 23,067 tons of VOC over the lifespan of the measure.

K.3.5 Methane Response Program

K.3.5.1 Emission Reductions Estimate Method:

The NM O&G GHGI, which estimated emissions for 2020, was used as the starting point to develop projected inventories for 2030. Projections for 2030 were estimated with and without emission reductions from the New Mexico state rules. The projected inventories reflect the impact that future increases in industry activity (oil and gas production) and current NM regulatory initiatives are expected to have on emission levels. The projected inventories do not include any emission reductions anticipated from the methane rules promulgated by the EPA: Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (40 CFR Part 60).

K.3.5.2 Measure Implementation and Emission Reduction Estimate Assumptions:

Future Oil and Gas Activity and Production:
Projected year activity increase (A_x) estimates for 2030 were obtained from the US Energy Information Administration Annual Energy Outlook (AEO) 2023.[4] Separate estimates of A_x have been developed for crude oil production and natural gas production using the EIA data.

[4] US Energy Information Administration "Annual Energy Outlook 2023", March 16, 2023. https://www.eia.gov/outlooks/aeo/

Table K- 2 provides the production estimates and the 2030 projected inventory values of A_x for oil and gas production under the reference case.

Table K- 2 Oil and gas production for 2020 and estimates for 2030.

	2020	2030
Oil Reference Case Production (MMBL/day)	**11.28**	**13.31**
Oil Reference Case % Change From base year (A_x)	**0%**	**18%**
Gas Reference Case Production (trillion cubic feet)	**33.49**	**35.35**
Gas Reference Case % Change From base year (A_x)	**0%**	**6%**

The projected industry growth factors (A_x) in 2030 for either oil production or gas production were applied to the emissions for each emission source included in the inventory, based on the commodity most closely associated with emissions from that source. Table K- 3 describes the commodity used to scale each emission source, and what industry segment those sources are present in.

Table K- 3 Industry segment, Emission source, and the commodity used for scaling.

Industry Segment	Emission Source	Projections Commodity
G&B, Processing	**Acid Gas Removal Units**	**Gas**
Production	**Associated Gas**	**Oil**
G&B, Processing, Production, Transmission	**Centrifugal Compressors**	**Gas**
G&B, Processing, Production, Underground NG Storage	**Combustion**	**Mix**
G&B, Processing, Production, Underground NG Storage	**Dehydrators**	**Gas**
Transmission	**Engine Combustion**	**Gas**
G&B, Processing, Transmission, Underground NG Storage	**Equipment Blowdowns**	**Gas**
G&B, Processing, Transmission, Underground NG Storage	**Equipment Leaks**	**Mix**
Processing, Transmission, Underground NG Storage	**Flares**	**Gas**
Production	**HF Completions**	**Mix**
Production	**HF Workovers**	**Mix**
G&B, Production	**High Bleed Pneumatic Controllers**	**Mix**

Industry Segment	Emission Source	Projections Commodity
G&B, Production	Intermittent Bleed Pneumatic Controllers	Mix
Production	Liquids Unloading	Gas
G&B, Production	Low Bleed Pneumatic Controllers	Mix
Underground NG Storage	Metering and Regulating Equipment	Gas
G&B, Production	Miscellaneous Flaring	Mix
Production	Mud Degassing	Mix
Production	Non-HF Workovers	Mix
G&B, Transmission	Pipeline Blowdowns	Gas
G&B, Transmission	Pipeline Leaks	Gas
Abandoned Oil and Gas Wells	Plugged Abandoned Wells	Mix
Processing, Transmission, Underground NG Storage	Pneumatic Controllers	Gas
G&B, Production	Pneumatic Pumps	Mix
Production	Produced Water	Mix
G&B, Processing, Production, Transmission, Underground NG Storage	Reciprocating Compressors	Gas
Underground NG Storage	Storage Wells	Gas
Production	Tank Unloading	Mix
G&B, Production	Tanks	Mix
Transmission	Transmission Storage Tanks	Gas
Transmission	Turbine Combustion	Gas
Abandoned Oil and Gas Wells	Unplugged Abandoned Wells	Mix
Production	Well Pad Leaks - Gas - Wellhead	Gas
Production	Well Pad Leaks - Gas-Compressors	Gas
Production	Well Pad Leaks - Gas-Dehydrators	Gas
Production	Well Pad Leaks - Gas-In-line Heaters	Gas
Production	Well Pad Leaks - Gas meters/piping	Gas
Production	Well Pad Leaks - Gas-Separators	Gas
Production	Well Pad Leaks - Oil-Header	Oil
Production	Well Pad Leaks - Oil-Heater-Treater	Oil
Production	Well Pad Leaks - Oil-Separators	Oil
Production	Well Pad Leaks - Oil-Wellhead	Oil
Production	Well Testing	Mix

Emission Reductions:

VOC emission reductions were estimated for 20.2.50 NMAC (Oil and Gas Sector, Ozone Precursor Rules)[5] on an equipment type basis. An in-depth analysis was performed using detailed equipment counts from the 2020 CAP minor source emissions inventory, accounting for the applicability of 20.2.50 NMAC, the applicability of existing federal rules, and in-place controls. This analysis estimated overall VOC reductions expected as the requirements in the rule are fully implemented. Rule requirements for certain emission sources are phased in over time and will not be fully implemented until January 1, 2030. This analysis assumed that reductions are linear from January 1, 2023, to January 1, 2030. VOC reductions expected from the Part 50 rule were applied to CH_4 emissions in the projected inventories in those counties where the rule is applicable. As these reductions were estimated for the oil and gas industry overall (they are not segment-specific), they have been applied to each industry segment equally. No reductions are assumed for CO_2 emissions based on the Part 50 rule.

In addition to the NMED Part 50 rule, the New Mexico Department of Energy, Minerals, and Natural Resources (EMNRD) implemented a prohibition on the venting and flaring of associated gas (with some exceptions) through the "natural gas waste" rule.[6] The projected inventories for both CH_4 and CO_2 apply a 95% reduction in emissions from associated gas venting and flaring to account for this prohibition, which only allows venting or flaring under certain conditions.

Table K- 4 provides the estimated CH_4 reductions ($Reductions_x$) for affected emission sources for the 2025 and 2030 inventories based on the impacts of the Part 50 rule and the natural gas waste rule. Emission sources not shown in Table K- 4 were not assumed to have regulatory reductions in the projected inventories.

Table K- 4 Estimated 2030 CH_4 reductions by emission source.

Emission Source	2030 CH_4 Reduction ($Reductions_x$)
Engines	**5.6%**
Turbines	**36.5%**
Reciprocating and Centrifugal Compressors	**51.3%**
Equipment Leaks	**75.1%**
Liquids Unloading	**50.0%**
Dehydrators	**47.9%**
Hydrocarbon Liquids Transfers	**88.40%**
Pneumatic Controllers and Pumps	**90.6%**
Storage Tanks	**46.1%**

[5] Title 20, Chapter 2, Part 50 "Oil and Gas Sector – Ozone Precursor Pollutants" [20.2.50 NMAC 08/05/2022]
[6] Title 19, Chapter 15, Part 27 "Venting and Flaring of Natural Gas" [19.15.27 NMAC 05/25/2021]

Emission Source	2030 CH_4 Reduction (*Reductions$_x$*)
Associated Gas [a]	**95%**

[a] 95% reduction also applied for CO_2.

K.3.5.3 Emission Reduction Estimate Calculation:

The methodology used to develop the 2025 and 2030 projected inventories is as follows:

$$E_{2030} = E_{2020} \times (1 + A_{2030}) \times (1 - Reductions_{2030})$$

where:

E_{2030} = Projected emissions in year *2030*
E_{2020} = 2020 emissions
A_{2030} = Activity increase in year *2030* relative to 2020 (%)
$Reductions_{2030}$ = Emission reductions in year 2030 relative to 2020 (%)

Year 2025 and 2030 Results

Table K- 5 presents the results of the projected inventories for 2025 and 2030.

Table K- 5 Projected Inventory Estimates for the Oil and Gas Sector.

Year	Pollutant	Emissions (MT)	Change from 2020
2020	CH_4	547,212	NA
2020	CO_2	18,177,400	NA
2030 – with State rules	CH_4	250,261	-54%
2030 – with State rules	CO_2	19,242,501	6%
2030 – without state rules	CH_4	598,009	9%
2030 – without state rules	CO_2	20,022,348	10%

K.3.5.4 Reference Case Scenario:

The reference case for this scenario is production increases under normal market scenarios with no state rules.

K.3.5.5 Measure-Specific Activity Data and Implementation Tracking Metrics:

GHG emission reductions from this measure can be tracked with VOC emissions as a proxy using the National Emissions Inventory (NEI) and NMED minor source emissions inventories.

K.3.5.6 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 10,169,050 MT CO_2e per year with 41,947,333 cumulative MT CO_2e for the period between 2025 – 2030, and 245,328,339 cumulative MT CO_2e for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 120,950 tons of NO_x, and 524,356 tons of VOC over the lifespan of the measure.

K.3.6 Pre-Weatherization for Low-Income New Mexicans

K.3.6.1 Emission Reductions Estimate Method:

The emissions reductions were calculated by estimating the number of homes that would receive pre-weatherization assistance and the number of homes that would receive heat pumps calculating the associated annual fuel savings per home.

K.3.6.2 Measure Implementation and Emission Reduction Estimate Assumptions:

The major assumption for this measure was the average cost of a pre-weatherization renovation. Based on data from the Mortgage Finance Authority's existing Weatherization Readiness Program's costs for structural remediation, an estimation of $18,000 per home was made. Pending additional data received, this value can be updated accordingly. Parameters related to annual fuel savings and GHG savings of weatherization were sourced from the New Mexico Mortgage Finance Authority, and can be found in the table below:

Table K- 6 Pre-weatherization Activity Parameters.

Parameter	Unit	Value
Cost of Pre-Weatherization per Home	$/dwelling	$18,000
Annual GHG abatement from weatherization, per home	MT CO_2e	1.56
Annual Fuel Savings per home from weatherization	MMBtu	29.3
Annual Fuel Savings from Heat Pump	MMBtu/dwelling/year	29.5
Natural Gas Emissions Factor	MT CO_2e/MMBtu	0.0531

Assumptions were made around the percentage of homes that received pre-weatherization work that went on to weatherize and receive building electrification work: 90% of homes were assumed to go on to weatherize, and 22% were assumed to receive a heat pump installation. It was also assumed that 25% of weatherization emissions reductions can be attributed to pre-weatherization work.

K.3.6.3 Emission Reduction Calculation:

Aggregate GHG Reductions = [Number of Homes * (% of Homes that Weatherize * GHG savings from Weatherization + % of Homes that receive HPs * GHG savings from HPs)] * % attributed to pre-weatherization work

K.3.6.4 Reference Case Scenario:

The reference case scenario assumes no pre-weatherization or retrofit improvements were conducted.

K.3.6.5 Measure-Specific Activity Data and Implementation Tracking Metrics:

MFA uses an online reporting and invoicing system that requires partners to enter details of each unit completed before payment. The completed unit data is captured for each partner and shows the projected energy savings in MMBTUs and dollars.

Before the start of any unit, the agencies upload photos, estimated costs, and descriptions of the project. MFA either approves these projects or asks for more information from the service provider before approval.

In addition to having the ability to view what projects are complete and the funding used, MFA regularly follows up with the service providers to determine the status of approved units, and when they are scheduled for full weatherization. MFA runs reports on a monthly and quarterly basis that show the number of homes that have been approved, received the first layer of readiness services, and fully weatherized homes. All homes that receive pre-weatherization or repairs through this program are expected to be fully weatherized.

K.3.6.6 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 389 MT CO_2e per year with 1,946 cumulative MT CO_2e for the period between 2025 – 2030, and 9,730 cumulative MT CO_2e for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 8.6 tons of NO_x, 0.5 tons of SO_2, and 0.1 tons of VOC over the lifespan of the measure.

K.3.7 CEED Block Grant Program

K.3.7.1 Emission Reductions Estimate Method:

GHG emission reductions are based on natural gas and grid energy savings due to retrofits.

K.3.7.2 Measure Implementation and Emission Reduction Estimate Assumptions:

To estimate upfront capital costs for building shell upgrades, data from the New Mexico Mortgage Finance Authority's weatherization program was used. For annual fuel and

GHG savings from building shell upgrades, data from NM EMNRD was used. While all dwellings targeted by this measure will receive building shell upgrades, it was assumed that only 30% of dwellings receive heat pump installations as part of a building electrification package. This assumption was made because a significant segment of homes will require an electric panel upgrade before receiving a heat pump.

