

Carbon Neutrality Study 2 Scope of Work

CalEPA Contract with the University of California, Santa Barbara

September 24, 2020

Governor Newsom affirmed the State's goal of achieving carbon neutrality by 2045 in the 2019 Budget Act. To achieve our goal, the State will need to reduce dramatically our greenhouse gas (GHG) emissions while permanently removing carbon from the atmosphere. These efforts will include managing strategic Statewide reductions in fossil fuel demand and supply; electrifying key sectors and end uses; and making significant investments in transitioning the transportation sector and the electrical grid to zero carbon emissions. These shifts will need to take place alongside targeted investments in communities and in the State's workforce to ensure that this transition maximizes equity, resiliency, health, and environmental quality across the State.

The transportation sector is an especially important priority for the State. When including fossil fuel extraction and refining, the transportation sector accounts for half of California's GHG emissions. Additionally, California's transportation sector relies primarily on petroleum fuels, significant amounts of which are produced and sourced from within the State.

Through the 2019 Budget Act, the Newsom Administration funded two studies to identify strategies to reduce the demand for and supply of fossil fuels, with the goal of dramatically reducing GHG emissions across the transportation sector. The purpose of this agreement is to produce one of two comprehensive, integrated studies that identify paths to significantly reduce transportation-related fossil fuel demand and emissions, and, in parallel, manage a strategic, responsible decline in transportation-related fossil fuel supply. This agreement's study will focus on managing the decline in supply.

The two integrated studies will share common guiding principles and will incorporate common workforce and affordability considerations. The studies will also share aligned scenarios and strategies that the State, local governments and others may consider and implement to support achieving the State's carbon neutrality goal. To the extent possible and relevant to the unique characteristics of the State's local and regional economies, the studies shall also draw upon lessons learned from other models of economic and social transitions.

For purposes of the two studies, carbon neutrality means achieving a balance between sources and sinks of GHG emissions.

The guiding principles underlying each of the two studies are:

1. Equity and Justice. Equitably distribute all benefits associated with achieving carbon neutrality and prioritize benefits in communities disproportionately burdened by emissions from transportation fuel production and use.
2. Health. Improve and protect public health.
3. High Road Jobs. Foster sustainable and diversified local and regional economies, and prioritize the creation of accessible high quality jobs for all communities, particularly the State's most vulnerable and disadvantaged residents and resource-dependent communities.
4. Environment. Improve and protect environmental quality across the State.
5. Resilience and Adaptation. Develop resilience and adaptive capacity locally, across the State.
6. Affordability and Access. Deliver clean, affordable, accessible, and reliable transportation options and technologies.
7. Minimize Impacts Beyond our Borders. Minimize emissions leakage and external costs beyond the State's borders, to the maximum extent possible. CalEPA and its interagency partners will facilitate shared and equal access to processes related to the development of the studies.

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Study 2: Supply of Transportation Fuels

The study "Study 2" shall be coordinated and integrated with the other study referred to above, here called "Study 1," and shall not duplicate the work of Study 1. Study 1 will focus on strategies to reduce transportation-related fossil fuel demand and emissions and will be led by researchers at the University of California Institute of Transportation Studies ("ITS Team").

The two studies will coordinate the development of potential transportation-related GHG emissions trajectories in California and will develop a common set of scenarios that reduce transportation-related fossil fuel demand, and, in parallel, manage the decline in transportation-related fossil fuel supply.

Focus Areas

The contractor shall expend a majority of its time and effort in investigating these Focus Areas as elements of a roadmap to achieve carbon neutrality by 2045:

Task 1. Evaluate key characteristics, trends and policies already underway and/or under consideration for California, including:

- a. Current emissions characteristics: overall emissions (e.g., GHG, criteria air pollutants and other toxic contaminants) associated with transportation-related fossil fuel (“transportation fuels”) production (which includes extraction, refining and distribution) and GHG sinks associated with transportation fuels, e.g., carbon, capture and storage (CCS).
- b. Current market characteristics and trends: global prices and carbon footprint of transportation fuels; projected prices and supply of transportation fuels; fleet-specific transportation fuel use in California; percentage of imported transportation fuels refined in California; percentage of transportation fuel supply produced in State; and comparative carbon content from different transportation fuel sources used in California.
- c. Current employment characteristics and trends: existing jobs in terms of number (by occupation and industry); quality (e.g., wages, benefits, autonomy, voice); and access (e.g., demography, geography, educational status, and educational or career pathways) across transportation fuel production (i.e., extraction, refining and distribution).
- d. Current distributional characteristics and trends: distribution and geographic concentration of exposures to and health burdens and vulnerabilities associated with local pollution (e.g., from GHG emissions, criteria air pollutants and other toxic contaminants) and other health and safety risks; and distribution of transportation fuel costs across the State.
- e. Current relevant State and local government policies: policies and strategies that impact the supply of transportation fuels, including those that manage the decline in supply and those that incentivize production (e.g., tax subsidies); workforce policies; local pollution reduction policies; land use policies; permitting criteria and issuance thresholds for transportation fuel production and use permits; and policies that support low-income workers and residents.

