Coordinating Research Council, Inc.

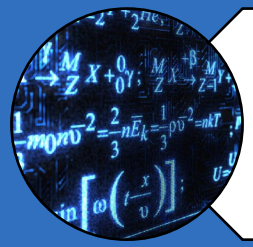
Organizational Overview

March 2025

CRC Mission & Objectives

Mission

Direct scientific cooperative research in developing the best possible combinations of fuels, lubricants, and the equipment in which they are used, and to afford means of cooperation with the government on matters of national interest within this field.



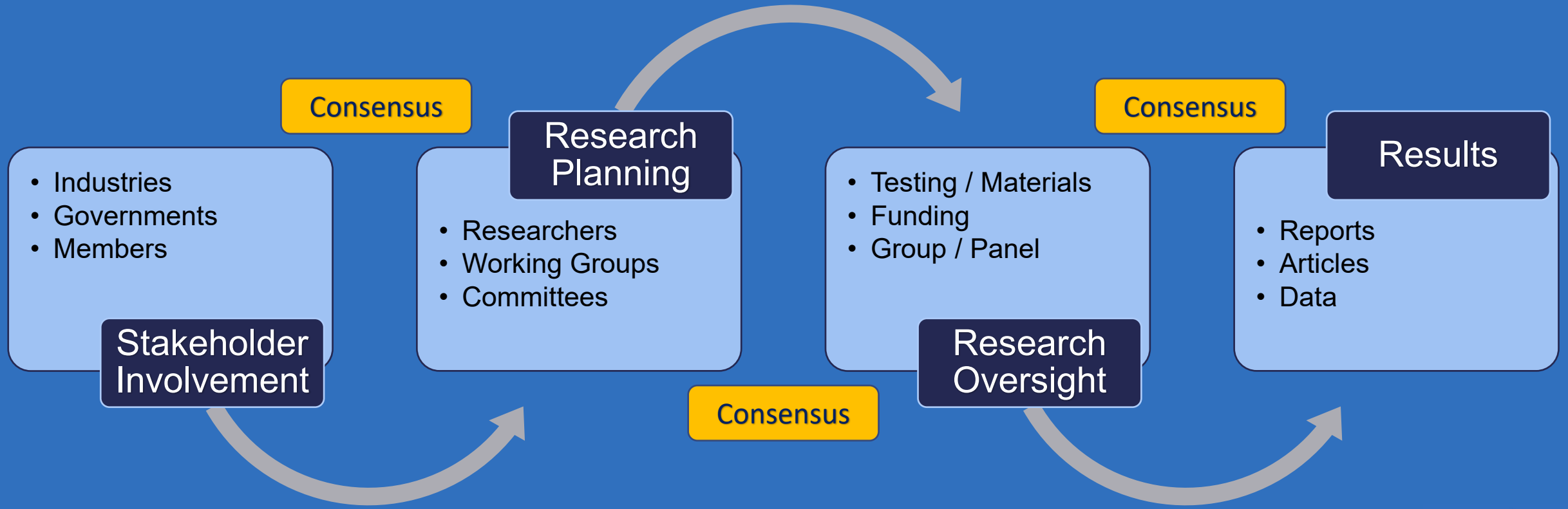
Be a focal point for cooperative, pre-competitive research.

Provide a forum for all stakeholders to participate in the research.

