



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.

MOTHERS OF INVENTION INDEX

January 2018

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/
Bing Energy International	Private	US	PEM membrane electrodes	http://www.bingenergyinc.com/
Bloom Energy Corp.	Private	US	Solid oxide fuel cells	http://www.bloomenergy.com/
Cellcraft AB	Private	Sweden	Fuel cells for remote sites	http://cellkraft.se/fuelcells/
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 applications	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	WKN 756857: GR	Germany	Direct methanol fuel cells	http://www.sfc.com/
SolidPower Spa	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, Inc.	Private	US	Solid oxide fuel cells	https://www.ultra-fuelcells.com/
Waste2Watergy, Inc.	Private	US	Electrochemical microbes	http://www.waste2watergy.com/home.html

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/
Automotive Energy Supply Corp.	Private	Japan	Electric vehicle batteries	http://www.eco-aesc-lb.com/en/
Axion Power International, Inc.	AXPW	US	Lead-acid-carbon batteries	http://www.eco-aesc-lb.com/en/
Bosch Cobasys	BOSCHL.BO	Germany	Nickel metal hydride batteries	http://www.cobasys.com/
Boston-Power, Inc.	Private	US	Rechargeable battery technology	http://www.boston-power.com/
BP Fly Corp.	BCONQ	US	Fly-wheel energy storage	http://www.beaconpower.com/
C&D Technologies, Inc.	Private	US	Stand-by electric storage	http://www.cdtechno.com/
CBAK Energy Technology	CBAK	China	Lithium ion batteries	http://www.bak.com.cn/main.aspx
Cellenium Limited	Private	Thailand	Vanadium fuel cell systems	http://www.vanadiumbattery.com/
China Ritar Power Corp.	CRTP	China	Electric vehicle battery production	http://www.ritarpower.com/
Deeya Energy, Inc.	Private	US	Redox flow battery technologies	http://www.deeyaenergy.com/
EEStor Corporation	ZNN.V	Canada	Automotive power storage solutions	http://www.zenncars.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/
EnerSys, Inc.	ENS	US	Industrial batteries	http://www.enersysinc.com/
Enervault Corporation	Private	US	Iron-chromium redox flow batteries	http://enervault.com/
ENOVIX Corp.	Private	US	Mobile device energy storage	http://www.enovix.com/
Envia Systems, Inc.	Private	US	High-performance lithium ion batter-	http://www.enviasystems.com/
Exide Technologies	EXTC	US	Stationary, motive battery power	http://www.exide.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/
FZSoNick	Private	Switzerland	Sodium nickel batteries	http://www.fiammsonick.com/
GeoBattery Corp.	Private	US	Utility scale storage systems	http://www.geobattery.com/
Gildemeister Energy Solutions	Private	Austria	Vanadium redox batteries	https://energy.gildemeister.com/en/

