Glossary

Annual General Meeting (AGM)
AGM is a yearly gathering of our interested shareholders where our executive team present our annual report about Ceres' performance and strategy.

Biofuel
A fuel derived from biomass rather than by the slow geological processes involved in the formation of fossil fuels. Most common biofuels include bio-ethanol (from sugar or starch crops) and biodiesel (from oils and fats).

Carbon dioxide equivalent (CO_2e)
CO_2e is a comparative measure of the global warming potential (GWP) of various greenhouse gases (GHGs) by converting amounts of the mixture of GHGs to the equivalent amount of carbon dioxide (CO_2) with the same warming potential.

GWP accounts for the difference in the effects of GHGs, namely the efficiency at which they absorb energy and how long they stay in the atmosphere. The time period usually used for GWP is 100 years.

Data centre
A physical location that stores computing machines and their related hardware equipment. It contains the computing infrastructure that IT systems require, such as servers, data storage drives, and network equipment. It is the physical facility that stores any company's digital data.

Distributed power generation
Also known as distributed generation (DG) or decentralized energy, is the process of generating electricity close to where it will be used. This is different from centralized power generation, which uses large power plants to supply electricity over long distances.

Diversity equity, belonging and inclusion (DEBI)
Ceres' diversity and inclusion programme.

Decarbonisation
The process of lowering the amount of greenhouse gas emissions (mostly carbon dioxide, CO_2) produced by the burning of fossil fuels from a process.

Efficiency, electrical or thermo
The amount of electricity/heat that is produced by a process for each unit of energy supplied to the process, often expressed as a percentage.

Efficiency, total
The amount of useful energy in any form that a process produces for every unit of energy supplied to the process, often expressed as a percentage.

Electric vehicle (EV)
An EV is a vehicle that can be powered by an electric motor that draws energy from a battery and is capable of being charged from an external source.

Electrolyser
A device that uses an electric current to split water into its constituent molecules (pure hydrogen and oxygen), a process called electrolysis. There are several types of electrolysis technologies:

- Alkaline electrolysis (AEL): in use for more than 100 years, it uses a liquid alkaline electrolyte solution and operates at low temperature with liquid water. It is the greatest scale and lowest cost technology today, but is not as efficient as other technologies.
- Proton exchange membrane (PEM) electrolysis: uses a solid electrolyte that requires expensive rare metal catalysts. It can operate at high current densities at low temperature with liquid water and has a high dynamic response.
- Solid oxide electrolysis cell (SOEC): the least mature technology, it works at high temperatures from steam, giving it significantly higher efficiency and lower operating costs than other technologies when integrated to use waste heat with existing processes such as steel, ammonia and synthetic fuel production.

Energy
In physics, energy is the capacity for doing work. It may exist as potential, kinetic, thermal, electrical, chemical, nuclear or other various forms. Measured in joules or watt-hours.

Environment, social and governance (ESG)
ESG is a framework to assess companies on their environmental and social issues with a corporate governance structure to encourage companies to act responsibly, often driven by shifting regulations, prioritising long term sustainability or political agendas as opposed to companies exclusively focusing on financial metrics.

ESG recommendations are designed to encourage companies to disclose their impact on and risks from environmental and social issues, such as employee satisfaction, human rights and environmental impact. How these impacts are managed are outlined in the company's government processes and structures.

Financial Conduct Authority (FCA)
The FCA is a financial regulatory body in the United Kingdom but operates independent of the UK government and is financed by charging fees to members for the financial services industry. It aims to protect consumers from bad conduct and financial services as well as ensuring financial markets operate fairly.

Glossary continued

Greenhouse gases (GHG)

GHG are gases in the Earth's atmosphere that absorb infrared radiation energy and reflect it back to Earth, trapping heat radiated by the Earth's surface in the atmosphere. The most common GHGs are water vapour (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3) and various synthetic chemicals.

Excess GHGs produced by human activity, also known as anthropogenic GHG emissions, can amplify the greenhouse gas warming effect in the atmosphere, which can lead to instability in the Earth's climate system.

