



MOTHERS OF INVENTION INDEX

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Investors' options are not limited to energy producers. There is considerable value created by a variety of companies that are finding new ways to store, distribute and apply energy. Others offer products and solutions that will save energy for consumers and industry in everyday tasks and processes. We are also interested in a group of innovators that are finding new chemical processes and materials that make it possible to use valuable resources more efficiently and with lower energy requirements. Along the same vein we find companies involved in reducing costly, energy consuming toxic emissions. Some companies are finding ways to use carbon dioxide in new and valuable ways.

Front Cover Image: Asterix Laser System

FUEL CELLS GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Acumentrics Holding	Private	US	Solid oxide fuel cells	http://www.acumentrics.com/
AFC Energy, Inc.	AFC.L	UK	Alkaline fuel cells	http://www.afcenergy.com/
Altergy Systems	Private	US	PEM fuel cell development	http://www.altergy.com/
Ballard Power Systems, Inc.	BLDP	US	Fuel cell development	http://www.ballard.com/
Bloom Energy Corp.	BE	US	Solid oxide fuel cells	http://www.bloomenergy.com/
Cellcraft AB	Private	Sweden	Fuel cells for remote sites	https://fuelcells.cellkraft.se/
CERES Power Holdings	CWR.L	UK	Solid oxide fuel cells	http://www.cerespower.com/
Doosan Fuel Cell	Private	US	Fuel cell power systems	http://www.doosanfuelcell.com/en/
Elcogen AS	Private	Estonia	Solid oxide fuel cells	http://www.elcogen.com/
EnerFuel, Inc.	Private	US	HT-PEM fuel cells	http://www.enerfuel.com/
FuelCell Energy, Inc.	FCEL	US	Fuel cell development	http://www.fuelcellenergy.com/
Intelligent Energy, Ltd.	Private	UK	Air cooled fuel cells	http://www.intelligent-energy.com/
Nedstack BV	Private	Netherlands	PEM fuel cells	http://www.nedstack.com/
Nuvera Fuel Cells (Hystra-Yale)	HY	US	Hydrogen fuel cells for transport	http://www.nuvera.com/
Oorja Protonics, Inc.	Private	US	Fuels cells for grid independence	http://oorjafuelcells.com/
Plug Power, Inc.	PLUG	US	Fuel cell production	http://www.plugpower.com/
PowerCell Sweden AB	Private	Sweden	PEM fuel cells	http://www.powercell.se/
Proton Power Systems	PPS.L	UK	Fuel cell system development	http://www.protonpowersystems.com/
Serenergy A/S	Private	Denmark	Methanol fuel cells	http://www.serenergy.com/
SFC Energy AG	F3C.BE	Germany	Direct methanol fuel cells	http://www.sfc.com/
SOLIDPower S.p.a.	Private	Italy	Solid oxide fuel cells	http://www.solidpower.com/en/
Tropical Green Technologies	Private	Greece	Hydrogen fuel cells	http://www.tropical.gr/
Ultra Electronics Holdings	ULE.L	UK	Solid oxide fuel cells	https://www.ultra-fuelcells.com/
Waste2Watergy, Inc.	Private	US	Electrochemical microbes for fuel cell efficiency	http://www.waste2watergy.com/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

STORAGE GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
24M Technologies	Private	US	Advanced storage development	http://24mtechnologies.com/
A123 Systems, Inc.	Private	US	Lithium-ion batteries	http://www.a123systems.com/
AeroVironment	AVAV	US	Electric vehicle charging systems	http://www.avinc.com/
Altair Nanotechnologies, Inc.	Private	US	Lithium ion battery technology	http://www.altairnano.com/
Ambri, Inc.	Private	US	Liquid metal battery technologies	http://www.ambri.com/
Aquion Energy	Private	US	Off-grid micro-energy	http://www.aquionenergy.com/
Argo Natural Resources Ltd.	Private	UK	Ionic liquids for battery electrolyte	https://www.argo-at.com/
Automotive Energy Supply Corp.	Private	US	Lithium ion battery technology	http://www.eco-aesc-lb.com/en/
Beacon Power (RGA Investments)	Private	US	Fly-wheel energy storage	http://www.beaconpower.com/
Bosch Cobasys	BOSCHLTD.BO	Germany	Nickel metal hydride batteries	https://www.bosch.de/en/
C&D Technologies, Inc.	Private	US	Stand-by electric storage	http://www.cdtechno.com/
CBAK Energy Technology	CBAT	China	Lithium ion batteries	http://www.bak.com.cn/
China Ritar Power Corp.	Private	China	Electric vehicle battery production	http://www.ritarpower.com/
Deeya Energy, Inc.	Private	US	Redox flow battery technologies	http://www.deeyaenergy.com/
Electrovaya Corp.	EFL.TO	Canada	Lithium ion polymer batteries	http://www.electrovaya.com/
EnerDel, Inc.	Private	Russia	Lithium-ion battery technology	http://www.enerdel.com/
Energy Vault, SA	Private	Switzerland	Mechanical energy storage system	https://energyvault.ch/
EnerSys, Inc.	ENS	US	Industrial batteries	http://www.enersysinc.com/
Enevatte Corporation	Private	US	Silicon-dominant composite anode	http://www.enevatte.com/
ENOVIX Corp.	Private	US	Mobile device energy storage	http://www.enovix.com/
Firefly International Energy	Private	US	Lead acid battery technology	http://fireflyenergy.com/
Flux Power Holdings, Inc.	FLUX	US	Lithium ion battery developer	http://www.fluxpwr.com/
FuelPositive Corporation	NHHH.V	Canada	Automotive power storage solutions	https://eestorcorp.com/
FZSoNick	Private	Switzerland	Sodium nickel batteries	http://www.fiammsonick.com/
GeoBattery Corp.	Private	US	Utility scale storage systems	http://www.geobattery.com/
Group14 Technologies	Private	US	Composite anode materials	http://www.group14technologies.com/
Highpower International	Private	China	Rechargeable batteries	http://www.highpowertech.com/
Hitachi Vehicle Energy Ltd.	Private	Japan	Electric vehicle batteries	http://www.hitachi-ve.co.jp/en/

