

Advanced Water Splitting Benchmarking Team

Proton OnSite | PNNL | Caltech | ASU

Acronyms:

2nd Annual Advanced Water-Splitting Technology Pathways Benchmarking & Protocols Workshop October 29 - 30, 2019

AEM Anion Exchange Membrane
AFM Atomic Force Microscopy
ALS Advanced Light Source
AMR Annual Merit Review

ANL Argonne National Laboratory

ASAP As soon as possible
ASR Area Specific Resistance
AST Accelerated Stress Test

ASTM International standards organization (Originally American Society for Testing and Materials)

ASU Arizona State University
CAD Computer Aided Design
CE Counter Electrode

CSIRO Commonwealth Scientific and Industrial Research Organisation

CSM Colorado School of Mines
CSP Concentrated Solar Power
DFT Density Functional Theory
DOE Department of Energy

EC Electrochemical

ECS Electrochemical Society

EES Energy and Environmental Science
EIS Electrical Impedance Spectroscopy

FC-PAD Fuel Cell Performance and Durability (DOE Consortium)

FIB Focused Ion Beam

G/NG Go/No Go

GC Glassy Carbon (electrode material context)
GC Gas Chromatography (analysis context)

GDL Gas Diffusion Layer

HER Hydrogen Evolution Reaction

HHV Higher Heating Value

H-SOEC Proton Conductor-Based Solid Oxide Electrolyzer Cell

HT High Throughput

HTE High Temperature Electrolysis
HZB Helmholtz-Zentrum Berlin
IEC Ion Exchange Capacity
JRC Joint Research Council















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LBNL Lawrence Berkeley National Laboratory

LHV Lower Heating Value

LLC Limited Liability Corporation

LLNL Lawrence Livermore National Laboratory

LTE Low Temperature Electrolysis
MEA Membrane Electrode Assembly

MPL Microporous Layer

MYRD&D Multi-Year Research, Development, & Deployment

NREL National Renewable Energy Laboratory

OCV Open Circuit Voltage

OER Oxygen Evolution Reaction

O-SOEC Oxide Conductor-Based Solid Oxide Electrolyzer Cell

PEC Photoelectrochemical (water splitting)

PEM Proton Exchange Membrane

PFSA Polyfluorosulfonic Acid
PGM Platinum Group Metal
Pl Principal Investigator

PNNL Pacific Northwest National Laboratory

PTL Porous Transport Layer

PV Photovoltaic

QA Quality Assurance
QC Quality Control

R&D Research and Development
RDE Rotating Disk Electrode
Rp Polarization resistance

RPI Rennselaer Polytechnic Institute

RRT Round Robin Testing
Rs Series resistance
RT Room Temperature

SETO Solar Energy Technology Office
SGL (Carbon component supplier)
SLAC Stanford Linear Accelerator
SNL Sandia National Laboratory
SOEC Solid Oxide Electrolysis Cell

SOFC Solid Oxide Fuel Cell

SOP Standard Operating Procedure
SRNL Savannah River National Laboratory

STCH Solar Thermochemical Hydrogen (water splitting)

STH solar to hydrogen
TBD To be determined















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TEA **Technoeconomic Analysis TGA** Thermogravimetric Analysis TPB **Triple Phase Boundary** TRL **Technology Readiness Level** TUB Technical University of Berlin TUM **Technical University of Munich** UCI University of California, Irvine **UCSD** University of California, San Diego **UTRC** United Technologies Research Center WVU West Virginia University