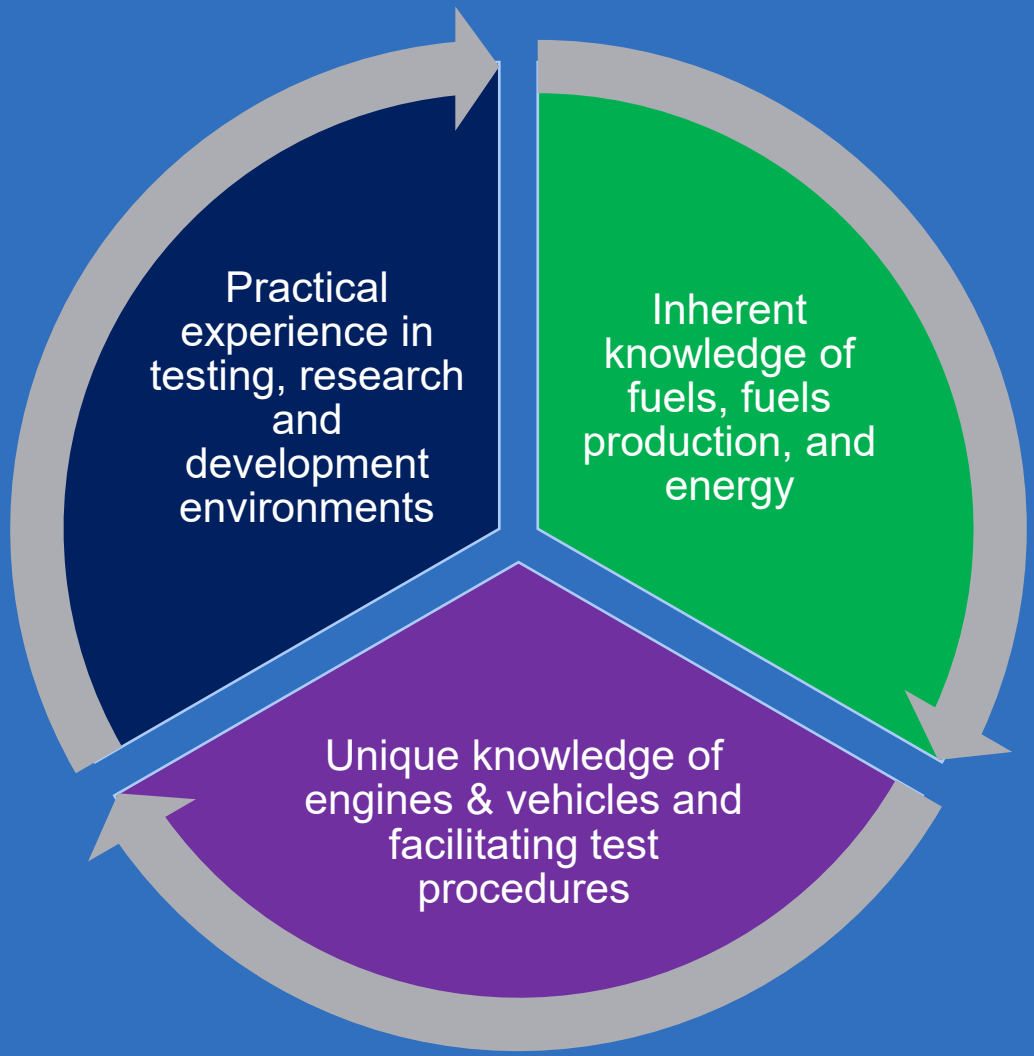
Make technical information available to industries, governments and the public.

Formed in 1919, incorporation in 1942.	501(c)(3) nonprofit association organized to direct scientific research.	No advocacy or lobbying. Intellectual property and antitrust protections.	All CRC research reports are available to the public.

Core Function of CRC:
Enable a **Process for Cooperative Research**



CRC Research Benefits From Synergy Between Industries



DIVERSITY and **BALANCE** of industry representation and perspectives are the foundation of CRC's objective research.

Benefits of Cooperative Science Facilitated by CRC

Impact

Independent, balanced results available to the public **inform regulations and standards**.

CRC research informs and can be referenced to improve models and regulations from EPA and CARB. CRC research is also used extensively by ASTM.

Leverage

Collective effort supports a **research program value of much larger size** than any individual member contribution.

The current average **leverage** (ratio of the value of total research to the individual Member's contribution) for a CRC Sustaining Member is **a factor of 30.**

Network

Technical expertise is available from a **diverse group of peer researchers** in a noncompetitive environment.

