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**Part 1: Basic elements for avoiding greenhouse gases and
generating climate-neutral energy
(technical toolbox)**

Registers

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0.2. List of abbreviations

ABWR	Advanced Boiling Water Reactor
AC	Alternating Current
ACC	Annuited capacity costs: capacity costs on an annual basis
AEL	Alkaline electrolyser
AEM	Anion Exchange Membrane
EGR	Advanced gas-cooled reactor
ASU	Air Separation Unit
ATR	Autothermal Reforming
aUGP	aggregated environmental hazard potential
BEV	Battery electric vehicle
BFG	Blast Furnace Gas
BGE	Federal Company for Final Disposal
BGR	Federal Institute for Geosciences and Natural Resources
BGS	British Geological Survey
GDP	Gross domestic product
BMZ	Federal Ministry for International Cooperation
BNPP	Belarusian Power Plants
BWR	Boiling Water Reactor
CAES	Compressed Air Energy Storage: surplus electricity is used to compress air, which serves as a storage medium.
CAGR	Compound Annual Growth Rate
CBI	Confederation of British Industry
CCC	Cryogenic Carbon Capture
CCGT	Combined cycle gas turbine
CCS	Carbon Capture and Storage
CCU	Carbon Capture and Usage
CCUS	Carbon Capture and Usage
CdTe	Cadmium telluride
CFB	Circulating fluidized bed
CFL	Compact Fluorescent Lamp ("energy-saving lamp")
CGN	China General Nuclear
CHP	Combined Heat and Power
CLC	Chemical Loop Combustion
CNEA	Comisión Nacional de Energía Atómica, Argentina
CNNC	China National Nuclear Corporation
CRM	Critical Raw Materials
CSP	Concentrated Solar Power
DAC	Direct Air Capture
DBT	Dibenzyltoluene
GDR	German Democratic Republic
DERA	German Raw Materials Agency
DFR	<i>Dual Fluid Reactor</i>

DoD	Department of Defense of the USA, Department of Defence
DoE	Department of Energy of the USA, Department of Energy
DRK	Democratic Republic of the Congo
DVGW	German Technical and Scientific Association for Gas and Water e.V.
EDF	Électricité de France SA
EEZ	Exclusive Economic Zone: An exclusive economic zone, as prescribed by the 1982 United Nations Convention on the Law of the Sea, is an area of the sea in which a sovereign state has special rights with respect to the exploration and exploitation of marine resources, including hydro and wind energy production.
EIA	Energy Information Administration (United States)
ENEC	(European Norms Electrical Certification)
EOR	Enhanced Oil Recapture (through CO ₂ injection)
EPI	Environmental Performance Index
EPR	European pressurised water reactor
ERMA	European Raw Material Alliance
EUR	Euro
EV	Electro Vehicle, vehicle with electric drive
FBR	Fast Breeder Reactor
FCC	Fuel Combustion Cell
FEMP	Federation of European Mineral Programs
FNR	Fast neutron reactor
FOAK	First of a Kind
FÖS	Forum Ecological-Social Market Economy
GCF	Green Climate Fund
GCR	Gas Cooled Reactor
GES	Global Energy Solutions e.V.
GHG	Greenhouse Gas(es)
GIZ	German Society for International Cooperation
GLR	The weighted country risk (GLR) of mine production, refined product production and net exports is calculated by weighting the countries' production, production or net export shares with an index or country ranking. The World Bank Group's Worldwide Governance Indicators have proven useful for this purpose.
Gt	Giga ton = 1 billion t = 10 ⁹ t
GW(h)	10 ⁹ · W (h)
HHI	The Herfindahl-Hirschman Index is defined as the sum of the squared share values of all market participants. The value range of the index lies in the interval $1/[\text{number of market participants}] \leq \text{HHI} \leq 1$.
HREE	Heavy Rare Earth Elements: Yttrium ³⁹ , Gadolinium ⁶⁴ , Terbium ⁶⁵ , Dysprosium, Holmium, Erbium, Thullium, Ytterbium, Lutetium ⁷¹
HT	High Temperature
HTEL	High temperature electrolysis
HTGR	High temperature gas-cooled reactor
HVO	Hydrotreated Vegetable Oils

HWR	Heavy Water Reactor
IAEA	International Atomic Energy Agency
IEA	International Energy Agency
IEC	Wind classes of wind turbines are defined in IEC 61400-1.
IGCC	Integrated gasification combined cycle
III	Generation III nuclear reactor
INES	International scale for nuclear and radiological events
IPCC	Intergovernmental Panel on Climate Change
ISL	In-situ leaching in the extraction of Uranium
ITER	next generation Tokamak (fusion reactor)
ITM	ITM Power, British company integrates hydrogen plants
IWS	Fraunhofer IWS for complex system solutions in materials and laser technology
JGC	Japanese company
JOGMEG	Japan Oil, Gas and Metal National Corporation
KHNP	Korea Hydro & Nuclear Power
KOH	Potassium hydroxide
kW, MW, GW, TW	Power in watts k=kilo, M=Mega, G=Giga, T=Tera
kWh, MWh, GWh, TWh	Energy in watt-hours k=kilo 10^3 , M=Mega 10^6 , G=Giga 10^9 , T=Tera 10^{12}
Lanthanides	REE from atomic number 57 (lanthanum ⁵⁷) to 71 (lutetium) ⁷¹
LBST	Ludwig-Bölkow-Systemtechnik GmbH
LCA	Life Cycle Analysis
LCE	Lithium Carbonate Equivalent: Lithium Carbonate is the first chemical in the lithium production process and is often used as a measure of the amount of lithium produced.
LCOE	Levelised Cost of Electricity/ Electricity production costs
LCOH	Levelized Cost of Hydrogen/production costs for hydrogen
LCOS	Levelised Cost of Storage. Electricity costs when withdrawing electricity from the electricity storage system
LEILAC	Low Emission Intensity Lime and Cement
LFL	Linear Fluorescent Lamp (LED luminaire)
LFP	Lithium iron phosphate (chemical: LiFePO_4)
LHV	Lower Heating Value
TRUCK	Trucks, e.g. means of transport for hydrogen
LMO	Lithium-ion manganese oxide battery with electrodes made of LMO are inexpensive, non-toxic and offer better thermal stability.
LNG	Liquid Natural Gas, liquefied natural gas (methane)
LOHC	Liquid Organic Hydrogen Carrier: organic substances that bind and transport H ₂ and can release it again at the destination in the event of dehydration.
LPG	Liquid propane gas
LREE	Light Rare Earth Elements: Scandium ²¹ , Lanthanum ⁵⁷ , Cerium ⁵⁸ , Praseodymium, Neodymium, Promethium, Samarium, Europium ⁶³
LT	Low Temperature

