ADVANCED HYDROGEN TECHNOLOGIES
GROUP

QUARTERLY SHAREHOLDER UPDATE Q1 2023

ADVANCED HYDROGEN TECHNOLOGIES GROUP LIMITED
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CHIEF EXECUTIVE OFFICER OPENING STATEMENT

BEN KATTENHORN

Q1 2023 completed! Well, that went very quickly. It only feels like yesterday I was writing the close of 2022. I hope the new year is going well for you all. For me, the team at AHT Group have again proven why we are all invested; the commitment to the goals of AHT is second to none and the dedication to find answers and solutions, especially this quarter, has made me very proud.

With the many areas of industry in which the Company's IP can be applied, the first quarter of 2023 has seen a disciplined approach in determining those opportunities that we progress, whilst prioritising and remaining focussed on the work that has already been completed.

Per our update for the final quarter of 2022, we have been engaged in commercial discussions with a company that hires out diesel locomotives, which has been seeking to reduce its fleets' carbon emissions, not only a growing concern amongst its clients, but for all of humanity. In December, the company placed an order for two locomotives to be fitted with our Engine Carbon Clean & Capture system.

Given that this engineering had never been attempted before, we were faced with the twin challenges of not only completing the design, creation, and fitment of this system in a timely manner, but also to a standard that would ensure the confirmation of the second order.

This project has been our top priority during this first quarter, but, as with all new engineering, challenges had to be overcome, and supply chain hold-ups also had to be contended with. I am delighted to report that the unit has now been completed, and as at the time of writing is going through the final stages of testing ahead of being installed in Q2.

In terms of moving forward with other areas of the business, the Company is pressing forward with an idea that had been percolating between Den and I, planted in our heads by an investor, namely the generation of carbon neutral electricity. This is discussed in section 4, Thea Power, and is a further product offering in the AHT Group portfolio that we envisage will attract more attention to the work we are carrying out.

With the development of any business, the appointment of new members of staff is a natural progression, and we are happy to announce two such appointments to the AHT team. Brian Clewer will be joining as Electronics and Software Designer and Steven Sampson as a Non-Executive Director. I would like to take this opportunity to welcome both, and I look forward to working with them as we grow AHT Group. To read about the fascinating careers of Steven and Brian, along with their welcome message, please see section 5, New Team Members.

Switching my focus from operational and technical developments to our corporate activity during Q1, the Company remains well capitalised, and the Board's budget demonstrates any further capital required by the Company will not be related to completion of our existing technology to the point of commercialisation, but be in relation to how we structure and control scalability for our suite of technology and their underlying applications.

Our route to commercialisation and the exact structure remains a critical and constant theme at the Board-level, ensuring that our technology and its application does not expose weakness in ability to scale in size based on the current liquidity profile of the Company.

During the last three months, the Board and I have been engaged in advanced discussions with a range of financial institutions including Private Equity Firms, Investment Banks, and Energy Conglomerates. These discussions are to ensure that the Company is proactively positioned in advance of its commercialisation strategy to ensure that we have multiple channels and routes open to us to fund our objectives in the knowledge of capital support.

As with all of the updates, I hope you find this an enjoyable read, and of course the video version will be available on our YouTube Channel. If you have any questions, please do not hesitate to contact myself or any of the team.

Ben Kattenhorn, Chief Executive Officer
April 2023

AHTGL PRODUCTS, TECHNOLOGY AND APPLICATIONS

BEN KATTENHORN

AHTGL: PRODUCTS, TECHNOLOGY, AND APPLICATIONS

1. CHIMERA
2. ATHENA
3. ENGINE CARBON CLEAN AND CARBON CAPTURE – H2GOGO
4. THEA POWER
5. NEW TEAM MEMBERS

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1. CHIMERA

What is Chimera?

Chimera is a miniaturised Hydrogen generator, that can supply energy, on demand, to power a standard gas boiler. Cheap, Carbon Neutral Central Energy to supply central heating and hot water.

