

PRESS RELEASE

For Release on 09/05:



The Amburn project meets key milestone by passing first stage gate and preparing for stage 1 testing of world-first ammonia steam boiler to decarbonise industry

Project progresses into stage 1 testing at Cardiff University

On March 27th, the Amburn project team, consisting of Cardiff University, Flogas and ERM, met alongside the Department for Energy Security and Net Zero at Cardiff University to conduct a site visit and the first stage gate meeting. During this meeting, the team showcased the state-of-the-art testing facility, presented project advancements, and outlined plans to progress through the next phases to reach project objectives. Following a productive meeting, the Department for Energy Security and Net Zero at Cardiff University confirmed the project has successfully passed stage gate 1.

In 2023, Flogas Britain and Cardiff University were awarded £3.4m from the Department for Energy Security and Net Zero through the Industrial Fuel Switching Competition to develop a world-first ammonia steam boiler in Phase 2 of the Amburn project. This innovative technology represents a crucial step towards decarbonising off-grid businesses across the UK by replacing fossil fuelled burners. The Amburn project is developing and demonstrating an ammonia-fuelled steam boiler which, when fed with low carbon ammonia, offers a solution for decarbonising industrial heat. With developments in the production of green ammonia, Amburn has the potential to not only reduce carbon emissions but also to open up new avenues for sustainable energy adoption, paving the way for a greener industrial future.



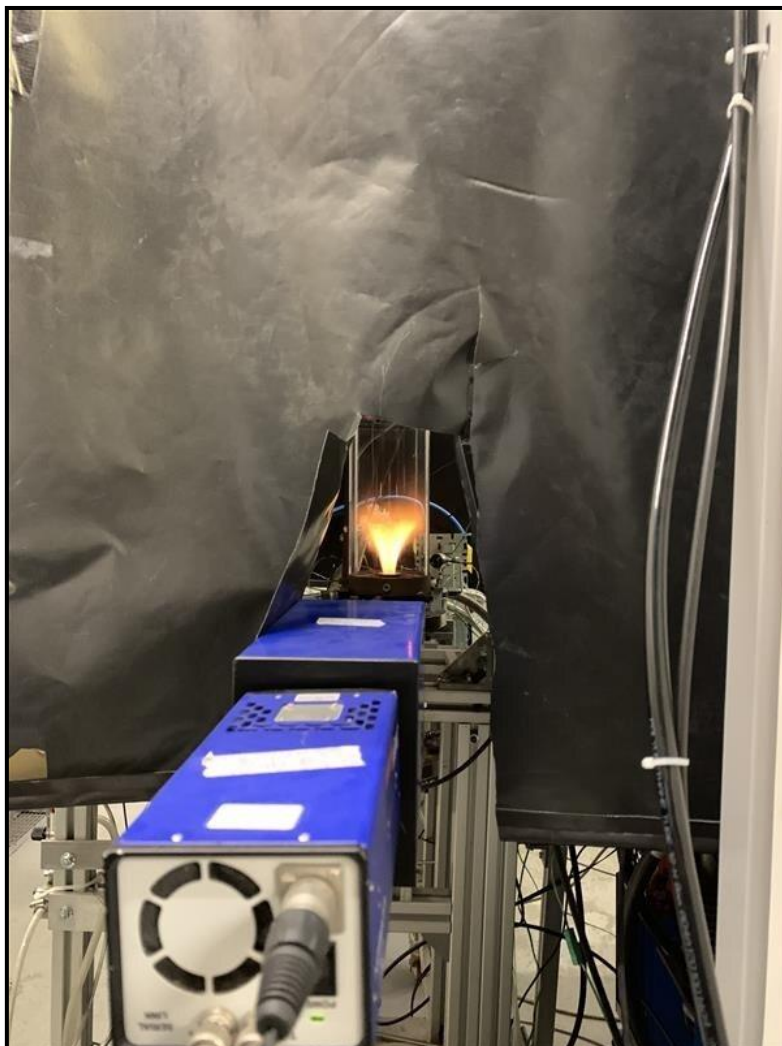
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The successful completion of stage gate 1 is a result of the significant work done behind the scenes. Cardiff University's School of Engineering is leading the technical work, focusing initially on conducting lab-scale testing at 25kW, before getting the facility ready for stage 1 testing at Cardiff, which will test the burner at 300-500kW. This has involved collaborative efforts with Flogas to install pipework, the development of successful computational fluid dynamic (CFD) models of the burner with Poznan University of Technology, and strict compliance to health and safety standards on site. The Amburn project has also successfully contributed to new academic literatures, with publications featured in the esteemed PROCI and ASME conferences.

In parallel to conducting stage 1 testing at Cardiff University, in the coming months the Amburn team will prepare for stage 2 testing, which will test the ammonia steam boiler at 1MW. By March 2025, the project aims to demonstrate the world's first ammonia steam boiler at 1MW power at a site belonging to a customer of Flogas, validating the potential of this innovative technology to drive industrial scale decarbonisation for off-grid businesses in the UK.



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Dr Syed Mashruk, lecturer and technical lead at Cardiff University said *“We’ve undertaken a huge amount of work to get to this stage and it’s been a superb effort by all involved. We’re now looking forward to the next stage of the project which we’ll lead in Cardiff, and which will be a significant part of our journey to produce a boiler that is fit for commercialisation and fuelled only by clean ammonia”*.

James Rudman, Director at Flogas, said *“Flogas is thrilled that the Amburn project has passed stage gate 1 and is progressing with stage 1 testing at Cardiff University. Congratulations must be extended to everyone involved; this is a world first and the result of several years of research and development. Our purpose at Flogas is to ‘do energy right by you’. This project is a prime example of that commitment. This solution will provide businesses with high power needs in difficult-to-serve locations with reliable, low emission energy solutions. We are excited to see this project’s positive impact on our customers and the environment.”*

Michael Dolman, Partner at ERM, said *“We are pleased that Amburn has passed this significant milestone and that the project is progressing well towards the large-scale demonstration of the ammonia-fuelled steam boiler. Having supported the Amburn project since the feasibility study in Phase 1, we are proud to contribute to this innovative project which offers great potential to help decarbonise industry.”*

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