



Carbon footprint of school meals



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Outline



Introduction

Objectives of the study

System boundaries

Scenarios under analysis

Results



7.3 million registered pupils (ages 4-18)

Annual budget: £1.2 billion of public funds

Food-based and nutrient-based standards in place since 2009





School meals served to 41.4% of students in primary school and 35.8% of students in secondary schools

Average price: £ 1.90/meal

Introduction



Objectives



To evaluate GHG emissions from

a) in-house catering servicesb) contract catering services

providing school meals.

To identify GHG emissions hotspots within the assessed food delivery systems.



Functional unit



A week menu of freshly prepared meals, catering for school-age pupils, consisting of

> Main dish Side-dish Dessert

and ready to be served to pupils at the school canteen.





CaLC

The University of Manchester

In-house catering scenario



Energy consumption for catering in UK schools: 10% of energy use 11% of energy cost (Carbon Trust, 2007)

I school

School size: 350 pupils

Fresh meals prepared daily

3% vegetarian students



The University of Manchester

Hub and spoke scenario



10 schools

School size: 300 – 400 pupils

Distance to kitchen: 3 – 10 km

Food prepared through the week

3% vegetarian students









100 % Take-up of meals





System boundaries





Week menu











Carbon footprint of omnivorous week menu









Carbon footprint of vegetarian week menu





Results

Carbon footprint of school meals provision







Results

Carbon footprint of school meal provision



School size [Number of pupils]





Results



Relative contribution of life cycle stages







The hot-spot stages in the lifecycle of school meals are production of ingredients and preparation of meals.

Reductions in GHG emissions can be achieved by changes in menu design rather than provenance of ingredients.

Further work required on allocation of energy and water consumption to each type of meal.

Conclusions





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For more information visit:

