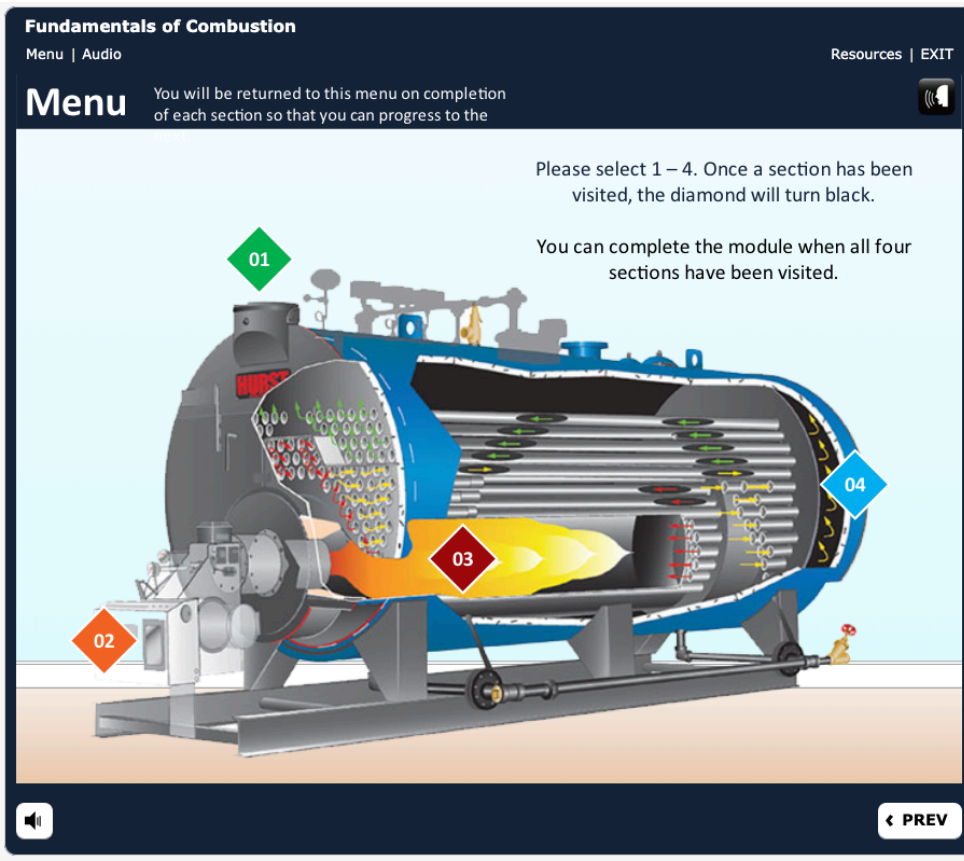
ditto
SUSTAINABILITY

Fundamentals of Combustion eLearning programme

This first two part module is an interactive eLearning programme introducing the learner to a number of key principles of combustion and providing underpinning knowledge and scientific understanding to achieve improved boiler efficiency, reduced fuel costs and environmental compliance including the recent Medium Combustion Plant Directive (MCPD).



Module 3 will provide sector specific learning on applied combustion for oil, gas, biomass and waste processes.

Want to get started?

To find out how this cost effective and highly flexible programme can support your business or to request a demonstration or trial, please contact our team by calling 020 3371 7612 or email us at hello@dittosustainability.ai

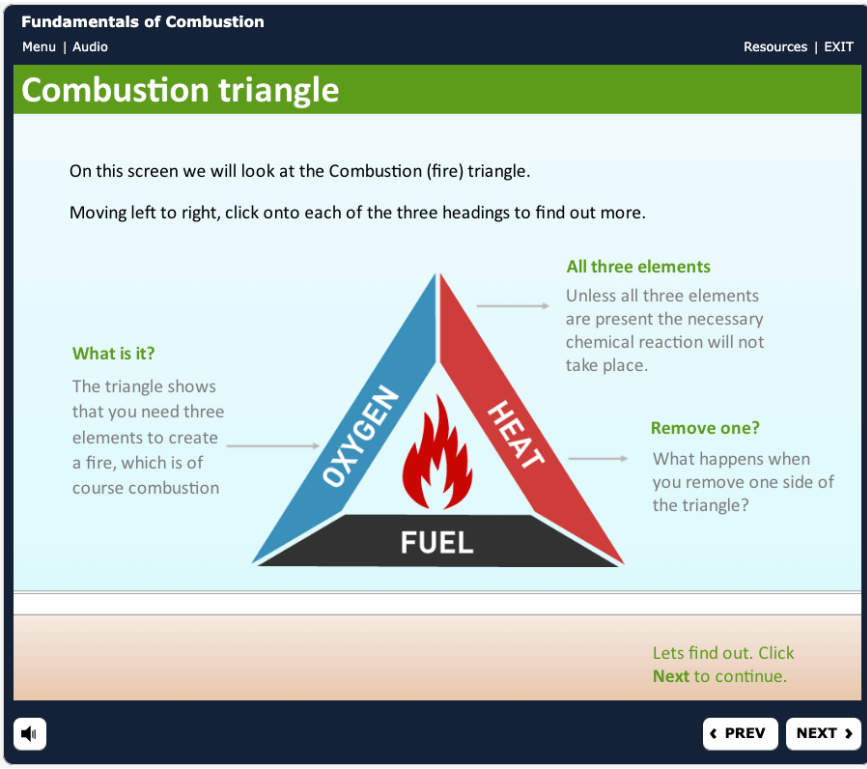
Module 1

Lays the foundations for further and deeper understanding of the subject by introducing a number of principles of combustion using practical examples and visual techniques.