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

STORAGE GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Highpower International	HPJ	China	Rechargeable batteries	http://www.highpowertech.com/
Hitachi Vehicle Energy Ltd.	Private	Japan	Electric vehicle batteries	http://www.hitachi-ve.co.jp/en/
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/content/us/en.html
K2 Energy Solutions	Private	US	Battery management solutions	https://k2battery.com/
Kemet Corporation	KEM	US	Capacitor solutions	http://www.kemet.com/
LG Chemical Ltd.	LGCLF	Korea	Electric vehicle batteries	http://lgcpi.com/chem.shtml
Lithium Energy Japan	Private	Japan	Lithium ion car batteries	http://lithiumenergy.jp/en/
Lithium Technology Corp.	LTHUQ	US	Rechargeable energy storage	http://www.gaia-akku.com/
Maxwell Technologies, Inc.	MXWL	US	Industrial capacitors, batteries	http://www.maxwell.com/
Mechanical Technology, Inc.	MKTY	US	Solar metrology systems	http://www.mechtech.com/
Nesscap Co., Ltd.	NCE.V	Canada	Ultra-capacitor technologies	http://www.nesscap.com/
Panasonic	6752.TYO	Japan	Electric vehicle batteries	http://www.panasonic.net/energy/
Planar Energy Devices Corp.	Private	US	Solid state battery development	http://planarenergy.com/
Polypore Internat'l (Asahi Kasei)	Private	US	Materials for lithium-ion batteries	http://www.polypore.net/
Prudent Energy & Services Ltd.	Private	US	Vanadium electrolyte batteries	http://www.pdeneryltd.com/
RedT Energy Plc	Private	Australia	Vanadium redox flow batteries	https://www.redtenergy.com/
Saft Advanced Power Solutions	SAFT.PA	France	Lithium ion battery technology	http://www.saftbatteries.com/
Seeo, Inc.	Private	US	Solid state battery development	http://www.seeo.com/
Sion Power	Private	US	Electric vehicle batteries	http://www.sionpower.com/
Stem, Inc.	Private	US	Intelligent energy storage network	http://www.stem.com/
Sumitomo Electric Industries	SMTOY	Japan	Redox flow battery technology	http://global-sei.com/
TDK Corporation	TTDKY	Japan	Aluminum electrolytic capacitors	http://www.epcos.com/
Toshiba Corp.	TOSBF	Japan	Super charge ion batteries	http://www.toshiba.com/
Ultralife Corp.	ULBI	US	Communications systems power storage solutions	http://www.ultralifecorp.com/
Valence Technologies, Inc.	VLNCQ	US	Lithium-based battery development	http://www.valence.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/
ZBB Energy	ZBB	US	Zinc bromide rechargeable batteries	http://www.zbbenergy.com/

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

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	http://www.amsc.com/
Blink Charging Co.	CCGI	US	Electric car charging infrastructure	http://www.blinkcharging.com/a
BPL Global Ltd.	Private	France	Software solutions for distribution	http://www.bplglobal.net/eng/
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/
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.co
Evatran Group, Inc.	Private	US	EV Charging systems	http://www.pluglesspower.com/
eVgo, Inc.	Private	US	Electric vehicle charging stations	http://evgonetwork.com
General Cable Corp.	BGC	US	Industrial electric cabling, connec-	http://www.generalcable.com/
General Compression, Inc.	Private	US	Grid connectivity for renewable energy	http://www.generalcompression.com/
Gridco Systems	Private	Ghana	Grid infrastructure solutions	http://gridcosystems.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	http://www.itron.com/
Jinpan International Ltd.	JST	China	Cast resin transformers for wind	http://www.jstusa.net/
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	U.K.	Electricity transmission, U.K.	http://www.nationalgrid.com/
Nexant, Inc.	Private	US	Smart grid management	http://www.nexant.com/
NGK Insulators, Ltd.	53330: JP	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	PEC	US	Power delivery systems engineering,	http://www.pike.com/

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

SMART GRID GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Princeton Power Systems, Inc.	Private	US	Microgrid solutions	http://www.princetonpower.com
Quanta Services, Inc.	PWR	US	Power infrastructure solutions	http://www.quantaservices.com/
Satcon Technology Corp.	SATC	US	Power conversion solutions	http://www.satcon.com/
Schneider Electric SA	SCHN: TI	France	Transmission, distribution solutions	http://www.schneider-
SemaConnect	Private	US	Electric vehicle charging station	https://www.semaconnect.com/
Silver Spring Networks	SSNI	US	Smart grid application	http://www.silverspringnet.com/
SMA Solar Technology, AG	S92G: DE	Germany	Inverters for solar systems	http://www.sma.de/en/
SunPods, Inc.	Private	US	Portable solar electric charging	http://www.sunpods.com
Think Eco, Inc.	Private	US	Demand response, grid efficiency	http://www.thinkecoinc.com/
Varentec, Inc.	Private	US	Grid edge management	http://varentec.com/
Zongshen PEM Power System	ZPP.TO	China	Electric scooters, cars	http://www.zongshenpem.com/

