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## LEGAL & GENERAL, SYSTEMIQ AND MODERN ENERGY INVEST IN UPSIDE ENERGY, A DEMAND-SIDE RESPONSE PLATFORM

Legal & General Capital, the principal investment arm of Legal & General Group, and SYSTEMIQ, a purpose driven investment and advisory firm established in 2016 to tackle system failures, have co-led the Series A investment in Upside Energy (“Upside”).

Upside is a Manchester-based company that has developed a cloud platform that uses advanced algorithms and artificial intelligence to coordinate connected devices to deliver valuable flexibility services to the energy system.

The UK’s energy system is in transition, with low cost renewable generation technologies now capable of meeting a substantial portion of consumer demand. In order to integrate a larger proportion of intermittent renewable power from wind and solar, and adapt to new power demand patterns at low cost, there is an increasingly urgent need to unlock demand-side response.

Upside has developed a powerful software platform that connects suppliers and users of energy by harnessing latent capabilities of connected devices. Capable of providing core services to transmission and distribution network operators, energy suppliers, battery owners, renewable energy generators and providers of commercial and residential property-based solutions, it enables customers to save on their energy costs or earn revenue by changing their demand curve to solve imbalances for the Grid. This could include many of Legal & General’s own property-backed businesses.

Following three years of development and testing, including collaborative studies with the UK government, universities and global equipment manufacturers, the Upside cloud platform is in its commercialisation and scale-up stage, and is being rolled out to the wider market.

SYSTEMIQ and Legal & General Capital are acting as lead co-investors in Upside’s Series A fundraise. They have invested alongside Modern Energy, a North Carolina-based energy asset management firm, Bulldog Innovation Group, a Yale-affinity early stage venture capital firm and a group of individual investors. The capital will be used to expand the team in order to further develop the platform’s capabilities, accelerate commercialisation, drive operational deployment, and to realise Upside’s vision for a new, cleaner and more equitable energy system.

**Jeremy Oppenheim, Founding Partner of SYSTEMIQ, said:** “SYSTEMIQ has set out to invest in disruptive early stage ventures with system change potential across energy, land use and the circular economy. Our strategy in the energy sector is shaped by our leadership of the Energy Transitions Commission, whose analysis shows that half of the carbon emissions reduction required by 2040 to put the world on a well below 2°C trajectory will come from the combination of accelerated power decarbonisation and increased electrification.

“Advanced demand-side response systems such as Upside’s can enable a much faster and more substantial transition to a renewables-based grid by utilising smaller assets in flexibility provision, and smoothing the market by allowing faster response times and inter-utility provider (and consumer/asset owner) trading. We are therefore extremely excited to announce our first investment in Upside Energy, and look forward to working with the management team and our co-investors to make this business a success.”

**John Bromley, Head of Clean Energy at Legal & General Capital, said:** “Alongside investing in the creation of long term clean energy generating assets in solar and onshore wind, we are investing in complementary technology that together will be essential in delivering an affordable clean energy system to UK consumers. I am therefore delighted to be working with Upside Energy and some of the UK’s brightest talent in software development, united by a mission to make clean, affordable energy, available to all.

“We aim to create long-term social and economic value by investing in the future of our energy system. Ultimately we will enable UK consumers to enjoy affordable clean energy that is owned and financed by their UK pensions, savings and investments.”

**Ben Abram, Managing Director of Modern Energy, said:** “At Modern Energy, we believe the proportion of energy produced worldwide by Distributed Energy will increase dramatically over the next several decades. Upside Energy is on the vanguard of the transition to a distributed, digital electric grid, and we are excited to be investing in their work.”

**Graham Oakes, Upside’s Founder and Chief Scientist, said:** “This is the culmination of four years of hard work since we entered the Nesta Dynamic Demand Challenge, sponsored by National Grid back in 2013. We’ve taken Upside Energy’s cloud platform from a wild and speculative idea to a solid, innovative solution to help people harness the opportunities created by the confluence of two trends: the growth of renewable generation and the rise of smart devices. Our vision is to create a new, cleaner and more equitable, energy system. This partnership with Legal & General Capital, SYSTEMIQ and Modern Energy will help us realise that vision.”

**Devrim Celal, Upside’s CEO, said:** “Upside has a unique proposition; while creating a commercially successful business, we are also enabling a greener and sustainable energy system. We are achieving this through partnerships with major equipment manufacturers, renewable and storage project developers, financial institutions and electricity suppliers. This investment will help us scale up our operations and realise our vision to create a new, cleaner and more equitable energy system.”