Table K- 7 Community Energy Efficiency Activity Parameters.

Parameter	Unit	Value	Source
Building Shell Upgrade Cost, per home	$/dwelling	$7,400	NM MFA
Ducted Air-Source Heat Pump Cost, per home	$/dwelling	$14,500	NM MFA
Annual Fuel Savings from Shell Upgrade	MMBtu/dwelling/year	29.3	NM EMNRD
Annual GHG Savings per Building Retrofit	MT CO_2e/dwelling/year	4.4124	NM EMNRD
Annual Fuel Savings from Heat Pump	MMBtu/dwelling/year	57.5	E3 Estimate
Natural Gas Emissions Factor	MT CO_2e/MMBtu	0.0531	EPA
Additional GHG savings from Heat Pump	MT CO_2e/dwelling/year	3.05	Calculation

With regards to the completion of the 5,500 energy efficiency retrofits, it was assumed that after an initial outreach and planning year, the number of retrofits would ramp up each year, reaching a rate of 1,000 per year after 3 years of retrofit implementation. This is based on previous construction rates of the New Mexico WAP program and the need to train and build up the workforce to complete these retrofits. The annual retrofit deployment schedule can be found below:

Table K- 8 Community Energy Efficiency Retrofit Schedule.

Year	Annual Retrofits	Cumulative Retrofits
2025	0	0
2026	200	200
2027	500	700
2028	800	1,500
2029	1,000	2,500
2030	1,000	3,500
2031	1,000	4,500
2032	1,000	5,500

K.3.7.3 Emission Reduction Calculation:

Aggregate GHG Reductions = Building Retrofit GHG Reductions + Heat Pump GHG Reductions

Heat Pump GHG Reductions = Energy Saved from Heat Pump * Natural Gas Emissions Factor

K.3.7.4 Reference Case Scenario:

The reference case scenario for this measure assumes no retrofits were conducted.

K.3.7.5 Measure-Specific Activity Data and Implementation Tracking Metrics:

The following metrics will be followed to indicate the success of the implementation of this program:

- Number of residences reached, identified, and qualified by the end of each quarter.
- Number of residences receiving retrofit work by the end of each quarter.
- Number of residences with completed retrofit work by the end of each quarter.
- Final number of residences with completed retrofit work by the end of the implementation period.

K.3.7.6 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 10,169,050 MT CO_2e per year with 41,947,333 cumulative MT CO_2e for the period between 2025 – 2030, and 245,328,339 cumulative MT CO_2e for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 120,950 tons of NO_x, and 524,356 tons of VOC over the lifespan of the measure.

Outcomes – This measure will result in combined emissions reductions **of 39,429.8 metric tons of CO_2e by 2030** and a total of **305,847.4 metric tons of CO_2e reduced by 2050**. In terms of air quality impacts, the measure is expected to reduce the following pollutants by 2050: **NH_3 by 1 metric tons, NO_x by 114 metric tons, PM2.5 by 0.5 metric tons kg, and SO_2 by 6 metric tons**.

K.3.8 Integrated and Wholistic Low-Income and Disadvantaged Buildings Sector Incentive Programs

Greenhouse gas emissions reduction calculations are pending Phase II CPRG coalition formation.

K.3.9 Clean and Resilient Energy for Local Government

K.3.9.1 Emission Reductions Estimate Method:

Benefits and co-benefits will be assessed once the details of the multistate coalition are finalized. Greenhouse gas emissions and criteria emissions reductions will be calculated based on a case evaluation using the National Renewable Energy Lab's PVWatts and ReOpt Tools, and data from projects that have received New Mexico's Solar Market Development Tax Credit.

K.3.9.2 Measure Implementation and Emission Reduction Estimate Assumptions:

For the evaluated case, a 387 kW rooftop solar installation with 60 kW battery power and 153 kWH battery capacity is assumed. GHG emissions reductions will be calculated as follows based on the funding allocated to each state in the multistate coalition:

K.3.9.3 Emission Reduction Calculation:

$$2025-2030\ Cumulative\ GHG\ Reductions\ (MT) \leq 0.7 * \left(\frac{Non\ Admin\ Funding}{817{,}154}\right) * 237 * 5$$

$$2025-2050\ Cumulative\ GHG\ Reductions\ (MT) \leq 0.7 * \left(\frac{Non\ Admin\ Funding}{817{,}154}\right) * 237 * 25$$

$$NO_x\ Annual\ Emission\ Reductions\ (MT) \leq 0.17 * \left(\frac{Non\ Admin\ Funding}{817{,}154}\right)$$

$$SO_2\ Annual\ Emission\ Reductions\ (MT) \leq 0.17 * \left(\frac{Non\ Admin\ Funding}{817{,}154}\right)$$

$$PM_{2.5}\ Annual\ Emission\ Reductions\ (MT) \leq 0.01 * \left(\frac{Non\ Admin\ Funding}{817{,}154}\right)$$

K.3.9.4 GHG and CAP Emissions Reduced:

Implementation of this measure is anticipated to reduce 6,091 MT CO_2e per year with 30,453 cumulative $MTCO_2e$ for the period between 2025 – 2030, and 152,266 cumulative $MTCO_2e$ for the period between 2025 – 2050.

Implementation of this measure is anticipated to reduce 156 tons of NO_x, 9.2 tons of $PM_{2.5}$, and 156 tons of SO_2 over the lifespan of the measure.

K.3.10 Organic Waste Diversion

K.3.10.1 Emission Reductions Estimate Method:

All greenhouse gas (GHG) emissions for this measure used the EPA WARM Tool, which was also used to calculate labor for the South Central Waste Authority's strategy.

K.3.10.2 Measure Implementation and Emission Reduction Estimate Assumptions and Calculations:

Assumptions and step-by-step calculations for diversion quantities for each strategy follow:

South Central Solid Waste Authority (Dona Anna County and the City of Las Cruces)
Based on current operations, it is assumed that this measure could divert 3,500 tons per year of green waste between 2025 and 2030. This amount represents an estimate of the material currently being collected and landfilled from our 8 community collection centers, located in Dona Ana County.

GHG Reductions: 1,111 MTCO2E/ 5 years

Los Alamos County

Based on a recent food composting feasibility study conducted by SCS Engineers, it was determined that Los Alamos is estimated to divert 1,500 tons of food scraps and 3,000 tons of yard trimmings annually. These numbers include food scraps and yard trimmings from all businesses and residential households including schools, grocery stores, restaurants, households, and the national laboratory. Using the EPA Warm tool, we calculated emissions avoided for 1,500 tons of food scraps and 3,000 tons of yard trimmings over 5 years.

GHG Reductions: 3,483 MTCO2E/ 5 years

Santa Fe County

The average number of meals served at Santa Fe County Senior Centers between 2013 and 2016 was 28,741.75 per year. With an estimated .55 lbs of food waste generated per meal, total food waste estimates for Santa Fe County Senior Centers are 7.9 tons/year. The Santa Fe County Detention Center's food waste estimates are 60.225 tons/year based on the EPA's 2019 Wasted Food Report of 1.1 lbs of food waste generated per inmate per day and around 300 inmates present at the Detention Center throughout the year. Cumulated food waste estimates utilized for annual GHG emission estimates were 68.125 tons/year or 340.625 tons/5 years. These estimates were calculated to result in a reduction of 23.8 MTCO2E/year and 119 MTCO2E over five years. GHG emissions were calculated using the EPA WARM tool.

Food Waste Diverted: 68.125 tons * 5 = 340.625 tons (2025-2030)

GHG Reductions: 23.8 MTCO2E/year; 119 MTCO2E/ 5 years

The City of Albuquerque

Residential Project

Background: WRI's residential campaign study results showed a 20% reduction in food waste (though there are challenges to that number as well); USDA estimates that 290 pounds of food is wasted per capita per year, which means the program could reduce up to 58 pounds (0.029 tons) of food waste per person per year. Using census data for the average household size in Albuquerque of 2.32 people and a project reach of 2,000 households (across two communities), that is a reach of 4,640 people. Impact: 135 tons per year. For the GHG calculation, using the EPA WARM tool for composting (a conservative calculation since the reduction will be through prevention, which has a higher GHG reduction value) for 138 tons yields 15.95 MTCO2E reduction for the year after implementation (7.98 MTCO2E per campaign).

Assumptions: 100% of the potential GHG reduction for the first year after each campaign (July to the following June), 75% for the following year (assuming 25% revert to old practices), and 40% for each subsequent year (assuming half the people who wanted to take part adopt life-long waste reduction habits); (found 0 studies to reference, so used conservative numbers). Community 1 distribution was completed before October 2025 and community 2 before January 2026.

Food Waste Prevented: 135 tons in the first year after implementation.

GHG Reductions: 15.95 MTCO2E for the first year after implementation.

2025-2030 GHG Calculation: GHG = 47 = 7.98+0.75*7.98+7.98*0.4*3 [campaign 1] + 7.98+0.75*7.98+7.98*0.4*3 [campaign 2]

2025-2050 GHG Calculation: GHG = 177 = 7.98+0.75*7.98+7.98*0.4*23.75 [campaign 1] + 7.98+0.75*7.98+7.98*0.4*22.75 [campaign 2]

Restaurant Project
Background and Assumptions: Workshops: quarterly, each on a different topic, free to chefs and kitchen staff from small, local restaurants. Technical assistance: 5 restaurants, at least 3 located in or primarily serve EJ communities (i.e., LIDAC tracts). Background: NRDC estimated restaurant employees generate 3,000 lbs (1.5 tons) of food waste per employee per year (see page 118 https://www.nrdc.org/sites/default/files/food-waste-city-level-technical-appendices.pdf). The project will support composting, food repurposing, and food donations among several small, local restaurants (about 100 employees total, an average of 20/restaurant—you will need to ask restaurants interested in participating how many staff they have and change this number accordingly) for 40 weeks (first 12 weeks of the 1-year project are devoted to restaurant onboarding and assessment). Based on the City and County of Denver's Department of Public Health & Environment case study results, which saw at least 90% of restaurant food waste with technical assistance (see slide 11 for link), 90% of food waste is expected to be prevented/diverted at each of the participating restaurants. The estimated project impact of diverting 104 restaurant tons will be diverted due to project implementation. This is calculated by taking: 1) 1.5 tons per employee year x 100 employees divided by 52 weeks = 2.88 tons weekly estimated food waste; 2) 2.88 tons x 90% waste diversion = 2.9 tons diverted weekly; 3) 2.9 tons x 40 weeks = 104 tons. Using the EPA WARM tool for composting (a conservative calculation since a significant portion will be prevented or rescued, which have higher GHG reduction values) for 104 tons yields 12.02 MTCO2E for 1st year. Project replicated for Y2. Caveats: This calculation does not consider things they might already be doing to reduce food waste. Also, we are not adding in the GHG reduction from the workshops. Different restaurants will be supported each year for three years. Estimate 50% of potential GHG reduction during the implementation year since restaurants will be learning; 100% of potential for the next year; 50% for the following 4 years; and 30% for all subsequent years (found 0 studies to reference, so used conservative numbers).

Food Waste Prevented/Diverted: 104 tons in the first year after implementation.

GHG Reductions: 12.02 MTCO2E for the first year after implementation.

2025-2030 GHG Calculation: GHG = 108.2 = 12.02*.5+12.02+12.02*.5*4 [impacts of 1st year] + 12.02*.5+12.02+12.02*.5*3 [impacts of 2nd year] 12.02*.5+12.02+12.02*5*2 [impacts of 3rd year]

2025-2050 GHG Calculation: GHG = 332 = 12.02*.5+12.02+12.02*.5*4+12.02*.3*20 [impacts of 1st year] + 12.02*.5+12.02+12.02*.5*4+12.02*.3*19 [impacts of 2nd year] 12.02*.5+12.02+12.02*.5*4+12.02*.3*18 [impacts of 3rd year]

Community Composting Project
Background and Assumptions: Based on Lancaster Community Composting Co-ops, where 186 members diverted on average 35.325 pounds of food waste per household each month. each site can serve about 75 households and divert up to 33,750 lbs (16.88 tons) of food waste each year (based on interviews with Lancaster staff) and 5.57 tons of browns each year (estimated at ⅓ of food waste weight based on Lancaster white paper), diverting a total of 22.45 tons of material. Using the EPA WARM Tool and entering the browns as leaves, it is estimated to sequester 2.25 MTCO2E per site annually. Plan: Construct 7 new sites in 2025 and hire a coordinator to help the systems get up and running and then transition them to more independent running (or permanently fund the position). Used 2.25 MTCO2E for the calc. Emission reductions are based on the assumption that all sites will be operational by July 2025 (½ year for 2025), and all sites would sustain 2.25 MTCO2E/site for the full duration (after implementation) since all 7 will be operational for that time.