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STORAGE GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Invinity Energy Systems	IVVGF	Australia	Vanadium redox flow batteries	https://www.redtenenergy.com/
ITM Power Plc	ITM.L	UK	Energy storage solutions	http://www.itm-power.com/
Johnson Controls	JCI	US	Lead-acid, AGM & Li-ion batteries	http://www.johnsoncontrols.com/
K2 Energy Solutions	Private	US	Battery management solutions	https://k2battery.com/
Kemet Corp (Yageo Group)	Private	US	Capacitor solutions	http://www.kemet.com/
LG Chemical Ltd.	051910.KS	Korea	Electric vehicle batteries	http://lgcpi.com/chem.shtml
Lithium Energy Japan	Private	Japan	Lithium ion car batteries	http://lithiumenergy.jp/jp/
Lithium Werks B.V.	Private	US	Lithium-based battery development	https://lithiumwerks.com/
Maxwell Technologies (Tesla)	Private	US	Industrial capacitors, batteries	http://www.maxwell.com/
Mechanical Technology, Inc.	MKTY	US	Solar metrology systems	http://www.mechtech.com/
NanoGraf Technologies	Private	US	Silicon-graphite composite anodes	https://nanograf.com/
Nexeon	Private	UK	Binder polymers for silicon anodes	https://www.nexeon.co.uk/
Panasonic Corporation	6752.T	Japan	Electric vehicle batteries	http://www.panasonic.net/
Planar Energy Devices Corp.	Private	US	Solid state battery development	http://planarenergy.com/
Polypore Internat'l (Asahi Kasei Group)	Private	US	Materials for lithium-ion batteries	http://www.polypore.net/
Primus Power	Private	US	Zinc bromide flow batteries	http://www.primuspower.com/en/
Prudent Energy & Services Ltd.	Private	US	Vanadium electrolyte batteries	http://prudentenergytld.com/
Red Flow Ltd.	RFX.AX	Australia	Zinc bromide flow battery technology	http://www.redflow.com/
Saft Advanced Power Solutions	JCI	France	Lithium ion battery technology	http://www.saftbatteries.com/
Seeo, Inc.	Private	US	Solid state battery development	http://www.seeo.com/
Sila Nanotechnologies	Private	US	Silicon-based battery anodes	https://silanano.com/
Sion Power	Private	US	Electric vehicle batteries	http://www.sionpower.com/
Sonnen GmbH	Private	Germany	Residential renewable power storage	https://sonnengroup.com/
Stem, Inc.	Private	US	Intelligent energy storage network	http://www.stem.com/
Sumitomo Electric Industries	SMT0Y	Japan	Redox flow battery technology	http://global-sei.com/
TDK Corporation	TTDKY	Japan	Aluminum electrolytic capacitors	https://www.tdk-electronics.tdk.com/
Toshiba Corporation	TOSBF	Japan	Super charge ion batteries	http://www.toshiba.com/
Ultralife Corp.	ULBI	US	Communications systems power storage solutions	http://www.ultralifecorp.com/
UniEnergy Technologies	Private	US	Vanadium redox flow battery	http://www.uetechologies.com/
Vionx Energy	Private	US	Zinc-flow battery technology	http://www.vionxenergy.com/
ViZn Energy Systems, LLC	Private	US	Zinc air storage batteries	http://www.viznenergy.com/

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STORAGE GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Toshiba Corporation	TOSBF	Japan	Super charge ion batteries	http://www.toshiba.com/
Ultralife Corp.	ULBI	US	Communications systems power storage solu-	http://www.ultralifecorp.com/
UniEnergy Technologies	Private	US	Vanadium redox flow battery	http://www.uetechologies.com/
Vionx Energy	Private	US	Zinc-flow battery technology	http://www.vionxenergy.com/
ViZn Energy Systems, LLC	Private	US	Zinc air storage batteries	http://www.viznenergy.com/

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SMART GRID GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
ABB Ltd.	ABB	Switzerland	Power distribution solutions	http://www.abb.com/
American Superconductor Corp.	AMSC	US	Electric power infrastructure technologies	http://www.amsc.com/
Blink Charging Co.	BLNK	US	Electric car charging infrastructure	http://www.blinkcharging.com/about
BPL Global Ltd.	Private	France	Software solutions for energy distribution	https://www.connectedenergy.com/
ChargePoint, Inc.	Private	US	Electric vehicle charging solution	http://www.chargepoint.com
Digi International	DGII	US	Power management solutions	http://www.digi.com/
Eagle Crest Energy	Private	US	Pumped storage solutions	http://eaglemountainenergy.net/
Eaton Corporation Plc	ETN	Ireland	Electrical, circuit protection products	http://www.eaton.com/Eaton/index.htm
Enel X, Inc.	ENOC	US	Demand response solutions	https://www.enerX.com/
Enel, SpA (EnerNoc)	ENEL.MI	Italy	Demand response services	http://www.enel.com/
Enphase Energy, Inc.	ENPH	US	Microinverter for solar power	http://www.enphaseenergy.com/
ESCO Technologies, Inc.	ESE	US	Engineered products, services	http://www.escotechnologies.com/
Evatran Group, Inc.	Private	US	EV Charging systems	http://www.pluglesspower.com/
eVgo, Inc.	Private	US	Electric vehicle charging stations	https://www.evgo.com/
General Cable Corp.	Private	US	Industrial electric cabling, connectivity	http://www.generalcable.com/
Gridsmart, Inc.	Private	US	Smart-grid data collection solutions	https://gridsmart.com/
HEVO Power, Inc.	Private	US	Wireless EV charging solution	http://www.hevopower.com
ITC Holdings Co. (Fortis)	FTS	US	Electricity transmission, U.S.	http://www.itc-holdings.com/
Itron, Inc. (Comverge)	ITRI	US	Demand management, load capacity solutions	http://www.itron.com/
KG Technologies	Private	US	Smart meter technology	https://kgtechnologies.net/
MasTec, Inc.	MTZ	US	Grid engineering, construction	http://www.mastec.com/
National Grid Plc	NGG	UK	Electricity transmission, U.K.	http://www.nationalgrid.com/
Nexant, Inc.	Private	US	Smart grid management	http://www.nexant.com/
NGK Insulators, Ltd.	NGKIF	Japan	Storage solutions for wind energy	http://www.ngk.co.jp/english/
Obvius Holdings	Private	US	Smart metering solutions	http://www.obvius.com/
Opower, Inc. (Oracle)	ORCL	US	Smart grid software solutions	http://www.opower.com/
Pike Electric Corporation	Private	US	Power delivery systems engineering, construction	http://www.pike.com/
Quanta Services, Inc.	PWR	US	Electric power infrastructure solutions	http://www.quantaservices.com/

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SMART GRID GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Satcon Technology Corp.	STCM.TA	US	Power conversion solutions	http://www.satcon.com/
Schneider Electric SA	SU.PA	France	Transmission, distribution solutions	http://www.schneider-electric.com/
SemaConnect	Private	US	Electric vehicle charging station	https://www.semaconnect.com/
Silver Spring Networks (Itron)	ITRI	US	Smart grid application	http://www.silverspringnet.com/
SMA Solar Technology, AG	S92.DE	Germany	Inverters for solar systems	http://www.sma.de/en/
Think Eco, Inc.	Private	US	Demand response, grid efficiency solutions	http://www.thinkecoinc.com/
Varentec, Inc.	Private	US	Grid edge management	http://varentec.com/