EFFICIENCY GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Acorn Energy, Inc.	ACFN	US	Efficiency solutions for industry	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/
American DG Energy, Inc.	ADGE	US	Turnkey energy solutions	http://www.americandg.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 monitoring equipment	http://www.axystechnologies.com
BlueNRGY Group Ltd.	CBDEF	Australia	Monitoring and control for solar	http://www.bluenrgy.com/
Bridgeluxe, Inc.	Private	US	LED manufacturer	http://bridgelux.com/
Capstone Turbine Corporation	CPST	US	Efficiency turbine generators	http://www.capstoneturbine.com/
Carillion Plc	CLLN.L	UK	Sustainable construction	http://www.carillionplc.com/
China Recycling Energy Corp.	CREG	China	Waste energy recycling	http://www.creg-cn.com/
CleaResult	Private	US	Home energy efficiency	https://www.clearesult.com/
ClearSign Combustion Corp.	CLIR	US	Combustion solutions	http://www.clearsign.com/
Community Energy, Inc.	Private	US	Renewable energy market	http://www.communityenergyinc.
Complete Solar	Private	US	Solar power integration	http://completesolar.com/
Coolerado Corporation	Private	US	Efficiency cooling systems	http://www.coolerado.com/
Cree, Inc.	CREE	US	Light emitting diode lighting prod-	http://www.cree.com/
CropX, Ltd.	Private	Israel	Water management	http://www.cropx.com/
DAIS Analytic Corp.	DLYT	US	Water-based packaged heating,	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/
Echelon Corporation	ELON	US	Energy control networking solu-	http://www.echelon.com/
Ecology Coatings, Inc.	ECOC	US	Nano-enabled industrial coatings	http://ecologycoatings.com/
eCurv	Private	US	Energy demand management soft-	https://ecurv.com/
Emerson Electric	EMR	US	Power efficiency solutions	http://ecologycoatings.com/
Energy Focus, Inc.	EFOI	US	Lighting technologies	http://www.energyfocusinc.com/

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

EFFICIENCY GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Energy Recovery, Inc.	ERII	US	Efficiency solutions, desalination	http://www.energyrecovery.com/
Energpulse Technologies, Inc.	ENPT	US	Automotive spark plug technology	http://energpulse.com/
Enlighted, Inc.	Private	US	Energy efficient buildings	http://enlightedinc.com/
Epistar Corporation	2448.TW	Taiwan	LED lighting	http://www.epistar.com.tw/
Fallbrook Technologies, Inc.	Private	US	Automotive engine efficiency	http://www.fallbrooktech.com/
Genbright, LLC	Private	US	Distributed energy systems	http://www.genbright.com/
Gentherm, Inc.	THRM	US	Thermoelectric technology	http://www.gentherm.com/
GreenAngel Energy Corp.	TCA: TSXV	Canada	Green technology holding company	http://greenangelenergy.ca/
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/
groSolar, Inc.	Private	US	Turnkey solar solutions for utilities	http://www.grosolar.com/
HDM Systems Corp.	Private	US	Engine efficiency	https://www.hdm-sys.com/
Heliocentris Fuel Cells	H2FA.DE	Germany	Energy efficiency systems	http://www.heliocentris.com/
Hydrogen Engine Center, Inc.	HYEG	US	Engine efficiency solutions	http://www.cleangreenengines.com/
Ice Energy, Inc.	Private	US	Thermal energy storage	https://www.ice-energy.com/
Illumitex, Inc.	Private	US	LED lighting	http://illumitex.com/
Invenergy Wind, LLC	Private	US	Wind, solar, natgas infrastructure	https://invenergyllc.com/
Itron, Inc.	ITRI	US	Data, metering solutions	http://www.itron.com/
Johnson Controls, Inc.	JCI	US	Energy efficiency solutions	http://www.johnsoncontrols.com/
Kadant, Inc.	KAI	US	Paper recycling solutions	http://www.kadant.com/
Lansing Trade Group, LLC	Private	US	Energy products trading	https://ltg.com/
Layne Christensen Co.	LAYN	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	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/
Luxim Corp.	Private	US	LEP lighting	http://luxim.resilient.lighting/
Micropelt GmbH	Private	Germany	Thin film thermoelectric components	http://www.micropelt.com/
Mide, Inc.	Private	US	Vibration energy harvesting	http://www.mide.com/index.php

