



ELECTRIC EARTH INDEX

Crystal Equity Research, LLC

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The Earth is dynamic with great forces of energy all around us. As the sun heats the atmosphere, wind whips across open landscapes. The ocean is under constant wave and tidal movement, sometimes calmly undulating and then furiously churning. Rainfall and melted snow makes the inevitably downhill race to the oceans, only to evaporate and repeat the same journey. Our great cities and spreading farms lie innocently above a tempest of molten rock.

The Electric Earth Index includes the companies that are attempting to capture earth's energy in mechanical designs from wind mills, to wave machines, to solar concentrators. Many investors will miss the solar cell producers. We have included photovoltaic solar cell developers in The Atomix Index, where they fit well with other companies harnessing the power of the atom.

Front Cover Image : Fuergy

GEOTHERMAL GROUP

COMPANY	Country	PUBLIC/ PRIVATE	OPERATIONS	WEB SITE
Altarock Energy, Inc.	US	Private	Geothermal power production	http://altarockenergy.com/
Alterra Power (Innergex)	Canada	INE.TO	Geothermal power generation	http://www.alterrapower.ca/
Calpine Corp.	US	Private	Geothermal power generation	http://www.calpine.com/
Energy Development Corp.	Philippines	Private	Geothermal power generation	http://www.energy.com.ph/
Landvirkjun hf	Iceland	Private	Geothermal power generation	http://www.landsvirkjun.com/
Melink Corporation	US	Private	Geothermal for HVAC	https://melinkcorp.com/
Mijnwater BV	Nether- lands	Private	Geothermal solutions, mine reclamation	http://www.mijnwater.com/
Ormat Technologies, Inc.	US	ORA	Geothermal power, recovered energy	http://www.ormat.com/
Polaris Infrastructure	US	PIF.TO	Geothermal power generation	https://polarisinfrastructure.com/
WaterFurnace International	US	WFI.TO	Residential heating solution	http://www.waterfurnace.com/

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

WIND GROUP

COMPANY	Country	PUBLIC/ PRIVATE	OPERATIONS	WEB SITE
AES Corp.	US	AES	Conventional, wind energy production	http://www.aes.com/
Alstom, SA	France	ALSMY	Power generation equipment	http://www.alstom.com/
Altaeros Energies	US	Private	High altitude wind power development	http://www.altaosenergias.com/
Ampyx Power, Inc.	Netherlands	Private	Wind solutions, technology	https://www.ampyxpower.com/
Audax Renovables, SA	Spain	ADX.MC	Wind power generation	http://www.audaxrenovables.com
Boralex	Canada	BLX.TO	Renewable power generation	http://www.boralex.com/en/
Broadwind Energy, Inc.	US	BWEN	Wind components and services	http://www.broadwindenergy.com/
Brookfield Asset Management, Inc.	Canada	BAM	Conventional, wind energy production	http://www.brookfield.com/
Centrica Plc	UK	CNA: L	Conventional, wind energy production	http://www.centrica.com/
China High Speed Transmission Equipment	China	658: HK	Wind equipment and components	http://www.chste.com/en/home.html
China Longyuan Power Group	China	0916: HK	Wind power production	http://www.clypg.com.cn/en/
City Windmills Plc	UK	CYW.L	Vertical wind power development	http://www.citywindmills.com/
Clipper Windpower Plc	US	Private	Wind turbine manufacturer	http://www.clipperwind.com/
Concord New Energy Group Ltd.	China	0182: HK	Wind power generation	http://www.cnegroup.com
E.ON AG	Germany	EOAN.DE	Conventional, wind energy production	http://www.eon.com/en.html
EDF Energies Nouvelles SA	France	OMH7.LSE	Wind, renewable power generation	http://www.edf-energies-nouvelles.com/
EDP Renovaveis S/A	Portugal	EDW.BE	Wind turbines, power generation	https://www.edpr.com/en
EnergieKontor, AG	France	EKT.DE	Wind farm development	http://www.energiekontor.de/
EnerKite GmbH	Germany	Private	Airborne wind energy	http://www.enerkite.de/en/
Ever Power Wind Holdings, Inc.	US	Private	Wind power development	http://www.everpower.com/
Falck Renewables	Italy	FKR.MI	Mixed power generation, incl. wind	http://www.falckrenewables.eu/?sc_lang=en
General Electric Co.	US	GE	Wind turbines and equipment	http://www.ge.com/power
Iberdrola Renovables SA	Spain	Private	Wind energy production	http://www.iberdrolarenovablesenergia.com/home
Japan Wind Development Co., Ltd.	Japan	2766: JP	Wind power generation	http://www.jwd.co.jp/english/company/message
Juhl Energy	US	JUHL	Wind energy development	http://www.juhlenenergy.com/
KiteMill AS	Scotland	Private	Airborne wind energy system	http://www.kitemill.com/
LTA Windpower	Canada	Private	Airborne tethered wind turbine	http://www.ltawind.com/
Makani Power, Inc. (Google)	US	Private	Wind power with high altitude kites	http://www.google.com/makani/
Mass Megawatts Wind Power	US	MMMW	Wind power development	http://www.massmegawatts.com/

