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## Acronyms

AHC	Ad Hoc Committee
ANL	Argonne National Laboratory
ANSI	American National Standards Institute
APCi	Air Products and Chemical, Inc.
APU	Auxiliary power unit
ASHRAEW	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
atm	Atmosphere
BOCA	Building Officials and Code Administrators International
Btu	British thermal unit
°C	Degrees Celsius
CA	California
CaFCP	California Fuel Cell Partnership
CGA	Compressed Gas Association
CH <sub>4</sub>	Methane
Chl	Chlorophyll
CHP	Combined heat and power
cm <sup>2</sup>	Square centimeter
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CSA	Canadian Standards Association International of America

CY	Calendar year
dB	Decibel
dBA	Decibel ampere
DC	Direct current
DFMA	Design for Manufacture and Assembly
DMFC	Direct methanol fuel cell
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
ECE WP29	United Nations Economic Commission for Europe Working Party 29
EERE	Energy Efficiency and Renewable Energy
EIHP	European Integrated Hydrogen Project
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act
°F	Degrees Fahrenheit
FC	Fuel cell
FE	Fossil Energy
FEMP	Federal Energy Management Program
FMEA	Failure Mode and Effects Analysis
FreedomCAR	Freedom Cooperative Automotive Research – partnership between the DOE and the top three U.S. automakers
ft <sup>2</sup>	Square foot

FY	Fiscal year
g	Gram
gal	Gallon
GATE	Graduate Automotive Technology Education (a DOE program)
gge	Gasoline gallons equivalent
GHG	Greenhouse gas
GRPE	Global Technical Regulations on Pollution and Energy
GTR	Global Technical Regulations
H <sub>2</sub>	Diatomic hydrogen
H <sub>2</sub> O	Water
H <sub>2</sub> S	Hydrogen Sulfide
HCG	Hydrogen Coordinating Group
HHV	Higher heating value
HQ	Headquarters
Hr	Hour
Hrs	Hours
HTAP	Hydrogen Technical Advisory Panel
HTM	High temperature membrane
HVAC	Heating, ventilating, and air conditioning
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
ICC	International Code Council, Inc.

ICE	Internal combustion engine
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
IL	Illinois
in <sup>2</sup>	Square inches
IRR	Internal rate of return
ISO	International Organization for Standardization
kg	Kilogram
kW	kilowatt
kWe	Kilowatt-electric
kWh <sub>t</sub>	Kilowatt-hour thermal
L	Liter
lb	Pound
LHV	Lower heating value
LPG	Liquefied petroleum gas
mA	Milliampere
MEA	Membrane electrode assembly
Mg	Megagram
MI	Michigan
Min	Minute
MJ	Megajoule
μm	Micron

MMBtu	Million British thermal unit
MMTCE	Million tons carbon equivalent
msec	millisecond
mV	Millivolt
N/a	Not applicable
NASA	National Aeronautics and Space Administration
NEP	National Energy Policy
NETL	National Energy Technology Laboratory
NFPA	National Fire Protection Association
NGI	Natural Gas Institute
NH <sub>3</sub>	Ammonia
NHTSA	National Highway Traffic Safety Administration
NO <sub>x</sub>	Oxides of nitrogen
NREL	National Renewable Energy Laboratory
NSF	National Science Foundation
O&M	Operation and maintenance
O <sub>2</sub>	Diatomic oxygen
OEM	Original equipment manufacturer
OMB	Office of Management and Budget
OPEC	Organization of Petroleum Exporting Countries
ORNL	Oak Ridge National Laboratory
PART	Program Assessment Rating Tool

PEM	Proton exchange membrane; polymer electrolyte membrane
PEMFC	Polymer electrolyte membrane fuel cell
PI	Principle investigator
PM	Particulate matter
PNGV	Partnership for a New Generation of Vehicles – former partnership between the DOE and the top three U.S. automakers, replaced by FreedomCAR
ppb	Parts per billion
ppm	Parts per million
PSA	Pressure swing adsorption
psi	Pounds per square inch
psig	Pounds per square inch gauge
Pt	Platinum
Q	Quarter
R&D	Research and development
R&DIC	R&D Investment Criteria
RD&D	Research, development, and demonstration
s	Second
SAE	Society of Automotive Engineers
SBCCI	Southern Building Code Congress International
Sc	Standard cubic centimeter
scf	Standard cubic feet
scfh	Standard cubic feet per hour
SDO	Standards development organization

Sec	Second
SECA	Solid State Energy Conversion Alliance (a program of the DOE Office of Fossil Energy)
SMS	Strategic Management System
SO <sub>2</sub>	Sulfur dioxide
SOFC	Solid oxide fuel cell
SOP	Standard operating procedures
SOx	Oxides of sulfur
SwRI	Southwest Research Institute
TAG	Technical Advisory Group
TBD	To be determined
TC	Technical committee
U.S.	United States
UC Berkeley	University of California at Berkeley
UL	Underwriters Laboratories
USCAR	U.S. Council for Automotive Research, and organization founded by Ford, General Motors, and DaimlerChrysler to manage collaboration on pre-competitive research
V	Volt
vol	Volume
W	Watt
WFCA	Western Fire Chiefs Association
Wt	Weight
K-12	Kindergarten through twelfth grade

