Genius Energy Lab

Corporate CV

September 2026

www.geniusenergylab.com | 0116 504 0860 | whitecoat@geniusenergylab.com
Genius Energy Lab Limited is a Company Registered in England & Wales: 9198410

Genius Energy Lab Limited Corporate CV

Genius Energy Lab are industry-leading ground source technology specialists built on over 25 years of experience in the global low and zero-carbon sector. We have extensive experience designing and implementing large-scale GSHP systems and district heat networks and are the preeminent ground source heat pump designers working in the UK today. Our work is fully certified and carries Professional Indemnity Cover of up to £10,000,000.

We have extensive international experience and are one of the most experienced practitioners of ground source heat pump technology working globally.

Genius Energy Lab is a high-performance consultancy providing services to customers such as Microsoft, Kensa Group, Hoare Lea, AECOM and the UK Government.

Our services include:

- GSHP system design pre-feasibility and feasibility studies
- Low-carbon energy systems research and development and techno-economic analysis
- Geological analysis and geotechnical design
- Hydrogeological assessments
- Ground source heat pump system design pack including feasibility, design, modelling & specification
- Post-installation system analysis
- Ground loop design training
- Energy Services Company (ESCo) technical support
- Expert witness
- Low-carbon industry lobbying

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Our Credentials

- Genius Energy Lab are an AECOM 5* supplier
- Diverse and specialist GSHP engineering team - two members of which have PhDs with theses focused on GSHP system analysis and optimisation
- In-house geologists
- Specialist hydrogeology advice closed loop and open loop, ground and water source design specialisms
- Our Chief Technical Officer holds Certified Geoexchange Designer (CGD) certification In-house software developed to optimise solutions and cut lead times
- ISO9001 and ISO14001
- Full members of the Heat Pump Association (HPA UK)
- We are Constructionline Gold members
- Affiliate members of ADE (Association for Decentralised Energy)

Some of the clients we've worked with:

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Organisation Chart

Leadership Team

Chris Davidson BSc CGD
CTO & Director

Duncan Rae
Business Development Director

Richard Davis
CEO & Director

Engineering & Technical Delivery Team

Josh Turner PhD
Engineering Manager

Mark Parker
Senior Project Engineer

Ellis Laird
Project Engineer

Selvaraj (Raj) Naicker PhD
Design Engineer

Stephen Weston
Design Engineer & Geologist

Declan Andrews
Design Engineer

Ruth Shalini Goonawardena
Design Engineer

Zsuzsa Mayer PhD
Head of R&D and Innovation

Mike Kellet
Strategic Lead - ASHP Solutions

Project & Client Services Team

Ami Baker
Sales Operations Manager

Sarah Shepherd
General Manager

Marketing Team

Charlotte Gibson
Marketing Manager

Andy Gibson
Marketing Strategist

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Leadership & Project Oversight Team

Richard Davis

Co-founder, Director & CEO

Rich has worked in renewables for over a decade, and has extensive achievements in operations, governance, marketing, business development and growth. He previously held senior roles in the IT and telecommunications sector. He is also a retired operational technical rescue Firefighter and as part of this role, was selected as a team member for UK International Search and Rescue (UK-ISAR).

Chris Davidson BSc CGD

Co-founder, Director, Chairman & CTO

Chris holds a degree in Theoretical Physics from Imperial College London. Chris has worked in the heat pump industry since 2001 and has extensive experience designing and implementing large-scale GSHP systems. Chris has overseen initial feasibility, detailed design and system performance monitoring and improvement. As ex-head of the policy development committee at the Ground Source Heat Pump Association (GSHPA), now Heat Pump Association UK (HPA UK), Chris plays a key role in shaping UK energy policy.

Duncan Rae

Business Development Director

Duncan graduated from Brunel University with a joint BSC Hons in Sport and Geology and joined the team as Director in 2020. He has been instrumental in our growth, delivering year-on-year increases in revenue. Duncan has over 25 years' experience developing new business channels and is an expert in business-to-business sales growth and building trusted advisor relationships with our clients.

Ami Baker

Sales Operations Manager

Ami has worked in the renewable energy industry since 2019, developing expertise in ground source heat pump manufacturing and installation. With a background in business management, supply chain and logistics, she specialises in operations management, optimising workflows and creating a seamless client journey.

