THE 2019 WHO's WHO of LENR - COLD FUSION Version 3.0

Third edition: - Compiled and updated by Alan Smith. Based on sources including publications by Anthropocene Institute, LENR-Forum, ECat World, LENRIA and condensed-plasmoids.com. For amendments and additions please contact me via email. E&OE!

I2HMR - ACTIVE

• Nicolas Armanet (and colleagues), researching LENR in Hydrogen in Metals

AEROSPACE CORPORATION (USA): ACTIVE

- One of the presentations at the recent ICCF-21 conference was by Edward J. Beiting of the Aerospace Corporation, a California R&D non-profit on "Investigation of the Nickel-Hydrogen Anomalous Heat Effect"
- Privately funded with support from others including NASA (?).

AIRBUS (EU): STATUS CURRENTLY UNKNOWN

• Published a couple of LENR-linked patents, hosted a conference at their Tolouse (France) HQ, research under supervision of J-F Geneste, now working elsewhere.

ATOM-ECOLOGY/ECALOX Ltd. (UK): ACTIVE

- Working on hydrogen isotope/mixed metal cold fusion, Ecalox also works on hydrogen catalysis and production and has interests in recycling difficult materials.
- Cold fusion lead Russ George, working with Alan Smith, Martin Moore and others.

Baoding Sino-US Science and Technology Innovation Park STATUS UNKNOWN - NO RECENT NEWS.

- From public press release in Chinese, there was a partnership between Industrial Heat LLC and this state supported park.
- In the press release, Nickel Hydrogen Energy is clearly named
- Recent suggestion from Dewey Weaver (IH) is that due to IP concerns this relationship has been terminated.

Brillouin Energy. : ACTIVE - Robert Godes: Founder, President and CTO.

- Proprietary Q-Pulse technology based on Ni/H LENR
- Wants to introduce a commercial LENR reactor into the energy market and as of March 2019 seeks further funding to do
- Engaged with leading scientists and national labs, including Michael McKubre and Francis Tanzella formerly of SRI International to report on developments.
- Carl Page (brother of Alphabet/Google CEO Larry Page) invested in Brillouin Energy and is one of its board members

BLP/Brilliant Light Power Inc. USA :ACTIVE.

- Attracted more than \$75 million of venture capital.
- Claim their devices are not based on LENR, but on "Hydrinos" (shrunken hydrogen atoms)
 - Founded and led by Dr. Randell L. Mills

Chemonuclear Fusion Project ACTIVE (as of Nov 2018) Phil Lang USA

- A crowd funding financed initiative to develop molten lithium fusion.
- Principal: Phil Lang

Clean Nuclear Power LLC: ACTIVE. Lugano-based (Switzerland) start-up developing clean LENR energy.

- Working with LENR Cities Suisse funded by George de Montmollin
- Yogendra Srivastava, Allan Widom

<u>Clean Planet Inc.</u> ACTIVE. Hideki Yoshino, investor, founder and CEO. Co-operates with Japanese government and major Japanese companies/universities. Mixed private/corporate/government funding

• Aim to prototype a commercial LENR/CMNR device. Hideki Yoshino and Masanao Hattori.

Cold Fusion Power International. Russia ACTIVE.

- High energy/fundamental physics laboratories.
- Edward Tsyganov.

EarthTech International USA. ACTIVE.

- A privately funded R&D group exploring novel ideas in physics.
- Principals Harold Puthoff, Scott and Marissa Little.

Elforsk Denmark: ACTIVE.

- Research institute funded by Danish energy companies.
- Interests in hydropower and also non-conventional technologies.

Energiforsk (Energy Research Institute) Stockholm, Sweden: ACTIVE.

- Swedish energy industry research institute.
- Principal: Magnus Olofsson

Etiam Oy Finland: BELIEVED DORMANT

- Principal researcher Pekka Soininen
- Research into Rydberg matter, several patents filed.

ENEA Italy, ACTIVE

- National agency for new technologies, energy and sustainable economic development.
- Vittorio Violante.

First Light Fusion. Oxford UK: ACTIVE

- Developing a cavitation process for achieving practical and affordable fusion energy.
- Dr. Nick Hawker and Yiannis Ventikos.

Guangzhou Co-Energy Technology Company Ltd. Lin Xidan China. ACTIVE?

• Engaged in the development of LENR technology.

Global Energy Corporation (GEC): ACTIVE

- Dr. Jay W. Kim, CEO and Chairman
- Dr. Larry Forsley see 'JWK' above, Executive VP and Senior Scientist
- Builds upon 20 years of R&D and product development in conjunction with US Navy SPAWAR (Space and Naval Warfare Command) carried out by Pamela A. Boss, Frank E. Gordon, Stan Szpak and other SPAWAR scientists
- GEC is negotiating 250 MWe and 5 GWe reactors, to be deployed on-site of nuclear power plants using nuclear waste as fuel

- Genie hybrid fusion/fission reactor is claimed to be inherently safe and clean and is powered with used fuel from conventional atomic plants. Under development with NASA support/input.
- Subsidiary **GEC Global LLC** is building conventional power plants (coal, gas, diesel, hydro power, solar, wind, bio, geothermal, and wave energy).

George Washington University. USA: ACTIVE.

- "LENR Energy and Spectroscopy Laboratory". In Washington DC.
- Has a small externally and internally funded research program.
- Contact: David Nagel.

Heliorite AB: Sweden: ACTIVE.

- A private LENR science and technology development company.
- Principal Birger Johannson.

HMRI R&D. USA: ACTIVE

• Founded in NC USA in 2015 Antonia La Gatta and J.T. Vaughan (IH) are directors. Also some possible association with Industrial Heat/ Texas Tech/Seashore Research.

HEAD Hydrogen Engineering Application & Development Company (HEAD) Japan: ACTIVE

- Independent research unit working mainly with Ni/H derived technologies.
- Principal Researcher. Tadahiko Mizuno .

Hydro Fusion Ltd. ACTIVE: Licensees of Rossi/ Leonardo Corporation's LENR devices. Sweden

• Magnus Holm and Hans-Peter Bermin

Hydrobetatron. Italy, ACTIVE.

- Principal Researcher Ubaldo Mastromatteo.
- Allied with ST Microelectronics.

High Mesa Technology USA ACTIVE. Tom Claytor

Provides contract assistance for LENR research experiments.

<u>Iwate University</u> Department of Electrical Engineering and Computer Science Japan ACTIVE.

• LENR discovery programme working with Pd-Ni, Pd-Ag and Pd-Li

JWK (USA): ACTIVE. Dr. J.W. Khim

- Government and private test and verification services, developing 'clean nuclear technology'.
- Affiliates include Dr. Larry Forsley.(See also Global Energy Corp.)

JET ENERGY, Inc.: USA: ACTIVE - See also NANORTECH Inc. (below)

- Proprietary technologies to increase the control, rate, and to monitor LENR cells
- Developed LENR metamaterials including the PHUSOR®-type component.
- CMORE Spectroscopy using antiStokes detects active state of LENR systems.
- Coupled systems to Stirling motors
- Principal researcher, Mitchell Swartz, USA.

NANORTECH, Inc.: USA:ACTIVE

- NANORTECH, Inc. is a spin-off of JET Energy manufacturing dry preloaded NANOR®-type LENR components.
- Designs/assembles support systems for imaging, monitoring, and driving NANOR®-type LENR components.
- Manufactures unique and custom LENR-active metallic nano-particles.
- LENR cells (NANOR, PHUSOR Etc) using metallic nano-particles.
- Has support from Prof. Peter Hagelstein, MIT. CTO/CEO: Dr. Mitchell Swartz

LD-Brane SRL an R&D company focused on LENR technologies. ACTIVE

• Luca Gamberale Italy & Nicolas Chauvin Switzerland.

LENR Cars, Switzerland: Nicholas Chauvin :ACTIVE

Developing mobile LENR electric generators to power electric vehicles.

LENRGY, Texas USA: ACTIVE

- Principal Thomas Grimshaw
- Consulting/Services company.

LockTherm LLC USA & RUSSIA: ACTIVE

- LockTherm is an Ni-Li-H LENR R&D team.
- Sergei Godin and Andrei Hrischanovich Russia. NB Hrischanovitch may now be working elsewhere.
- Alexander Rios and Victoria Stephens USA

Lattice Energy LLC: ACTIVE

- President and CEO: Lewis Larsen
- Integrated thin-film LENR power devices with high-temperature electrodes as heat source.

Leonardo Corporation. USA – ACTIVE

Business entity marketing Andrea Rossi's (see below) controversial and disputed LENR technologies.

LUX Energy Ltd, Deep River Ventures (DRV): ACTIVE. Affiliates of Industrial Heat/Dewey Weaver.

Seek LENR technologies to license, acquire or invest in.

