

Sustainable gases & clean energy training courses

KEMA Academy



New gases, such as biogas, hydrogen and Liquefied Natural Gas (LNG), have emerged as the fuels of the future, combined with sustainable energy sources such as sun and wind. Decentralized energy production and integration within smart electricity and gas grids are increasingly important issues. The transition towards a more sustainable energy economy is challenging but, at the same time, also raises questions. Our specialists have expertise in a wide variety of fields, making a multidisciplinary approach possible. We provide advice, perform research, carry out measurement programs and enter into strategic collaborations. We focus on developing decentralized energy systems such as integrated sustainable energy systems and micro-generation systems, on smart grids, on improving energy efficiency in industry and on developing technologies for green gases such as natural gas and biogas mixtures.

The Sustainability & clean energy department consists of four main groups: New gas, Carbon capture & storage, Smart grids and Footprint reduction. We have built up considerable knowledge and expertise, from which everyone participating in our training courses will benefit.

For a current overview of our training program and to register, please visit www.kema.com/academy.

In-company & customized training courses

At the client's request KEMA can also provide in-company and customized training courses. The course can then, for example, deal with actual cases from your business operations, or future scenarios sketched out by you. We are flexible in this.

Overview of sustainable gases & clean energy training courses

Course	Description	Subjects	Result	Target Group
<p>Introduction to the addition of biogas and other gases to the natural gas supply</p> <p>one- to two-day(s) training course</p> <p>English or Dutch language</p>	<p>Biogas and other gases whose addition to the natural gas supply is proposed, differ from natural gas in terms of their composition and consequently their chemical, physical and micro-biological properties. This customized course identifies the key differences, examines their implications, and gives advice on mitigation of the associated risks. Practical guidance is also given on how the parties involved should discharge their responsibilities for the quality of the gas supply.</p>	<ul style="list-style-type: none"> • Overview of the different types of gas and their characteristics • Potential risks associated with accommodating non-natural gases • (Gas) interchangeability aspects • Risk mitigation measures • Policy and responsibilities of gas quality • Green gas certification system • Roles of stakeholders • Outlook on the green gas market 	<ul style="list-style-type: none"> • Awareness of the crucial issues associated with accommodating biogas and other non-natural gases within the natural gas system • A clear picture of how to manage the associated risks 	<ul style="list-style-type: none"> • Natural gas distribution and transmission companies • Developers, manufacturers and suppliers of equipment for biogas production and gas treatment • Producers of gases for natural gas systems • Users of biogas and other types of gas in combustion applications
<p>Introduction to CO2 transportation (CCS)</p> <p>English or Dutch language</p>	<p>This introduction course on CO2 transportation is an excellent starting point for anyone new to the field of carbon capture and storage. Tailored to the particular needs, interests and technical backgrounds of your personnel, the course gives you access to the wide-ranging knowledge of our experts on all relevant aspects of CO2 transportation.</p>	<ul style="list-style-type: none"> • CO2 pipeline design • CCS network optimization • Thermodynamics of CO2 • Impurity level requirements of CO2 • Health, safety and environmental aspects of CO2 transport • Costs of CO2 transport 	<p>The course outcomes are aligned with the needs of the target audience. There is no standard course program, and no standard result.</p>	<p>Anyone recently involved in CCS who is likely to be concerned with the technical aspects of CCS and CO2 transportation in particular.</p>
<p>Introduction to domestic gas applications</p> <p>one- to two-day(s) training course</p> <p>English or Dutch language</p>	<p>In the domestic environment, natural gas still plays an important role, especially in the Netherlands. The general subjects covered by this customized training course are the properties of natural gas and its history in the Netherlands. The principles governing the domestic use of gas are discussed, using examples and calculations. Experiences with particular gas applications and the associated troubleshooting methods may also be included.</p>	<ul style="list-style-type: none"> • Introduction • The properties of natural gas • History of natural gas in the Netherlands • Combustion of natural gas • Domestic gas applications; principles, troubleshooting methods and practical experiences • Applications of natural gas: examples & calculations 	<p>Knowledge of the principles governing and applications of natural gas in the domestic environment.</p>	<p>Technicians who want to learn about domestic gas applications.</p>
<p>Introduction to footprint reduction</p> <p>one- to two-day(s) training course</p> <p>English or Dutch language</p>	<p>Around the world, the gas transmission industry is focused on CO2 and methane emission reduction often referred to as footprint reduction - which is an aspect of operational excellence. KEMA's Footprint Reduction Programs (FRPs) have proved to be excellent for (1) improving energy efficiency, (2) reducing energy expenditure and, last but not least, (3) reducing the total cost of ownership of energy-intensive installations. This customized course covers various topics and provides practical advice on the basis of hands-on experience.</p>	<ul style="list-style-type: none"> • Footprint reduction goals • Identification of opportunities • Tools for defining priorities 	<ul style="list-style-type: none"> • The skills needed to develop a company footprint reduction policy • The ability to develop a so called 'abatement curve' tool for effectively defining priorities for footprint reduction measures 	<ul style="list-style-type: none"> • Individuals involved in energy efficiency improvement, CO2 emission reduction and strategy development • Energy and environmental consultants, company specialists and technicians • Sustainable development integrators • Those new to intensive energy usage industries
<p>Sustainability and gas</p> <p>Half- to one-day training course</p> <p>English and Dutch language</p>	<p>This course provides an overview of how sustainability can be described (definition, meaning), the connection to climate change and solutions (both technical measures and policies). Links are made with natural and sustainable gases, and with the role that the gas industry can play in the transition to a sustainable energy economy.</p>	<ul style="list-style-type: none"> • Sustainability (definition, criteria) • Climate policy/government policy • Dutch Energy Transition program • Sustainability issues • Gas as a facilitator for renewables • Sustainable gases as destination fuel • Project examples 	<p>After the course you will understand what sustainability is and what role natural gas can play as a facilitating and destination fuel for sustainable energy.</p>	<ul style="list-style-type: none"> • Utilities • Oil and natural gas industry • Other industries • DSO/TSO

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