Sarah Shepherd

General Manager

Sarah joined the team in 2021. Sarah brings leadership skills from 16 years working as a Firefighter and Crew Manager with Leicestershire Fire and Rescue Service. She has been instrumental in developing our processes to maximise our efficiencies to deliver to our growing client base.

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Engineering & Technical Delivery Team

Chris Davidson BSc CGD

Chairman of the Board | Chief Technical Officer | Ground Loop Modelling Lead

Location: East Midlands

Project Involvement: System Specification | System Modelling | Performance Analysis & Verification

A graduate in Theoretical Physics from Imperial College London, Chris has worked in the heat pump industry since 2001 and has extensive experience designing and implementing large-scale GSHP systems. Chris has overseen initial feasibility through detailed design, system performance monitoring, and improvement. As previous lead for lobbying at the Ground Source Heat Pump Association (GSHPA now HPA UK), and a previous Association for Decentralised Energy (ADE) member, Chris plays a key role in shaping UK energy policy via high-level government access. Genius Energy Lab is a high-performance consultancy providing services to customers such as Microsoft, AECOM, Hoare Lea, Kensa Group, and the UK Government.

Skills:

- Unrivalled heat pump industry experience from the theoretical to the practical
- One of the few certified design professionals operating in the UK today – The Certified GeoExchange Designer Certification is administered by the Association of Energy Engineers
- Expert communicator and trainer in advanced technical subjects

Experience:

- Chris has been a prolific designer of heat pump systems, including open and closed-ground loop systems, for over 25 years. His installations include prestigious and innovative projects such as One New Change in London, The Earth Sciences Building at The University of Oxford and the largest Ground Source Heat Pump system in the UK at Kingsmill Hospital, Mansfield.
- Chris has designed hundreds of installations at the domestic scale, from large stately homes to multiple social housing projects such as the recent Kensa installation for Enfield Council, which has helped to reduce fuel poverty in over 400 apartments across eight high-rise tower blocks.
- In 2016 Chris was appointed by BEIS as a peer reviewer of the UCL / University of Westminster Renewable Heat Premium Payments reports, "Compliance with MCS Standards", "Reasons for Good & Poor Performance", "Case Studies". He later received the following feedback from the BEIS project coordinator Penny Dunbabin, "Chris Davidson and Richard Davis undertook a peer review of three technical reports relating to heat pump performance produced by BEIS's contractors, RAPID-HPC. The reports were between 70 and 200 pages long and highly technical. Their peer reviews were insightful, concise, clearly laid out, and delivered on time. I have had good feedback from our contractors concerning their comments."
- Chris has particular expertise in optimising the hybrid use of low-carbon technologies, including Solar PV, Solar Thermal, Combined Heat & Power, Air and Ground Source Heat Pumps, Battery Storage, Phase Change Materials and Advanced Building Controls.

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Josh Turner PhD

Engineering Manager

Josh joined the team in 2022. He achieved a PhD in the school of Civil Engineering investigating the long-term performance of ground source heat pumps in the UK. Prior to this, he graduated with a first class Masters degree in Mechanical Engineering from the University of Leeds.

- Analysis of over 15 years' worth of data across non-domestic and multi-occupancy systems
- Involvement in developing a policy brief for heat pump systems with shared ground heat exchangers
- Additional publications in collaboration with the IEA Heat Pumping Technologies Annex 52 and the Net-Zero Infrastructure Industry Coalition
- Previously appearing as Body Structures Innovation Engineer at Aston Martin Lagonda, Design Engineer at Thumbsat, Electrical and Systems Engineer at Caterpillar

Notable Projects:

- Prestigious and historic office building retrofit, City of London

Mark Parker

Senior Project Engineer

Mark is a mechanical design engineer with extensive experience in building services, renewable energy and low-carbon heating systems. His background spans heat pump design, ground source heat pump systems, heating and cooling, underfloor heating, MVHR and wider mechanical services, giving him a practical understanding of both the technical and design challenges involved in delivering energy-efficient systems.

With a strong interest in renewable technology and engineering, Mark enjoys getting into the detail of how systems work and finding practical solutions to complex design problems. He brings a hands-on approach to his work, combining engineering knowledge with a genuine interest in the technology behind the systems.

Ellis Laird

Project Engineer

Ellis has a first-class honours Master's Degree in Mechanical Design Engineering from the University of Glasgow. She is passionate about promoting women in STEM and has extensive experience in designing ground source heat pump systems.