For Chimera, the first quarter of 2023 has been primarily focused on regulatory matters. The engagement with KIWA and the process of obtaining our CE/CA Mark has begun. Due to the ECC system having already achieved its CE Mark (albeit over 10 years ago), we are confident that this will serve to make the attainment an easier process than it otherwise might have been. However, it must be recognised that we are seeking approval for Chimera to be used domestically, which could potentially serve to lengthen the approval process. However, we are cautiously optimistic that the process should be nearing completion by the Q2 update.

Government agencies have been approached and conversations have been had. However, identifying the correct body to examine and sign-off on Chimera has been more challenging than initially envisaged. Due to Business, Energy & Industrial Strategy (BEIS) having been split into new multiple entities, people who were introduced to help us have now been moved to different sectors within the organisation. Whilst this has made the process more laborious, we are working hard with our endeavours in this area.

Health and Safety Executive (HSE) have been in talks with AHT about the Chimera system, which are ongoing. However, initial impressions are that understanding the concept of an off-grid on-demand hydrogen production system is more challenging that first envisaged.
One of our primary objectives in 2023 has been to upgrade Chimera and reduce its dependence on the “hive”, which, hitherto, has enabled the gas boiler to accept the hydrogen Chimera is creating. To this end, I am pleased to inform that AHT has partnered with Alpha Boilers, part of the Immergas Group, to collaborate on reducing this dependence.

Alpha has supplied us with a brand-new boiler to connect to the current version of Chimera so it can operate using the “hive”. This will enable readings and data to be drawn, ahead of our two parties determining a practical solution to reducing the dependence on the “hive” and creating the next generation of Chimera.

2. ATHENA

What is Athena and why was it created?

Athena (named after the Greek Goddess of Wisdom) is our software, developed in-house that controls Chimera, controlling how much Hydrogen is produced on demand, the flow of Hydrogen to the boiler using multiple valves, pressure sensors and flow control valves. Athena also watches over Chimera, logs the data of how much power is used, the Hydrogen produced, and how many times it has cleaned itself; overarching knowledge and control, with all this information being available to AHTGL in a real-time data stream.

As covered in previous updates, Athena will always be in development, as the more control we have over the systems and the data, the safer and more in control we can be.

As touched upon in the opening CEO statement, AHT is pleased to announce that it has secured the services of Brian Clewer as Electronics and Software Designer for Athena on a full-time basis. Brian has been involved with the development of Athena from its inception, and therefore, we envisage the full-time appointment will serve to accelerate both the development of Athena and the projects she controls. No pressure, Brian…

3. ENGINE CARBON CLEAN & CAPTURE (ECC&C) – H2GOGO

What is ECC&C – H2gogo?

ECC (the commercial side) and H2GoGo (the franchisee side) are the two entities that control and run the Carbon Cleaning and Capture side of AHTGL. H2gogo cleans internal combustion engines on the public facing side, and is commercialised through having four franchisees, of which the clientele is comprised of individuals who have had an emissions failure on their MOT, or who are enthusiasts who see the carbon clean as an integral part of the annual service for their vehicle. ECC is the company that AHT uses to engage with commercial clients such as the removal firm, which gives a clear separation between the two similar companies that utilise the same AHT Technology.

At a commercial level with ECC&C, we are continuing with testing on the two sister vehicles with the removal company we are engaged with. We are now nine months into testing, and the results we are receiving from Analize (trading as Boston Garage Equipment Group) continue to go from strength to strength. Now that we are entering the final quarter of testing, we hope that we will be in a position to go through the results with you in more detail in the update covering the second quarter of 2023.

The team has been fully focussed on unlocking the potential for the application of ECC&C in the rail industry. Our Chief Technology Officer and his team have, from an initial white paper, designed, built, and tested a four-cell system that will be fitted permanently to a diesel

locomotive. The rationale for the permanent fitting is down to the size of the locomotive's engine. Whilst it would be possible to Carbon Clean as we have done, the engine size would mean cleaning on a frequent basis and for a longer duration, which would not be practicable given the locomotive will be in use across the country with various clients.

Once the unit is fitted, the "capture" can be fitted, following which testing can commence. Given that the ECC&C machine will be working with the diesel engine the entire time it is operating, testing will be completed in a shorter period of time. Assuming testing is successful, AHT believes that future orders will follow.

