

## 17. Acronyms

Acronym	Definition
A/SP	Auto/Steel Partnership
A/T	Aftertreatment
ACES	Advanced Collaborative Emissions Study
ACM	Acicular Mullite DPF material (Dow)
AEM	Advanced Electrolyte Model
AFDC	Alternative Fuels Data Center
AHSS	Advanced High Strength Steel
ALA	American Lung Association
ALM	Automotive Lightweight Materials
ANL	Argonne National Laboratory
ANLCC	Argonne National Laboratory Composite Cathode
APBF	Advanced Petroleum-Based Fuels
APEEM	Advanced Power Electronics and Electric Machines Program
APS	Advanced Photon Source
APU	Auxiliary Power Unit
ARC	Accelerating Rate Calorimetry
ARL	Army Research Laboratory
ASI	Area Specific Impedance
ASTM	American Society for Testing and Materials
ATD	DOE Advanced Technology Development Program
AVC	Advanced Vehicle Competitions
BATT	Batteries for Advanced Transportation Technologies
BD	Biodiesel
BES	DOE Basic Energy Sciences
BNL	Brookhaven National Laboratory
BSFC	Brake specific fuel consumption
BTE	Brake thermal efficiency
BYU	Brigham Young University
CA	Crank Angle
CAE	Computer Aided Engineering
CAFÉ	Corporate Average Fuel Economy
CALCE	Center for Advanced Life Cycle Engineering
CF	Carbon Fiber
CFD	Computational fluid dynamics
CIA	Central Intelligence Agency
CLAMP	Center for Lightweighting Automotive Materials and Processing
CLEERS	Cross-Cut Lean Exhaust Emission Reduction Simulation
CNG	Compressed Natural Gas
CNT	Carbon Nanotubes



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### DOE EERE Vehicle Technologies Program

Acronym	Definition
<b>CO2</b>	Carbon Dioxide
<b>CRADA</b>	Cooperative Research and Development Agreement
<b>CRC</b>	Coordinating Research Council
<b>CSI</b>	Current Source Inverter
<b>CTE</b>	Thermal stressing mismatch
<b>CVD</b>	Chemical Vapor Deposition
<b>CVT</b>	Continuously Variable Transmission
<b>DARPA</b>	Defense Advanced Research Projects Agency
<b>DDC</b>	Detroit Diesel Corporation
<b>DEER</b>	Diesel Engine-Efficiency and Emissions Research Conference
<b>DERC</b>	Diesel Emissions Reduction Consortium
<b>DLFT</b>	Direct Compounded Long Fiber Thermoplastics
<b>DOC</b>	Diesel oxidation catalyst
<b>DOD</b>	Department of Defense
<b>DoD</b>	Depth of Discharge
<b>DOE</b>	Department of Energy
<b>DOT</b>	Department of Transportation
<b>DPF</b>	Diesel particulate filter
<b>DRIFTS</b>	Diffuse Reflectance Infrared Fourier Transform Spectroscopic
<b>DSC</b>	Differential Scanning Calorimetry
<b>E85</b>	85 percent ethanol blend with gasoline
<b>EBS</b>	Ethanol Boosting System
<b>ECUT</b>	Energy Conversion and Utilization Techniques
<b>EERE</b>	Energy Efficiency and Renewable Energy
<b>EGR</b>	Exhaust Gas Recirculation
<b>EIA</b>	Energy Information Administration
<b>EISA</b>	Energy Independence and Security Act of 2007
<b>EMC</b>	Electromagnetic Compatibility
<b>EOI</b>	End of Injection
<b>EPA</b>	Environmental Protection Agency
<b>EPAct</b>	Energy Policy Act
<b>EPRI</b>	Electric Power Research Institute
<b>ERC</b>	Engine Research Center at University of Wisconsin
<b>EV</b>	Electric Vehicle
<b>EV/CS</b>	Electric Vehicle Charge Sustaining
<b>EXAFS</b>	Extended X-ray Absorption Fine Structure
<b>FACE</b>	Fuels for Advanced Combustion Engines
<b>FCV</b>	Fuel cell vehicle
<b>FE</b>	DOE Office of Fossil Energy
<b>FEA</b>	Finite Element Analysis