Organic Material Diverted: 16.88 tons of food waste +5.57 tons of green waste annually = 22.45 tons of material per year.

GHG Reductions: 2.25 MTCO2E for the first year after implementation.

2025-2030 GHG Calculation: GHG = 87 = (2.25*7*.5)+2.25*5*7

2025-2050 GHG Calculation: GHG = 402 = 7*2.25*0.5+7*2.25*25

1. Project Management (Group A)

1.1. Title and Approval Page

Quality Assurance Project Plan for Environmental Information Submitted to State Policymakers In the Greenhouse Gas Inventory and Options Identification Phase of the CPRG Program

Grant Number: 02F36101

Prepared by:
New Mexico Environment Department
Climate Change Bureau
525 Camino de los Marquez
Santa Fe, NM 87505

Prepared for:
US EPA Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

February 2, 2024

Approvals:

Claudia Borchert, Climate Change Bureau Chief: Date:

_____

Angela Raso, Permitting Section Manager, Climate Change Bureau: Date:

2/2/2024

_____

US EPA Project Officer: Date:

_____

QAPP Revision History

Revision No.	Description	Author	Date
0	Original Version	Angela Raso, NMED	February 2, 2024

1.2. Table of Contents

1.3. List of Tables

1.4. Abbreviations

AQB	Air Quality Bureau
CAA	Clean Air Act
CCAP	Comprehensive Climate Action Plan
CCB	Climate Change Bureau
CFR	Code of Federal Regulations
CNEE	Center for the New Energy Economy
CPRG	Climate Pollution Reduction Grant
E3	Energy + Environmental Economics
EPA	U.S. Environmental Protection Agency
ERG	Environmental Research Group
GHG	Greenhouse Gas
GHGRP	Greenhouse Gas Reporting Program (40 CFR Part 98)
ICR	Information Collection Request
OAR	EPA Office of Air and Radiation
NMED	New Mexico Environment Department
NMEMNRD	New Mexico Energy Minerals and Natural Resources Department
PCAP	Priority Climate Action Plan
PM	Project Manager
PO	EPA Project Officer for Grant

POP	Period of Performance
POR	EPA Project Officer's Representative
PWP	Project Work Plan
QA	Quality Assurance
QAM	Quality Assurance Manager
QAMD	Quality Assurance Manager Delegate
QAPP	Quality Assurance Project Plan
QC	Quality Control
SIT	State Inventory Tool (provided by the EPA)
TL	Task Leader
WESTAR	Western States Air Resources Council

1.5. Distribution List

This section presents the primary staff who will be working on the project. This section presents specific staff members who will be identifying existing[1] data resources for evaluation and potential use under the project. This section also includes all other staff who will be serving in project-specific roles for implementing the Quality Assurance Project Plan. The listing in Table 1-1 includes staff responsible for implementing independent internal quality management steps and staff serving in external oversight roles.

This QAPP and, as applicable, all major deliverables relying on existing data will be distributed to the staff presented in Table 1-1. Additionally, this QAPP will be provided to any unlisted staff who are assigned to perform work under this project. A secured copy of this QAPP will be maintained in the project files under the file path *//ENV-CCTF Staff Team/EPA ClimtPolluntnReduct Grant / Updated GHGe Inventories and Projections/QAPP*.

Table 1-1 QAPP Distribution List

Name	Organization	Role	Contact Information
Mitchell Mariama	US EPA	EPA Project Officer (PO)	Mitchell.Mariama@epa.gov
Claudia Borchert	NMED	Climate Change Bureau Chief	Claudia.Borchert@env.nm.gov (505)699-8489
Rachel Finkelstein	NMEMNRD	Climate Policy Bureau Chief	Rachel.Finkelstein@emnrd.nm.gov

[1] The term "existing data" is defined by the EPA's *Environmental Information Quality Policy* (CIO 2105.3) as "… data that have been collected, derived, stored, or reported in the past or by other parties (for a different purpose and/or using different methods and quality criteria). Sometimes referred to as data from other sources." The term "secondary data" may also be used to describe "existing data" in historical EPA quality-related documents.

Name	Organization	Role	Contact Information
Bonney Hughes	NMED	Planning and Operations Section Manager, Climate Change Bureau	Bonney.Hughes@env.nm.gov (505)479-2207
Angela Raso	NMED	Permitting Section Manager, Quality Assurance Manager Climate Change Bureau	Angela.Raso@env.nm.gov (505)819-9825
Amy Rosebrough	NMED	Environmental Scientist, Climate Change Bureau	Amy.Rosebrough@env.nm.gov (505)629-5559
Kolt Vaughn	NMED	Environmental Scientist, Climate Change Bureau	Kolt.Vaughn@env.nm.gov (505)819-8205

1.6. Project/Task Organization

The personnel involved in carrying out the project objective of this project and their roles and responsibilities are described below and summarized in Table 1-2 and Figure 1-1.

This project/task is being conducted by the New Mexico Environment Department's (NMED's) Climate Change Bureau (CCB). CCB is organized within the Environmental Protection Division (EPD) of NMED.

Michelle Miano, NMED EPD Director, and Claudia Borchert, CCB Chief, will provide senior-level oversight and decision making as needed. Claudia Borchert is responsible for NMED's technical and financial performance as well as maintaining communications with the EPA to ensure mutual understanding of grant requirements, EPA expectations, and conformity with EPA quality procedures; managing oversight and conduct of project activities including allocation of resources to specific tasks; ensuring that quality procedures are incorporated into all aspects of the project; developing, conducting, and/or overseeing QA plans as necessary; ensuring that any corrective actions are implemented; operating project activities within the documented and approved Quality Assurance Project Plan; and ensuring that all products delivered to the EPA are of specified type, quantity, and quality.

Existing GHG emissions inventories were conducted under contract by E3 and ERG with oversight by NMED. These inventories are described in 1.7 (Problem Definition / Background) and 1.8 (Project / Task Description). The emissions inventories were completed by E3 under contract with CNEE on behalf of NMED. At CNEE Patrick Cummins was the subject matter expert in charge of review. At NMED Claudia Borchert, in her former role as NMED climate change coordinator, Roslyn Higgin and Sufi Mustafa from NMED's Air Quality Bureau modeling and emissions inventory section oversaw the completion of the most recent Oil and Gas Emissions Inventory. CNEE Patrick Cummins and staff from NMED and EMNRD that are no longer employed with the agencies were the subject matter experts in charge of the 2018 economy wide emission inventory.

CNEE, E3, and ERG will be conducting updated work on New Mexico's emissions inventories, including an updated economy-wide 2021 inventory, a 2005 baseline projection, and 2030 and 2050 future year projections for climate planning.

Angela Raso, CCB Permitting Section Manager, will oversee reviewing and validating the work done by CNEE, E3 and ERG. She is responsible for overseeing the program quality system, monitoring, and facilitating QA activities on tasks, and generally helping the contractors and NMED staff understand and comply with EPA QA requirements. She is responsible for assisting the contractors and NMED staff in planning, documenting, and implementing the QA requirements for this project. Working with the NMED staff, she will ensure that process- and project-specific QA documents are developed; that required or recommended protocols are followed; that data are reduced, validated, and reported according to specific criteria; and that QC assessments are performed. Amy Rosebrough and Kolt Vaughn are in the Permitting Program of NMED's CCB and are the CPRG phase one and phase two project coordinators. They will use the data in the emissions inventories to identify and evaluate climate measures.

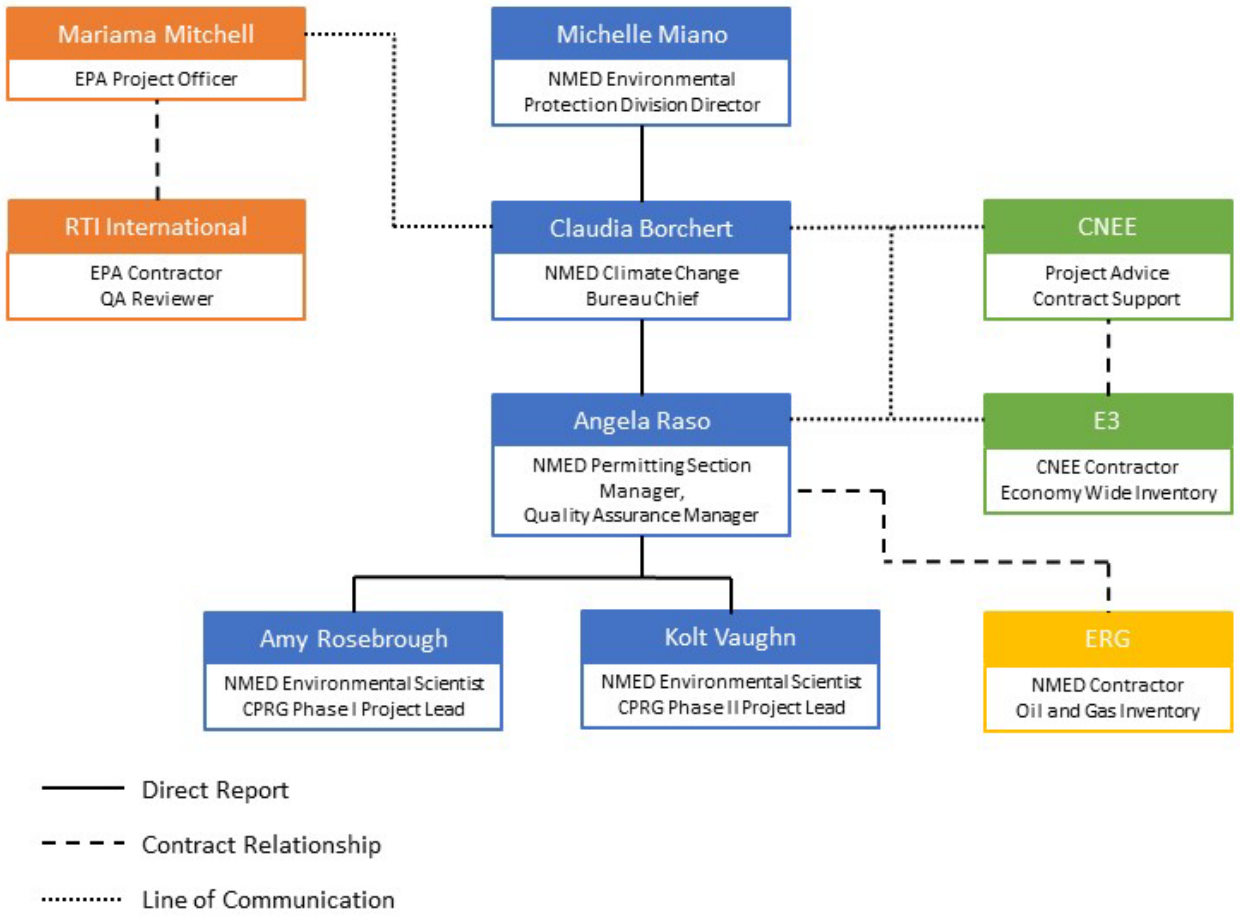
Angela Raso is employed by NMED CCB, which has contracted outside entities to conduct the analysis. Her work will be overseen by Claudia Borchert.

Additionally, QC functions will be carried out by other technical staff and monitored by Claudia Borchert and Angela Raso. They will oversee this plan and implement quality improvements. Other technical staff will include people with expertise in industrial processes and air pollution engineering, technical reviewers, database specialists, quality auditors, and technical editors. Angela Raso and Claudia Borchert will ensure that technical staff do not review work in a QA capacity for which they were a primary or contributing author. **Table 1-2** presents the responsibilities of staff and organizations in the project / task.