CRC Members have access to Committees, Groups, and Panels made up of hundreds of subject experts. This can be particularly valuable in professional development for newer staff.

Protection

Policies govern **intellectual property** and **compliance with antitrust regulations**.

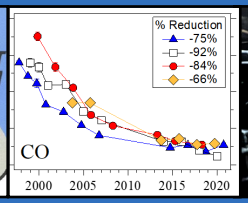
CRC facilitates cooperative research between competitors, different industries, governments, and academia with important protections for all involved.

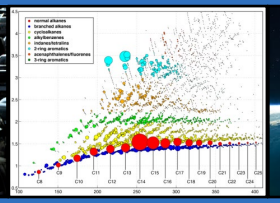
A Century of CRC History

1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s+
Beginning: Cooperative Fuels Research (CFR) Committee of SAE		**Military Research: Aviation & Vehicle Performance**			**Air Quality: Light-Duty Vehicle Focus**			**Wider View: +Autos, +Committees**		**Global View: Sustainability**








Research emphasis of the Council adapts to the needs of Members. More diverse than this simple summary, research continues today in all topics listed.

CRC Organization: Members & Committees

Board of Directors

CRC Sustaining Members

Expanded Membership Research Program

SMC Funding Members

Sustainable Mobility Committee

Sustaining Members Research Program

- Atmospheric Impacts Committee
- Advanced Vehicle/Fuel/Lubricants Committee
- Emissions Committee
- Performance Committee

Separate Membership Research Program

Aviation Committee Members

CRC Workshops & Technical Meetings

Real World Emissions

35th Event: April 13-16, 2025

Long Beach, CA

Aviation

Annually - 1st Week of May

2025: Dayton, OH

2026: Alexandria, VA

Life Cycle Analysis of Transportation Fuels

8th Event: October 2025

Argonne National Lab, IL

Mobile Source Air Toxics

11th Event: February 2024

Riverside, CA

Sustainable Mobility

3rd Event: November 2024
with SAE

Columbus, OH

Special Events

Liquid Hydrogen - NASA (2023)

Air Quality Modeling Research Needs (2016, 2022)

Fuels and Engines: The Road Ahead (2020) / Stochastic Pre-Ignition (2020)

Driveability (2019)

Southern California Ozone Research Symposium (2018)

What's New at CRC?

Expanding Research Focus

- UPSTREAM – SOURCES FOR RENEWABLES
- BRAKE & TIRE WEAR
- WILDFIRES
- ELECTRIFICATION
- HYDROGEN
- TECHNOECONOMIC ASSESSMENT
- TOPICS EVOLVE WITH MEMBER NEEDS