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**For further information, please contact:**

**Olivia Bayliss**

Head of Communications, Legal & General Capital and LGIM Real Assets

Tel: +44(0) 20 3124 2777

Email: [Olivia.Bayliss@lgim.com](mailto:Olivia.Bayliss@lgim.com)

<http://www.legalandgeneralcapital.com>

**Faye Walters**

PR Manager, Legal & General Capital and LGIM Real Assets

Tel: +44(0) 20 3124 2823

Email: [Faye.Walters@lgim.com](mailto:Faye.Walters@lgim.com)

<http://www.legalandgeneralcapital.com>

**Anne-Caroline Duplat**

Head of Communications, SYSTEMIQ

Tel: +44(0) 7432 886298

Email: [anne-caroline.duplat@systemiq.earth](mailto:anne-caroline.duplat@systemiq.earth)

<http://www.systemiq.earth>

**Boris Nikolic**

Sr. Associate, Modern Energy

Tel: +1 919-590-0327

Email: [info@modern.energy](mailto:info@modern.energy)

<http://www.modern.energy/>

### **Devrim Celal**

CEO, Upside Energy

Email: [Devrim@upsideenergy.co.uk](mailto:Devrim@upsideenergy.co.uk)

<https://upsideenergy.co.uk>

### **Notes to editors**

#### **UPSIDE ENERGY**

Every time you hit a switch, somewhere a power station has to work a little bit harder. That's fine for coal or gas — they can just burn some more fuel — but it doesn't work for renewables. The sun won't shine more brightly just because you want to boil the kettle. To fully exploit renewable generation, the system needs flexibility from somewhere else.

Upside Energy provides that flexibility. Its cloud platform uses advanced algorithms and AI to coordinate devices that households and commercial and industrial sites own, e.g. in backup power supplies, battery systems, electric vehicles, hot water tanks, heating and cooling systems, to match demand for energy onto available supply.

This lets the energy system make better use of both conventional and renewable generation, saving both costs and emissions. System operators pay Upside to create these savings, and it shares that revenue with the manufacturers and owners of the devices it controls.

Upside was created for a challenge prize run by National Grid in 2013. It has since won numerous awards, e.g. the 2017 Shell Springboard National prize for low carbon innovation. It has raised over £2m of grant funding from Innovate UK, the Department of Business Energy and Industrial Strategy, and the EU Horizon 2020 programme, and £1.2m of seed equity from angel investors. This Series A Funding will allow it to take its service to full commercialisation in the UK, to begin internationalisation, and to further develop its vision for a new, cleaner and more equitable, energy system.

#### **Legal & General Capital**

Legal & General Capital (LGC) is the early-stage investment arm of Legal & General Group. Investing from Legal & General's £6bn principal balance sheet, LGC's purpose is to generate long-term shareholder value by injecting new capital into key sectors where there has been a shortage of investment and innovation. Focused on Housing, Infrastructure (Urban regeneration and Clean Energy) and SME Finance, these key sectors reflect our aim to invest for the long term in economically and socially useful assets, to secure competitive returns and to create new asset classes for Legal & General's varied investment requirements, for our partners and for the wider marketplace. Investments to date have included housebuilder CALA Homes, a Build to Rent joint venture, major urban regeneration projects in Salford, Newcastle, Cardiff and Bracknell, SME finance group Pemberton and clean energy firm, NTR.

### **Legal & General Group**

Established in 1836, Legal & General is one of the UK's leading financial services groups and a major global investor, with a number of growing businesses in the US and in other countries. At 30th June 2017, we had over £951 billion in total assets under management. Over fifteen million people worldwide rely on us to help them save for the future and to protect their families and their homes.

We work with companies and pension trustees to help people build security in retirement, being the UK's largest investment manager for UK corporate pension schemes, a major provider of auto-enrolled pensions and a market leader in pensions de-risking. We have also made a commitment to invest around £15 billion in direct investments, with £12 billion already invested in areas such as homes, urban regeneration, clean energy and small business finance, driving economic growth and making a positive difference to the UK's built environment.

### **SYSTEMIQ**

SYSTEMIQ aims to catalyse good disruptions in economic systems that will speed achievement of the UN Global Goals. With initiatives across the circular economy, land use and energy sectors, SYSTEMIQ builds coalitions to shape policies and business strategies, co-creates market-based solutions in partnership with the private and public sectors, and invests its own capital in early stage ventures with the biggest potential to rapidly transform economic activity.

Our investment strategy is focused on disruptive, tech-enabled Seed and Series A investments across energy, circular economy and sustainable land use. We are an active minority investor, deploying a combination of capital and talent to 'de-risk' the companies we invest in, accelerate their commercialisation and position them for further fundraising and greater scale. In addition to providing follow-on capital ourselves, we seek to support our portfolio companies in raising additional capital, including from our own capital partners. We are long-term investors, focused on working closely with management to build lasting value and drive real change.

### **MODERN ENERGY**

Modern Energy seeks a world with abundant, accessible, sustainable energy for everyone. Modern Energy is an energy asset management firm that invests in businesses that bring distributed energy innovations to market and the energy resources those businesses produce. From energy efficiency in the United States to solar projects in emerging markets to technology firms in the United Kingdom, Modern supports leaders in the transition to a distributed energy economy.