PAS 2070:2013

Incorporating Amendment No.1

Specification for the assessment of greenhouse gas emissions of a city

Direct plus supply chain and consumption-based methodologies

SUPPORTED BY

MAYOR OF LONDON

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ISBN 978 0 580 86536 7

ICS 13.020.30

Publication history

First edition October 2013

Amendments issued since publication

Date	Text affected
31 May 2014	See Foreword

Contents

Foreword

PAS 2070 was sponsored by the Greater London Authority. The development of PAS 2070 was facilitated by BSI Standards Limited and it was published under licence from The British Standards Institution. It came into effect on 31 October 2013.

Acknowledgement is given to Jeremy Wiltshire (ADAS UK Ltd, now at Ricardo-AEA) and Michael Doust (Greater London Authority) as technical authors and the following organizations that were involved in the development of PAS 2070 as members of the Steering Group:

- ADAS UK Ltd
- BioRegional Development Group
- Blonk Milieu Advies
- C40 Cities Climate Leadership Group
- City of New York
- Greater London Authority
- ICLEI Local Governments for Sustainability
- London Sustainable Development Commission
- Stockholm Environment Institute
- Thames Water
- Transport for London
- University of Colorado Denver
- University of Southampton
- University of Toronto
- WSP Group

Acknowledgement is also given to the members of a wider review panel who were consulted in the development of this PAS.

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This PAS is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

Supersession

PAS 2070:2013+A1:2014 supersedes PAS 2070:2013, which is withdrawn.

Information about this document

Text introduced or altered by Amendment No. 1 is indicated in the text by tags Ⓐ₁〉 〈Ⓐ₁. Minor editorial changes are not tagged. Amendment A1 introduces the following principal changes:

- option to use the version of IPCC Guidelines used by the country's inventory reporting body;
- where full data is not available, the use of notation keys and explanation is required;
- transport model requirement has been changed to a recommendation to avoid unnecessary limitation.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in italic type, and does not constitute a normative element.

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This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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0 Introduction

0.1 The city and greenhouse gas (GHG) emissions

Making cities more sustainable is among the most important challenges of the 21st century. Cities exert a significant impact on the natural environment and are particularly vulnerable to environmental change. When it comes to tackling climate change, therefore, cities play a key role.

The ability of city leaders and other stakeholders to take effective action depends on access to good quality data on GHG emissions. Measurement enables cities to assess their risks and opportunities, create a strategy to reduce GHG emissions in a quantifiable and transparent way, and track their progress.

Many cities around the world have already developed GHG inventories and are disclosing these publicly [1, 2]. However, existing GHG accounting methodologies used by cities are variable. They cover different scopes and have important methodological differences, making comparisons between cities difficult. To allow for credible reporting and meaningful benchmarking of climate data, greater consistency in GHG accounting is required.

0.2 The aim of PAS 2070

PAS 2070 responds to this challenge by specifying requirements for the assessment of GHG emissions of a city or an urban area, and by following internationally recognized GHG accounting and reporting principles. PAS 2070 captures both direct GHG emissions – from sources within the city boundary – as well as indirect GHG emissions – from goods and services that are produced outside the city boundary for consumption and/or use within the city boundary.

PAS 2070 aims to provide a robust and transparent method for consistent, comparable and relevant quantification, attribution and reporting of city-scale GHG emissions. This will encourage more holistic GHG emissions assessments, greater disclosure and more meaningful benchmarking to help city decision makers identify key emission sources and their drivers, the carbon dependence of their economy, and opportunities for more efficient urban supply chains. It is intended for international application.

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1 Scope

1.1 Two methodologies

PAS 2070 specifies requirements for the assessment of greenhouse gas (GHG) emissions of a city or an urban area using two distinct methodologies. These recognize cities as both consumers and producers of goods and services, and provide a complementary insight of a city's GHG emissions. The GHG emissions assessment methodologies are:

a)   a direct plus supply chain (DPSC) methodology;

b)   a consumption-based (CB) methodology.

The DPSC methodology captures territorial GHG emissions and those associated with the largest supply chains serving cities, many of which are associated with city infrastructures. It covers direct GHG emissions from activities within the city boundary and indirect GHG emissions from the consumption of grid-supplied electricity, heating and/or cooling, transboundary travel and the supply chains from consumption of key goods and services produced outside the city boundary (e.g. water supply, food, building materials).

The DPSC methodology builds on the *Global protocol for community-scale greenhouse gas emissions* (GPC) [3], developed by the World Resources Institute (WRI), C40 Cities Climate Leadership Group and ICLEI Local Governments for Sustainability to include a wider range of indirect GHG emissions, and is consistent with emission sources covered by the GPC.

The CB methodology captures direct and life cycle GHG emissions for all goods and services consumed by residents of a city, i.e. GHG emissions are allocated to the final consumers of goods and services, rather than to the original producers of those GHG emissions. The CB methodology does not assess the impacts of the production of goods and services within a city that are exported for consumption outside the city boundary, visitor activities, or services provided to visitors.

A purely territorial accounting methodology, which focuses on all GHG sources within a boundary is not provided, but GHG emissions within the city boundary can be calculated as a subset of the DPSC methodology.

1.2 GHG emissions sources and boundaries

PAS 2070 specifies requirements for identifying the assessment boundaries, the sources of GHG emissions to be included, the data requirements for carrying out the analysis, and the calculation of the results to develop a city-scale GHG inventory.

GHG emissions of organizations are generally categorized as either Scope 1, Scope 2 or Scope 3 emissions. These categorizations are based upon where the GHG emissions arise and their relationship with the inventorying body. Such definitions are important for the attribution of GHG emissions that occur outside the city, to activities within the city's geopolitical boundary. The DPSC methodology uses the definitions for Scope 1, Scope 2 and Scope 3 emissions (see **3.1.30** to **3.1.32**) from the *GHG Protocol* [4] [developed by World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD)] as adopted for community-scale use in the GPC [3]/IEAP [5]. Figure 1 provides an overview of emission sources in relation to scope and illustrates the life cycle perspective taken for the assessment of goods, services and activities.

The adapted Scope definitions cannot be applied when calculating the consumption-based emissions using the CB methodology as the data are aggregated across Scopes.