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EFFICIENCY GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Acorn Energy, Inc.	ACFN	US	Efficiency, environmental solutions	http://www.acornenergy.com/
Acuity Brands, Inc.	AYI	US	Lighting fixtures, controls	http://www.acuitybrands.com/
Advanced Microgrid Solutions	Private	US	Energy storage	http://advmicrogrid.com/
Aegion Corp.	AEGN	US	Corrosion protection solutions	http://www.aegion.com/
Aircuity, Inc.	Private	US	Energy efficiency solutions	http://www.aircuity.com/
Andritz AG	ADRZF	Austria	Biofuel production equipment	http://www.andritz.com/
Apogee Enterprises, Inc.	APOG	US	Value-added glass products	http://www.apog.com/
AXYS Technologies, Inc.	Private	Canada	Remote environmental monitoring	http://www.axystechnologies.com/
BluNRGY Group Ltd.	CBDEF	Australia	Monitoring and control for solar PV	http://www.bluenergy.com/
Bridgelux, Inc.	Private	US	LED manufacturer	http://bridgelux.com/
Capstone Turbine Corporation	CGRN	US	Efficiency turbine generators	http://www.capstoneturbine.com/
China Recycling Energy Corp.	CREG	China	Waste energy recycling	http://www.creg-cn.com/
CleaResult	Private	US	Home energy efficiency	https://www.cleareresult.com/
ClearSign Combustion Corp.	CLIR	US	Combustion solutions	http://www.clearsign.com/
Community Energy, Inc.	Private	US	Renewable energy market	http://www.communityenergyinc.com/
Complete Solar	Private	US	Solar power integration	http://completesolar.com/
Cree, Inc.	CREE	US	Light emitting diode lighting products	http://www.cree.com/
CropX, Ltd.	Private	Israel	Water management	http://www.cropx.com/
DAIS Analytic Corp.	DLYT	US	Water-based packaged heating, cooling	http://www.daisanalytic.com/
Dialight, Plc	DIA.L	UK	Industrial LED lighting	http://www.dialight.com/
Digital Lumens, Inc.	Private	US	LED-based lighting technologies	http://www.digitallumens.com/
Ecology Coatings, Inc.	Private	US	Nano-enabled industrial coatings	http://ecologycoatings.com/
eCurv	Private	US	Energy demand management software	https://ecurv.com/
Emerson Electric	EMR	US	Power efficiency solutions	https://www.emerson.com/en-us
Energy Focus, Inc.	EFOI	US	Lighting technologies	http://www.energyfocusinc.com/
Energy Recovery, Inc.	ERII	US	Efficiency solutions for desalination systems	http://www.energyrecovery.com/
Enlighted (Siemens)	SIE.DE	US	Energy efficient buildings	http://enlightedinc.com/

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EFFICIENCY GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Epistar Corporation	Private	Taiwan	LED lighting	https://www.epistar.com/EpistarTw/index
Evonik Industries AG	EVK.DE	Germany	High-performance chemicals	http://corporate.evonik.com/en/
Fallbrook Technologies, Inc.	Private	US	Automotive engine efficiency	http://www.fallbrooktech.com/
Fenix Outdoor International AG	FOI-B.STO	Switzerland	Sustainable textiles, materials	http://www.fenixoutdoor.se/
Genbright, LLC	Private	US	Distributed energy systems	http://www.genbright.com/
Gentherm, Inc.	THRM	US	Thermoelectric technology	http://www.gentherm.com/
GreenLogic Energy	Private	US	Mixed renewable energy developer	http://www.greenlogic.com/
GreenRay, Inc.	Private	US	LED light for business, industry	http://www.greenrayled.com/
Gridpoint, Inc.	Private	US	Energy management systems	http://www.gridpoint.com/
HDM Systems Corp.	Private	US	Engine efficiency	https://www.hdm-sys.com/
Heatmine	Private	Canada	Computer thermal energy recycling	https://www.heatmine.com/
Hydrogen Engine Center, Inc.	HYEG	US	Engine efficiency solutions	http://www.cleangreenengines.com/
Illumitex, Inc.	Private	US	LED lighting, indoor farming	http://illumitex.com/
Invenergy Wind, LLC	Private	US	Wind, solar and natgas infrastructure	https://invenergylc.com/
Kadant, Inc.	KAI	US	Paper recycling solutions	http://www.kadant.com/
Layne Christensen (Granite)	GVA	US	Water management	http://www.layne.com/
Lighting Science Group, Inc.	LSCG	US	Lighting solutions, LED	http://www.lsgc.com/
Lime Energy Co.	LIME	US	Energy efficiency engineering services	http://www.lime-energy.com/
LSI Industries	LYTS	US	Efficient lighting solutions	http://www.lsi-industries.com/
Lumenpulse	Private	Canada	LED lighting and controls	http://www.lumenpulse.com/
Micropelt GmbH	Private	Germany	Thin film thermoelectric components	http://www.micropelt.com/index.php
Mide Technology Corp.	Private	US	Vibration energy harvesting	http://www.mide.com/index.php
Nucor Corporation	NUE	US	Steel producer and recycler	http://www.nucor.com/
O2Micro International	OIIM	Cayman Is.	Power management chips	http://www.o2micro.com/
Orion Energy Systems, Inc.	OESX	US	Lighting efficiency solutions	http://www.oesx.com/
Power Efficiency Corp.	Private	US	Energy efficiency devices	https://www.peffcorp.com/
Power Integrations, Inc.	POWI	US	Electronic power components	https://www.power.com/
PowerSecure (Southern Co.)	SO	US	Smart-grid monitoring	http://www.powersecure.com/

