

PyroGenesisys

Nearly two-thirds of the world population's without electricity access lives in sub-Saharan Africa. Sub-Saharan African communities can use solar power, but it is expensive and many people who live here cannot afford a solar home kit.

Clean energy start-up PyroGenesisys is developing low-cost, environmentally-friendly technology to transform the way off-grid communities in Nigeria receive electricity with its innovative PyroPower technology.

PyroGenesisys' chief executive officer, Simon Ighofose, said: "PyroPower turns agricultural waste materials into renewable heat and electricity using an advanced thermal technology called pyrolysis, meaning no more fossil fuels.

"Waste agro-residues are converted into biochar smokeless fuel briquettes for cooking, replacing firewood and wood-derived charcoal use, a cause of severe deforestation and human health issues."

Nigerian-born Simon had the idea on a visit to Nigeria in 2011 after experiencing the electricity supply issues. An Aston University research paper on the effectiveness of pyrolysis as an energy conversion technology using agricultural waste inspired Simon to study chemical engineering to create an affordable, sustainable solution.

Now, PyroGenesisys leads a consortium that includes the University of Leicester, African Agricultural Technology Foundation (AATF), Mobinet, Babban Gona Farmer Services, ICMEA-UK and Koolmill Systems.

Simon said: "Working with the consortium, we'll test the case for installing our first PyroPower pilot plant in Nigeria, using satellite geo-spatial data analysis to identify suitable locations for future PyroPower installations.

"We've set an initial target of installing 100 commercial systems to generate clean, low-cost electricity over the next two years. We're also looking at selling electricity using Mobinet's SIMPAY mobile payment system in Nigeria for cashless transactions."

In 2019, PyroGenesisys won a £46,342 Innovate UK grant as part of Energy Catalyst Round 6. The total grant to the consortium was £224,697. PyroGenesisys has also submitted two Round 7 applications for a feasibility study to evaluate site deployment in Ethiopia and Liberia.

The company is in discussions with a major blue-chip Nigerian PLC to roll out the PyroPower technology to 100 sites across Nigeria. They are also working with Koolmill to provide off-grid high-quality rice milling.

Simon said: "The Innovate UK grant allowed us to work with our manufacturing partner ICMEA-UK to redevelop the technology to fit waste conversion and power generation inside one container. Containerisation means that we can put it on a ship and send it anywhere in the world, so it's quick and easy to

deploy.

Highview Power

The worldwide commercial potential of a novel liquid air energy storage system developed by London-based Highview Power convinced Sumitomo Heavy Industries to take a £35 million minority stake in the company early in 2020.

That investment from the Japanese-owned global industries group has allowed Highview Power to press ahead with ambitious plans to build 20 liquid air bulk storage plants of 100MW.

It is eight years since the business received its first grant from Innovate UK, just under £20,000 towards a proof-of-market study. Further grants from Innovate UK have helped to accelerate growth and development of the company's liquid air energy storage technology, now called the CRYOBattery.

The grants included £1.87 million to help convert a 5MW demonstrator into the world's first commercial-scale full liquid air energy storage system, capable of rapid response and qualifying as a supplier to the National Grid. This allowed Highview Power to gauge the commercial benefit from such an arrangement as well as the demand for similar systems and services around the world. It also reinforced investor confidence.

Highview's cryogenic energy storage technology sprang from engineer Peter Dearman's liquid air engine, which he invented some 15 years ago. Working with researchers at the University of Leeds, Peter developed the concept of using air as a form of energy storage, once compressed and liquefied at -196°C.

Energy Research Accelerator (ERA), an energy research hub, also funded by Innovate UK, and made up of eight internationally-renowned Midlands universities, played a key role, too: its institutions helped pioneer the large-scale energy storage technology that is now being scaled up by Highview Power.

Highview Power now employs 45 people at its Charing Cross Road headquarters, plus six staff in its New York office and another in Spain. This year the company will begin construction of its first truly commercial-sized liquid air energy storage plant at a site yet to be announced.

Edward Scrase, project engineering manager at Highview Power, said: "We are actively developing projects in the UK and the US. The Sumitomo investment has helped to move those along quite considerably."