Acronym	Definition
FEERC	Fuels, Engines, and Emissions Research Center
FFV	Flexible fuel vehicle
FIE	Fuel Injection Equipment
FMEA	Failure Mode and Effects Analysis
FTE	Full time employee equivalent
FTIR	Fourier Transform Infrared Spectroscopy
FTP	Federal Test Procedure
FY	Fiscal Year
GATE	Graduate Automotive Technology Education
GDI	Gasoline Direct Injection
GGE	Gasoline Gallon Equivalent
GHG	Greenhouse gases
GITT	Galvanostatic intermittent titration technique
GPC	Generalized Predictive Control
GREET	Greenhouse gases, Regulated Emissions and Energy use in Transportation
GTL	Gas-to-liquids
HCCI	Homogeneous Charge Compression Ignition
HD	Heavy-duty
HDD	Heavy-duty diesel
HE	High Energy
HECC	High Efficiency Clean Combustion
HEI	Health Effects Institute
HEV	Hybrid Electric Vehicle
HF	Hydrogen Fluoride
HIL	Hardware in the Loop
HI-MAC	High Integrity Magnesium Automotive Castings
HSS	High Strength Steel
HTML	High Temperature Materials Laboratory
HTRI	Heat Transfer Research, Inc.
HV	Heavy vehicle
HWCVD	Hot Wire Chemical Vapor Deposition
IARC	International Agency for Research on Cancer
IC	Internal Combustion
ICE	Internal Combustion Engine
IEA	International Energy Agency
IMAPS	International Microelectronics and Packaging Society
IMEP	Indicated Mean Effective Pressure
INL	Idaho National Laboratory
IP	Intellectual Property
IPR	Intellectual Property Rights
IQT	Ignition Quality Tester



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Acronym	Definition
IRS	Internal Revenue Service
ISO	International Organization for Standardization
ITEC	International Truck and Engine Company
ITS	Intelligent Transportation Systems
IVC	Intake Valve Closing
JARI	Japan Automobile Research Institute
JFET	Junction Gate Field Effect Transistor
JPL	Jet Propulsion Laboratory
kg	Kilogram
KIVA	Internal combustion engine simulation code (Los Alamos)
LANL	Los Alamos National Laboratory
LAST	Thermoelectrics material
LBNL	Lawrence Berkeley National Laboratory
LCCF	Low Cost Carbon Fiber
LD	Light-duty
LDRD	Laboratory Directed Research and Development
LDV	Light-Duty Vehicles
LES	Large Eddy Simulation
LFT	Long fiber thermoplastics
LIBOB	Lithium bis(oxalato)borate)
LIVC	Late Intake Valve Closing
LNT	Lean NOx Trap
LPPM	Low pressure permanent mold
LTC	Low Temperature Combustion
MAS NMR	Magic Angle Spinning Nuclear Magnetic Resonance
MATT	Mobile Automotive Technology Testbed
MCMB	Mesocarbon Microbeads
MFERD	Magnesium Front End Research and Development
MMBPD	Million barrels per day
MMV	Multi-Material Vehicle
MOSFET	Metal oxide semiconductor field effect transistor
MOU	Memorandum of Understanding
MSAT	Mobile Source Air Toxics
MSU	Michigan State University
NASA	National Aeronautics and Space Administration
NBB	National Biodiesel Board
NCA	Battery cathode material
NDA	Non Disclosure Agreement
NDE	Non-Destructive Evaluation
NE	DOE Office of Nuclear Energy