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EFFICIENCY GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
PowerSecure (Southern Co.)	SO	US	Smart-grid monitoring	http://www.powersecure.com/
Pure Technologies (Xylem)	XYL	Canada	Waste conservation	http://www.puretechltd.com/
Qarnot Computing	Private	France	Alternative heating	http://www.qarnot-computing.com/
Revolution Lighting, Inc.	Private	US	Lighting solutions, engineering	http://www.nexuslighting.com/
Roper Industries	ROP	US	Energy, resource efficiency	http://www.roperind.com/
Rubicon Technology, Inc.	RBCN	US	Electronic materials, lighting substrates	http://www.rubicon-es2.com/
RYPOS, Inc.	Private	US	Emissions control systems	http://www.rypos.com/
Schwing Bioset	Private	US	Wastewater reclamation	http://www.schwingbioset.com/
SemiLEDs	LEDs	Taiwan	High brightness LED chips	http://www.semileds.com/
Sencera Energy	Private	US	Heat/power engine development	http://www.sencera.com/
SPX Corp.	SPXC	US	Industrial process efficiency	http://www.spx.com/
Tecogen, Inc.	TGEN	US	Turnkey energy solutions	https://www.tecogen.com/
Tigo Energy, Inc.	Private	US	Solar system management	https://www.tigoenergy.com/
Universal Display Corp.	OLED	US	OLED lighting development	http://www.universaldisplay.com/
UQM Technologies (Sauer Danfoss)	Private	US	Energy, automotive propulsion systems	http://www.uqm.com/
Vicor Corporation	VICR	US	Power components, systems	http://www.vicorpower.com/
VolkerWessels	Private	Holland	Construction materials, recycling	https://en.volkerwessels.com/
Westport Innovations	WPRT	Canada	Fuel efficiency, emissions control	http://www.wfsinc.com/
Woodward, Inc.	WWD	US	Energy control, aerospace	http://www.woodward.com/

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eCYCLING GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Apto Solutions	Private	US	Asset recovery, disposition	http://www.aptosolutions.com/
Arrow Electronics	ARW	US	Electronic asset disposition	http://www.arrow.com/
EPC USA, Inc.	Private	US	Asset recovery, disposition and recycling	http://www.epcusa.com/
HOBi International	Private	US	Disposal, recycling cellular equipment	http://hobi.com/
Insight Enterprises, Inc.	NSIT	US	Computer, software solutions for business	https://www.insight.com/
JanOne.com	JAN	US	Electronics recycling	http://arcainc.com
Sims Metal Management	SGM.AX	Australia	Electronics recovery and recycling	https://www.simsmm.com/
US Micro (Arrow)	Private	US	Electronics refurbishing, recycling	https://www.arrow.com/

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EMISSIONS CONTROL GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
ADA-ES, Inc.	ADES	US	Carbon emissions control equipment	http://www.adaes.com/
Advanced Emissions Solutions	ADES	US	Coal emissions reductions solutions	http://www.advancedemissionssolutions.com/
Ashland, Inc.	ASH	US	Specialty chemicals for pollution control systems	http://www.ashland.com/
Babcock & Wilcox Enterprises	BW	US	Emission reduction equipment	http://www.babcock.com/
BacTech Environmental Corp.	BAC: CN	Canada	Environmental remediation	http://www.bactechgreen.com/
Ducon, Inc.	Private	US	Flue gas solutions	http://www.ducon.com/FGD.html
Ecologics Solutions	Private	US	Environmentally sound cleaning solutions	http://www.ecologicsolutions.com/
Era Ecosystem Services	Private	US	Forest-based carbon sink development	http://www.eraecosystems.com/
Euro Tech Holdings, Inc.	CLWT	Hong Kong	Power generation equipment, water treatment	http://www.euro-tech.com/
Finite Carbon	Private	US	Forest carbon offset development	http://www.finitecarbon.com/
Flue Gas Solutions, Inc.	Private	US	Flue gas control technology	http://www.fluegassolutions.com/home
Fuel Tech, Inc.	FTEK	US	Emissions control solutions	http://www.ftek.com/
Hitachi Group	HTHIY	Japan	Power generation equipment	http://www.hitachi.com/products/business/energy/index.html
LiqTech International, Inc.	LIQT	US	Air and liquid filters	http://www.liqtech.com
Midwest Energy Emissions Corp.	MEEC	US	Coal-fired emissions reduction	http://www.midwestemissions.com/