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

EFFICIENCY GROUP continued

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Nexus Lighting, Inc.	RVLT	US	Lighting solutions, engineering	http://www.nexuslighting.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.	PEFF	US	Energy efficiency devices	http://www.powerefficiencycorp.com
Power Integrations, Inc.	POWI	US	Electronic power components	http://www.powerint.com/
PowerSecure International	POWR	US	Smart-grid monitoring	http://www.powersecure.com/
Pure Technologies	PUR.TO	Canada	Waste conservation	http://www.puretechltd.com/
Qarnot Computing	Private	France	Alternative heating	http://www.qarnot-computing.com/
Quantum Fuel Systems Tech.	QTTWWQ	US	Advanced propulsion systems	http://www.qttww.com/
Roper Industries	ROP	US	Energy, resource efficiency	http://www.roperind.com/
Rubicon Technology, Inc.	RBCN	US	Substrates for lighting products	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	Private	US	Heat/power engine development	http://www.sencera.com/
SPX Corp.	SPWC	US	Industrial process efficiency	http://www.spx.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	UQM	US	Energy, automotive propulsion systems	http://www.uqm.com/
Vicor Corporation	VICR	US	Power components, systems	http://www.vicorpower.com/
Westport Innovations	WPT.TO	Canada	Fuel efficiency, emissions control	http://www.wfsinc.com/
Woodward, Inc.	WWD	US	Energy control, aerospace	http://www.woodward.com/

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

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/
Cascade Asset Management	Private	US	Equipment retirement, recycling	http://www.cascade-assets.com/
CloudBlue, Inc. (Ingram Micro)	Private	US	Reverse logistics, electronics recycling	http://www.cloudblue.com/
EPC USA, Inc.	Private	US	Asset recovery, disposition, 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/
PlanITRIO	Private	US	Reverse logistics, recycling	http://www.planitroi.com/
Redemtech, Inc.	Private	US	Electronics asset disposition, recycling	http://www.redemtech.com/
Sims Recycling Ltd.	Private	UK	Electronics recovery and recycling	http://simsrecycling.com/
U.S. Micro Corporation	Private	US	Electronics refurbishing, recycling	http://www.usmicrocorp.com/

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

EMISSIONS CONTROL GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
ADA-ES, Inc.	ADES	US	Carbon emissions control equipment	http://www.adaes.com/
Ashland, Inc.	ASH	US	Specialty chemicals for pollution control	http://www.ashland.com/
Babcock & Wilcox Enterprise	BW	US	Emission reduction equipment	http://www.babcock.com/
BacTech Environmental Corp.	BAC: CNSX	Canada	Environmental remediation	http://www.bactechgreen.com/s/Home.asp
Ducon, Inc.	Private	US	Flue gas solutions	http://www.ducon.com/flue-gas-desulfurization.php
Ecologics Solutions	Private	US	Environmental 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/
Flue Gas Solutions, Inc.	Private	US	Flue gas control technology	http://www.fluegassolutions.com/
Fuel Tech, Inc.	FTEK	US	Emissions control solutions	http://www.ftek.com/
Hitachi Group	HTHIY	Japan	Power generation equipment	http://www.hitachi.com/
LiqTech International, Inc.	LIQT	US	Air and liquid filters	http://www.liqtech.com
Peerless Manufacturing, Inc.	Private	US	Air pollution abatement equipment	http://www.pmfinc.com/
Clean Teq	CLQ.ASX	Australia	Waste water treatment	http://www.cleanteq.com/
Midwest Energy Emissions	MEEC	US	Coal-fired emissions reduction	http://www.midwestemissions.com/

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

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/investors
Air Products & Chemicals	APD	US	Atmospheric, specialty, process	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.algaefloatingystems.com/
Amec Foster Wheeler AG	AQ4.F	UK	Carbon capture systems equipment	http://www.fwc.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
Global Thermostat	Private	US	Industrial carbon capture	http://globalthermostat.com/
Leucadia Energy LLC	Private	US	Carbon sequestration technology	http://www.lakecharlescleanenergy.com/
Mantra Energy Alternatives	MVTG	Canada	Carbon recycling to chemicals	http://www.mantraenergy.com/
Novomer, Inc.	Private	US	Catalysts for carbon capture	http://www.novomer.com/
Praxair, Inc.	PX	US	Atmospheric gases, hydrogen	http://www.praxair.com/
Statoil, ASA	STO	Norway	Carbon sequestration	http://www.statoil.com/
Sustainable Energy Solutions Technology Center Mongstad	Private	US	Carbon capture solution	https://sesinnovation.com/
Private		Norway	Carbon capture technologies	http://www.tcmda.com/en/