- Selected for the School of Engineering Excellence list
- Winner of the Scottish Renewables Young Professionals Green Energy Awards, Professional Service Award
- Mentor for a University of Glasgow STEM student through the FemEng mentoring scheme
- Secretary and Sponsorship Manager of FemEng Empowering Woman in Engineering
- Part of the FemEng in Rwanda team, delivering education STEM workshops to schools around the country

Notable Projects:

- Red Lion Court, 10 Story new build office, Central London, full Revit model of boreholes under building

Selvaraj (Raj) Naicker PhD

Design Engineer

Raj achieved a PhD in Mechanical Engineering from De Montfort University for his research on a large-scale geothermal heating and cooling system and his findings have been published in international journals. His skillset extends to IES thermal modelling and low-carbon and net-zero building design. He also holds an MSc in Energy and Sustainable Building design from De Montfort University, MTech Energy Engineering from NIT Trichy and BEng in Mechanical Engineering from Madurai Kamaraj University. Raj has worked in academia, teaching engineering drawing, thermodynamics, thermal engineering and renewable energy to undergraduate students at affiliated colleges of Anna University, Chennai.

Publications include:

- Long-term high frequency monitoring of a large borehole heat exchanger array, Renewable Energy
- Performance analysis of a large geothermal heating and cooling system, Renewable Energy
- Geothermal heat pump system operational data: high frequency monitoring of a large university building
- Validation of vertical ground heat exchanger design methodologies, STBE

Notable Projects:

- White Friar and Grey Friar Court, multi-residential retrofit, Salford

Stephen Weston

Design Engineer and Geologist

Steve is our Design Engineer and Geologist. He graduated from the University of Hull with a BSc in Geology and a Masters in GeoEnergy from the University of Edinburgh. He is passionate about improving efforts to decarbonise our energy industry, particularly through utilisation of the subsurface. He loves to travel and is a keen hill-runner, cyclist and mountaineer and loves to spend his free time exploring the Scottish Highlands.

Declan Andrews

Design Engineer

Declan is a graduate of Imperial College London, with an MSc in Sustainable Energy Futures. Before moving to the UK, he studied Physics and Mechanical Engineering on a dual-degree program, earning a BA in Physics from Whitman College and a BSc in Mechanical Engineering from Columbia University, from which he graduated Magna Cum Laude.

Ruth Shalini Goonawardena

Design Engineer

Ruth holds a degree in Mechanical Engineering from Monash University, with a strong academic interest in sustainable technologies. She is particularly motivated by the role of engineering in addressing global environmental challenges.

Zsuzsa Mayer PhD

Head of R&D and Innovation

Zsuzsa is a Chartered Engineer with a PhD in renewable energy and over 15 years' experience in clean tech innovation. She holds several patents, and is passionate about using AI to optimise technologies, workflows and processes, she works at the intersection of engineering, innovation and sustainability.

Mike Kellet

Strategic Lead - ASHP Solutions

Mike, founder of a leading ASHP brand that reached 10% of the UK market in five years, has worked in the renewable energy industry since 2010. His expertise strengthens our ability to deliver rigorous, independent design for ASHP, GSHP and hybrid systems.

Marketing Team

Charlotte Gibson

Marketing Manager

Charlotte leads our marketing campaign execution, refining brand positioning, and marketing content. She ensures all marketing activity is strategically aligned with business objectives, strengthens brand presence and supports commercial growth. She holds a Digital Marketing Diploma and first-class BA Degree in Graphic Communication.

Andy Gibson

Marketing Strategist

Andy focuses on shaping long-term growth strategy, market positioning, and customer acquisition. He develops data-driven marketing frameworks that enable sustainable expansion and competitive differentiation. By aligning insight, strategy, and performance. Andy holds a Master in Renewable Energy Certification from the Renewable Energy Institute and Prince 2 Practitioner Qualification in project management.

Our Policies

- Anti-Bribery Policy
- Anti-Money Laundering Policy
- Anti-Slavery Policy
- Environmental Policy
- Equality and Diversity Policy
- Privacy and GDPR
- Service Agreement

If you'd like to discuss any of our policies please contact Richard Davis via **rd@geniusenergylab.com**

Genius Energy Lab

Thanks for your time!

For more information or to speak with us about your project please contact us:

whitecoat@geniusenergylab.com