

## **Dave Pearson named J & E Hall Gold Medal winner**

Dave Pearson, a champion of low carbon heating technology in the development of industrial scale heat pumps, has won the prestigious J & E Hall Gold Medal. He was presented with the Gold Medal at the IOR Annual Dinner on 27<sup>th</sup> February. He follows in the footsteps of his father Forbes who won the award in 1991 and his brother Andy who was presented with the medal in 2006.

Dave said: "I was stunned to hear the news that I'd won the J & E Hall Gold Medal. My focus for the past 12 years has been the development of industrial scale heat pumps and their place in the market. I'm not smart enough to be developing new refrigerants or the re-adoption of CO<sub>2</sub> for example. I've just been plugging away at raising awareness of how well heat pumps can support our sustainable heating goals. The award is most welcome."

J & E Hall has sponsored the internationally-respected award for more than 40 years. The J & E Hall Gold Medal recognises the most noteworthy practical contribution in the field of refrigeration, air conditioning and heat pumps. It is open to individuals or teams who have shown outstanding achievement in practical applications of innovative designs and projects which have made an original contribution.

The work must demonstrate substantial potential and there should be evidence that it will be completed successfully and make an outstanding and significant contribution in a new or unusual area.

Since 2008 Dave has worked tirelessly to promote heat pump technology at an industrial level and this has included systems running typically on ammonia. He has spearheaded the deployment of water-based technology in this area and led the team responsible for the installation of the world's largest water-sourced 90°C heat pump system at Drammen in Norway.

"The key difference with large heat pumps is the temperature that they can get to which will make projects like this viable," he explained. "It's only recently that we've

been able to get efficiencies to a level that can make a difference on this scale. We've adopted ammonia as a working fluid because of the high temperatures that can be reached and a saving of around 25 per cent electrical demand compared to synthetic working fluids."

The Drammen district heating project takes energy from a fjord to provide the town with 85 per cent of its heating needs. The project delivers a world class Coefficient of Performance (COP) of 3.05 at 90°C from sea water at 8°C. This achievement is still unmatched across the world nine years after the system went into operation.

Dave is director of Glasgow-based Star Renewable Energy. In the past decade he has spent a significant proportion of his time in lobbying at local, national and international government level for the inclusion of large heat pump systems in low carbon housing, social and commercial schemes.

This has ranged from working with local authority planning departments to advising the European Commission. He has also worked with trade associations in the building services industry. As a result, the possibilities brought about by industrial scale heat pumps are now understood by business and government to go far beyond the capability of small domestic units in temperature range and efficiency.

He said: "By developing heat pump technology on this scale we are tackling two problems – climate change by cutting CO<sub>2</sub> emissions and poor air quality which has been a major cause of pollution through the use of fossil fuels. By doing so we are putting heat pumps at the forefront of government policy to develop a low carbon economy and they are viable now."

His work has shown that river source heat pumps now offer a realistic and attractive solution to the challenge of delivering cost-effective low-carbon heating to business and communities. "Many major towns and cities in the UK are located by large rivers," he added. "The potential is enormous."

Dave speaks frequently at conferences and universities to help broader groups of people see the value of heat pump technology in harnessing renewable electricity to displace the use of carbon-based energy sources.

His work has been recognised through the award of government grant funding from the Scottish Government's Low Carbon Infrastructure Transformation Programme on several projects. In 2019 he was named Scottish Renewables Green Energy Awards *Champion of Renewables*.

He won the 2018 Alan Moor Award and received further recognition for his work at the National Heat Pumps Awards. He is also an advisory board member of the European Union Dry/F Project working to develop large steam raising heat pump systems across the Continent for industrial drying processes. Since 2015 Dave has been a board member of the Brussels based Renewable Heating and Cooling Platform which supports EU funding routes.

"There's a very bright future for heat pumps," he concluded. "We have no ready alternative if we are to develop a low carbon heating society. Ten years ago they had hardly a mention – this has now changed. Our challenge in the next 25 years is to have 100 per cent decarbonisation of heating. Heat pumps can play the major role in this."

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