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

MATERIALS GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Alabama Graphite, Inc.	CSPG.TSX	Canada	Graphite resource development	http://alabamagraphite.com/
AmeriLithium	AMEL	US	Lithium exploration	http://www.amerilithium.com/
Angstrom Materials, Inc.	Private	US	Graphene development, production	http://www.angstrommaterials.com/
Apollo Solar Energy, Inc.	ASOE	China	Solar cell materials	http://www.scasolar.com/
Avalon Advanced Materials	AVLNF	Canada	Rare earth mining	http://avalonraremetals.com/
Bora Bora Resources Ltd.	BBR.AX	Australia	Graphite resource in Sri Lanka	http://boraboraresources.com/
CalStar Products, Inc.	Private	US	Environmental building materials	http://calstarproducts.com/
Canada Carbon, Inc.	CCB.TSX	Canada	Graphite resource development	https://www.canadacarbon.com/
Canada Rare Earth Corp.	RAREF	Canada	Rare earth mining	http://www.canadarareearth.com/
Canada Strategic Metals	CJC.V	Canada	Graphite and gold resource exploration	http://www.csmetals.ca/en
China Carbon Graphite	CHGI	US	Synthetic graphite production in China	http://chinacarboninc.com/
Chotanagpur Graphite In-	Private	India	Natural graphite production	http://www.graphitecgi.com/
CKR Carbon Corporation	CKR.TSX	Canada	Graphite resource development	http://www.ckr-carbon.com/
Clean TeQ Holdings Ltd.	CLQ.TO	Canada	Lithium exploration	http://www.canadalithium.com/
Eagle Graphite	EGA.TSX	Canada	Natural graphite production	http://www.eaglegraphite.com/
EcoBlue Products, Inc.	ECOB	US	Proprietary wood products	https://ecob.net/
Energizer Resources, Inc.	EGZ.TSX	Canada	Graphite resource development in Madagascar	http://www.energizerresources.com/
Focus Graphite, Inc.	FMS.TSX	Canada	Graphite resource development	http://www.focusgraphite.com/
Galaxy Resources Ltd.	GXY: ASX	Australia	Lithium exploration	http://www.galaxyresources.com.a
Glencore International, AG	GLN.JO	Switzerland	Raw materials, rare earth mining	http://www.glencore.com/
Graphex Mining Ltd.	GPX.AX	Australia	Graphite resource development in Chile	http://www.graphexmining.com.a
Graphite One Resources	GPH.TSX	Canada	Graphite resource exploration	http://www.graphiteoneresources.com/
Great Lakes Graphite, Inc.	GLK.TSX	Canada	Graphite refinement and processing	http://www.greatlakesgraphite.co
Great Western Minerals	GWMFG	Canada	Rare earth processor, metal alloys	http://www.gwmg.ca/
Hexagon Resources Ltd.	HXG.AX	Australia	Graphite resource development	http://hexagonresources.com/
Hunan Yiyang Hongyuan	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: CSE	Canada	Lithium materials	https://ibatterymetals.com/
International Lithium Corp.	ILC.TSX	Canada	Lithium materials	https://internationallithium.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
K.S. Mines India	Private	India	Natural graphite production	http://ksminesindia.com/
Kibaran Resources Ltd.	KNL.AX	Australia	Graphite resource in Tanzania	http://www.kibaranresources.com.au/
Leading Edge Materials	LEM.TSX	Canada	Natural graphite production in Sweden	http://leadingedgematerials.com/
Lithium Americas Corp.	LAC	Canada	Lithium exploration	http://www.westernlithium.com/
Lithium Corp.	LTUM	US	Lithium exploration	http://www.lithiumcorporation.com/
Lomiko Metals, Inc.	LMR.TSX	Canada	Graphite and lithium resource exploration	http://www.lomiko.com/
Lynas Corporation	LYC: ASX	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.TSX	Canada	Graphite resource development	http://www.masongraphite.com/
Nanosys, Inc.	Private	US	Advanced materials for batteries, electronics	http://www.nanosysinc.com/
Next Graphite, Inc.	GPNE	US	Graphite resource development in Namibia	http://www.nextgraphite.com/
Northern Graphite, Inc.	NGC.TSX	Canada	Graphite resource development	http://northerngraphite.com/
Nouveau Monde Mining Enterprise	NOU.V	Canada	Graphite resource developer	http://nouveau monde.ca/
Ontario Graphite Ltd.	Private	Canada	Graphite resource development	http://www.ontariographite.com/
Rare Earth Element Re-	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 Graphite Materials & Systems	SGL.GR	Germany	Natural graphite production	http://www.sglgroup.com/
Silicor Materials, Inc.	Private	US	High performance silicon for PV cells	http://www.silicormaterials.com/
Simbol Mining Corporation	Private	US	Lithium materials development	http://www.simbolmaterials.com/
Syrah Resources Ltd.	SYR.AX	Australia	Graphite, vanadium resource development	http://www.syrahresources.com/
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
Triton Minerals Ltd.	TON.AX	Australia	Graphite and vanadium resource, Mo-	http://www.tritonmineralsltd.com/
Ultra Lithium	ULTXF	Canada	Lithium exploration	http://www.ultralithium.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
Valence Industries Ltd.	VXL.AX	Australia	Graphite processing	http://www.valenceindustries.com
Vorbeck Materials, Inc.	Private	US	Graphene-based battery electrodes	http://www.vorbeck.com/
Zenyatta Ventures Ltd.	ZEN.TSX	Canada	Graphite resource development	http://www.zenyatta.ca/
Zoltek Companies (Toray)	Private	Japan	Carbon and technical fibers	http://www.zoltek.com/