Mitsubishi Heavy Industries (MHI) Japan: ACTIVE

- Multinational engineering, electrical equipment, and electronics corporation
- Key staff: Shigenori Tsuruga, Kenji Muta, Yutaka Tanaka, Tadashi Shimazu, Koji Fujimori, Takehiko Nishida.

NANORtech: USA ACTIVE

See JET Energy above.

NeoFire Peter Björkbom Sweden.

Working to develop and market a new energy source based on LENR.

Nickel-Hydrogen Research Center China. STATUS UNKNOWN.

Located in the Huayan IndustrialPark on the southwest side of Tianjin, China.

Newinflow, Russia, ACTIVE

- The company aggregates the research efforts of disparate scientific groups in Russian universities
- Principal Researchers: Anatoly Klimov, N.Magnitskii & Dr. N.Evstigneev

NUCAT Energy, LLC: ACTIVE

- Prof. David J. Nagel
- Offers consulting services, very much a friend of the field.

Nukey Europe Ltd. UK. ACTIVE

- CEO Angelo Ovidi
- Provides guidance on using LENR technologies to remediate nuclear waste.

Norront Fusion : See Ultrafusion: ACTIVE.

Ooyama Power Inc. Tokyo, Japan: ACTIVE

- Director Ooyama Kazuo
- Established 2004 as JOHO Corp, name changed 2016.
- Presented a "Metal crystal confinement fusion reactor" at a conference in Japan 2019.

Purratio AG: Germany. ACTIVE

- Solfire LENR technologies for the controlled utilization of fusion energy.
- CEO Richard Reichmann

PointSource USA: ACTIVE?

• Curt Brown with Pam Boss, Larry Forsley (& Cravens patents)

POWER HEAT ENERGY SRO. Czech Republic. ACTIVE

- Filed patents on Ni-Li-H LENR systems.
- Oleg Olshansky, Emanuel Hubeny (Cz); Andrey Kolosov (Ru).

Quantum Potential Corp. State College Pa USA ACTIVE

- R&D in the areas of LENR, fusion, and plasma projects. The company was founded in 2010.
- Principals, Max I. Fomitchev-Zamilov, Alex Kosik

Royal Dutch Shell PLC. Headquartered in the Netherlands: ACTIVE?

• Pd-D Ben van Beurden France.

SAFIRE Electric Sun Project. UK ACTIVE

Plasma-based fusion research – possibly LENR- but possibly not.

Spazionica Italy: ACTIVE

• An R&D focused LENR company working with Ni-H: Francesco Santandrea

SEASHORE RESEARCH USA ACTIVE

- Spun out of Texas Tech, principal LENR researcher Rob Duncan.
- Principal funder Bill & Melinda Gates Foundation.

Sidney Kimmel Institute for Nuclear Renaissance (SKINR) at the University of Missouri: CLOSED

- SKINR was dedicated to finding the origin of the anomalous heat effect in LENR reactions.
- Principal researcher. Dennis C. Pease.

Swiss OxyHydrogen Energy (SOHO) Switzerland. ACTIVE.

• LENR technology developer. Slobodan Stankovic, Gregory Krieger and Richard Anderson.

Southern Utah University (SUU) USA. STATUS UNKNOWN

- SSU has a research program to develop methodologies for characterizing nuclear reactions.
- Principal researcher. Sangho Bok.

Technova (A subsidiary of Toyota MotorCorporation) ACTIVE

LENR R&D leader in providing research grants and advocating for government support.

Tohoku University Japan. ACTIVE.

- A national university housing the Condensed Matter Nuclear Reaction Joint Research Division.
- Yasuhiro Iwamura, Takehiko Itoh and Jirohta Kasagi.
- Collaborates closely with 'Clean Planet'.

TET Laboratory of Experimental Physics Russia ACTIVE

- Experimentalists working to develop devices based on plasma electrolysis, LENR and magnets.
- Andrew Hrischanovich.

TSEM, Italy. ACTIVE

- Antonio La Gatta, founder and president plus Mike McKubre, Irving Dardik
- Focusing on energy, security and healthcare technologies
- Organizer of ICCF-19
- Seems to cooperate with Industrial Heat, MIT, and Texas Tech University

Unified Gravity Corporation USA :ACTIVE

Established to prove Hubert and Stephen Lipinski's LENR research.

Ultrafusion/ Norront Fusion: Finland. ACTIVE

- Patent(s) on using YAG-Laser to produce Rydberg hydrogen
- Principals include Leif Homlid and Sindre-Zeiner Gundersen.