EAA	Light water graphite reactor
LWR	Light Water Reactor
MCH	Methylcyclohexane
MEA	Monoethanolamines
MENA	Middle East - North Africa
METI	Ministry of Economy, Trade and Industry, Japan
MMAJ	Metal Mining Agency of Japan, established 1963 in Japan
MPPT	Maximum Power Point Tracker
MRP	Minerals Reconnaissance Program, established 1975 in UK
MSR	Molten Salt Reactor
MSW	Municipal Solid Waste
Mt	Mega ton = 1 Mil t = 10 ⁶ t
NCA	Lithium Nickel Cobalt Alumina Battery
NETL	National Energy Techn. Lab
NIB	Sodium-ion battery
NIF	National Ignition Facility
NIMS	National Institute for Material Science, Japan
NMC	Batteries with lithium, nickel, manganese and cobalt oxide
NOAA	National Oceanic and Atmospheric Administration of the US Department of Commerce
NPCIL	Nuclear Power Cooperation of India Limited
NPPA	Nuclear Power Plants Authority, Egypt
NRC	National Research Council of the USA
NREL	National Renewable Energy Lab (United States)
NZE	Net Zero Emissions
OCR	Ocean Carbon Sequestration
OECD	Organization for Economic Co-operation and Development
OPEX	Operating Expenses
PEM	Proton Exchange Membrane
PFBR	Prototype Fast Breeder Reactor
PGM	Platinum Group Metals: Ru, Rh, Pd, Os, Ir, Pr
PHWR	Pressurized heavy water reactor
PNNL	Pacific Northwest National Laboratory
PWR	Pressurised Water Reactor
REDD	Reducing Emissions from Deforestation and Forest Degradation
REE, SEE	Rare Earth Elements, Rare Earth Elements
REO	Rare Earth Oxide, quantity indication of extracted oxidic metals
RMIS	Raw Materials Information System, https://rmis.jrc.ec.europa.eu/
SCPC	Supercritical pulverized coal
SDG	Sustainable Development Goals, cf. https://sdgs.un.org/goals
SDS	Sustainable Development Scenario
SGT	Industrial gas turbine from Siemens
SMR	Small Modular Reactor
SMSP	Strategic Materials Security Program, US programme for the treatment of strategic materials

SOE	State-owned enterprises
SPIC	one of the five major power generation groups in China
SSAB	Svenskt Stål AB
STEP	Battery producer Shimano
t	(Metric) ton = 1,000 kg, also in connection with common designations for orders of magnitude M(ega), G(iga)
T-MCH	Toluene-methylcyclohexane
THG	Greenhouse gas
TKIS	Thyssen Krupp Industrial Solutions
TNO	Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek (Dutch Organisation for Applied Scientific Research)
TOI	VVER-TOI in Russian means "Water-Cooled Water-Moderated Energy Reactor - Universal Optimised Digital".
TRL	Technology Readiness Level
TSA	Temperature Swing Adsorber
TVO	Teollisuuden Voima Oyj. Operator of the first EPR
UAE	United Arab Emirates
UNFCCC	United Nations Frame Convention on Climate Change
USA	United States of America
USD	US Dollar
USGS	United States Geological Survey
VNG	Gas and gas infrastructure group of companies
WACC	Weighted average cost of capital
WBDG	Whole Building Design Guide
WEA	Wind turbine (German: Wind Energie Anlage)
WENRA	Western European Nuclear Regulators Association
WISE	https://wiseinternational.org
WNA	World Nuclear Association

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Global Energy Solutions e.V. erarbeitet weltweite Lösungen und Geschäftsmodelle zu Energie-, Klima- und Entwicklungsfragen. Unser Ziel ist ein klimaneutrales Energiesystem – mit folgenden Elementen: grüner Strom, grüner Wasserstoff, biologisches sowie technisches CO₂-Recycling, klimaneutrale Energieträger und Treibstoffe – darunter Methanol. Bei der Produktion wird CO₂ materiell genutzt und so zu einem interessanten Wirtschaftsgut. Zusammen mit Industrie- und Wissenschaftspartnern entwickeln wir technische, unternehmerische und administrative Grundlagen für bedeutsame Investitionen in diesem Zukunftsfeld. Investitionen, die sich rechnen.

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