Table 1-2 Project Personnel Roles and Responsibilities

Individual / Organization	Role	Responsibility
Michelle Miano	Environmental Protection Division Director	Provide senior level oversight, final decision making
Claudia Borchert	Climate Change Bureau Chief	Provide senior level oversight, final responsibility for technical and financial performance
Angela Raso	Permitting Section Manager	Review and validate emissions inventories conducted by contractors. Oversee QA requirements
E3	Contractor	Compile statewide emissions inventory for base, current, and future years. Statewide inventory includes Transportation, Electricity Generation, and Commercial and Residential Building Sectors. Conduct measure specific emission reduction estimates.
ERG	Contractor	Oil and gas industry specific base, current, and future year emissions inventories
CNEE	Project Advice / Contract support	Oversee the Contract with E3, serve in an advisory role
Amy Rosebrough	Environmental Scientist	Phase I CPRG project coordinator
Kolt Vaughn	Environmental Scientist	Phase II CPRG project coordinator

Figure 1 Project Organization Chart



1.7. Problem Definition / Background

Under this project, NMED will validate existing statewide and industry specific emissions inventory data, update the inventory from 2018 to 2021, develop a 2005 baseline inventory, and 2030 and 2050 future year projections of emissions for the major sources of greenhouse gas (GHG) emissions within New Mexico. NMED and NMEMNRD will use that inventory data to develop a climate action plan. This QAPP focuses on the handling of environmental information under sector-specific tasks by technical staff charged with completing the following subtasks in a future planning project implemented in accordance with this QAPP:

1. Develop a comprehensive GHG inventory for the largest sources within each sector,
2. Develop options for reducing emissions within each sector,
3. Develop estimates or ranges of estimates for the reductions achievable under each option,
4. Develop uncertainty analyses for the emissions reduction estimate(s) or ranges under each option, and
5. Present the inventory, options listing, and associated analyses in a technical report for consideration by state policymakers with the authority to approve the deliverables under the CPRG planning grants.

New Mexico currently has two existing GHG inventories; a 2020 report on 2005 and 2018 economy-wide emissions[2] prepared by E3; and a 2022 report on 2020 emissions from the oil and gas sector[3] prepared by ERG. The existing GHG inventories were prepared using the best available information, including state specific information when available. See **Table 1-3** for a summary of calculation methods used in New Mexico GHG inventories.

Table 1-3 Emissions calculation methodology in current GHG emissions inventories

Sector	Calculation method
Electricity generation	Based on emissions data for in-state electricity generation. Data sources include EPA and EIA
Transportation	2005 emissions were based on default EPA SIT outputs. 2018 emissions were calculated based on energy consumption from EIA SEDS multiplied by fuel specific emissions factors from EPA SIT.
Residential	
Commercial	

[2] https://cnee.colostate.edu/wp-content/uploads/2021/01/New-Mexico-GHG-Inventory-and-Forecast-Report_2020-10-27_final.pdf
[3] https://service.web.env.nm.gov/urls/ktmiJzVo

Table 1-3 Emissions calculation methodology in current GHG emissions inventories

Sector	Calculation method
Industrial (non-oil and gas sector)	Non-oil and gas non-combustion emissions were based on default EPA SIT outputs. 2005 non-oil and gas combustion emissions were based on direct SIT output net fossil fuel industry fuel consumption. 2018 non-oil and gas combustion emissions were based on EIA SEDS energy consumption with EPA SIT emission factors.
Agriculture	Based on default SIT outputs.
Coal mining	
Waste	
Natural and working lands	
Oil and Gas sector	2005 and 2018 fugitive emissions were based on WESTAR 2014-2016 baseline emissions scaled by oil production and natural gas transmission and distribution emissions from SIT. 2005 and 2018 combustion emissions were based on WESTAR 2014-2016 baseline emissions scaled by oil production and downstream fossil fuel industry combustion emissions identified from SEDS. 2020 oil and gas sector emissions were sector segment specific but were generally based on the NMED minor source emissions inventory, EPA's GHGRP, EPA's GHGI, and EPA's NEI.

NMED and NMEMNRD are in the process, with CNEE support, of updating these inventories to a common year (2021), casting them back to a baseline of 2005, and projecting 2030 and 2050 future year emissions. The ongoing work will be conducted in the same manner as the existing inventories. Validation of New Mexico GHG inventories may utilize the EPA's State Inventory Tool (SIT),[4] state-level GHG inventories prepared by the EPA,[5] data reported to the EPA's GHGRP[6], and comparison of multiple methodologies of state inventories. Significant differences will be evaluated and discussed in the inventory report with the underlying data and methodology used for the independent state estimates. Validation of the state specific inventory will focus on the following sectors and gases:

[4] https://www.epa.gov/statelocalenergy/state-inventory-and-projection-tool
[5] https://www.epa.gov/ghgemissions/state-ghg-emissions-and-removals
[6] https://www.epa.gov/ghgreporting/data-sets

Sectors	***Greenhouse Gases (across all sectors)***
1. Oil and gas industry 2. Transportation 3. Electricity generation 4. Commercial and residential buildings	carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated gases (F-gases) including hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3)

1.7.1. Rationale for Selection of Sectors

For each sector included in the statewide inventory Table 1-4 briefly describes why the sector was included in the evaluation of the existing inventory and the relative significance of the sector in terms of the magnitude of emissions from existing inventories, the associated geographic distribution of the sources, and recent trends in readily available activity data for the source category.

Table 1-4 Rationale for Sector Selection

Sectors selected for validation	Rationale for including in GHG inventory validation
Oil and gas	New Mexico is the second largest oil and gas producing state in the United States. The oil and gas industry is the largest source of both GHG and air emissions in the state. The existing state specific GHG emissions inventory for the oil and gas sector shows that the industry emitted nearly 33 MMT CO_2e in 2020. Oil and gas operations in New Mexico are concentrated in the San Juan Basin in the north-west corner of the state, and the Permian Basin in the southeast. Oil and gas production in New Mexico has increased in recent years and is projected to continue increasing in the future. The state has taken world leading measures to reduce the carbon intensity of oil and gas operations, however it is essential to continue tracking GHG emissions from the oil and gas sector.
Transportation	Transportation activities were the largest source (29 percent) of total U.S. greenhouse gas emissions in 2021. From 1990 to 2021, transportation CO_2 emissions from fossil fuel combustion increased by 19 percent. New Mexico's existing 2018 economy wide GHG emissions inventory shows that transportation is the second highest GHG source in the state, with 15.8 MMT of CO_2e emissions in 2018. The state has already begun taking measures to reduce emissions from the transportation sector, but more work will likely be needed to meet state GHG emission reduction goals.
Electricity generation	The electric power sector accounted for 25 percent of total U.S. greenhouse gas emissions in 2021. In 2018 electricity generation was the 3rd highest source of GHG emissions, with 12.1 MMT of CO_2e emissions. The magnitude of GHG emission reductions due to electrification in other sectors are dependent on the emissions from electricity production.

Sectors selected for validation	Rationale for including in GHG inventory validation
Commercial and residential buildings	In 2021, the commercial and residential sectors accounted for 7 and 6 percent of total U.S. greenhouse gas emissions, respectively. Emissions from the commercial and residential sectors have increased since 1990. Total residential and commercial greenhouse gas emissions, including direct and indirect emissions, in 2021 have increased by 2% since 1990. In 2021, an increase in heating degree days (0.5 percent) increased energy demand for heating in the residential and commercial sectors, however, a 1.8 percent decrease in cooling degree days compared to 2020 reduced demand for air conditioning in the residential and commercial sectors.

1.7.2. Decisions to be Made

Existing EPA datasets and the SIT cover categories of GHG emissions by sector and by activity or segment (e.g., electric utility combustion of natural gas). The SIT provides many default values to facilitate developing statewide estimates that are consistent with the National Inventory of GHG Emissions.[7] Task Leaders will be charged with four primary decisions under each task of this project:

1. Determine (for each major activity estimate) if existing EPA data or the SIT default estimate for the sector/activity should be used for the statewide, baseline estimate, or should the state's estimate be derived from existing information available to the state (including other EPA datasets, state inventories, or GHGRP publications)?
2. Determine the best options for reducing emissions of air pollution and achieving the following objectives[8] under the Inflation Reduction Act:
    a. Reduce climate pollution, create good jobs, and lower energy costs for families.
    b. Accelerate work addressing environmental injustice and empowering community driven solutions in overburdened neighborhoods.
    c. Deliver cleaner air by reducing harmful air pollution in places where people live, work, play, and go to school.
3. Develop an estimate (or range) of reductions that could be achieved under each option.
4. Estimate the uncertainty of the emissions reduction estimate under each option.

1.7.3. Actions to be Taken, Action Limits, and Expected Outcomes

Existing state-level estimates, existing reports prepared by the EPA, or the SIT tool will be utilized with federal default values for each sector/activity relevant to GHG-emitting activities within the state. Actions will be limited to the GHG-emitting activities defined in the SIT or in the existing EPA estimates used by the state. Subsequently, the state may elect to prepare separate, independent estimates for the

[7] https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021
[8] CPRG Program Guidance, page 4. Available at https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants#CPRGProgramGuidance.

state's major sector/activities based on the state's existing data resources. If the state elects to incorporate these independent estimates in the inventory, the independent estimate will be compared to the SIT estimate or the EPA's state-level estimate by subject matter experts with the requisite knowledge of the source category, and the rationale for utilizing the state's independent estimate will be documented in the state's GHG inventory report along with the underlying data and calculation methodology. NMED expects that sectors that include major stationary sources under CAA Title V with longstanding requirements for submission of activity data and emissions estimates may be better represented in the GHG inventory based on existing data. For minor sources of GHGs, NMED expects that the SIT default estimates for the state will provide the better estimates. NMED expects that the oil and gas industry will be best represented by the state's 2020 oil and gas sector inventory, which was compiled using data reported to NMED by both major (Title V) sources and minor sources with an air quality registration or permit, state level well information, and EPA emission factors.

When identifying the best options for reducing air pollution, each Task Leader will consider the activities affecting the largest numbers of families, business establishments, recreation areas, and schools.[9] Options may include measures for achieving potential reductions in nonattainment areas and impacting residential, commercial, and school districts near the largest sources of air pollution.

1.7.4. Reason for Project

The 2021 GHG inventory and options analyses developed under this project will be utilized by NMED and NMEMNRD for planning purposes to support New Mexico's development of the following three deliverables under the CPRG Program:

- New Mexico's **Priority Climate Action Plan** (PCAP), which is due on March 1, 2024. This plan will include near-term, implementation-ready, priority GHG reduction measures and is a prerequisite for any implementation grant.
- New Mexico's **Comprehensive Climate Action Plan** (CCAP), which is due in 2025 (later for tribes and territories). This plan will review all sectors that are significant GHG sources or sinks and include both near- and long-term GHG emission reduction goals and strategies.
- New Mexico's **Status Report** on progress towards goal, which is due in 2027 (not applicable to tribes or territories). This progress report will include updated analyses, plans, and next steps for key metrics.

This QAPP describes in detail the necessary QA and QC requirements and technical activities that will be implemented to ensure the baseline GHG inventory and the sector-specific emissions reduction options are reliable for the PCAP and CCAP. As necessary, revisions to the QA and QC requirements defined in this QAPP will be updated in the 2027 Status Report.

1.7.5. Relevant Clean Air Act Mandates and Authorizations

[9] Ibid.

The inventory and options analyses produced under this project will support a grant application authorized under 42 U.S.C.A. § 7437 for *Greenhouse Gas Air Pollution Plans and Implementation Grants*. The inventory and options analyses will be used to evaluate opportunities for reducing GHG emissions from all major-emitting sources including both mobile source categories and stationary source categories. This project will include the fundamental research necessary to evaluate and plan new programs (and amendments to existing Clean Air Act [CAA] programs) for reducing emissions from fossil fuel combustion activities. Many sectors and activities that will be included in the GHG inventory (and subsequent emissions reductions options analyses) include major sources of criteria and toxic pollutants. Accordingly, the purpose of this project (to evaluate and plan for reductions in GHG emissions, including reductions from usage or production of fossil fuels) is also consistent with the following statutory mandates and authorizations under Clean Air Act Title I:

- ***§ 7403. Research, investigation, training, and other activities***
  (a) Research and development program for prevention and control of air pollution
  The Administrator shall establish a national research and development program for the prevention and control of air pollution ….
  (1) conduct, and promote the coordination and acceleration of, research, investigations … and studies related to the causes … extent, prevention, and control of air pollution;
  (2) encourage, cooperate with, and render technical services and provide financial assistance to air pollution control agencies and other appropriate public or private agencies, institutions, and organizations, and individuals in the conduct of such activities ….
  (b) Authorized activities of Administrator in establishing research and development program
  In carrying out the provisions of [paragraph (a)] the Administrator is authorized to–
  (1) collect and make available, through publications and other appropriate means, the results of and other information, including appropriate recommendations by him in connection therewith, pertaining to such research and other activities;….
  (2) make grants to air pollution control agencies … for purposes … in subsection (a)(1) ….

- ***§ 7404. Research related to fuels and vehicles***
  (a) Research programs; grants; ….
  The Administrator shall give special emphasis to research and development into new and improved methods, having industry-wide application, for the prevention and control of air pollution and control of air pollution resulting from the combustion of fuels… he shall–
  (1) conduct and accelerate research programs directed toward development of improved, cost-effective techniques for–
  (A) control of combustion byproducts of fuels, ….
  (B) improving efficiency of fuels combustion so as to decrease atmospheric emissions ….