LENR INVESTORS

LENR Invest, Switzerland and USA: Tyler van Houwelingen, CEO

- Invested in LENR Cars, Brillouin Energy, Lenuco LLC, NicHenergy
- Sponsor of E-Cat World

 Investments mainly to bridge the gap between lab demonstration and industrial prototype. Also interested in development and cross promotion of compelling LENR related Intellectual Property

Quantum Potential Corporation (QPC) USA

• LENR, fusion, plasma, cavitation technologies. Max Fomitchev-Zamilov

Bill & Melinda Gates Foundation: Close contacts to ENEA via Vittorio Violante

- Observes research in the field via Lowell Wood (who formerly worked with Edward Teller)
- Donated \$6M to 'Seashore Research / Texas Tech (Rob Duncan)

Sunrise Securities, USA

• NYC investment bank cited by Brillouin as an investor.

Industrial Heat LLC, USA.

- An affiliate of Cherokee Investment Partners LLC.
- Their first major investment was in E-cat technology developed by Andrea Rossi. They have since parted company
 following disputes over IP, money, and verification of the tech.
- Woodford Investment Management LLP (UK) invested many millions of \$ with IH and has an on-going interest in LENR development
- Support a number of research projects in external labs.
- Principal contact Dewey Weaver

Kiva Labs

• Edmund Storms (See also LENRGY) consults for Kiva Labs on LENR research

Carl Page/Anthropocene Institute.

- Brother of Alphabet/Google CEO Larry Page
- Strong supporter of the field, which he knows well
- Invested in **Brillouin Energy** and is one of its board members.

Larry Page CEO Google/Alphabet.

Recently filed LENR patents and supporting work in the field.

IP Group. London UK.

- Investor in First Light Fusion (see above)
- · Primary interest is collaboration with universities to source IP and invest in 'high risk' spin-offs.

Woodford Patient Capital Trust plc. London UK.

- Substantial investor in 'Industrial Heat' see above. One of a number of Neil Woodford's investment funds.
- Principal specialist Paul Lamacraft.

LENR Associations

MFMP: Martin Fleischmann Memorial Project Bob Greenyer (Europe), Alan Goldwater (USA) and others. ACTIVE

- Group dedicated to researching LENR while sharing all procedures, data, and results openly online
- Wants to overcome the hurdle of institutional bias by crowd-funding

The International Society for Condensed Matter Nuclear Science (ISCMNS), England. Dr. Bill Collis -Secretary. ACTIVE

- Its stated mission is to promote the understanding, development and application of Condensed Matter Nuclear Science for the benefit of the public
- ISCMNS publishes the peer reviewed Journal of Condensed Matter Nuclear Science (JCMNS).
- Key organiser of LENR conferences in the ICCF series and smaller meetings.

LENRIA: ACTIVE

- The industrial association for LENR -formed to act as promotion and lobbying group
- Founded by Steve Katinsky and David Nagel.
- Principal researchers include Dr. Melvin H. Miles and Dr. M. Ashraf Imam
- Presently involved with LENRIA in Pd-B studies
- https://www.lenria.org/contact-us

Breakthrough Energy Coalition

- Initiative launched in 2015 by **Bill Gates**, John Doerr, Jeff Bezos, George Soros, Mark Zuckerberg, Hasso Plattner, Richard Branson and others.
- Does not name "cold fusion", "LENR" as an investment priority.
- Invests in where governments participate in the initiative 'Mission Innovation' and pushes for "clean energy".

MAJOR COMPANIES ENGAGED IN LENR

- Mitsubishi Heavy Industries, Yasuhiro Iwamura
- Mitsubishi Real Estate. Believed to part- fund Clean Planet Japan
- Toyota / Technova, Akito Takahashi
- Nissan, Nissan/Renault
- Airbus Defence and Space (Possibly not currently)
- Boeing Subsonic Ultra Green Aircraft Research (SUGAR)
- STMicroelectronics (SGS-Thomson), Dr. Ubaldo Mastromatteo
- National Instruments, Dr. James Truchard.
- Siemens (silently)
- Exxon (silently)
- Shell (silently)

SOME EXPERIMENTERS/THEORISTS IN THE LENR - COLD FUSION FIELD

- Professor Brian Josephson. Nobel laureate, physicist, theorist and experimenter. Cambridge (Trinity) UK.
- Dennis Bushnell, NASA chief scientist, Langley Research Center, USA.
- Dr. J. Zawodny, NASA. USA

