



case study

The Bittern Line Carbon Neutral Stations

Transport Regeneration Ltd. June 2008



Project Summary

Our client, Transport Regeneration Ltd., aims to make nine stations on the Bittern Line between Norwich and Sheringham carbon neutral. To complement a study into the feasibility of generating renewable energy at some stations, Transport Regeneration Ltd. asked CRed to recommend how energy consumption by lighting on station platforms could be reduced.

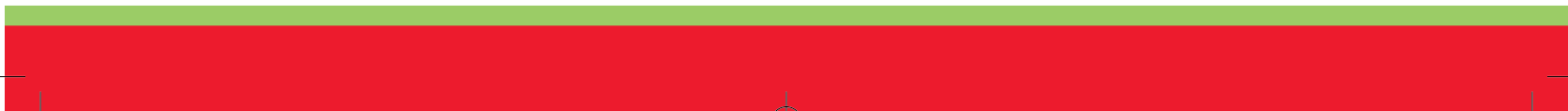


What We Did

The lighting at all nine stations was surveyed in order to calculate the total estimated energy consumption from that source and the data was used to calculate the existing carbon footprint. Research was conducted into alternative types of lighting which consume less energy, but still meet the minimum safety standards set out by the Railway Safety and Standards Board. It was also found that the existing lighting could be modified to consume up to 25% less energy without any performance loss by the installation of "voltage reduction" technology. CRed presented the findings in a comprehensive report.

West Runton (Note – this station platform has been adopted and is maintained by the local Women's Institute)

results and benefits...



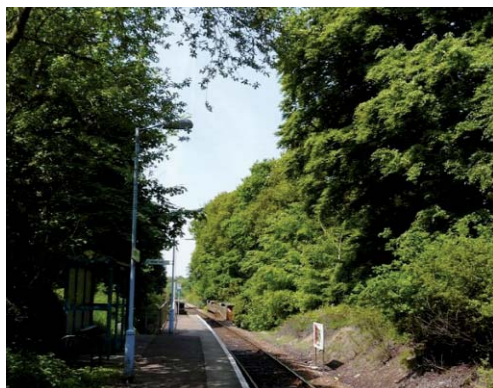
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Results and Benefits

The implementation of voltage reduction devices at each station provides an estimated energy saving of 25% with a corresponding reduction in the carbon footprint. This does not require any other major infrastructural changes and could therefore be implemented relatively quickly.

Light emitting diode (LED) lighting is a new type of lighting which uses less energy than the current lighting installations. Replacing all column mounted lamps with LED lamps would reduce the carbon footprint by 7.8 tonnes of CO₂ per annum. LED lighting could be implemented in conjunction with the voltage reduction devices.

If the recommendations are implemented it is anticipated that large reductions can be made to the energy consumption required by station lighting. This will increase the likelihood that the renewable energy generated at the stations will meet their energy demands, and therefore achieve the objective of making the Bittern Line stations carbon neutral.



For further information
please contact:

Hayley Johnson,
Business Development Manager,
CRed,
Tel: 01603 591365
Email:
hayley.johnson@uea.ac.uk



www.cred-uk.org