Task 2. Identify scenarios to manage the decline of the State’s transportation fuel supply in conjunction with the fuel demand reduction outlined in Study 1. Across these scenarios the study will identify and evaluate:

- a. Reductions in transportation fuel supply for all transportation-related uses and from all sources.
- b. Air quality benefits across State, regional and local geographies associated with reductions in supply.
- c. Health and safety benefits across State, regional and local geographies including changes in location, magnitude and concentration of supply-related activities and local pollutants, among others;
- d. Economic impacts and opportunities across State, regional and local economies, including changes in fuel costs and changes to and impacts on State and local tax revenues, among others;
- e. Changes in GHG sinks related to transportation fuel production.

- f. Workforce impacts, challenges and opportunities, including those associated with market transitions and economic development, and those represented by changes in job numbers, quality and access, and changes in career pathways, across local and regional economies. Include a focus on:
 - i. Support for an inclusive, high-road transition (i.e., one attentive to job quality and access that addresses the interests of workers and community);
 - ii. Identification of potential sector-specific and cross-sector approaches;
- g. Policies and strategies that maximize benefits and opportunities, and manage impacts, to communities that bear the greatest emissions burdens associated with transportation fuel production and communities that are resource-dependent, including: local pollution reduction policies; land use policies; permitting criteria and issuance thresholds for all oil and gas production and use permits; policies that support and advance economic opportunities for low-income workers and residents, and policies to limit social dislocation; among others.

Deliverables

Interdisciplinary Team

The Contractor shall establish an interdisciplinary team of researchers. The team shall include researchers with expertise in:

1. Health impacts of vehicle emissions
2. Environmental impacts of vehicle emissions
3. Just transition for workers and communities, including social and economic equity
4. Economics of vehicles and transportation
5. Land use policy
6. Housing policy and economics
7. Public transit
8. Social/behavioral science

The interdisciplinary team shall meet as often as necessary to ensure coordination among researchers and coherence of products.

Monthly Project Meetings

The Contractor shall meet monthly with CalEPA PM to report on progress, exchange information and ideas, ask questions, and plan work.

Coordination with Other Contractor

The Contractor shall work in collaboration with the contractor team for UC Study 1 to ensure that each study is part of a coherent whole in terms of narrative themes, scenarios considered, and presentation. In order to achieve this coherence, contractor responsibilities include:

- Establishing procedures for, and maintaining, ongoing and regular communication and consultation with contractor team for Study 1
- Developing study timelines in coordination with contractor team for Study 1 and CalEPA to enhance communication and integration of findings, avoid duplication of effort, and enhance coherence between the reports
- Meeting jointly at least once monthly during the contract period to review status and address overlapping research questions
- Identifying overlapping issues in the synthesis, modeling, and analysis of data with Study 1
- Sharing research directions, available data, and results where relevant to develop integrated analyses and coherent findings
- Sharing draft versions of reports, and clarifying through further analysis or in the report, the assumptions and interpretations that might lead to divergent policy directions or options

Utilizing a shared publication/communication resource to support the production of the report that may include shared formatting, organization, style, and cross-referencing where appropriate.

Work Plan

Two weeks after the starting date of the agreement, the Contractor shall present to CalEPA PM a written work plan. The work plan shall:

- Identify which investigators or staff will be responsible for which parts of the study
- Present a timeline, including contingencies, CalEPA review periods, and revisions under CalEPA direction, that will ensure the timely delivery of work products.

The Contractor shall revise the work plan as directed.

Synthesis Report

The Contractor shall develop a synthesis report that describes the existing state of knowledge and policy as described above in Focus Area section 1, including work done by and for the State of California. The contractor shall describe the areas where uncertainty has the greatest potential impact on outcomes and policy decisions.

Four months from the project start date, the Contractor shall deliver the synthesis report.

The synthesis report shall be well presented, including clear charts and graphs, a high standard of graphic design, professional copy-editing, consistent formatting, and compliant with WCAG version 2.0 or later.

Draft Report

Contractor shall deliver a draft report for the study. The draft report shall:

- Be substantially complete, including executive summary, introduction, body, conclusions, references, and all other parts
- Contain the major analyses, evaluation, and conclusions expected in the final report
- Be well presented, including clear charts and graphs, a high standard of graphic design, professional copy-editing, consistent formatting, and compliant with WCAG version 2.0 or later
- In the format detailed in Final Report Format
- Delivered thirty (30) days prior to Final Report date

The Contractor shall revise the presentation of the draft report and inclusion of additional material as directed.

Final Report

Contractor shall deliver the final report in electronic format. The final report shall:

- Be complete and contain the final results of the studies
- Be written to communicate effectively with a diverse audience without technical expertise in the topics covered
- Be well presented, including clear charts and graphs, a high standard of graphic design, professional copy-editing, consistent formatting, and compliant with WCAG version 2.0 or later
- Be in the format detailed in Final Report Format

Public Outreach materials and Translated materials

Contractor shall deliver electronic materials for public outreach, including:

- Up to eight 1–2-page fact sheets, written for a broad audience and including clear and relevant graphical elements such as charts and graphs, and explaining the analysis or evaluation and major findings of the various investigations in the studies

- Up to four PowerPoint presentations, designed for a broad audience that explain the analysis or evaluation and major findings of the various investigations in the studies

These materials shall be of high standard, formatted consistently with each other and with the final reports, and compliant with WCAG version 2.0 or later.

Meeting attendance and presentations

Contractor shall provide presenters from among the investigators and staff who performed the studies to attend, speak, and answer questions at up to four full-day public meetings in various locations in the State.