- ***§ 7405. Grants for support of air pollution planning and control programs***
  (a) Amounts; limitations; assurances of plan development capability.
  (1)(A) The Administrator may make grants to air pollution control agencies … in an amount up to three-fifths of the cost of implementing programs for the prevention and control of air pollution …. For the purpose of this section, "implementing" means any activity related to the planning, developing, establishing, carrying-out, improving, or maintaining of such programs….

(C) With respect to any air quality control region or portion thereof for which there is an applicable implementation plan under section 7410 … grants under subparagraph (A) may be made only to air pollution control agencies which have substantial responsibilities for carrying out such applicable implementation plan.

1.7.6. Information Provided by the EPA under § 7403(b)(1)

Under authority of CAA § 7403(b)(1) the EPA has provided the following resources to states to ensure reliable air emissions inventories are produced to support plans for reducing emissions:

- Agency-wide Quality Program Documents
- Quality Assurance-specific Directives
  - CIO 2105.3 – *Environmental Information Quality Policy*, April 10, 2023
  - CIO 2105-P-01.3 – *Environmental Information Quality Procedure*, March 7, 2023
  - CIO 2105-S-02.0 – EPA's Environmental Information QA Project Plan (QAPP) Standard
  - EPA Regional Sites for Quality Management Plans and Guidance:
    - Region 1
    - Region 2
    - Region 3
    - Region 4
    - Region 5
    - Region 6
    - Region 7
    - Region 8
    - Region 9
    - Region 10
- QA Guidance
  - EPA QA/G-4 – *Guidance on Systematic Planning Using Data Quality Objectives Process*
  - EPA QA/G-5 – *Guidance for Quality Assurance Project Plans*

NMED will utilize these resources, as applicable, to ensure evaluation of existing data and utilization of those data are consistent with the EPA's relevant directives and guidance.

1.8. Project / Task Description

An example schedule of deliverables for the technical tasks (Tasks 1-5) for GHG inventory QAPPs is presented in **Tables 2.1** through **2.5.** The work to be performed under this project by E3 and ERG on behalf of NMED and NMEMNRD involves preparing a statewide GHG emissions inventory for New Mexico. The organization of the work is based on the use of New Mexico's existing GHG inventory and the EPA's SIT[10] under the following tasks:

Task 1: State inventory of oil and gas industry GHG emissions

Task 2: State inventory of transportation sector GHG emissions

[10] https://www.epa.gov/statelocalenergy/state-inventory-and-projection-tool.

Task 3: State inventory of electric generation GHG emissions

Task 4: State inventory of commercial and residential buildings GHG emissions

Task 5: State inventory GHG emissions from other sectors

For each sector-specific task, Table 1-5 Technical Task Descriptions for Task 1- Table ***1-9*** provide planned activities and a schedule of deliverables.

Table 1-5 Technical Task Descriptions for Task 1

Tasks and Deliverables	**Schedule**
Task 1. State inventory of oil and gas industry GHG emissions	
1. The state has several New Mexico specific GHG emission estimates for the oil and gas sector: a. NMED conducted a GHG inventory of air quality permitted major and minor oil and gas sources in 2010 [NMED2010]. b. The Western States Air Resources Council (WESTAR) oil and gas working group estimated annual emissions by gas for a variety of western states, including New Mexico[11]. This included: i. baseline estimates for 2014-2016 [WESTAR 2014] ii. future year projections for 2023 [WESTAR 2023] c. E3 back-and foreword-cast oil and gas sector GHG emissions to: i. 2005 [E3 2005] by: • scaling to New Mexico crude oil production, • adding emissions from non-overlapping fossil fuel industry fuel consumption calculated using SIT and fuel consumption data from EIA SEDS • and adding fugitive methane emissions from natural gas transmission and distribution from SIT ii. 2018 [E3 2018] by: • by scaling to NM crude oil production • accounting for declining emissions intensity forecast from WRAP. • adding emissions from non-overlapping fossil fuel industry fuel consumption calculated using SIT and fuel consumption data from EIA SEDS • and adding fugitive methane emissions from natural gas transmission and distribution from SIT	Within 60 days of QAPP approval by EPA or by federally authorized delegate.

[11] Grant et al., Revised and Final Report: 2028 Future Year Oil and Gas Emissions Inventory for WESTAR-WRAP States – Scenario #1: Continuation of Historical Trends"

Tasks and Deliverables	**Schedule**
Task 1. State inventory of oil and gas industry GHG emissions	
d. ERG estimated 2020 oil and gas sector GHG emissions [ERG 2020] using segment specific analysis. Emissions estimates were based on: • State isolated emissions submitted to NMED for the major and minor source emissions inventory in 2020. These emissions were calculated for NM operations using 40 CFR 98 subpart W and subpart C. • Exploration and Production emissions were scaled from reported emissions using well counts or production. • Emissions from inactive oil and gas wells was estimated using NMEMNRD data and emission factors from Townsend-Small et al. 2016[12] and Townsend-Small et al. 2021[13]. e. ERG will produce 2005 estimates of oil and gas sector GHG emissions [ERG 2005] by scaling each segment appropriately. f. ERG will produce 2030 estimates of GHG emissions [ERG 2030] based on EIA oil and gas production projections, accounting for existing state and federal rules. g. ERG will produce an estimate of the 2030 emission reductions that are attributable to state rules [2030 state reductions]. h. E3 will scale the 2020 specific inventory to 2021 to produce an economy wide inventory using oil and gas production [E32021O&G]. 2. NMED will conduct an analysis of the inventories listed in (1) relative to statewide oil and gas production. Any outlier inventories will be analyzed to determine the source of differences. 3. Emission reductions for potential measures will be evaluated based on the methods used to calculate emissions in the ERG2020 and ERG2030 inventories.	

[12] Townsend-Small A, Ferrara T W, Lyon D R, Fries A E, and Lamb B K. Emissions of coal bed and natural gas methane from abandoned oil and gas wells in the United States. Geophys. Res. Lett., 43, 2283-90. 2016.
[13] Amy Townsend-Small and Jacob Hoschouer. Direct measurements from shut-in and other abandoned wells in the Permian Basin of Texas indicate some wells are a major source of methane emissions and produced water. Environmental Research Letters, 16, 5, 2021.

Table 1-6 Technical Task Descriptions for Task 2

Tasks and Deliverables	Schedule
Task 2. State inventory of transportation sector GHG emissions	
1. 2005 transportation sector GHG emissions were calculated for New Mexico by E3 using EPA's State Inventory and Projection Tool (SIT). 2. At the time of calculation, the 2018 SIT was not available. 2018 transportation sector GHG emissions were calculated for New Mexico by E3 using fuel specific emission factors from SIT and fuel consumption from EIA SEDS. 3. E3 will produce 2021 transportation sector GHG emission estimates following similar methodology to the 2018 estimates. 4. E3 will produce 2030 and 2050 transportation sector GHG emission projections. 5. NMED will compare the state specific transportation sector emissions inventory estimates for 2005, 2018, and 2021 to the EPA's state-level GHG data from https://www.epa.gov/system/files/other-files/2023-02/State-Level-GHG-data.zip. a. If GHG estimates differ by more than 5% NMED will qualitatively evaluate the causes of the differences, and determine which estimate is more reliable. b. The percent difference will be calculated as follows: $Percent\ Difference = \frac{State\ Estimate - EPA\ GHG\ data}{\frac{State\ Estimate + EPA\ GHG\ data}{2}} * 100\%$ 6. Emissions reductions for potential measures will be evaluated using the most appropriate method. Potential methods for evaluating emission reductions include: a. Argonne National Laboratory's AFLEET tool[14]. b. Adjusting the inputs to the SIT and calculating the change in emissions c. Adjusting fuel consumption and calculating emissions using the same emission factors used in (1) – (4) above.	Within 60 days of QAPP approval by EPA or by federally authorized delegate.

Table 1-7 Technical Task Descriptions for Task 3

Tasks and Deliverables	Schedule
Task 3. State inventory of electric generation GHG emissions	
1. E3 calculated 2005 and 2018 electricity generation GHG emissions using EPA and EIA data. 2. E3 will produce 2021 electricity generation GHG emissions using similar methodology. 3. E3 will produce 2030 and 2050 electricity generation GHG emissions estimates. 4. NMED will compare the state specific electricity generation GHG emissions for 2005, 2018, and 2021 to the EPA's State-level data from	Within 60 days of QAPP approval by EPA or by federally

[14] Available at https://afleet.es.anl.gov/home/

Tasks and Deliverables	Schedule
Task 3. State inventory of electric generation GHG emissions	
https://www.epa.gov/system/files/other-files/2023-02/State-Level-GHG-data.zip and EPA's GHG reporting program data for electric generating units. 5. NMED will compare the state specific transportation sector emissions inventory estimates for 2005, 2018, and 2021 to the EPA's state-level GHG data from https://www.epa.gov/system/files/other-files/2023-02/State-Level-GHG-data.zip. a. If GHG estimates differ by more than 5% NMED will qualitatively evaluate the causes of the differences, and determine which estimate is more reliable. b. The percent difference will be calculated as follows: $$Percent\ Difference = \frac{State\ Estimate - EPA\ GHG\ data}{\frac{State\ Estimate + EPA\ GHG\ data}{2}} * 100\%$$ 6. Emissions reductions for potential measures will be evaluated using the most appropriate method. Potential methods for evaluating emission reductions include: a. Adjusting energy consumption data b. Adjusting emission factor based on electricity mixtures	authorized delegate.

Table 1-8 Technical Task Descriptions for Task 4

Tasks and Deliverables	
Task 4. State inventory of commercial and residential buildings GHG emissions	
1. 2005 commercial and residential building GHG emissions were calculated for New Mexico by E3 using EPA's State Inventory and Projection Tool (SIT). 2. At the time of calculation, the 2018 SIT was not available. 2018 commercial and residential building GHG emissions were calculated for New Mexico by E3 using fuel specific emission factors from SIT and fuel consumption from EIA SEDS. 3. E3 will produce 2021 commercial and residential building GHG emission estimates following similar methodology to the 2018 estimates. 4. E3 will produce 2030 and 2050 commercial and residential building GHG emission projections. 5. NMED will compare the state specific commercial and residential building emissions inventory estimates for 2005, 2018, and 2021 to the EPA's state-level GHG data from https://www.epa.gov/system/files/other-files/2023-02/State-Level-GHG-data.zip. a. If GHG estimates differ by more than 5% NMED will qualitatively evaluate the causes of the differences, and determine which estimate is more reliable. b. The percent difference will be calculated as follows: $$Percent\ Difference = \frac{State\ Estimate - EPA\ GHG\ data}{\frac{State\ Estimate + EPA\ GHG\ data}{2}} * 100\%$$ 6. Emissions reductions for potential measures will be evaluated using the most appropriate method. Potential methods for evaluating emission reductions include: a. Adjusting the inputs to the SIT and calculating the change in emissions b. Adjusting fuel consumption and calculating emissions using the same emission factors used in (1) – (4) above.	Within 60 days of QAPP approval by EPA or by federally authorized delegate.

Tasks and Deliverables
Task 4. State inventory of commercial and residential buildings GHG emissions

Table 1-9 Technical Task Descriptions for Task 5

Tasks and Deliverables	Schedule
Task 5. State inventory of GHG emissions from other sectors	
1. E3 calculated GHG emissions for 2005 and 2018 for the following sectors using SIT: a. Non-oil and gas sector industry i. 2018 combustion emissions were based on EIA SEDS energy consumption with EPA SIT emission factors. b. Agriculture c. Coal mining d. Waste e. Natural and working lands. 2. E3 is developing 2021, 2030, and 2050 GHG emission calculations using similar methodology. 3. Emission reductions for potential measures will be evaluated using existing federal and EPA tools. All estimated emission reductions will be evaluated for consistency with the state inventory.	Within 60 days of QAPP approval by EPA or by federally authorized delegate.

1.9. Quality Objectives / Criteria

The primary objectives for this project are to develop reliable inventories for each of the primary GHG-emitting sectors in New Mexico and to identify options for reducing emissions from those sectors. Accordingly, all quality objectives and criteria are aligned with these primary objectives. The quality system used for this project is the joint responsibility of the NMED PM, Task Leaders, and QC Coordinator. As discussed in Section 1.4, an organizationally independent QA Manager will maintain oversight of all required measures in this QAPP. QC functions will be carried out by technical staff and will be carefully monitored by the responsible Task Leaders, who will work with the QA Manager and QC Coordinator to identify and implement quality improvements. All activities performed under this project will conform to this QAPP.