SHI's technology centre will become a hub for the CRYOBattery business, expanding the technology's footprint in Europe, Asia and the Americas.

Increasing use of renewable power opens up a big market for the CRYOBattery, which is emissions-free. If hooked up to a wind farm, it can become more viable in periods of low or fluctuating demand. Liquid air is stored in a large insulated tank until there is a demand for that stored energy.

When the call comes, the process uses stored waste heat from the electric compressors to turn the refrigerated air back into gas at an even higher temperature. The 700-fold expansion in volume is used to drive a turbine and generate emissions-free electricity for up to five hours.

Highview Power's innovation lies mainly in the way that waste heat generated in the compression process is managed for reuse in the eventual discharge of the stored energy.

DWP improves complaints handling



The old complaints service involved two tiers and put the responsibility on the customer to escalate their complaint if they were not satisfied with how it was handled at tier one.

The changes mean that from 9 July 2020 a new centralised team, made up of experienced complaint handlers, will triage the complaints and prioritise those that are the most serious or from vulnerable claimants.

As is the case now, if someone is still not satisfied they have the option of escalating their complaint to the Independent Case Examiner and then the Parliamentary Health and Service Ombudsman.

More information about this new process can be found on the [complaints procedure](#) page

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Published 10 July 2020

Last updated 10 July 2020 [+ show all updates](#)

1. 10 July 2020

First published.

UK statement in response to Ambassadors Çevik and Grau

Thank you, Mr Chair. I would like to join previous speakers in thanking Ambassadors Çevik and Grau for briefing us today and for the crucial work you and your teams do.

Both of your reports draw attention to the volatility of this conflict and its devastating impact on thousands of Ukrainian civilians living under constant threat in the conflict area. Regular spikes in violence continue to threaten these innocent people on a daily basis and remain a serious concern for the UK.

Ambassador Grau, we welcome the work of the Trilateral Contact Group towards achieving peace and stability in eastern Ukraine. We reaffirm our full support to the Minsk agreements, and we join others in this hall in reiterating that Russia also signed up to those agreements and has obligations under them.

The TCG is made up of representatives from Ukraine, Russia, and the OSCE, which chairs the group. We commend the Ukrainian government for the commitment they have shown to a peaceful resolution of the conflict and the efforts they are making in this regard. Sadly, the Russian Federation consistently fails to play its part. They should fulfil their responsibility to act constructively in the TCG and its Working Groups to ensure that progress can be made.

Ambassador Çevik, we appreciate your ongoing efforts to ensure the SMM continues its important work while ensuring duty of care for all staff remains a priority. We commend the numerous sensible precautionary measures you have taken, and continue to take, in light of the pandemic. This makes it all the more unjustifiable that the Russia-backed armed formations continue to use COVID-19 as a pretext to restrict the Mission's access across the Line of Contact. This is a clear violation of the SMM's mandate, and is having a grave operational consequence – as you outlined. The pandemic must not be used as an excuse to blind the Mission or divide it into three.

Unfortunately, the SMM has always operated in challenging circumstances, and we are deeply concerned to note that the SMM's assets continue to be targeted. It is unacceptable that three SMM cameras were damaged within the space of a few weeks, in Petrivske and Shyrokyne and at the Oktiabr mine. We

reiterate that the Mission must have full, safe and unimpeded access throughout the entirety of Ukraine, in accordance with its mandate. We call on Russia to use its influence over the armed formations it backs in this regard.

We welcome the re-opening of some Entry-Exit checkpoints, which are important for maintaining social and economic links between Ukrainians either side of the line of contact. We are concerned by reports of inconsistent and sporadic reopening of checkpoints on the non-government controlled side, with some civilians continuing to be denied passage. While reasonable precautions should of course be taken to prevent the spread of COVID-19, this should not be used as a pretext for unnecessary limitations on their freedom of movement. We join your calls to re-open all the entry and exit crossing points and remove unnecessary restrictions.

