

## Abbreviations and Acronyms

ASEAN	The Association of Southeast Asian Nations
AC	absorption chiller
AC	alternate current
AEC	alkaline water electrolysis
ANSI	American National Standards Institute
APS	Alternative Policy Scenario
ASME	The American Society of Mechanical Engineers
ATC	annual total cost
BAU	Business-As-Usual
Bcm	billion cubic meter
BG	biomass gasification
BloombergNEF	Bloomberg New Energy Finance
CAISO	California Independent System Operator
CAPEX	Capital Expenditure
CCGT	combined cycle gas turbine
CCHP	combined cooling, heating and power
CCS	carbon capture and storage
CCS	carbon capture and sequestration
CCUS	Carbon Capture, Usage, and Storage
CDE	carbon dioxide emission
CG	coal gasification
CHA	China Hydrogen Alliance
CHEI	China's Hydrogen Energy Industry
CLP	China Electronics Technology Group Corporation
CLS	Chemical Looping Reforming
CNIS	China National Institute of Standardization
CNY	Chinese Yuan
CO <sub>2</sub>	Carbon Dioxide
COM	hydrogen compressor
COP	coefficient of performance
COP	the Conference of the Parties
CSA	Canadian Standards Association
DC	direct current
DNV	Det Norske Veritas
DNV GL	Det Norske Veritas Germanischer Lloyd
EAS	East Asia Summit
EQ	ecosystem quality
ERIA	Economic Research Institute for ASEAN and East Asia
EU	European Union

EUETS	European Union Emissions Trading System
FCEV	fuel-cell electric vehicle
FCH2JU	Fuel Cells and Hydrogen 2 Joint Undertaking
FCV	Fuel cell vehicles
FEC	fossil energy consumption
FF	Fossil Fuel
GCGC	Green Credit Guarantee Corporation
GEIDCO	Global Energy Interconnection Development and Cooperation Organization
GHG	greenhouse gas
GJ	gigajoule
GO	guarantees of origin
GW	gigawatt
H <sub>2</sub>	hydrogen
HCNG	hydrogen enriched compressed natural gas
HDV	Heavy-duty vehicle
HER	hydrogen evolution reaction
HETC	Hydrogen Energy Technical Committee
HFCEP	Hydrogen and Fuel Cell Program
HH	ecosystem quality
HRSs	Hydrogen refueling stations
HySAFER	International Association for Hydrogen Safety
HySUT	Hydrogen Supply and Applied Technology Research Association
HyTReC	Hydrogen Energy Test and Research Center
IA-Hysafe	International Association for Hydrogen Safety
ICE	internal combustion engine
IEA	International Energy Agency
IRENA	International Renewable Energy Agency
ISES	International Solar Energy Society
ISO	International Organization for Standardization
JIS	Japanese Industrial Standards
JISC	Japanese Industrial Standards Committee
kg	kilogram
kgH <sub>2</sub>	kilogram hydrogen
km	kilometre
KOH	potassium hydroxide
kV	kilovolt
kW	kilowatt
kWh	kilowatt hour
kWh	kilowatt hours
LCA	life cycle assessment
LCOE	levelised cost of energy

LCOH	levelised cost of hydrogen
LEAP	Long-range Energy Alternative Planning System
m <sup>2</sup>	square metre
MLIT	Ministry of Land, Infrastructure, Transport and Tourism, the Government of Japan
MSW	municipal solid waste
Mt	million tonne
Mt-C	million tonnes-carbon
Mt-H <sub>2</sub>	million tonnes-hydrogen
Mtoe	million tonnes of oil equivalent
MW	megawatt
NCV	net calorific value
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NFPA2	Technical specification for hydrogen energy
NG	natural gas
Nm <sup>3</sup>	normal cubic metre
Nm <sup>3</sup> /h	normal cubic metre per hour
NPV	Net Present Value
O&M	operation and maintenance
OER	oxygen evolution reaction
OPEX	Operating Expenditure
PEM	proton exchange membrane
PEM	Polymer electrolyte membrane
PEMFC	proton exchange membrane fuel cell
PGU	power generation unit
PV	solar photovoltaic
PV	photovoltaic
R&D	research and development
RD&D	Research Development and Demonstration
Rec	heat recovery system
RES	Renewable Energy Sources
RGGI	the Regional Greenhouse Gas Initiative
SAE	Society of Automotive Engineers
SDS	sustainable development scenario, one of the scenarios in the WEO
SGD	Singapore dollar
SMR	steam methane reforming
SOEC	solid oxide electrolysis
ST	solar thermal collector
STEPS	stated policy scenario, one of the scenarios in the WEO
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TCH	Total cost of the Assessed H <sub>2</sub> Production Routes

TFEC	total final energy consumption
toe	tonnes of oil equivalent
TWh	terawatt hour
USCAR	The United States Council for Automotive Research
USD	United States Dollar
USFA	United States Fire Administration
VRE	variable renewable electricity
WEO	World Energy Outlook, publication of IEA
WTW	well to wheels