ELECTRIC VEHICLE GROUP

COMPANY	PUBLIC/ PRIVATE	COUNTRY	OPERATIONS	WEB SITE
Elio Motors, Inc.	Private	US	High efficiency motor car	http://www.eliomotors.com/
Fisker Automotive (Wanxiang)	Private	US	Hybrid plug-in vehicles	http://thenewfisker.com/
GP GreenPower Industries	Private	Canada	Electric bus development	http://greenpowerbus.com/
Kandi Technologies Corp.	KNDI	China	Electric passenger vehicle	http://www.kanditechnology.com/
Leo Motors, Inc.	LEOM	Korea	Light duty electric trucks	http://www.leomotors.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.teslamotors.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.

CRYSTAL EQUITY RESEARCH, LLC

Crystal Equity Research, LLC is an alternative research resource, providing coverage of small capitalization companies in selected industries. The firm provides research reports by subscription to institutional investors, offers research consulting services to financial professionals and offers an issuer sponsored research program for qualifying companies. Additional information is available at the firm's web site at www.crystalequityresearch.com.

DISCLOSURES

For disclosures pertaining to recommendations or estimates made on securities mentioned in this report, please see the most recently published company report available on our web site at www.crystalequityresearch.com.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST.

DISCLAIMER

The information and opinions in this report were prepared by Crystal Equity Research, LLC. The information herein is believed to be reliable and has been obtained from public sources believed to be reliable. We make no representation as to the accuracy or completeness of such information. Opinions, estimates and projections in this report constitute the current judgment of the author as of the date of the report and are subject to change without notice. We have no obligation to update, modify or amend this report or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate, or if research on the subject company is withdrawn.

This report is provided for informational purposes only. It is not to be construed as an offer to buy or sell or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy in any jurisdiction. Opinions and recommendations in our reports do not take into account individual investor circumstances, objectives, or needs and are not intended as recommendations of particular securities or strategies to particular investors. The recipients of our reports must make their own independent decisions regarding any securities mentioned in our reports.

This report may not be reproduced, distributed or published by any person for any purpose without the prior written consent of Crystal Equity Research. Please cite source when quoting.

Copyright © 2003 - 2018 Crystal Equity Research, LLC.



New York City, New York

www.crystalequityresearch.com

212-400-7519

info@crystalequityresearch.com