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CARBON CAPTURE GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
3 Degrees Group, Inc.	Private	US	Carbon offsets provider	http://www.3degreesinc.com/
Air Liquide (Airgas)	AI.PA	France	Atmospheric gases, hydrogen	https://www.airliquide.com/
Air Products & Chemicals, Inc.	APD	US	Atmospheric, specialty, process gases	http://www.airproducts.com/
Akermin, Inc.	Private	US	Carbon capture technology	http://www.akermin.com
Algae Floating Systems, Inc.	Private	US	Carbon capture, sequestration systems	http://www.algaefloatingsystems.com/
Carbon Engineering Ltd.	Private	Canada	Direct air carbon capture	http://carbonengineering.com/
Climeworks AG	Private	Switzerland	Atmospheric carbon capture	http://www.climeworks.com/
CO2 Solutions, Inc.	CST.V	Canada	Carbon dioxide capture	http://www.co2solutions.com/en
Equinor, ASA	EQNR	Norway	Carbon sequestration	https://www.equinor.com/en.html
Global Thermostat	Private	US	Industrial carbon capture	http://globalthermostat.com/
John Wood Group Plc	WG.L	UK	Carbon capture systems equipment	http://www.woodplc.com
Novomer, Inc.	Private	US	Catalysts for carbon capture	http://www.novomer.com/
Sustainable Energy Solutions	Private	US	Carbon capture solution	https://sesinnovation.com/
Technology Center Mongstad	Private	Norway	Carbon capture technologies	http://www.tcmda.com/en/

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MATERIALS GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Advantage Lithium	AAL.V	Canada	Lithium asset development	http://www.advantagelithium.com/
Albemarle Corp.	ALB	U.S.	Lithium production	https://www.albemarle.com/
Altius Minerals	ALS.V	Canada	Uranium development	http://altiusminerals.com/
Apollo Solar Energy, Inc.	ASOE	China	Solar cell materials	http://www.scasolar.com/
Avalon Advanced Materials, Inc.	AVLNF	Canada	Rare earth mining	http://avalonraremetals.com/
Azincourt Energy Corporation	AAZ.V	Canada	Uranium asset development	http://azincourtenergy.com/
Bass Metals, Inc. (Stratmin)	BSM.AX	Australia	Graphite materials production	https://www.bassmetals.com.au/
Berkeley Energia Ltd.	BKY.L	U.K.	Uranium production	https://www.berkeleyenergia.com/
Cameco Corp.	CCJ	Canada	Uranium concentrate production	https://www.cameco.com/
Canada Carbon, Inc.	CCB.V	Canada	Graphite resource development	https://www.canadacarbon.com/
Canada Rare Earth Corp.	RAREF	Canada	Rare earth mining	http://www.canadarareearth.com/
China Carbon Graphite Corp.	CHGI	US	Synthetic graphite production in China	http://chinacarboninc.com/
Chotanagpur Graphite Industries	Private	India	Natural graphite production	http://www.graphitecgi.com/
Clean TeQ Holdings Ltd.	CLQ.TO	Canada	Lithium exploration	https://www.cleanteq.com/
Dajin Resources Corp.	DJI.V	Canada	Lithium asset development	https://www.cameco.com/
Eagle Graphite	EGA.V	Canada	Natural graphite production	http://www.eaglegraphite.com/
Eco Building Products, Inc.	ECOB	US	Proprietary wood products	https://ecob.net/
EcoGraf Ltd.	ECGFF	Australia	Graphite resource development	http://kibaranresources.com.au/
Elcora Advanced Materials	ERA.V	Canada	Graphite and graphene development	https://www.elcoracorp.com/
Energy Fuels, Inc.	UUUU	US	Uranium production	http://www.energyfuels.com/
EnviroLeach Technologies	ETI.CN	Canada	Hyrometallurgical recycling	https://enviroleach.com/
First Graphene Ltd.	FGR.AX	Australia	Graphite and graphene development	https://www.firstgraphene.com.au/
FMC Corporation	FMC	US	Lithium production	http://www.fmc.com/
Focus Graphite, Inc.	FMS.V	Canada	Graphite resource development	http://www.focusgraphite.com/
Fuse Cobalt, Inc.	LIC.V	Canada	Lithium, cobalt asset development	https://fusecobalt.com
Galaxy Resources Ltd.	GXY.AX	Australia	Lithium exploration	http://www.galaxyresources.com.au/
Glencore International, AG	GLN.JO	Switzerland	Raw materials, rare earth mining	http://www.glencore.com/
Global Graphene Group	Private	US	Graphene development, production	https://www.theglobalgraphenegroup.com/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