The Russian Federation has not only failed to demonstrate the political will to implement the Minsk agreements in full, but has also taken unilateral steps which undermine Ukrainian sovereignty and the spirit of the Minsk agreements. We condemn Russia's use of "passportisation" policies in Donetsk and Luhansk. The latest example of this unacceptable behaviour is the involvement of Ukrainian residents from non-government controlled Donetsk and Luhansk in voting on the Russian constitutional amendments. We also further condemn Russia's organisation of voting in the Autonomous Republic of Crimea and the City of Sevastopol, which is Ukrainian territory.

Russia should stop these provocations and withdraw their military personnel and weapons from all Ukrainian territory; cease its support for the armed formations it backs; stop access restrictions and intimidation of SMM in areas held by Russia-backed armed formations and reverse all unilateral measures. They should also take their international humanitarian obligations seriously and allow crucial assistance to reach civilians.

The UK supports Ukraine's sovereignty and territorial integrity within its internationally recognised borders, including its territorial waters. We do not and will not recognise Russia's illegal annexation of Crimea. The UK has consistently stood with Ukraine in opposing all instances of Russian aggression towards Ukraine and we will continue to do so, including through sanctions and other restrictive measures, together with our international partners. Thank you.

UK inward investment projects increase in 2019

Figures from the Department for International Trade published today (10 July), show the UK attracted 1,852 new inward investment projects in 2019/2020 financial year, representing a 4% increase on the previous year.

Today's figures show the US continues to be the number one source of foreign direct investment in the UK, delivering 462 projects and 20,131 jobs, while India is now the UK's second largest source of investment followed by Germany, France and China and Hong Kong. Australia and New Zealand were responsible for 72 projects and the Nordic and Baltic region 134, an increase for both regions.

England, Wales and Northern Ireland, all saw an increase in the number of projects each nation attracted, whilst Scotland saw a decline on the number of projects from the previous year.

While the number of new jobs as a direct result of foreign investment has declined – a global trend as seen in other FDI reports this year – the number of UK jobs safeguarded by FDI increased by 29%. DIT worked closely with existing investors to safeguard 26% more jobs compared to 2018 to 2019, demonstrating the broad range of support DIT delivers for the UK economy by promoting investment.

International Trade Secretary, Liz Truss said:

These figures further demonstrate the resilience of the UK economy and the work of the Government to continue to build and attract inward investment into the UK. Future trade agreements will deepen our economic relationship with key sources of investment such as the US, Japan, Australia and New Zealand.

There is still work to be done in our levelling up agenda, to ensure all regions of the United Kingdom reap the benefits of inward investment, increasing jobs and prosperity across the nations, and these free trade agreements will contribute to this.

Developing key sectors such as advanced manufacturing, life sciences and renewable energy will help us to rebound post-pandemic and build on our attractive business environment across the UK for investors around the globe.

This year, DIT's statistics also include the Cambridge and Oxford Arc, a priority area for government, while the GREAT Investors Program data has also been included showcasing the strengthening of growth capital investment in the UK.

[See Inward Investment Results for 2019 to 2020.](#)

The Financial Times FDI Report 2020

- The Financial Times FDI Report 2020 highlights that the UK remains top in Europe on attracting FDI projects and on greenfield capital expenditure.

EY Attractiveness Survey 2020

- The latest attractiveness report by EY shows that the UK lost its top spot to France as most attractive destination in Europe for foreign direct investment, however remains one of the most attractive destinations for investment in Europe with over 1,100 inbound investment projects in 2019, more than Germany and Italy combined; an increase of 5% despite a challenging global climate.

UNCTAD World Investment Report 2019

- The latest data by UNCTAD showed that by the end of 2019, the total value of the UK's inwards investment stock was \$2.1tn, the highest in Europe and second highest in the world. The value of the UK's inwards stock was also worth more than Germany and France combined.

ONS

- ONS's latest National Statistics (to the end of 2018) show the inward FDI stock is at the highest level recorded (£1.521 trillion).

Forbes 'best countries for business' 2019

- The UK was found to be the top country for doing business in Forbes' 2019 report, a measure which ranks countries according to how business friendly they are based on 15 different factors from property rights to investor protection.