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WIND GROUP continued:

COMPANY	Country	PUBLIC/ PRIVATE	OPERATIONS	WEB SITE
Mitsubishi Heavy Industries Ltd.	Japan	7011.T	Renewable power generation equipment	http://www.mhi.com
Nordex AG	Germany	NDX1.DE	Wind turbine manufacturer	http://www.nordex-online.com/en
Northern Power Systems, Inc.	US	NRTHF	Wind power systems	http://www.northernpower.com/
NZ Windfarms	New Zealand	NWF.NZ	Wind power generation	https://www.nzwindfarms.co.nz/
Ocean Wind Energy	Canada	NKW>V	Wind power development	http://naikun.ca/
PNE Wind AG	Germany	PNE3.F	Wind farm engineering, planning	http://www.pnewind.com/
Principle Power, Inc.	US	Private	Floating wind turbine foundation	http://www.principlepowerinc.com/
Senvion SA	Germany	SEN.DE	Wind turbine manufacturer	http://www.repower.de/
Siemens AG	Germany	SIE.DE	Wind turbines and equipment	https://new.siemens.com/global/en/
Sinovel Wind Group, Ltd.	China	601558.SZ	Wind turbines and generation systems	http://www.sinovel.com/
Sky Windpower Corp.	US	Private	Flying electric generators	http://www.skywindpower.com/
SkySails GmbH	Germany	Private	Automated towing kite systems	http://www.skysails.info/
Solar Wind Energy Tower	US	SWET	Wind tower development	http://www.solarwindenergytower.com/index.html
Suzlong Energy	India	SUZLON.NSE	Wind turbine development	http://www.suzlon.com/
Terna Energy SA	Greece	44T.F	Wind, hydroelectric power generation	http://www.terna-energy.gr/
TPI Composites, Inc.	US	TPIC	Composite wind blades	http://www.tpicomposites.com/English/
Vestas Wind Systems A/S	Denmark	VWS.CO	Wind turbines and equipment	http://www.vestas.com/
Wasatch Wind, Inc.	US	Private	Wind energy developer	http://www.wasatchwind.com/
Xinjiang Goldwind Science & Tech.	China	002202.SZ	Wind turbine producer	http://goldwindglobal.com
Xzeres Wind	US	Private	Small wind turbine development	http://www.windenergy.com/