MATERIALS GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Global Li-Ion Graphite	LION.CN	Canada	Graphite asset development	https://globalli-iongraphite.com/
Graphex Mining Ltd.	GPX.AX	Australia	Graphite resource development in Chile	http://www.graphexmining.com.au/
Graphit Kropfmuehl GmbH	AMG.BE	Germany	Graphite asset development	https://www.gk-graphite.com/de/home/
Graphite India Ltd.	GRAPHITE.BO	India	Graphite production and processing	https://www.graphiteindia.com/
Graphite One Resources, Inc.	GPH.TSX	Canada	Graphite resource exploration	http://www.graphiteoneresources.com/
Gratomic, Inc.	GRAT.V	Canada	Graphite resource development	https://gratomic.ca/
Hexagon Resources Ltd.	HXG.AX	Australia	Graphite resource development	http://hexagonresources.com/
Hunan Yiyang Hongyuan Rare Earth Private		China	Rare earth mining	http://en.yyre.com/
Imerys Carbon and Graphite	NK.PA	France	Natural graphite production	https://www.imerys.com/
International Battery Metals	IBAT.CN	Canada	Lithium materials	https://ibatterymetals.com/
International Lithium Corp.	ILC.VX	Canada	Lithium materials	https://internationallithium.com/
Jiangxi Gangeng Lithium Co.	002460.SZ	China	Lithium materials production	http://www.ganfenglithium.com/
Leading Edge Materials	LEM.V	Canada	Natural graphite production in Sweden	http://leadingedgematerials.com/
LiCo Energy Metals, Inc.	LIC.V	Canada	Lithium and cobalt asset development	https://licoenergymetals.com/
Li-Cycle	Private	Canada	Metals recovery solution	https://www.li-cycle.com/
Lincoln Materials	LML.AZ	Australia	Graphite resource development	http://www.lcmaterials.com/
Lithium Americas Corp.	LAC	Canada	Lithium exploration	http://www.lithiumamericas.com/
Lithium Australia	LIT.AX	Australia	Battery-grade lithium processing	https://lithium-au.com/
Lithium Corp.	LTUM	US	Lithium exploration	http://www.lithiumcorporation.com/
Lithium South Development Corp.	LISMF	Canada	Graphite and lithium asset development	http://nrgmetalsinc.com
LiTHIUM X Energy Corp.	LIX.V	Canada	Lithium production	http://www.lithium-x.com/
Lomiko Metals, Inc.	LMR.V	Canada	Graphite and lithium resource exploration	http://www.lomiko.com/
Lynas Corporation	LYC.AX	Australia	Rare earth exploration	http://www.lynascorp.com/
Magnis Resources Ltd.	MNS.AX	Australia	Graphite resource developer in Tanzania	http://magnis.com.au/
Mason Graphite, Inc.	LLG.V	Canada	Graphite resource development	http://www.masongraphite.com/
MGX Minerals, Inc.	XMG.V	Canada	Lithium resource exploration	https://www.mgxminerals.com/
Mineral Resources Ltd.	MIN.AX	Australia	Lithium production	http://www.mineralresources.com.au/
Nanosys, Inc.	Private	US	Advanced materials for batteries, electronics	http://www.nanosysinc.com/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

MATERIALS GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Nemaska Lithium	NMX.TO	Canada	Lithium production	https://www.nemaskalithium.com/en/
Neometals Ltd.	NMT.AX	Australia	Lithium asset development	https://www.neometals.com.au/
NexGen Energy Ltd.	NXE	Canada	Uranium resource exploration	https://www.nexgenenergy.ca/
Next Graphite, Inc.	GPNE	US	Graphite resource development in Namibia	http://www.nextgraphite.com/
NextSource Materials, Inc.	NEXT.TO	Canada	Graphite resource development in Madagascar	http://www.nextsourcematerials.com/
Northern Graphite, Inc.	NGC.V	Canada	Graphite resource development	http://northerngraphite.com/
Nouveau Monde Mining Enterprise	NOU.V	Canada	Graphite resource developer	http://nouveau monde.ca/
Novo Carbon, Inc.	GLK.V	Canada	Graphite refinement and processing	http://novocarbon.com/
NRG Metals, Inc.	NGZ.V	Canada	Graphite and lithium asset development	https://www.nrgmetalsinc.com/
Ontario Graphite Ltd.	Private	Canada	Graphite resource development	http://www.ontariographite.com/
Orocobre Ltd.	ORL.TO	Canada	Lithium production	https://www.orocobre.com/
Paladin Energy Ltd.	PDN.AX	Australia	Uranium production	https://www.paladinenergy.com.au/
Peninsula Energy Ltd.	PEN.AX	Australia	Uranium production	http://www.pel.net.au/
Quantum Graphite Ltd.	QGL.AX	Australia	Graphite processing	http://quantumgraphite.com/
Rainbow Rare Earths	RBW.L	UK	Rare earth metals development	http://www.rainbowrareearths.com/
Rare Earth Element Resources	REEMF	US	Rare earth exploration	http://www.rareelementresources.com/
RockTech Lithium	RCKTF	Canada	Lithium exploration	http://www.rocktechlithium.com/
Saint Jean Carbon, Inc.	SJL.V	Canada	Graphite resource exploration	http://www.saintjeancarbon.com/
SGL Carbon SE	SGL.BE	Germany	Natural graphite production	http://www.sglgroup.com/
Silicor Materials, Inc.	Private	US	High performance silicon for PV cells	http://www.silicormaterials.com/
Sociedad Qimica y Minera De Chile	SQM	Chile	Lithium production	https://www.sqm.com/
Syrah Resources Ltd.	SYR.AX	Australia	Graphite and vanadium resource development	http://www.syrahresources.com.au/
Talga Resources	TLG.AX	Australia	Graphite resource development in Sweden	http://www.talgaresources.com/
Talison Lithium	Private	US	Lithium exploration	http://www.talisonlithium.com/home
Tianqi Lithium Corp.	002466.SZ	China	Lithium production	http://www.tianqilithium.com/en/
Triton Minerals Ltd.	TON.AX	Australia	Graphite, vanadium resource in Mozambique	http://www.tritonmineralsltd.com.au/
Ultra Lithium	ULTXF	Canada	Lithium exploration	http://www.ultralithium.com/
Umicore NV	UMI.BRU	Belgium	Metals recycling for nickel, copper	http://www.umicore.com/
Uranium Energy Corp.	UEC	US	Uranium ore mining	http://www.uraniumenergy.com/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