Acronym	Definition
<b>NEMS</b>	National Energy Modeling System
<b>NETL</b>	National Energy Technology Laboratory
<b>NEV</b>	Neighborhood Electric Vehicle
<b>NGV</b>	Natural Gas Vehicle
<b>NIH</b>	National Institutes of Health
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NL</b>	National Laboratory
<b>NMC</b>	Lithiated nickel-manganese-cobalt oxide
<b>NMR</b>	Nuclear Magnetic Resonance
<b>NPBF</b>	Non-Petroleum Based Fuels
<b>NREL</b>	National Renewable Energy Laboratory
<b>NSF</b>	National Science Foundation
<b>NSLS</b>	National Synchrotron Light Source
<b>NTRC</b>	National Transportation Research Center
<b>OBD2</b>	Onboard Diagnostics
<b>OCV</b>	Open Circuit Voltage
<b>OEM</b>	Original Equipment Manufacturer
<b>OER</b>	DOE Office of Electricity Reliability
<b>OMAC</b>	Graphite battery material
<b>ONAMI</b>	Thermoelectrics presentation
<b>ORISE</b>	Oak Ridge Institute for Science and Education
<b>ORNL</b>	Oak Ridge National Laboratory
<b>OSC</b>	Oxygen Storage Capacity
<b>OSU</b>	Ohio State University
<b>OVT</b>	Vehicle Technologies Program
<b>PAH</b>	Polycyclic Aromatic Hydrocarbons
<b>PAH</b>	Polycyclic aromatic hydrocarbons
<b>PAN</b>	Polyacrylonitrile
<b>PCB</b>	Polychlorinated Biphenyls
<b>PCCI</b>	Premixed Charge Compression Ignition
<b>PEM</b>	Power Electronics Module
<b>PEO</b>	Poly ethylene oxide
<b>PHEV</b>	Plug-In Hybrid Electric Vehicle
<b>PI</b>	Principal Investigator
<b>PLIF</b>	Planar Laser-Induced Fluorescence
<b>PM</b>	Particulate Matter
<b>PM</b>	Powder Metal
<b>PM</b>	Program Manager
<b>PMEP</b>	Pumping Mean Effective Pressure
<b>PMLA</b>	Piezoceramic multilayer actuators
<b>PNGV</b>	Partnership for a New Generation of Vehicles



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### DOE EERE Vehicle Technologies Program

Acronym	Definition
POM	Polycyclic Organic Matter
PPM	Parts per million
PSAT	Powertrain Systems Analysis Toolkit
PSU	Pennsylvania State University
PTI	Pennsylvania Transportation Institute
PVDF	Polyvinylidene Fluoride
R&D	Research and Development
RD3	Research, Development, Demonstration, and Deployment
RFP	Request for Proposals
RFS	Renewable Fuels Standard
RI	Resonance Inspection
RME	Rapeseed Methyl Ester (biodiesel)
ROI	Return on Investment
RON	Research Octane Number
RSW	Resistance Spot Weld
SAE	Society of Automotive Engineers
SBIR	Small Business Innovation Research
SC	DOE Office of Science
SCC	Stress corrosion cracking
SCR	Selective Catalytic Reduction
SEI	Solid electrolyte interface
SI	Spark ignition
SMC	Sheet Molding Compound
SMG	Surface modified graphite
SNL	Sandia National Laboratories
SOC	Start of Combustion
SOC	State of Charge
SOI	Start of Injection
SRNL	Savannah River National Laboratory
SSEC	Solid State Energy Conversion
STEM	Scanning Transmission Electron Microscopy
STTR	Small Business Technology Transfer
SUV	Sport Utility Vehicle
TAP	Temporal Analysis of Products
TC	Turbocharger
TE	Thermoelectrics
TEG	Thermoelectric Generator
TIM	Thermal Interface Material
TRIP	Transformation Induced Plasticity
TRXRD	Time-resolved X-Ray Diffraction



Acronym	Definition
<b>TS</b>	Thermal Stratification
<b>TVLT</b>	Time varying linear transform
<b>UC</b>	University of California
<b>UH</b>	University of Houston
<b>UHC</b>	Unburned Hydrocarbons
<b>ULC</b>	Ultra large casting
<b>ULSD</b>	Ultra-low sulfur diesel
<b>USABC</b>	US Advanced Battery Consortium
<b>USAMP</b>	U.S. Automotive Materials Partnership
<b>UT</b>	University of Tennessee
<b>UW</b>	University of Wisconsin
<b>V</b>	Volts
<b>V2G</b>	Vehicle to Grid
<b>VCR</b>	Variable Compression Ratio
<b>VMT</b>	Vehicle Miles Traveled
<b>VO</b>	Vegetable Oil
<b>VT</b>	Vehicle Technologies Program
<b>VVA</b>	Variable Valve Actuation
<b>W</b>	Watt
<b>WGS</b>	Water Gas Shift
<b>WHR</b>	Waste Heat Recovery
<b>WSB</b>	Water soluble binder
<b>XAS</b>	X-ray Absorption Spectroscopy
<b>XPS</b>	X-ray Photoelectron Spectroscopy
<b>ZT</b>	Thermoelectrics figure of merit (measure of efficiency)



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*DOE EERE Vehicle Technologies Program*

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