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OCEAN GROUP

COMPANY	Country	PUBLIC/ PRIVATE	OPERATIONS	WEB SITE
Able Technologies LLC	US	Private	Wave power research	http://www.abletechnologiesllc.com/
Aquamarine Power, Inc.	Scotland	Private	Wave energy devices, technology	http://www.aquamarinepower.com/
AW-Energy Oy	Finland	Private	Ocean wave energy capture	http://aw-energy.com/
AWS Ocean Energy Ltd.	UK	Private	Wave energy development	http://www.awsocan.com/
Biopower Systems Pty., Ltd.	Australia	Private	Wave, tidal energy power development	http://bps.energy/
Blue Energy Canada, Inc.	Canada	Private	Tidal energy turbine	http://www.blueenergy.com/
Carnegie Clean Energy Ltd.	Australia	CCE.AX	Wave energy technology	http://www.carnegiece.com/
Checkmate SeaEnergy Ltd.	U.K.	Private	Wave energy devices, equipment	http://www.checkmateukseaenergy.com/
DP Energy Ireland Ltd.	Ireland	Private	Tidal power development	http://www.dpenergy.com/
M3 Wave LLC	US	Private	Wave power development	http://www.m3wave.com/
Ocean Energy Ltd.	Ireland	Private	Wave energy technology	http://www.oceanenergy.ie/
Ocean Power Technologies, Inc.	US	OPTT	Wave power generation equipment	http://www.oceanpowertechologies.com/
Ocean Renewable Power Company	US	Private	Tidal power development	http://www.orpc.co/
Ocean Thermal Energy Corporation	US	Private	Heating, cooling with ocean technology	http://www.otecorporation.com/
Oscilla Power, Inc.	US	Private	Wave power development	http://oscillapower.com/
Seabased AB	Denmark	Private	Wave energy development	http://www.seabased.com/
Simec Atlantis Resources Ltd.	Singapore	SAE.L	Tidal power turbines	http://simecatlantis.com/
Verdant Power, Inc.	US	Private	Tidal and wave power development	http://www.verdantpower.com/
Wavestar A/S	Denmark	Private	Energy from ocean waves, swells	http://wavestarenergy.com/

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SOLAR CONCENTRATING GROUP

COMPANY	Country	PUBLIC/ PRIVATE	OPERATIONS	WEB SITE
Abengoa Solar, S.A.	Spain	ABG: MC	Mixed power generation, incl. CSP	http://www.abengoasolar.com/
Acciona, S.A.	Spain	ANA.MC	Mixed power generation, incl. CSP	http://www.acciona.com/
Arzon Solar, Inc.	US	Private	Solar power concentrators	http://arzonsolar.com/
BrightSource Energy, Inc.	US	Private	Solar thermal power plant systems	http://www.brightsourceenergy.com/
Epiphany Solar Water	US	Private	Solar-power water purification	http://epiphanysws.com/
eSolar, Inc.	US	Private	Solar concentrator technology	https://www.esolar.com.au/
SkyFuel, Inc.	US	Private	Solar concentration technology	http://www.skyfuel.com/
Soitec	Germany	SOI.PA	Concentrating solar panels	https://www.soitec.com/en

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HYDROPOWER GROUP

COMPANY	Country	PUBLIC/ PRIVATE	OPERATIONS	WEB SITE
Advanced Hydro Solutions	Private	US	Hydroelectric turbines	http://www.advancedhydrosolutions.com/
AECOM Technology Corporation	ACM	US	Professional engineering	http://www.aecom.com/
Alden Research Laboratory, Inc.	Private	US	Fluids flow engineering	http://www.aldenlab.com/
Mavel, A.S.	Private	Czech Rep	Turbine engineering	http://www.mavel.cz/home.html
Natel Energy, Inc.	Private	US	Hydro power engineering	http://www.natelenergy.com/
Sinohydro	Private	China	Hydroelectric dam construction	http://www.sinohydro.com/
Toshiba LLC (parent Toshiba Corp.)	TOSBF	Japan	Hydroelectric equipment	https://www.toshiba.com/taes/
Voith Hydro Services, Inc.	Private	US	Turbine maintenance, repair	http://voith.com/corp-en/index.html
Weir Group Plc	WEIGF	UK	Hydroelectric turbines, pumps	http://www.weirpowerindustrial.com/

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