MATERIALS GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Uranium Participation Corp.	U.TO	Canada	Uranium inventory and distribution	http://www.uraniumparticipation.com/
UR-Energy, Inc.	URG	U.S.	Uranium production	http://www.ur-energy.com/
Vorbeck Materials, Inc.	Private	US	Graphene-based ink, battery electrodes	http://www.vorbeck.com/
Westwater Resources, Inc.	WRR	US	Energy materials resources	http://westwaterresources.net
Yellow Cake Plc	YCA.L	UK	Uranium inventory and distribution	http://www.yellowcakeplc.com/
Zenyatta Ventures Ltd.	ZEN.V	Canada	Graphite resource development	http://www.zenyatta.ca/
Zoltek Companies (Toray)	Private	Japan	Carbon and technical fibers	http://www.zoltek.com/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

ELECTRIC VEHICLE GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Elio Motors, Inc.	Private	US	High efficiency motor car	http://www.eliomotors.com/
Fisker, Inc.	Private	US	Hybrid plug-in vehicles	https://www.fiskerinc.com/
GP GreenPower Industries	Private	Canada	Electric bus development	http://greenpowerbus.com/
Kandi Technologies Corp.	KNDI	China	Electric passenger vehicle	http://en.kandivehicle.com/
New Flyer Industries	NFYEF	Canada	Electric bus technology	https://www.newflyer.com/
T3 Motion, Inc.	TTTM	US	Electric security vehicle	http://www.t3motion.com/
Tesla Motors, Inc.	TSLA	US	Electric passenger cars	http://www.tesla.com/
Wheego Electric Cars, Inc.	Private	US	Electric passenger car	http://wheego.net/more/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

TRANSPORTATION GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Clean Air Power Ltd.	UK	Private	High efficiency combustion technology	http://www.cleanairpower.com/
CDTi Advanced Materials, Inc.	US	CDTI	Catalysts and emissions control	http://www.cdti.com/
Clean Energy Fuels	US	CLNE	Alternative natural gas-based fuel	http://www.cleanenergyfuels.com/
Cummins, Inc.	US	CMI	Combustion engine efficiency technology	http://www.cummins.com/
Curtis Instruments, Inc.	US	Private	Electric vehicle controllers	http://curtisinstruments.com/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

WATER CONSERVATION GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Ambient Water Corp.	AWGI	US	Water supply development	http://www.ambientwater.com/en/
Badger Meter, Inc.	BMI	US	Water infrastructure	http://www.badgermeter.com/
Best Water Technology Group	Private	Austria	Water filtration and treatment	http://www.bwt-group.com/en/
BWE Water, Inc.	BQE.V	Canada	Water treatment	http://bioteq.ca/
Cadiz, Inc.	CDZI	US	Water conservation, ag land management	http://cadizinc.com/
Calgon Carbon (Kuraray)	KUY.BE	US	Water and air purification	http://www.calgoncarbon.com/
Ecosphere Technologies	ESPH	US	Water treatment solutions	http://www.ecospheretech.com/
Essential Utilities	WTRG	US	Water and wastewater services	http://aquaamerica.com/
Flexible Solutions International, Inc.	FSI	US	Water conservation solutions	http://www.flexiblesolutions.com/
Fluence Corporation	FLC.ASE	Israel	Water treatment, desalination	https://www.fluencecorp.com/
Forterra Building Products	FRTA	US	Water management solutions	http://forterrabp.com/
Hyflux Ltd.	600.SI	Singapore	Desalination and water recycling	https://www.hyflux.com/
Natural Systems Utilities	Private	US	Water reclamation	http://www.nsuwater.com/
OriginClear, Inc.	OCLN	US	Water clean-up, conservation	http://www.originclear.com/
Ridgeline Energy Services, Inc.	Private	Canada	Waste water reclamation	http://ridgelinecanada.com/
Veolia Environment, SA	VIE.PA	France	Water, waste management	https://www.veolia.com/en
Xylem, Inc.	XYL	US	Water management solutions	http://www.xyleminc.com/

Stock symbols when provided are assumed to be U.S. exchanges unless otherwise indicated.

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