1.9.1. Data Quality, Management, and Analyses

For this project, NMED will use a variety of QC techniques and criteria to ensure the quality of data and analyses. Data of known and documented quality are essential components for the success of the project, as these data will be used to inform the decision-making process for New Mexico's PCAP and

CCAP as discussed in Section 1.5.4 of this QAPP. The table in **Appendix A** lists by task the specific QC techniques and criteria that are part of this QAPP.

The data quality objectives and criteria for this project are accuracy, precision, bias, completeness, representativeness, and comparability. *Accuracy* is a measure of the overall agreement of a measurement to a known value. It includes a combination of random error (precision) and systematic error (bias). *Precision* is a measure of how reproducible a measurement is or how close a calculated estimate is to the actual value. *Bias* is a systematic error in the method of measurement or calculation. If the calculated value is consistently high or consistently low, the value is said to be biased. Our goal is to ensure that information and data generated and collected are as accurate, precise, and unbiased as possible within project constraints. It is not anticipated that this project will include primary data collection. Generally, existing data and tools provided by the EPA and other qualified sources will be used for project tasks. A subject matter specialist familiar with technical reporting standards (such as a permit writer or compliance engineer with knowledge of the state's facilities operating in the sector) will be used to QA all data utilized for developing the statewide GHG inventory. NMED will verify the accuracy of all data by checking for logical consistency among datasets. All existing environmental data shall meet the applicable criteria defined in CFR and associated guidance, such as the validation templates provided in the *EPA QA Handbook Volume II*.

Uncertainty can be evaluated using a few different approaches. The most useful uncertainty analysis is quantitative and is based on statistical characteristics of the data such as the variance and bias of estimates. In a sensitivity analysis, the effect of a single variable on the resulting emissions estimate generated by a model (or calculation) is evaluated by varying its value while holding all other variables constant. Sensitivity analyses will help focus on the data that have the greatest impact on the output data. Additional statistical tests may be utilized depending on the need for more or less rigorous tools and on the specific project activity being evaluated.

When available, data originally gathered using published methods whose applicability, sensitivity, accuracy, and precision have been fully assessed, such as EPA reference methods, will be preferred and considered to be of acceptable quality. Project decisions may be adversely impacted if, for example, existing data were used in a manner inconsistent with the originator's purpose. Metadata can be described as the amount and quality of information known about one or more facets of the data or a dataset. It can be used to summarize basic information about the data (e.g., how, why, and when the existing data were collected), which can make working with specific data or datasets easier and provides the user with more confidence. Metadata are valuable when evaluating existing data, as well as when planning for collection primary data that may be required in the future. However, the effort needed to locate and obtain original source materials can be costly. Accordingly, a graded approach to planning will be applied and ongoing discussions with the EPA will be held to determine what magnitude and rigor of QA effort are appropriate and affordable for the project.

For the data analysis completed under this project, analytical methods will be reviewed to ensure the approach is appropriate and calculations are accurate. Spreadsheets will be used to store data and complete necessary analyses. The design of spreadsheets will be configured for the intended use. All data and methodologies specific to each analysis will be defined and documented. Tables and fields will

be clearly and unambiguously named. Spreadsheets will be checked to ensure algorithms call data correctly and units of measure are internally consistent. Hand-entered or electronically transferred data will be checked to ensure the data are accurately transcribed and transferred.

The draft inventory will be evaluated for GHG-emitting-sector and geographic completeness. NMED will utilize the framework of sectors in the EPA's SIT tool or the EPA's state-level GHG inventories to ensure that the inventory prepared under this project includes all major GHG-emitting sectors. To ensure the inventory is geographically complete, the draft inventory will also be made available for review on NMED's website. Interested stakeholders will be informed of the availability of the emissions inventory and related documents through a GovDelivery announcement.

Representativeness is a qualitative term that expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition. NMED will use the most complete and accurate information available to compile representative data for this project.

Data c*omparability* is a qualitative term that expresses the measure of confidence that one dataset can be compared to another and can be combined for the decision(s) to be made. NMED will compare datasets when available from different sources to check the quality of the data. This QA step will also ensure that any highly correlated datasets or indicators are identified. Supporting data, such as information on test methods used and complete test reports, are important to ensure the comparability of emissions data.

1.9.2. Document Preparation

All documents produced under this project will undergo internal QC review, as well as technical review and an editorial review, prior to submission to the EPA PO. QC will be performed by an engineer, scientist, or economist, as appropriate, with sufficient knowledge. The technical reviewer will review the document for accuracy and integrity of the technical methodologies, analyses, and conclusions.

An editorial review of all final documents will be performed. Editors will verify clarity, spelling, and grammatical correctness, and ensure documents are free of typographical errors. Editors will verify that references are cited correctly. This will include a comparison against the original documents.

The *QC Documentation Form* (**Appendix B**) will be used to track the approval process. The form must be completed and signed for all document deliverables. The signatures required include those of the Task Leader and technical and editorial reviewers. Completion of this form certifies that technical review, editorial review, and all required QC procedures have been completed to the satisfaction of the TL and QC Coordinator. Copies of these signed forms will be maintained in the project files.

1.10. Special Training / Certifications

All NMED staff and contractors assigned to work on this project shall have appropriate technical and QA training to properly perform their assignments. NMED staff serving in QAM or QCC roles under this project will complete a training course on QA/QC activities similar to the course available at https://www.epa.gov/quality/training-courses-quality-assurance-and-quality-control-activities. The PM and all TLs under this project will have appropriate training and education to complete and understand air emissions inventory.

If training is required for new staff or for particular segments of the GHG inventory, Angela Raso and Claudia Borchert will identify available training resources for the inventory segment and incorporate the required training into the project schedule.

1.11. Documents and Records

NMED will document in electronic form (and/or hard copy) QC activities for this project. The PM is responsible for ensuring that copies of all completed QC forms, along with other QA records (including this QAPP), will be maintained in the project files. Project files will be retained by NMED for a minimum of 5 years after completion of validation activities. The types of documentation that will be prepared for this project include:

- Planning documentation (e.g., QAPP)
- Implementation documentation (i.e., Review/Approval Forms and QA records)
- Assessment documentation (i.e., QA audit reports).

Detailed documentation of QC activities for a specific task or subtask will be maintained using the *QC Documentation Form* shown in **Appendix B**. This form will document the completion of the QC techniques planned for use on this project as listed in the table in **Appendix A**. One or more completed versions of these forms, as necessary, will be maintained in the project files. The types of documents for which QC will be conducted and documented may include raw data, data from other sources such as data bases or literature, field logs, sample preparation and analysis logs, instrument printouts, model input and output files, and results of calibration and QC checks.

Technical reviews will be used along with other technical assessments (i.e., QC checks) and QA audits to corroborate the scientific defensibility of any data analyses. A technical review (i.e., internal senior review) is a documented critical review of a specific technical work product. It is conducted by subject matter experts who are collectively equivalent (or senior) in technical expertise to those who performed the work. Given the nature of the deliverables under this project, a technical review is an in-depth assessment of the assumptions, calculations, extrapolations, alternative interpretations, and conclusions in technical work products. Technical review of proposed methods and associated data will be documented in the *QC Documentation Form* shown in **Appendix B**. The form will include the reviewer's charge, comments, and corrective actions taken.

Additionally, NMED has developed and instituted document control mechanisms for the review, revision, and distribution of QAPPs. Each QAPP has a signed approval form, title page, table of contents,

and a document control format that conforms to EPA's Environmental Information QAPP Standard; see header at top of the page. The distribution list for this QAPP was presented in **Table 1-1**. During the course of the project, any revision to the QAPP will be circulated to everyone on the distribution list, as well as to any additional staff supporting this project. Any revision to the QAPP will be documented in a QAPP addendum, approved by the same signatories to this QAPP, and circulated to everyone on the distribution list by the NMED PM.

At this time, the project will not collect or handle personally identifiable information (PII) subject to the Privacy Act of 1974. However, if during the course of this project technical staff determine that PII is required to support project objectives, NMED revise this QAPP to discuss the requirements of the Privacy Act of 1974.

2. Existing Data Acquisition and Management Protocols (Group B)

2.1. Sampling Process Design

2.1.1. Need and Intended Use of Data Used

As indicated in Table 1-5 - Table ***1-9***, a wide range of data for a diverse set of GHG-emitting activities is necessary to prepare a statewide inventory. Existing data resources may include sector-specific or facility-specific GHG emissions estimates, emissions factors, or activity data for use with emissions factors. The experimental design for this inventory project relies on the EPA's State Inventory Tool (SIT) together with independent estimates prepared by NMED and contractors on behalf of NMED. The SIT allows for expedited estimates for many sectors with default entries included in the tool. Existing data resources from previously completed inventories will be utilized to develop GHG emissions estimates that are comparable to the SIT estimates. Subsequently, the SIT estimates for each sector will be compared to any independent state estimate utilized for the statewide inventory.

2.1.2. Identification of Data Sources and Acquisition

In addition to the data integrated into the EPA's SIT tool, the data sources identified in Table 1-5 - Table ***1-9*** will be utilized under each task to develop estimates for the major-emitting sectors in New Mexico.

2.2. Quality Control

All environmental information operations conducted for this project will involve existing, non-direct measurement data. All data received will be reviewed by a senior technical staff member to assess data quality and completeness before their use. In addition to reviewing and assessing the data collected, all data entered into spreadsheets and all calculations completed for analyses will be reviewed by a senior technical reviewer. The reviewer will evaluate the approach to ensure the methods are appropriate and have been applied correctly to the analysis. The technical reviewer will also confirm all data were entered correctly and that calculations are complete and accurate. Any data entry and calculation errors will be identified and corrected. Data tables prepared for the draft and final reports will be checked against the spreadsheets used to store the data and complete the analysis.

Where calculations are required to assess the data/datasets, calculations will be performed using computer spreadsheets to reduce typographical or translation errors–mathematical/statistical calculations are performed using spreadsheets or software programs with predefined formulas and functions. All underlying spreadsheets will be retained and reviewed. NMED will ensure that any manipulations performed on the data/dataset were done correctly.

As appropriate, NMED will conduct statistical checks to look for data outliers or unusual data. These statistical checks may include: sorting a datasheet for one or more data variables; Graphing data using boxplots, histograms, and scatterplots; Z-scores; hypothesis tests to find outliers; or an interquartile range (IQR) to calculate boundaries for what constitutes minor and major outliers. The methods used will be driven by the scale and type of data. NMED will determine outlier detection methods to be used based on the initial review of the data. Identified outliers will be highlighted to the EPA PO or delegate with options for treatment.

2.3. Non-direct Measurements

All environmental information operations conducted on this project will involve existing, non-direct measurement data. All existing data received will be reviewed by a senior technical staff member to assess data quality and completeness before their use.

Consistent with the EPA's QA requirements, this QAPP describes the procedures that will be used to ensure the selection of appropriate data and information to support the goals and objectives of this project. Specific elements addressed by this QAPP include:

- Identifying the sources of existing data,
- Presenting the hierarchy for data selection,
- Describing the review process and data quality criteria,
- Discussing quality checks and procedures should errors be identified, and
- Explaining how data will be managed, analyzed, and interpreted.

Data presented in the GHG inventory will be traced to its source (e.g., database input and output). Key resources include data collected by the EPA (e.g., GHGRP data), data from EPA-approved data sources (e.g., EIA Form 923 data), and data collected by NMED and reported to EPA (e.g. air quality emissions inventories). These sources may include primary literature (i.e., peer-reviewed journal articles and reports) or databases. We may also use approved existing sources (e.g., handbooks, databases).

Whenever possible the most site or state specific data deemed reliable will be used. Original sources for all information and data contained in the document will be included in a list of references with appropriate citations. When peer-reviewed literature or EPA-approved data sources cannot be used, we will document any significant limitations to the data sources used.

We will document information regarding each dataset and our rationale/selection criteria for selecting the data sources used in the inventory. The contractors will be responsible for evaluating and selecting the data for project tasks. NMED will oversee and approve data sources and rationale.

Table 2-1 presents an example hierarchy for data quality when identifying and reviewing available sources of data and information. When evaluating data resources, efforts will be made to identify and select data sources that most closely conform to the highest ranked criteria. Data quality metrics and documentation may not be provided by each source, and as necessary, we may consult with subject matter experts from permitted facilities or trade associations operating in New Mexico to qualify data for use to meet project objectives.