The aim is to provide the learner with an appreciation of controlled combustion and why this is necessary in operating an efficient and compliant boiler plant.

Module 1 assumes little or no prior knowledge of the subject, but is equally effective as a refresher before undertaking Module 2.

At the end of this module the learner will:

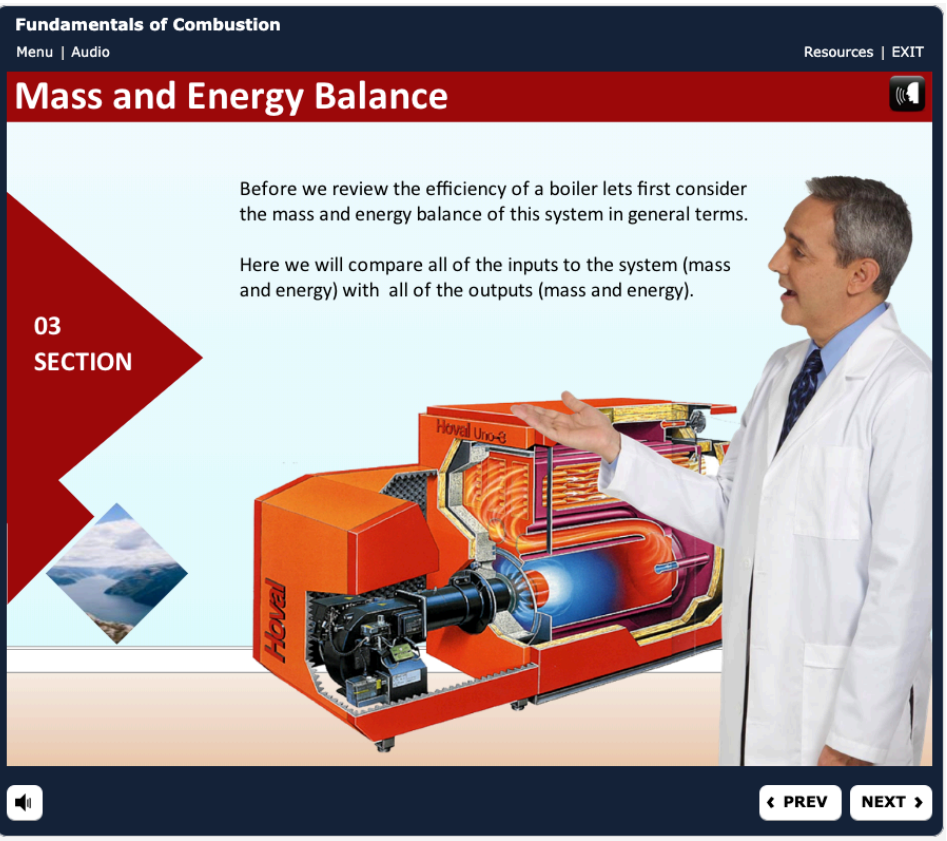


- Understand the difference between controlled and uncontrolled combustion.
- Know how to control the combustion triangle.
- Appreciate what constitutes a fuel and a fuels characteristics.
- Understand calorific values and their relevance.
- Understand the principles of air/fuel ratios.
- Be introduced to stoichiometry and understand its meaning.
- Understand simple chemistry terms used in combustion theory.
- Understand the importance of boiler efficiency in terms of environmental compliance and monetary value.
- Have an appreciation of when a burner/boiler is not working effectively.

Module 2

The aim is to build on the learning from Module 1 and provide the learner with the underpinning knowledge and scientific understanding to be able to achieve improved boiler plant performance in terms of efficiency and environmental compliance.

At the end of this module the learner will:



- Understand the differences between elements, compounds and mixtures.
- Understand what happens during a combustion reaction.
- Understand the relationship of reactants and products.
- Gain an appreciation of molecular bonds and forces.
- Understand the difference between exothermic and endothermic reactions.
- be able to carry out basic equilibrium equations.
- Understand the difference between combustion efficiency and thermal efficiency.
- Be able to calculate by volume the relative percentages of excess oxygen, CO_2 and other species in an exhaust gas given the quantity of reactants.
- Better understand emission test results and what they mean.

Mike Hession BSc CEng MIMechE MCIBSE MCIWM **(author)**
Mike has over forty years' experience within engineering plant and process engineering environments.

For over thirty years he has specialised in thermal technology based projects, including many process optimisation studies and trouble-shooting under performing process plant.

Throughout his consulting career Mike has project managed numerous technical studies and due diligence reviews plus capital projects from inception through to commissioning including the very first incineration and waste management facility to be designed and constructed in the UK to satisfy the, then incoming, EC Directive on the incineration of hazardous wastes, Council Directive 94/67/EC.

Contact us now.

Cost

Any module £75 when purchased individually; both £125 when purchased together. Discounts with bulk purchasing, please contact us for a quote.

Special offer

Please contact us to see how this programme can help your business deliver reduced operating costs and improved boiler performance and efficiency.

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www.dittosustainability.ai