Sustainable Development of Renewable Energy

Opportunities in Production, Storage, and Integration

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Utilization of landfill and industrial waste gases in solid oxide fuel cells: challenges and perspectives

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List of abbreviations and denotations

3YSZ, 8YSZ	3 and 8 mol.% Y_2O_3-stabilized ZrO_2
6ScSZ	6 mol.% Sc_2O_3-stabilized ZrO_2
10Sc1CeSZ	10 mol.% Sc_2O_3 and 1 mol.% Y_2O_3 co-stabilized ZrO_2
10Sc1YSZ	10 mol.% Y_2O_3 and 1 mol.% Y_2O_3 co-stabilized ZrO_2
CHP	Combined heat and power
CMM	Coal mine methane
COG	Coke oven gas
D4	Octamethylcyclotetrasiloxane
D5	Decamethylcyclopentasiloxane
DSC	double-sided cathode
EDS	Energy dispersive spectroscopy
FESEM	Field emission scanning electron microscopy
FINEX	Process based on the direct use of iron ore fines and non-coking coal
GDC	Gadolinia-doped ceria
GDC10, GDC20	$Ce_{0.9}Gd_{0.1}O_{1.95}$, $Ce_{0.8}Gd_{0.2}O_{1.9}$
GT	Gas turbine
ICE	Reciprocating internal combustion engine
IIR	Indirect Internal Reforming
LHV	lower heating value
LNG	Liquefied natural gas
LOHC	Liquid organic hydrogen carrier
LPG	Liquefied petroleum gas
LSC	$(La,Sr)CoO_{3-\delta}$
LSCF	$(La,Sr)(Fe,Co)O_{3-\delta}$
LSM	$(La,Sr)_{1-x}MnO_{3-\delta}$
MCFCs	Molten carbonate fuel cells
MEA	Membrane-electrode assembly
MSW	Municipal solid waste
OCV	Open circuit voltage
ScSZ	Sc_2O_3-stabilized ZrO_2
SDC15, SDC20	$Ce_{0.85}Sm_{0.15}O_{1.925}$, $Ce_{0.8}Sm_{0.2}O_{1.9}$

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