Any available data quality information will be reviewed by NMED and project advisors to ensure that the data represent full-scale designs and commercial processes, and that they are applicable to economic and regulatory conditions in the United States. NMED and contractors will document data sources used and any significant limitations of utilized data or information to ensure that the data are appropriate for their intended use. An internal technical reviewer will review the approach for selecting and compiling data; the review will include examination of the data sources and the intended use of the data. The specific QC techniques used will depend on the technical activity or analysis to which they are applied. The contractor is responsible for verifying the usability of data and related information.

Table 2-1 Existing Data Quality and Hierarchy

Quality Rank	Source Type
Highest	Federal, state, and local government agencies
Second	Consultant reports for state and local government agencies
Third	NGO studies; peer-reviewed journal articles; trade journal articles; conference proceedings
Fourth	Conference proceedings and other trade literature: non-peer-reviewed
Fifth	Individual estimates (e.g., via personal communication with vendors)

NMED will work with EPA to ensure that all data used for the project are appropriate for their intended use. The main criteria that will be used in the selection of the data are the quality of the data (based on peer review, credible source, and/or QA documentation), availability, suitability for the intended purpose.

NMED will use the Secondary Data Quality Ranking Hierarchy when identifying and reviewing available sources of information. The source types in **Error! Reference source not found.** appear in the order in which they are likely to meet data quality criteria. For example, federal government data are more likely to be from a credible source, thoroughly reviewed, suitable, available, and representative, and any exceptions to these data criteria are likely to be noted in the government data, providing transparency. Data from individuals are expected to be less reliable, not peer reviewed, and may not be suitable or representative.

If it is determined that data meeting the fourth (i.e., conference proceedings and other trade literature: non peer-reviewed) or fifth (i.e., individual estimates such as personal communications with vendors) level are from the best or only available data source, NMED will include in the inventory a description of these data with associated limitations for review by the EPA PO or delegate.

These measures of data quality will be used to judge whether the data are acceptable for their intended use. In cases where available data do not or may not meet data quality acceptance criteria, NMED will include in the inventory a discussion for review by the EPA PO or delegate explaining how emissions estimates that relied on such data compare to SIT estimates.

We will also consider, for example, the age (i.e., date of dataset) and the representativeness of the data and will include in the inventory report for review by the EPA of any quality concerns regarding data that are outdated or that have other quality issues, like data gaps or inconsistency with other sources. Any data source utilized that is older than 10 years will specifically be flagged in the inventory report.

Representativeness will be evaluated by determining that the emissions or activity data are descriptive of conditions in the United States, data are current, and data are descriptive of similar processes within New Mexico. Any incomplete datasets will be identified, and deficiencies will be evaluated to determine whether data are missing or confusing and if they meet the secondary-use quality objectives.

Key screening criteria will be used to screen the sources identified. The contractors will provide oversight to the screening process to ensure sources collected are the most relevant and meet quality requirements. Available data and information from the selected sources will be compiled and relevant summary information will be extracted from the information sources to develop the required output for each of the project tasks.

2.3.1. Criteria for Accepting Existing Data for Intended Use

The criteria for determining whether the data are acceptable for use in developing the statewide inventory will be based on a comparison of the associated emissions estimate to the emissions estimate produced using the EPA's SIT. While some differences between the state's calculations and SIT calculations are expected, differences of more than 5% must be accompanied by an explanation subject to approval by the EPA prior to using the state's estimate in lieu of the SIT estimate. The exception to this is the oil and gas sector, where EPA's GHG inventory by state, SIT, and GHGRP data are inadequate to estimate New Mexico Emissions. Evaluation of New Mexico's GHG emissions from the oil and gas sector is described in Table 1-5.

2.3.2. Criteria for Options Identification in Planning Phase

The criteria for reviewing all activities under each task and identifying the best options for emissions reductions will be based on the following criteria[15] in the EPA's CPRG program guidance:

1. Quantity of reductions in emissions of climate pollution under the option.
2. Number of jobs likely to be created by the option.
3. Environmental justice benefits of the project including the number of people living in overburdened neighborhoods that will benefit from the option.
4. Quantity of reductions in criteria and toxic air pollutants that can be achieved by option.
5. Number of people living, working, recreating, and going to school in the area(s) benefiting from the option.

[15] CPRG Program Guidance, page 4. Available at https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants#CPRGProgramGuidance.

2.4. Data Management

Data management procedures include file storage and file transfer. All project and data files will be transferred from contractors to NMED and stored on NMED project servers. Files will be organized and maintained in folders by project, task, and function, including a system of file labeling to ensure version control. Any files containing confidential business information will be stored on secure computers. The Angela Raso will make sure that staff are trained and adhere to the project file organization and version control labeling to ensure that files are placed in consistent locations. All files will be backed up each night to avoid loss of data. Data are stored in various formats that correspond to the software being used. As necessary, data will be transferred using various techniques, including email, File Transfer Protocol, or shared drives. Typically, records will be archived once the project is completed. Record retention times will be based on contractual and statutory requirements or will follow NMED practices for storing materials of up to 5 years after the end of the period of performance (POP). Multiple project staff are granted access rights to the archived file system for each project. Records may be retrieved from archived file system by the TL, PM, or other project staff with access during the records retention period. As soon as allowed by applicable regulations or the grant agreement, records will be destroyed according to NMED policies and procedures. For any sensitive information that is gathered under the project, NMED's policy is consistent with EPA–recommended methods of destruction, which include degaussing, reformatting, or secure deletion of electronic records; physical destruction of electronic media; recycling; shredding; incineration; and pulping. Should the grant specify some other manner of disposition (e.g., transfer to the client), NMED will comply with that directive. As noted above, NMED has developed a file naming convention/nomenclature for electronic file tracking and record keeping. Foremost, all files must be given a short but descriptive name. For those records and files gathered or provided to NMED, the filename may include the identification of "original" in its filename.

Similarly, files that have undergone a review by an independent, qualified person will include, at the end of the filename, the initials of the reviewer or the suffix "rev" (in lieu of initials) if more than one reviewer reviewed the file, along with the date reviewed and version number, as a way to track which staff person(s) reviewed the file and when. Filenames of draft versions will follow an incremental, decimal numbering system. More specifically, each successive draft of a document is numbered sequentially from version 0.1, 0.2, 0.3… until a final version is complete. Final versions will be indicated by whole numbers (e.g., version 1.0). Final versions of documents that undergo revisions will be labeled version X.1 for the first set of revisions. While the document is under review, subsequent draft versions will increase incrementally (e.g., 1.2, 1.3, 1.4) until a revised final version is complete (e.g., version 2.0).

In the event data retrieval is requested and to prevent loss of data, all draft and final file versions will be retained electronically—that is, superseded versions will not be deleted.

Note that changes made to deliverables will be made using the software's *track changes* feature, which allows a user to track and view all changes that are made to the document version. All deliverable reviews will be documented in a QC Documentation Form (see **Appendix B**) for the project. This form will be maintained in the project files.

For this project, it is not anticipated that any special hardware or software will be used. General software available through Microsoft Suite including Excel, PowerPoint, Access, and Word will be sufficient to perform the work (described in **Tables 2.1–2.5)** for this project.

3. Assessment and Oversight (Group C)

NMED is committed to preparing a comprehensive and reliable inventory of GHG emissions from New Mexico. Under this project our senior management team has dedicated the necessary resources to ensure we deliver an inventory that can be relied upon for future policy decisions. Accordingly, under this project, we will concurrently implement existing quality management systems that NMED has previously utilized for submissions to the EPA under Title I of the Act where task-level deliverables will be subjected to required, regular reviews (e.g., quarterly) to ensure that technical, financial, and schedule requirements of this project are consistent with the EPA PO's and QAM's expectations. This section discusses Elements C.1 (assessments and response actions) and C.2 (reporting) applicable to this project.

3.1. Assessments and Response Actions

The QA program includes periodic review of data files and draft deliverables. The essential steps in the QA program are as follows:

1. Identify and define the problem.
2. Assign responsibility for investigating the problem.
3. Investigate and determine the cause of the problem.
4. Assign and accept responsibility for implementing appropriate corrective actions.
5. Establish the effectiveness of and implement the corrective action.
6. Verify that the corrective action has eliminated the problem.

The contractors will provide day-to-day oversight of the quality system. Periodic project file reviews will be carried out by NMED staff. to verify that required records, documentation, and technical review information are maintained in the files. NMED staff will ensure that problems found during the review are brought to the attention of the contractor and are corrected immediately. All nonconforming data will be noted, and corrective measures to bring nonconforming data into conformance will be recorded.

NMED staff are responsible for determining whether the quality system established for the project is appropriate and functioning in a manner that ensures the integrity of all work products. All technical staff have roles and will participate in the corrective action process. Corrective actions for errors found during QC checks will be determined by the project management team. The originator of the work will make the corrections and will note on the QC form that the errors were corrected. A reviewer not involved in the creation of the work will review the corrections to ensure the errors were corrected. Any problems noted during audits will be reviewed and corrected by the QA Manager and discussed with the TL as needed. Depending on the severity of the deficiency, the TL may consult the QA Manager and stop work until the cited deficiency is resolved. Deficiencies identified and their resolution will be documented in monthly project reports, as applicable. The QA Manager and TL will comply and respond to all internal and EPA audits on the project, as needed. The QA Manager will produce a report outlining any corrective actions taken.

3.2. Reports to Management

The periodic progress reports (to the EPA PO) required in the grant agreement will be reviewed by NMED to ensure the project is meeting milestones and that the resources committed to the project are sufficient to meet project objectives. These periodic progress reports will describe the status of the project, accomplishments during the reporting period, activities planned for the next period, and any special problems or events including any QA/QC issues. Reports to the EPA will be drafted by project staff familiar with project activities during the reporting period.

Any QC issues impacting the quality of a deliverable, the project budget, or schedule will be identified and promptly discussed with NMED staff and management as appropriate. All significant findings will be included in monthly reports with the methods used to resolve the specific QC issue or the recommendations for resolution for consideration by the EPA's PO or designee.

Based on the technical work completed during the reporting period, progress reports will be reviewed internally by an independent, qualified technical person (equivalent or senior to the TL), prior to submitting to the PM. The PM will conduct a final review of the report before transmitting the progress report to the EPA PO and the PM's manager will be cc'd on all progress reports.

4. Data Validation and Usability (Group D)

4.1. Data Review, Verification, Validation

All work conducted under this project will be subject to technical and editorial review. When existing data for the same GHG-emitting activity are available from multiple sources, the background information documents will be reviewed for all sources to determine the dataset that is the most representative of operations in the state. Additionally, the inventory report will include the vintage of the existing data resource and preference will be given to the most recent dataset that is representative of similar GHG-emitting activities in the state. Reviews will be conducted by an independent, qualified person—or a person not directly involved in the production of the deliverable. The term "validation" refers to whether the data meets the QAPP-defined user requirements while the term "verification" refers to whether conclusions can be correctly drawn from the data. The quality of data used and generated for the project will be reviewed and verified at multiple levels by the project team. This review will be conducted by a senior technical reviewer with specific, applicable expertise. All original and modified data files will be reviewed for input, handling, and calculation errors. Additionally, all units of measure will be checked for consistency. Any potential issues identified through this review process will be evaluated and, if necessary, data will be corrected, and analysis will be revised as necessary, using corrected data. These corrections will be documented in project records. These measures of data quality will be used to judge whether the data are acceptable for their intended use. In cases where available data does not or may not meet data quality acceptance criteria, the TL will document these findings in the inventory along with corrective actions or use of alternative data sources.

4.2. Verification and Validation Methods

As a standard operating procedure, all data (retrieved and generated) will be verified and validated through a review of data files by an independent, qualified technical staff member (i.e., someone other than the document originator), and ultimately, the NMED TL. A checklist of QC activities for deliverables under this project is provided as **Appendix A**. Forms for documenting QC activities and review of deliverables are included in **Appendix B**. Documentation of calculations will be included in spreadsheet work products and in supporting memoranda, as appropriate.

The TL is responsible for day-to-day technical activities of tasks, including planning, data gathering, documentation, reporting, and controlling technical and financial resources. The TL is the primary person responsible for quality of work on tasks under this project and will approve all-related plans and reports. These reports will be transmitted by the TL to the QAM for final review and approval.

Reviews of analyses by the technical staff, and ultimately the TL, will include a thorough evaluation of content and calculated values. All original and modified data files will be reviewed for input, handling, and calculation errors. Additionally, all measurement units will be checked for consistency. Any potential issues identified through this review process will be evaluated, errors corrected, and analysis repeated using the corrected data. All corrections will be documented in project records.