Expanding Industry Membership

MEDIUM / HEAVY-DUTY & NONROAD

BIO- & RENEWABLE FUELS

ELECTRIFICATION EQUIPMENT

NEW STAKEHOLDERS

Advanced Vehicle/Fuel/Lubricants Committee

11 Active Projects

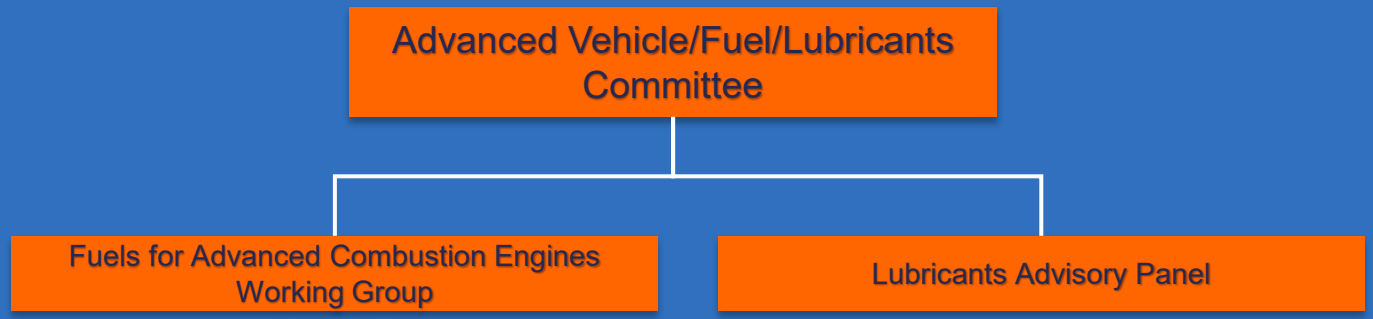
14 Publications in last 5 years

167 Researchers

Co- Chair:
Ivan Tibavinsky,
Mercedes Benz

- Advanced automotive hardware and new fuel formulation effects on automotive emissions (3-10 years out).
- Durability and operability of new fuel formulations in advanced hardware (3-10 years out).

Co- Chair:
Steve McConnell,
Marathon



11 Active Projects

11 Publications in last 5 years

46 Researchers

Atmospheric Impacts Committee

Co- Chair: Sandy Winkler, Ford

- Focus resources to improve science and regulations related to air quality
- Improve the ability to predict effects of emissions on air quality by:
  - Improving inventories
  - Understanding air chemistry
  - Strengthening air quality models
- Predict the importance of emerging data

Co- Chair: Chris Rabideau, Chevron

Atmospheric Impacts Committee

Atmospheric Impacts Working Group

CRC

Emissions Committee

15 Active Projects

33 Publications in last 5 years

100 Researchers

- Define effects that changes in automotive hardware, fuel compositions, and their interactions have on automotive emissions related to air quality and air-borne toxics
- Address current and future regulatory needs
- Determine the contribution of vehicle/fuel source emissions to the environment and how current computer models reflect these contributions (RWG)

Emissions Committee

Co- Chair: Michael Moore, Stellantis

- Determine the contribution of vehicle/fuel source emissions to the environment and how current computer models reflect these contributions
- Open Working Group allowing interactions and collaborative projects with agencies & other industry partners

