

**A TALE OF TWO CITIES: A STUDY OF THE ENERGY SYSTEMS IN
BIRMINGHAM, AN INDUSTRIALISED UK CITY, AND MASDAR CITY, A
DEVELOPING CITY IN THE MIDDLE EAST**

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ABSTRACT

Energy is a vital resource in modern life. With increasingly limited availability of existing energy resources there is a raised awareness that energy needs to be used more efficiently, and generated in line with thinking on sustainability. This is essential if we wish to maintain our current way of life without compromising our wellbeing or the carrying capacity of the planet. The Liveable Cities Programme, established in 2012, aims to assess how cities perform, with a view to developing the radical engineering necessary to deliver resource secure, low carbon cities which prioritise the well-being of their inhabitants. To do this, it is essential that lessons are learnt from the development of cities globally.

Birmingham is a well-established post-industrial city that has evolved over the last fourteen hundred years. It was one of the fastest growing cities in 19th century England[1]. Masdar, founded in 2008, is a dynamic new city being built in a desert environment. Its aim is to be the most sustainable city in the world and offers an exciting opportunity to provide unique insights into the application of different innovative technologies within an urban environment. This paper demonstrates the differences and similarities between these two very different cities. It highlights the opportunities and mutual benefits that each city will gain from the experiences of the other. This work shows how a greater understanding of common issues can lead to more sustainable, resilient and robust cities, able to face the challenges of the next 50 years.