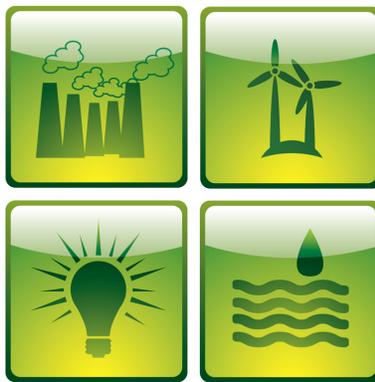# Implementing Energy Technologies in Schools:

An exploration of opportunities and challenges facing schools implementing new energy technologies in Derbyshire

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Executive summary

A wide variety of energy technologies have recently been installed in a number of schools in Derbyshire, as old schools are retrofitted, and new schools are equipped, with energy-saving and energy-producing devices. This trend looks set to continue even during the current climate of public sector austerity, due to legislative, financial and moral drivers at the national level. This report summarises the findings of an intensive 2 month project aimed at understanding how well these new technologies are being implemented in Derbyshire schools. The key findings are as follows:

- Although technologies are generally installed well from an engineering perspective, problems with their **monitoring, control and maintenance** appeared in each school visited. This suggests that implementation should be considered at an early stage and included in the system design.

- There is clear evidence of a responsibility gap: on-site staff often lack the skills to run energy technologies optimally, while off-site support may not be forthcoming or sufficient.

- The knowledge, skill and enthusiasm of the caretaker appeared to be an important factor in determining how well energy technologies were implemented.

- Understanding of energy technologies, and how to get the best out of them as investments, and as a broader resource, could be improved at the institutional level.

- A data gap was identified in both the consumption and production of on-site energy.

- More technologically advanced schools did not use less energy. This emphasizes the importance of energy saving building design and technology, as well as addressing a 'skills gap' to ensure the installed technologies are used effectively.

- The indirect effects of energy technologies ranged widely. Some wanted the technology to 'just work', by providing a comfortable teaching environment. Others included energy technologies into their whole ethos (see discussion of Herbert Strutt).

- Energy technologies were not used as teaching resources in any of the schools visited, indicating a huge untapped potential of new technologies, which could bring large benefits to schools at low cost.

These issues need to be addressed at individual, school and Council levels. Measures to integrate energy technologies into school life (e.g. making energy-use data more readily available and implementing caretaker training) could help fill the gaps identified and put schools at the vanguard of Derbyshire's gradual transition to low-carbon economy, which will still be viable in a future without fossil fuels.