EXHIBITOR: **AIR LIQUIDE** STAND NO: **N100**

AIR LIQUIDE: ENGINEERING TECHNOLOGY TO FACILITATE THE ENERGY TRANSITION

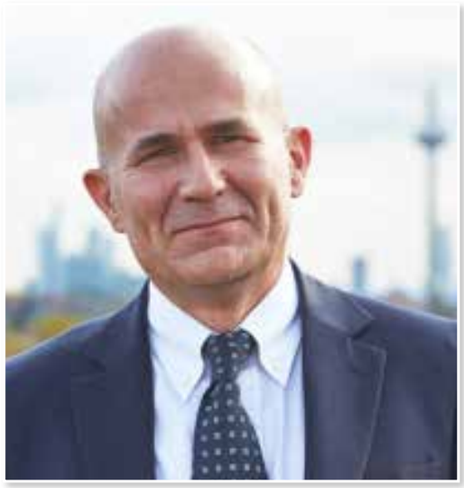
DOMENICO D'ELIA, SENIOR VICE PRESIDENT, TECHNOLOGY & SALES, AIR LIQUIDE ENGINEERING & CONSTRUCTION LOOKS AT HOW ENERGY DEMANDS CAN BE MET AND GREENHOUSE EMISSIONS LOWERED

Companies around the world are facing the twin challenge of meeting growing demand for energy, while addressing regulatory and public demand to reduce greenhouse gas emissions and minimise environmental impacts. In a volatile price environment, characterised by economic uncertainty and rapid technological change, energy providers need access to technical expertise to manage their operations as efficiently as possible,enabling them to deliver maximum value from the natural and human resources at their disposal.

Air Liquide, as a world leader in gases, technologies and services for industry and health, can help. We have been transforming industries for more than 110 years with innovative technologies and solutions. Air Liquide Engineering & Construction builds the Group's production units – mainly air gas separation and hydrogen production units – and supplies external customers with its portfolio of technologies.

Our product portfolio contains a wide range of technologies, which are helping to address the need for lower-carbon energy. In particular, as an expert in cryogenics and a pioneer in the field of LNG, we offer extensive experience in equipping plants of all sizes with LNG technology. Our modularised designs are easy to construct and our robust liquefaction technology helps customers to reduce costs. Liquefin™, Smartfin™ and Turbofin™ technologies provide safe, efficient, reliable and proven solutions for liquefaction plants of any size, supported by in-house manufacturing capabilities.

Liquefin™ is a highly efficient process based on dual mixed refrigerant technology and optimised for use with Brazed Aluminium Plate Fin Heat Exchangers (BAHX). The combination of aluminium, which optimises heat transfer, and a plate-fin assembly, which offers excellent surface exchange by volume, means BAHX delivers considerable cost savings for large-scale LNG production. Overall, Liquefin™ provides the most cost competitive LNG product per ton on the market.



Domenico D'Elia, Senior Vice President, Technology & Sales, Air Liquide Engineering & Construction

> "We have been transforming industries for more than 110 years with innovative technologies and solutions"

Smartfin™ is an efficient process for the liquefaction of natural gas based on a single mixed refrigerant cycle. It is best suited to plants supplying remote power and fuel for transport. The technology is also of interest to LNG export plants of medium size and peak shaving facilities.

Turbofin™ is a process for the liquefaction of natural gas based on a nitrogen refrigerant cycle. It is best suited to small-scale plants serving power applications such as peak shaving, remote power, or fuel for marine, truck and rail. Air Liquide Engineering & Construction offers a fully standard and modularised product using this technology which enables the delivery of cost competitive plants within a very short timeframe.

Natural gas is already playing a key role in the shift to a lower-carbon energy market. Our natural gas treatment technologies provide state-of-the-art approaches that convert raw natural gas into valuable products. These technologies remove contaminants and extract hydrocarbons to help ensure that maximum economic value can be gained from gas resources. They are characterised by design excellence and are reliable and efficient. They help to optimise the total cost of ownership.

There are many other facets to the energy transition and in addition to the areas above, we have a broader portfolio of technology solutions which address other aspects of the demand for low-carbon solutions. These cover areas such as hydrogen production and recovery and carbon capture.

For efficient production of hydrogen, we provide a range of steam methane reforming technologies for hydrogen production on a small and large scale. SMR is a cost-effective and energy efficient way of producing hydrogen. In addition to hydrogen recovery and purification, our new generation hydrogen production technology SMR-X enables the production of hydrogen without co-producing excess steam. We are also active in carbon capture and storage: by adapting our Cryocap technology to power plants, Air Liquide Engineering & Construction enables customers to recover very high rates of CO_2 and reduce overall atmospheric emissions to near zero.

These examples illustrate the advanced and efficient solutions, based on state-of-the-art proprietary and exclusively licensed technologies that are contributing to the transition of the energy sector. We are proud to be part of this shift and helping our customers develop their businesses so they are fit to address the challenges ahead.