Real World Emissions & Emissions Modeling Working Group

Co- Chair: Paul Loeper, Chevron

CRC

Performance Committee

8 Active Projects

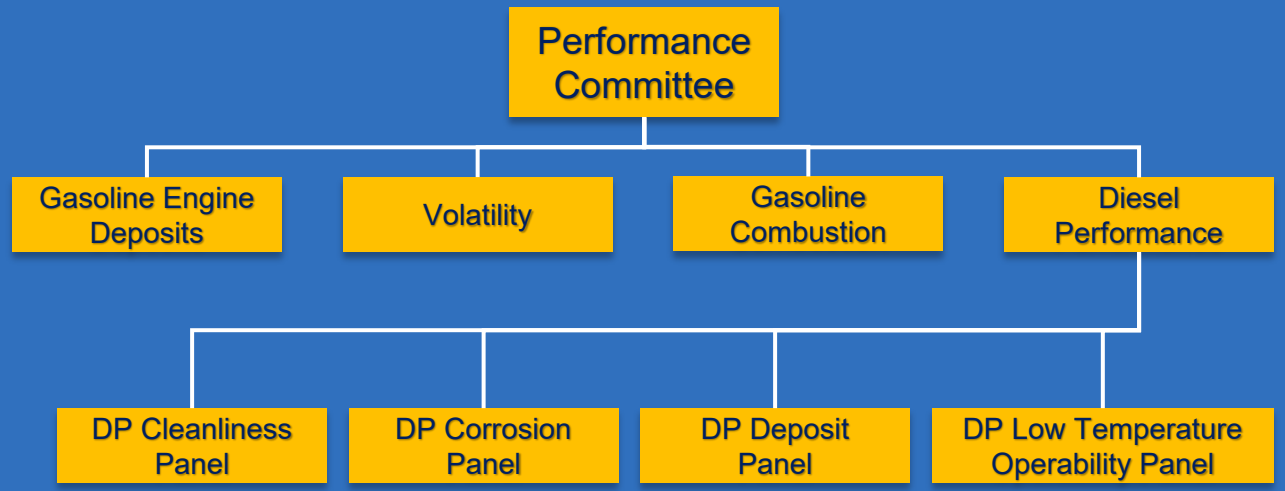
14 Publications in last 5 years

133 Researchers

- Relate physical and chemical properties of fuels to vehicle performance
  - Driveability/ Volatility Relationship
  - Octane Response
- Develop engine and vehicle test procedures to use in commerce and regulations and use these procedures to monitor vehicle/ fuel performance.
  - Deposits
  - Stability / Operability

Co- Chair: Beth Raney-Pablo, Ford

Co- Chair: Russ Lewis, Marathon



Sustainable Mobility Committee Leadership & Vision

Co- Chair:
Elana Chapman
Energy & Emissions Regulatory Technical Specialist
General Motors

A multi-stakeholder forum for collaborative scientific research studies

focused on pathways towards a carbon neutral future

through significant greenhouse gas reductions from mobility

while seeking to understand tangential impacts

CRC's Sustainable Mobility Committee was founded in March 2021

Co- Chair:
Heather Hamje,
Principal Engineer
ExxonMobil

Sustainable Mobility Committee Membership

Steering Committee

bp
HONDA
Ford
Chevron
PHILLIPS 66
STELLANTIS
MECA SUPPLYING CLEAN MOBILITY
Wabtec CORPORATION
API American Petroleum Institute
MARATHON
aramco
TOYOTA
gm
Mercedes-Benz
ExxonMobil
EPRI
Cummins
DEUTZ
Clean Fuels ALLIANCE AMERICA
NESTE
JOHN DEERE
UL Solutions
Truck & Engine Manufacturers Association
DAIMLER TRUCK North America

Open for New Members

Partner Member Group

- Joint Office of Energy and Transportation
- Department of Transportation
- Federal Highway Administration
- Environmental Protection Agency
- Department of Energy
- National Institute of Standards and Technology
- National Renewable Energy Laboratory
- Oak Ridge National Laboratory
- Argonne National Laboratory
- Pacific Northwest National Laboratory
- Sandia National Laboratory
- Lawrence Livermore National Laboratory
- Idaho National Laboratory
- Brookhaven National Laboratory
- Lawrence Berkeley National Laboratory
- United States Council for Automotive Research

The Partner Member Group membership is open for government agencies and related organizations.

They meet frequently to share information on the latest research and to discuss opportunities for collaborative research programs.

Sustainable Mobility Committee Structure and Research Focus

SMC Partners: Government Agencies & National Laboratories

Sustainable Mobility **Steering Committee**

Working Groups

Electrification SM-E	**Fuels** SM-F	**Hydrogen and Novel Carbon Reduction** SM-HCR	**Life Cycle Analysis** SM-LCA
Investigate challenges in the transition to electric propulsion	Support research in carbon reduction by liquid fuels	Explore systematic approaches to mobility carbon reduction	Provide a forum for review of LCA models and methods
Battery Electric Vehicles & Equipment; Grid Readiness and Resiliency; Vehicle to Grid; Battery Durability; Electric Vehicle Servicing Equipment; Charging Availability.	Low Carbon Fuels, Biofuels, Renewable Fuels, Sustainable Aviation Fuel, E-Fuels	Hydrogen, Energy Feedstocks, Air Quality, Infrastructure, Carbon Capture / Sequestration	Life Cycle Analysis, LCA Models, Methods, Inputs, and Validation; Life Cycle Analysis Workshops

Participation in the SMC Working Groups is open to representatives of Steering Committee Member companies, and individual researchers by invitation.

Contact

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