The inexorable rise in the global demand for energy will require profound changes in the way in which it is produced and utilised. Such changes are vital if ambitious targets for reducing greenhouse gas emissions are to be achieved. In the EU, member states including the UK are committed to reducing emissions by at least 20% by 2020 with further ambitious targets of 60% or more by 2050. These changes will only be achieved through technological advances which in turn can only happen through sustained and substantial investment in research and innovation. Warwick has core strengths in several key areas of Energy research, including: Power Electronics; Solar Energy; Thermal Energy; and Confined Fusion for Clean Energy. With a current grant portfolio of over £20m and strong links to industry and policy makers, Warwick’s Energy-related research is a truly multi-disciplinary and multi-sectoral activity. Our vision is for Warwick to be a world-leading centre of excellence in Energy research and the Energy GRP is the vehicle for making this happen.

The Energy Trail covers 16 individual points of interest across campus. It follows a circular route of 9km and can be joined at any point along the circuit. To follow the 1.5km shortened route, continue straight up University Road after point 8, IIPSI, to re-join the trail at point 15, the Material and Analytical Sciences Building.

The walk starts at University House (point 1), which uses an innovative fresh air cooling system to keep servers in the data centre cool using 50% less energy than a normal air conditioning system. Along University Road, points 2 and 3 showcase low energy transport: research to develop low carbon transport technologies and measures to cut down on emissions from staff and student travel. You can learn more about how solar technology is being tested and improved by Warwick researchers at points 4, the Engineering Building, and 6, the solar tracker. Between these two points, at the Zeeman Building in Academic Square, you can find out more about absorption cooling, which is driven by heat rather than electricity. Points 7 and 8, the International Institute for Product and Service Innovation (IIPSI) and the International Digital Laboratory (IDL), have each been awarded an ‘excellent’ certificate by the BREEAM Environmental Assessment Method (BREEAM) and demonstrate low energy building technology and design.

If you choose to follow the full 9km route, the next stopping point 9, adjacent to Rootes Residences at the end of Health Centre Road, explains how thermal storage tanks increase the efficiency of the Combined Heat and Power System on campus. Taking the footpath through Tocei Wood will bring you to the Gibbet Hill campus where the Clinical Trials Unit (point 10), and the Mechanochemical Cell Biology Building (point 11), include a number of design features to reduce their energy needs such as a roof which combines the insulating properties of both zinc and living sedum. Follow the route back to main campus along Gibbet Hill Road and left at the roundabout into Leighfield Road. The student designed wind turbine (12) is located next to Cryfield Sports Pavilion.

Continuing straight on along this road will bring you to Sherbourne Halls of Residence (13), opened in 2012, which features a range of energy saving technologies in the building design. The next point on the trail, Warwick Business School Building (14), has also been designed to reduce the energy needed for heating and cooling. The penultimate point on the trail is the Material and Analytical Sciences Building (point 15). Like all new buildings on campus, it has been designed to reduce energy needs wherever possible and includes a hybrid solar panel system to generate both electricity and heat. Following the route through the car parks and across University Road you will reach the final point on the energy trail, the University’s Boiler House (16), which houses the campus’ combined heat and power (CHP) system. You will learn that, by generating both electricity and heat at the same time, the gas fired engines are more than twice as efficient as traditional power plants. Thermal storage tanks at key points across campus (including point 9 in the energy trail) make the system even more efficient.
Follow the Warwick Energy Trail to learn more about the University’s world-class multi-disciplinary research and technology to meet the global energy challenge.

To read more about Warwick energy research visit: warwick.ac.uk/energytrail