Readers are encouraged to watch the accompanying quarterly update video to view images of the system.

4. THEA POWER

Thea, or to give the product its full name – THEA POWER, is the next evolution of AHT's suite of products, namely the generation of electricity. Following discussions between the team, we have been able to determine that generation should be treated in the same manner as Chimera.

As such, Thea uses similar hardware as Chimera, coupled with a unique bespoke aspect of Athena to generate hydrogen on demand, which is controlled and deployed into a gas turbine to create movement that is then captured using an electrical generator to create carbon neutral electricity.

The proof of concept has supported our engineering thesis and initial observations are that the system as a whole is responding well from bottled hydrogen. The next step is to move away from bottled hydrogen and to operate purely from the cell system. As with all white paper technology, the objective is to complete the proof of concept and get a working model running as soon as possible. Our team will be focussing their efforts on Thea following completion of the ECC&C unit for the locomotive.

5. NEW TEAM MEMBERS

We are delighted to welcome Steven Sampson and Brian Clewer to the AHT team, and give the floor to them to introduce themselves and discuss their fascinating careers.

Steven Sampson, Non-Executive Director and AHT Investor:

"Having qualified as a Chartered Accountant with BDO in 1983, I subsequently became a partner in a few large accountancy firms between 1987 to 2004, where I headed-up various Real Estate Groups, such as Baker Tilly and Chiltern, representing major property owners.

In 2005 I joined up with two former bankers to create a real estate, debt, broking, and equity provider, which carried out €4 billion of lending and c.£35 million of equity deals. Following the global economic crisis of 2008, the large deals this business had undertaken dried up, and I opted to take early retirement. Over the ensuing years I took on certain Non-Executive Board positions, primarily with Property Companies, but also with companies operating in the Recruitment and Removals and Logistics industries.

One such Non-Executive directorship was with upmarket removal specialist Cadogan Tate, which grew from turnover of £4 million to £50 million in the 19 years I was involved, before it was sold to Private Equity five years ago.

In addition to my Non-Executive directorships, I also own and run a small accountancy practice in Baker Street, which I acquired seven years ago, and which keeps me technically aware and busy.

I have known AHT's Chairman, Alan Ditton, for many years, and I am delighted to have the opportunity to work alongside him and the rest of the impressive team at AHT. The timing feels perfect to be getting involved in this sector, and I am very excited to be a part of this journey."

Brian Clewer, Electronics and Software Designer:

"I am very Interested and passionate about saving the Earth's resources. I have self-built a solar system that runs my house (almost) off-grid where I have a large LiFePo4 battery pack, charged by the power of the Sun. This is able to power my three-bed house for three days without charge from the sun. Joining AHT as a key member, I aim to bring the electronic part of the Company's designs into the next century. Being part of AHT will allow me to use my expertise and further push the development of green energy technology, which I am very excited about."

Bio:

Physics and electronic systems at A level - Cricklade College

Electronic Engineering HNC at Salisbury College

Power Supply Servicing at McCall Electronics in the early '90s:

"At McCall, I gained valuable experience in power design, test and servicing switch mode power supplies. This experience has been an asset already to AHT in the design of the power converter board within the hydrogen generators."

Telecom install, commissioning and customer support at ECI Telecom:

"Here, I started in the repair centre for a year, repairing the telecom boards where I quickly moved up to the customer support department. I was supporting clients' networks remotely as well as on site installation and commissioning world-wide."

Managing Director at Quality Electronic Designs Ltd:

"At Quality Electronic Designs, the projects were diverse. I have designed many micro controlled systems from handheld tension meters (to tell if a pre-stressed concrete wire was tensioned enough) to inclinometers that tell if military aircraft or space craft are in the correct orientation for a company called Astrium. Through my company I met Den and Scott years ago when I was asked to design them a power board for the hydrogen generator. In this role, I have also installed and commissioned telecom equipment in many countries around the world and installed / supported IPTV equipment in a Harley Street hospital."