Hard-to-abate industries

Industries that are responsible for a large portion of the world's carbon emissions but are among the most challenging to decarbonise. This may be due to a combination of technological and financial challenges. Examples of hard-to-abate industries include:

- Manufacturing: steel, cement, chemicals, and petrochemicals
- Heavy-duty transportation: shipping, aviation, and long-distance trucking

Hydrogen (H_2)

A highly abundant naturally occurring gas commonly cited as a fuel for the future as it has a high chemical energy content for its mass and creates no harmful emissions when it is burned to release energy. Hydrogen is currently used as a feedstock for a number of industrial processes, such as metal smelting and fertiliser production, and is commercially defined by its method of production and the treatment of the waste gases produced:

- Brown: produced using coal where the associated production emissions are released to the air.
- Grey: produced from natural gas where the associated production missions are released to the air.
- Blue: produced from natural gas where the associated production emissions are captured using carbon capture and storage.
- Pink: produced from electrolysis powered by nuclear energy, emitting no carbon emissions during production.
- Green: produced from electrolysis powered by renewable electricity, emitting no carbon emissions during production.

Intellectual property (IP)

An asset that is created by the innovative activities of people and businesses. IP can be in the form of inventions, literary and artistic works, designs and symbols, names and images used in commerce. In business, unique IP is often the basis of competitive advantage and is therefore closely protected, for example by calling out a copyright, registering a table or filing a patent. Intellectual Property Rights are protected by law and allow the holder to assert control over how they are used through contracts and licences.

Key performance indicator (KPI)

KPIs are quantifiable measures of performance to gauge progress for a specific objective over time.

Kilowatt hour (kWh)

A unit of energy (not power) representing one thousand watt hours. Kilowatt hours are often used as a measure of domestic energy consumption. A kilowatt hour is equivalent to a steady power of one kilowatt running for one hour and is equivalent to 3.6 million joules or 3.6 megajoules.

Natural gas (NG)

A fossil fuel energy source that is formed deep beneath the Earth's surface. The largest component of natural gas is methane, composed of carbon and hydrogen. When natural gas is burned or used in a fuel cell, it produces energy and waste carbon dioxide.

Original equipment manufacturer (OEM)

A company that manufactures and sells products or part of a product to another company.

Science based targets initiative (SBTi)

SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute and the World Wide Fund for Nature. SBTi defines and promotes best practise in emissions reduction and net zero targets in line with climate science to meet the goals of the Paris agreement – limiting global warming to well below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C. There are currently three verifiable, accountable scopes of GHG emissions on which companies must report, as set out by the Greenhouse Gas Protocol.

Scope 1 emissions

Direct GHG emissions from operations that are owned and or controlled by the organisation.

Scope 2 emissions

Indirect GHG emissions from energy imported from third parties, heating, cooling and steam consumed by the organisation.

Scope 3 emissions

All GHG emissions that occur as a consequence of the operations of the organisation but are not directly controlled or owned by the company, such as the production of upstream and downstream activities and materials.

Solid oxide fuel cell (SOFC)

High operating temperature (up to 950°C) but highly efficient fuel cell able to generate electrical power from multiple fuel types including natural gas, biofuels, hydrogen blends and pure hydrogen. However these cells are typically expensive as they tend to be constructed from exotic, but fragile, materials resistant to the high operating temperatures.

SOFC system
An assembly that is made up of the fuel cell, fuel input handling components and components engineered to manage electrical power output and waste heat and gases.

Stack
An assembly of individual fuel cells into a device that can deliver a large amount of electrical power. Ceres' stacks are commonly manufactured in 5kW and 10kW units. These can be connected in a modular manner to create higher power systems.

Stack array module (SAM)
A pressurised container contained Ceres' SOEC stacks for hydrogen production

Sustainable Accounting Standards Board (SASB)
Founded in 2011, SASB is a non-profit organisation focused on independent standards setting.

Sustainable aviation fuel
It is a type of aviation fuel made from renewable and sustainable sources, such as biomass, waste materials and synthetic fuels. Synthetic fuels are made by combining captured CO_2 emissions with hydrogen produced using renewable or CO_2-free electricity.

Task force on Climate-Related Financial Disclosures (TCFD)
TCFD is an international framework of disclosure recommendations developed to improve and increase reporting of climate-related financial impact of climate change. As of 2022, UK premium listed companies are required to report using the TCFD framework in their AR.

Watt (W)
The unit by which power is measured. The amount of energy, measured in joules, delivered in a fixed amount of time, for example joules per second. Values are typically expressed in kilowatts (1kW equals 1000W); megawatts (1MW equals 1,000kW); gigawatts (1GW equals 1,000MW).

Zero emission
Refers to a vehicle, engine, motor, process or some other energy source, that emits no waste products (such as carbon dioxide) that pollute the environment or disrupt the climate.