- David Bianchini. Bologna University Italy.
- David Fojt, France. Experimenter.
- Randall Mills. BLP (Black Light Power) Experimenter and theorist working with hydrogen plasma. Refutes links to LENR.
- Andrew Meulenberg. Theoretician
- Jean-Luc Paillet. Theoretician. France.
- Alexander Parkhomov, Russia LENR researcher, experimenter.
- Lutz Jaitner, LENR plasmoid and ball-lightning researcher. Germany
- Anthony LaGatta, TSEM
- Mark Davidson Theorist.
- Andrea Rossi. Experimenter with Ni/Li/H systems and focus of attention over his legitimacy (or otherwise.)
- Dr. Gerard Hunf. Independent experimenter and theorist.
- Dr. Brian Ahern, Ames National Laboratory.
- Dr. David Bianchini, University of Bologna
- Dr. Joseph Zawodny, NASA senior research scientist Langley Research Center
- Dr. Michael A Nelson, NASA LENR Space Applications Lead
- David Wells, NASA LRC, Aeronautical engineer.
- Fabrice David, France
- Gustave C. Fralick, Arthur J. Decker, and James W. Blue, NASA Lewis Research
- George Miley, University of Illinois, Department of Nuclear, Plasma, and Radiological Engineering
- Dr. Mike McKubre, SRI (now retired from SRI and working independently)
- Dr. Francis Tanzella, SRI (now retired from SRI and working independently)
- Russ George , Atom Ecology/Ecalox UK
- Prof. Peter Hagelstein, Electrical Engineering, MIT
- Dr. Mace, Los Alamos National Laboratory
- Dr. Francesco Piantelli, University of Siena, Possibly retired.
- Simon Brinks. Owner of 'Subtle Atomics' website. Plasma (hydrogen) experimenter/theoretician.
- Dr. Giuseppe Levi , University of Bologna
- Dr. Christos Stremmenos, University of Bologna, Dept of. Physical and Inorganic Chemistry, retired
- Francesco Celani, Guest Researcher at INFN Italy.
- Dr. Frank Gordon, US Navy's Space and Naval warfare systems (SPAWAR), retired
- Robert V. Duncan, Texas Tech University, Vice President for Research
- John Gahl, University of Missouri, Director Material Science Engineering
- Mark Prelas, University of Missouri, prof Nuclear Science
- Dr. Yeong E. Kim, professor physics Purdue University
- Prof. Koltick, Purdue University
- Prof. Reifenberger, Purdue University
- Hanno Essén, theoretical physicist Swedish Royal Institute of Technology, former chairman Swedish Skeptics Society.
- Bo Hoistadt: Emeritus Prof. Upsalla University Sweden
- David J. Nagel, Professor of Engineering & Applied science George Washington University
- Dr. Andres, Purdue University
- Yasuhiro Iwamura, Japan.
- Dr. L. Magro, ISPRA, the Institute for Protection and Environmental Research
- Stanley Pons, University of Utah & Southampton (retired)
- Akito Takahashi, advisor to 'Clean Planet' Japan
- State Senator, Bruce Tarr, Massachusetts

- Allan Widom, prof. Northeastern University
- Professor Violante, ENEA
- Dr. Vladimir Vysotskii, Kiev National University, Head of physics department
- Dr. Iraj Parchamazad, Chairman of the Chemistry University of LaVerne
- Dr. T. W. Grimshaw, Energy Institute, Univ of Texas
- Professor Michael Melich, US Navy.
- Alan Smith. Ecalox /Atom Ecology. UK
- Vladimir Dubinko, Kharkov Ukraine. Physicist, theoretician.
- Vittorio Violante. ENEA, Italy. Experimenter, theoretician
- Dennis Letts. USA. Experimenter, theoretician.
- Thomas Grimshaw, LENR policy analyst, University of Texas.
- Klee Irwin USA Quantum gravity research.
- Andrea Rossi, Leonardo Corporation. Experimenter, see 'Leonardo Corp' entry above.
- Christy Frazier USA Infinite Energy Magazine/New Energy Foundation.
- Ruby Carat USA. Journalist, blogger, podcaster.
- Marianne Macy USA Journalist/Author
- William Collis Italy, CEO ISCMNS. Theoretician
- Stephen Lipinski Unified Gravity Corp. USA Experimenter
- Hubert Lipinski, Unified Gravity Corp. Experimenter
- Anatoly Klimov, Russia.(New Inflow). Experimenter, theoretician
- Steve Krivit New Energy Times. Journalist.

April 14th 2019.