Electronic firmware and hardware designer at Elmdene international:

"Here, I have designed power supplies and fire protection equipment, mainly with backup UPS power to EN-54 and EN-50131-6. My last design is Li-Power, featured on the front page of their website at https://www.elmdene.co.uk/"

The directors are focused on building the talent base within the team and look forward to working with both Stephen and Brian with their very diverse skills sets to help move the business forward.

CORPORATE DEVELOPMENTS

The Hydrogen Awards – Domestic Category Winners

We are delighted to report that at the inaugural 2023 Hydrogen Awards, held at The Slate, Warwick University, on 23 February, AHT was named winner in the Domestic Category, which acknowledged our hydrogen generator, Chimera.

The Hydrogen Awards are designed to be a measure of enterprise, innovation, and excellence across the world – in standards, implementation, and thinking about the future and about bringing the use of hydrogen to all industries and sectors and to the public. The Awards are global in nature, with Finalists made up of both UK and international enterprises.

The Awards were grouped according to speciality within the hydrogen sector, with nominees and winners determined by a prestigious panel of independent judges from the international hydrogen community. Each category was highly contested and subject to a rigorous process before the ultimate winners were selected by the judges.

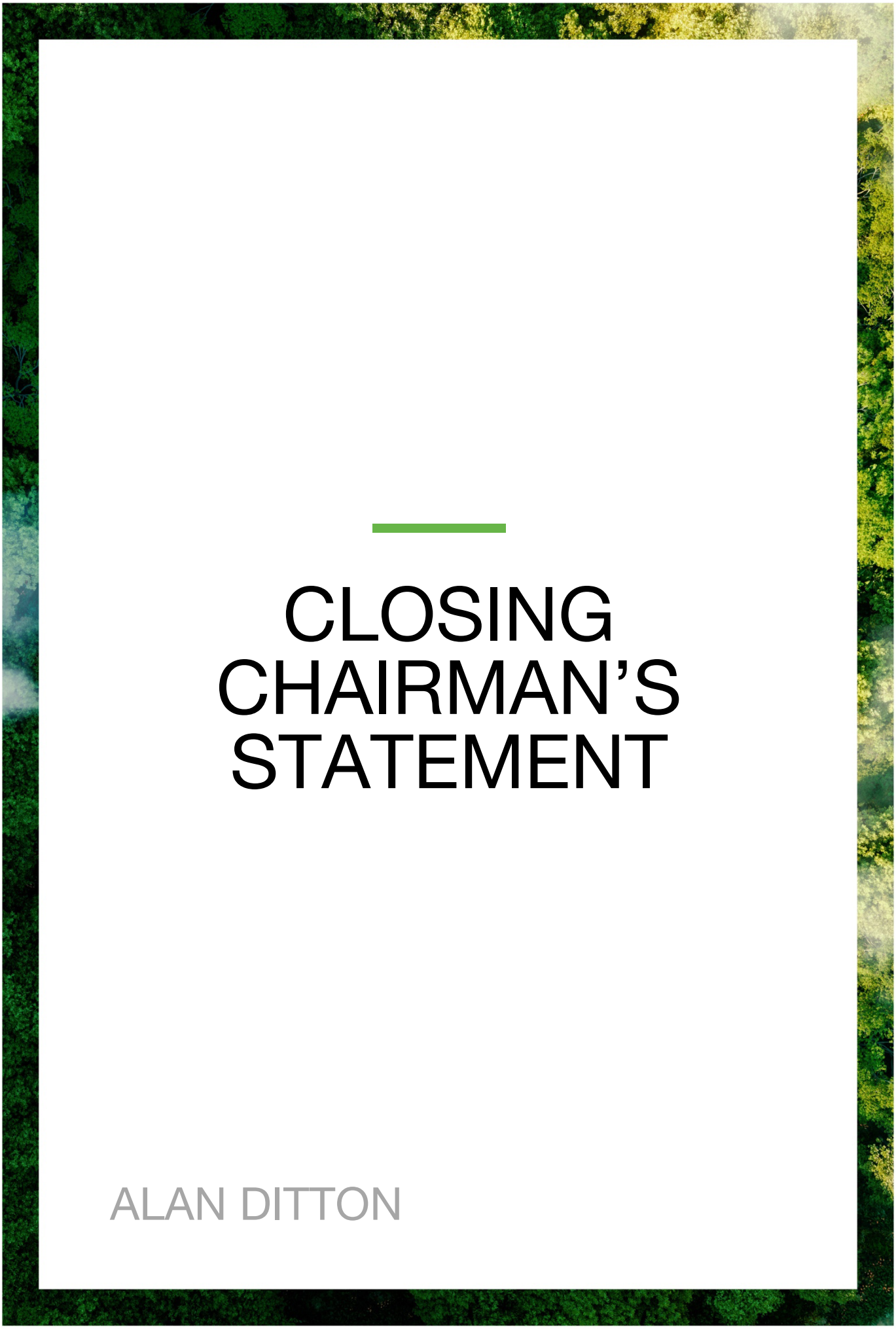
We feel that winning the Domestic Category has provided independent validation of AHT and its technology, and the triumph has left the whole team feeling upbeat.

