Citation:
Gordon, N and Pattinson, C and Kor, A (2014) Sustainable and Green Information Systems: Preparing the next generation of practitioners. In: Proceedings of HEASTEM 2014, 30 May 2014 - 1 May 2014, Edinburgh, UK.

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Sustainable and Green Information Systems: Preparing the next generation of practitioners

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Keywords: Green IS/IT; Sustainable Development; IS education

Societies across the globe are recognising the potential troubles that may arise from environmental change potentially brought about by, or at least accelerated through, the actions and impact of human activity. This raises challenges for the computing industry, which is a large and growing contributor to the environmental impact of societies. The general green issues are realised as green computing within the context of IT.

Whilst environmental concerns dominate the media, they are now recognised as part of a complex set of parameters within the wider agenda of considering the long term viability and development of societies. This wider structure is framed through the concept of sustainable development – recognising issues that are entwined with environmental concerns, typically financial, scientific and governance issues.

Information systems - with its encompassing remit of IT hardware, software, data, processes, procedures and in particular people - provide an ideal framework through which to assess, plan and implement green strategies. These are relevant to businesses, as well as to government agencies. Such systems are widely expected to play a major role in the enhancement of sustainability across organisations: otherwise referred to as “greening by IT”, or “Green IT 2.0”, in which IT will support the activities and decisions required to operate in a more sustainable manner.

The complexities of these issues –with the balance between evidence for change, costs and practicalities, and longer term developments – mean that there is no simple right answer. Moreover, these issues will continue to grow in importance and impact. Current IS systems are limited in their provision for such issues, and training related to this is still in the early stages of development. So building an awareness and understanding of these in the next generation of IS practitioners, with the aim of producing a next generation able to produce systems that take account of sustainable development in its myriad forms is essential.

In this paper we review some of the approaches and issues with regards to how to develop sustainable development within IS education, and identify some of the developments required to ensure that IS fulfils its potential to enable societies to deal with the complex and challenging changes that may follow. We address the question of breadth versus depth of coverage, and provide examples of work in progress in delivering these requirements.