Source data will be verified and validated through a review of data files by the technical staff, and ultimately the TL. Typical data verification reviews can include checks of the following:

- Data sources are clearly documented,
- Calculations are appropriately documented,
- All relevant assumptions are clearly documented,
- Conclusions are relevant and supported by results, and
- Text is well-written and easy to understand.

The documented review process will be stored with deliverables for the project. For the narrative describing the methodologies used for the inventory, all comments on drafts will be clearly and concisely summarized including a description of how substantive issues raised by commenters were resolved.

As discussed in Section 1.9, QC objectives include verification that data in database tables are stored and transferred correctly, algorithms call data correctly, units are internally consistent, and reports pull the required data. These data management issues will be addressed as part of the QC checks of data acquisition and document preparation.

For this project, it is not anticipated that any special data validation software will be required. However, where calculations are required to assess the data/datasets, calculations will be performed using computer spreadsheets (like Excel spreadsheets with predefined functions, or formulas) and calculators to reduce typographical or translation errors. General software available through the Microsoft Suite including Excel, PowerPoint, Access, and Word will be sufficient to perform the work as described in Section 1.6 for this project.

4.3. Reconciliation with User Requirements

All data (retrieved and generated) and deliverables in this project will be analyzed and reconciled with project data quality requirements. To ensure deliverables meet user requirements, the TL or senior technical lead will review all data and deliverables throughout the project to ensure that the data, methodologies, and tools used meet data quality objectives, are clearly conveyed, and represent sound and established science.

NMED will review each project with the EPA at the planning stage to ensure the approach is fundamentally sound and will meet the project objectives. The TL or senior technical lead will evaluate data continuously during the life term of the project to ensure they are of sufficient quality and quantity to meet the project goals. Prior to submission of draft and final products, the TL or senior technical lead will make a final assessment to determine whether the objectives have been fulfilled in a technically sound manner. Assumptions made in preparing project analyses will be clearly specified in the inventory.

As discussed in Section 1.9.1, uncertainty can be evaluated using a few different approaches. The most useful uncertainty analysis is quantitative and is based on statistical characteristics of the data such as the variance and bias of estimates. In a sensitivity analysis, the effect of a single variable on the resulting emissions estimate generated by a model (or calculation) is evaluated by varying its value while holding all other variables constant. Sensitivity analyses will help focus on the data that have the greatest impact on the output data. Additional statistical tests may be utilized depending on the need for more or less rigorous tools and on the specific inventory activity being evaluated.

5. References

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EPA, *GHGRP State and Tribal Fact Sheet*. Available at https://www.epa.gov/ghgreporting/ghgrp-state-and-tribal-fact-sheet. Accessed on 6/23/2023.

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USDA Forest Service, *Greenhouse gas emissions and removals from forest land, woodlands, and urban trees in the United States, 1990-2019* at https://www.fs.usda.gov/research/treesearch/62418. Accessed on 7/26/2023.

US DOT, *Highway Statistics Series* at https://www.fhwa.dot.gov/policyinformation/statistics/2021/vm1.cfm . Accessed on 7/26/2023.

Appendix A: Check Lists of Quality Control Activities for Deliverables

Tasks and Deliverables	Quality Control Procedures
Task 1. State inventory of oil and gas industry GHG emissions	
Statewide tabular inventory of GHG emissions from oil and gas sources with narrative report describing data sources, methodology, and documentation of QAPP implementation.	1. Comparison of multiple statewide inventories relative to statewide oil and gas production. 3. Review by a senior technical reviewer—analytical methods and results are explained clearly, technical terms are defined, conclusions are reasonable based on information presented, and level of technical detail is appropriate. 4. Editor review—writing is clear, free of grammatical and typographical errors.

Tasks and Deliverables	Quality Control Procedures
Task 2. **S**tate inventory of transportation sector GHG emissions	
Statewide tabular inventory of GHG emissions from mobile sources with narrative report describing data sources, methodology, and documentation of QAPP implementation.	1. Comparison of (a) statewide inventory calculated using EPA's State Inventory Tool (SIT) *versus* (b) statewide inventory federal estimate developed by the EPA. 2. For any values used in state inventory that are significantly different from federal estimates, the table below will be utilized to assess precision and bias of the statewide inventory versus federal estimates:

Transportation Fuel	State Estimate	Federal Estimate	Statistics*
Aviation Gasoline			
Distillate Fuel			
Ethanol			
Jet Fuel, Kerosene			
Jet Fuel, Naphtha			
Hydrocarbon Gas Liquids			
Lubricants			
Motor Gasoline			
Natural Gas			
Residual Fuel			
Other			

* Precision and bias calculations will be in accordance with the EPA's Data Assessment Statistical Calculator (DASC) Tool available at https://www.epa.gov/sites/default/files/2020-10/dasc_11_3_17.xls with the state's estimate taken as the measured value and the SIT value taken as the audit value.

3. Review by a senior technical reviewer—analytical methods and results are explained clearly, technical terms are defined, conclusions are reasonable

Tasks and Deliverables	Quality Control Procedures
Task 2. **S**tate inventory of transportation sector GHG emissions	
	based on information presented, and level of technical detail is appropriate. 4. Editor review—writing is clear, free of grammatical and typographical errors.

<table>
<tr><th>Tasks and Deliverables</th><th>Quality Control Procedures</th></tr>
<tr><td colspan="2">Task 3. State inventory of electric generation GHG emissions</td></tr>
<tr><td>Statewide tabular inventory of GHG emissions from electric power generation with narrative report describing data sources, methodology, and documentation of QAPP implementation.</td><td>1. Comparison of (a) statewide inventory versus (b) statewide federal estimate developed by the EPA.

2. For any values in the state inventory that are significantly different from federal estimates, the table below will be utilized to assess precision and bias of the state’s estimate versus the federal estimate:

<table>
<tr><th>Electric Power Fuel</th><th>State Estimate</th><th>Federal Estimate</th><th>Statistics*</th></tr>
<tr><td>Coal</td><td></td><td></td><td rowspan="7"></td></tr>
<tr><td>Distillate Fuel</td><td></td><td></td></tr>
<tr><td>Natural Gas</td><td></td><td></td></tr>
<tr><td>Petroleum Coke</td><td></td><td></td></tr>
<tr><td>Residual Fuel</td><td></td><td></td></tr>
<tr><td>Wood</td><td></td><td></td></tr>
<tr><td>Other</td><td></td><td></td></tr>
</table>
* Precision and bias calculations will be in accordance with the EPA’s Data Assessment Statistical Calculator (DASC) Tool available at https://www.epa.gov/sites/default/files/2020-10/dasc_11_3_17.xls with the state’s estimate taken as the measured value and the SIT value taken as the audit value.

Ensure the GWPs used for the state estimate and the federal estimate are on the same basis. For example, the SIT tool uses AR5 GWP (e.g., methane GWP = 28).

3. Technical review of methods, calculations, and underlying datasets—data are appropriate for intended use, data are complete and representative and current, data sources documented, analytical methods are appropriate, and calculations are accurate.

4. Review by a senior technical reviewer—analytical methods and results are explained clearly, technical terms are defined, conclusions are reasonable based on information presented, and level of technical detail is appropriate)

5. Editor review—writing is clear, free of grammatical and typographical errors.</td></tr>
</table>

<table>
<tr><th>Tasks and Deliverables</th><th>Quality Control Procedures</th></tr>
<tr><td colspan="2">Task 4. State Inventory of commercial and residential buildings GHG emissions</td></tr>
<tr><td>Statewide tabular inventory of GHG emissions from the state's commercial and residential buildings with narrative report describing data sources, methodology, and documentation of QAPP implementation.</td><td>1. Comparison of (a) statewide inventory versus (b) statewide federal estimate developed by EPA.
2. For any values in state inventory that are significantly different from federal estimates, the table below will be utilized to assess precision and bias of the statewide inventory versus federal estimates:
<table><tr><th>Fuels and Feedstocks for commercial and residential buildings</th><th>State Estimate</th><th>Federal Estimate</th><th>Statistics*</th></tr><tr><td>Commercial building electricity consumption</td><td></td><td></td><td rowspan="7"></td></tr><tr><td>Residential building electricity consumption</td><td></td><td></td></tr><tr><td>Commercial building natural gas consumption</td><td></td><td></td></tr><tr><td>Residential building natural gas consumption</td><td></td><td></td></tr><tr><td>Commercial building consumption of other fuels</td><td></td><td></td></tr><tr><td>Residential building consumption of other fuels</td><td></td><td></td></tr><tr><td>Other</td><td></td><td></td></tr></table>* Precision and bias calculations will be in accordance with the EPA's Data Assessment Statistical Calculator (DASC) Tool available at https://www.epa.gov/sites/default/files/2020-10/dasc_11_3_17.xls with the state's estimate taken as the measured value and the SIT value taken as the audit value.
3. Technical review of methods, calculations, and underlying datasets—data are appropriate for intended use, data are complete and representative and current, data sources documented, analytical methods are appropriate, and calculations are accurate.
4. Review a senior technical reviewer—analytical methods and results are explained clearly, technical terms are defined, conclusions are reasonable based on information presented, and level of detail appropriate.
5. Editor review: writing is clear, free of grammatical and typographical errors.</td></tr>
</table>

Tasks and Deliverables	Quality Control Procedures
Task 5. State Inventory of GHG Emissions from Other Sectors	
Statewide tabular inventory of GHG emissions from the state's minor sectors with narrative report describing data sources, methodology, and documentation of QAPP implementation.	1. Comparison of (a) statewide inventory *versus* (b) statewide inventory federal estimate developed by the EPA. 2. For any values used in state inventory significantly different than federal estimates, the table below will be utilized to assess precision and bias of the statewide inventory for minor sectors versus SIT estimates:

Fuels and Feedstocks for Other Major Sectors	State Estimate	SIT Estimate	Statistics*
Asphalt and Road Oil			
Aviation Gasoline Blending Components			
Coal			
Coking Coal			
Crude Oil			
Distillate Fuel			
Feedstocks, Naphtha less than 401 F			
Feedstocks, Other Oils greater than 401 F			
Hydrocarbon Gas Liquids			
Kerosene			
Lubricants			
Misc. Petro Products			
Motor Gasoline			
Motor Gasoline Blending Components			
Natural Gas			
Pentanes Plus			
Petroleum Coke			
Residual Fuel			
Special Naphthas			
Still Gas			
Unfinished Oils			
Waxes			
Wood			
Other			

* Precision and bias calculations will be in accordance with the EPA's Data Assessment Statistical Calculator (DASC) Tool available at https://www.epa.gov/sites/default/files/2020-10/dasc_11_3_17.xls with the state's estimate taken as the measured value and the SIT value taken as the audit value.

3. Technical review of methods, calculations, and underlying datasets—data are appropriate for intended use, data are complete and representative and current, data sources documented, analytical methods are appropriate, and calculations are accurate.
4. Review by a senior technical reviewer—analytical methods and results are explained clearly, technical terms are defined, conclusions are reasonable based on information presented, and level of detail appropriate.
5. Editor review: writing is clear, free of grammatical and typographical errors.

Appendix B: Example QC Documentation Form

<Grantee Org.>

Documentation of QA Review and Approval of Electronic Deliverables

Approvals on this form verify that all technical and editorial reviews have been completed and the deliverable meets the criteria for scientific defensibility, technical, and editorial accuracy, and presentation clarity as outlined in the Quality Assurance (QA) Project Plan, QA Narrative, Quality Management Plan, and/or according to direction from the EPA PO.

Client:	EPA Region <X>
Grant Number:	<enter grant number>
EPA Project Officer:	<enter EPA PO>
Project Number:	<enter internal Project ID>
Project Name:	<enter internal project name>
Grantee Org. Project Manager	<enter grantee's project manager>

QA Form Details

Item Number	File Name (Copy the name of the File Reviewed)	Deliverable Description	Date Sent to Client	Deliverable (Draft)	Deliverable (Final)	Document Originator	QA Review Information (Review Type)	(Reviewer Name)	(Date Review was Performed)	(Brief Summary of Review Findings and Other Notes)	QA Review Information (Have all Findings Been Resolved)	(Originator Signature)	(Reviewer Signature)	(File Location) *Copy Long Folder Path Name*
01				☐	☐		*Technical*				☐ Yes			
							Technical				☐ Yes			
02				☐	☐		*Technical*				☐ Yes			
							Technical				☐ Yes			
03				☐	☐		*Technical*				☐ Yes			
							Technical				☐ Yes			
04				☐	☐		*Technical*				☐ Yes			
							Technical				☐ Yes			