The timing of our victory is notable, particularly in light of sentiment emerging from the recent trial to test the viability of hydrogen as an alternative to natural gas in Ellesmere Port, Cheshire. It was intended that the existing gas grid in Ellesmere Port would switch to hydrogen, with households that opted out having to install a heat pump instead. However, the fierce opposition from residents has led to amended plans that will see a parallel grid being built for those households that want to retain their existing gas boilers.

AHT provides consumers with optionality, giving them the choice to retrofit Chimera to their existing boiler without the need to replace aspects of their heating system, as well as negating the need for hydrogen to be pumped through a gas grid, and in turn providing households the opportunity to continue with their existing set-up without any forced changes.

Residents in Ellesmere Port also expressed concerns about the long-term cost of hydrogen, which is a further issue negated by Chimera, with green hydrogen produced only on demand through its unique electrolyser via the Athena software.

As investors and conscientious custodians of the planet, we recognise the importance of reducing carbon emissions through the roll-out of hydrogen boilers. We understand the natural concerns that people will have in terms of transitioning to hydrogen boilers, but we believe that Chimera offers unique solutions to challenges that were not envisaged at the initial start of the trial in Ellesmere Port. We firmly believe that Chimera will be at the forefront of the domestic transition in the path to net zero, and believe that winning the Domestic Category at the Hydrogen Awards is a major endorsement for Chimera and the benefits it offers the industry and government objectives.



CLOSING CHAIRMAN'S STATEMENT

ALAN DITTON

The core of what we are working to accomplish at AHT is to deliver scalable, accessible, and critical novel technology at a time where the world is embarking on, arguably, the most ambitious transition in energy distribution of the last century.

At the conclusion of Q1, the Company and its award-winning technology, is now starting to really reflect its deep optionality. The introduction of revenue within our ECC&C division, the progression of Chimera through its requisite regulatory accreditations, the development and introduction of new technology in Thea, providing the Company exposure to base load power, and the ongoing commercial discussions/interest shown, start to really impress upon how we wish to operate, and how each quarter we continue to progress closer to reaching our desired objectives.

The Company is now beginning to find a strategic balance in its allocation of capital to new technologies in the knowledge that our existing technologies are either in a position to generate revenue/generating revenue, or are at critical stages relating to regulation and compliance to commercialise its application. This creates an almost circular motion where in time free cash flow will support sustaining capital to develop existing and proof of concept technologies.

Looking forward, the Board and I must consider our strategic balance in line with our objectives and work to ensure that the two are not compromised by time. It is critical that as a Company we execute efficiently given the impact we believe our technologies possess.

As ever, a thank you to all our supportive shareholders, and please feel free to contact myself and my fellow Directors should you wish to discuss this update and/or the business in general.

Alan Ditton, Chairman
April 2023

VIDEO OF BEN KATTENHORN'S QUARTERLY STATEMENT:

To view a video of Ben Kattenhorn giving his quarterly statement to shareholders, please click on the following link, or hit play on the embedded video below:

https://www.youtube.com/watch?v=RxfwACEKsi8