

Assessing Greenhouse Gas Emissions and Evaluating their Significance

Dr Kristian Steele

Arup climate advisory

Background and driver

- On 16 May 2014 the amended EU EIA directive became law in the UK (2014/52/EU)
- Statutory Instrument 2017 No. 571 The Town and Country Planning: Environmental Impact Assessment Regulations

IEMA Principles Series:

Climate Change Mitigation & EIA

Reducing greenhouse gas (GHG) emissions is and will continue to be one of the main policy drivers in the coming decades. Action to manage GHG emissions from existing activities in all sectors of the economy is essential, but action is also needed related when planning future actions. The EIA Directive¹ requires the consideration of the effects of projects on climate (Article 3) and climatic factors (Annex IV).

In a 2009 IEMA survey of EIA practitioners, 88% felt that where relevant, carbon emissions should be considered in the assessment and reported in the Environmental Statement (ES). The supplement to PPS1 (CLG 2007 and forthcoming 2010) indicates Government support in this area, stating:

'Local planning authorities should not require specific and standalone assessments [of climate change] where the requisite information can be provided through...environmental impact assessment.'

Whilst Strategic Environmental Assessment (SEA) and Sustainability Appraisal (SA) can present a broader opportunity to manage GHG emissions this, does not absolve EIA from consideration of climate change mitigation. The principles below focus on climate change mitigation, but EIA practitioners must also consider adaptation, which will be covered in a forthcoming set of IEMA principles to be consulted upon during summer 2010.

Over-arching Principles:

- The GHG emissions from all projects will contribute to climate change; the largest inter-related cumulative environmental effect.
- The consequences of a changing climate have the potential to lead to significant environmental effects on all topics in the EIA Directive – e.g. Population, Fauna, Soil, etc.
- The UK has legally binding GHG reduction targets - EIA must therefore give due consideration to how a project will contribute to the achievement of these targets.
- GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit, as such any GHG emissions or reductions from a project might be considered to be significant.
- The EIA process should, at an early stage, influence the location and design of projects to optimise GHG performance and limit likely contribution to GHG emissions.

¹85/337/EEC as amended by 97/11/EC, 03/35/EC, and 09/31/EC

Content

- EIA structure
- 30 pages
- Not overly technical
- Reference rich
- Diagrams
- Case studies
- Advisory tone


it's a guidance paper

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Environmental Impact Assessment Guide to:

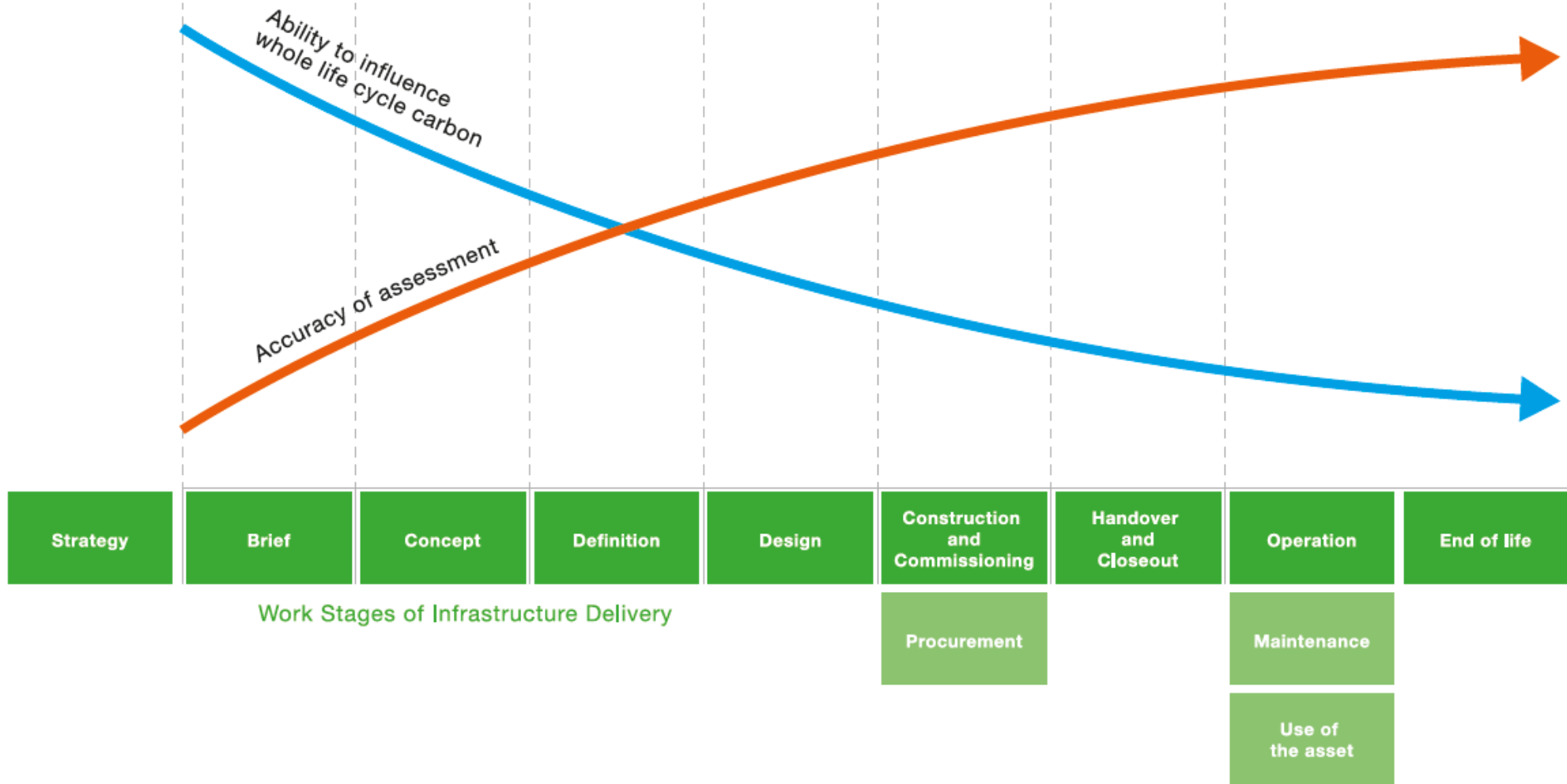
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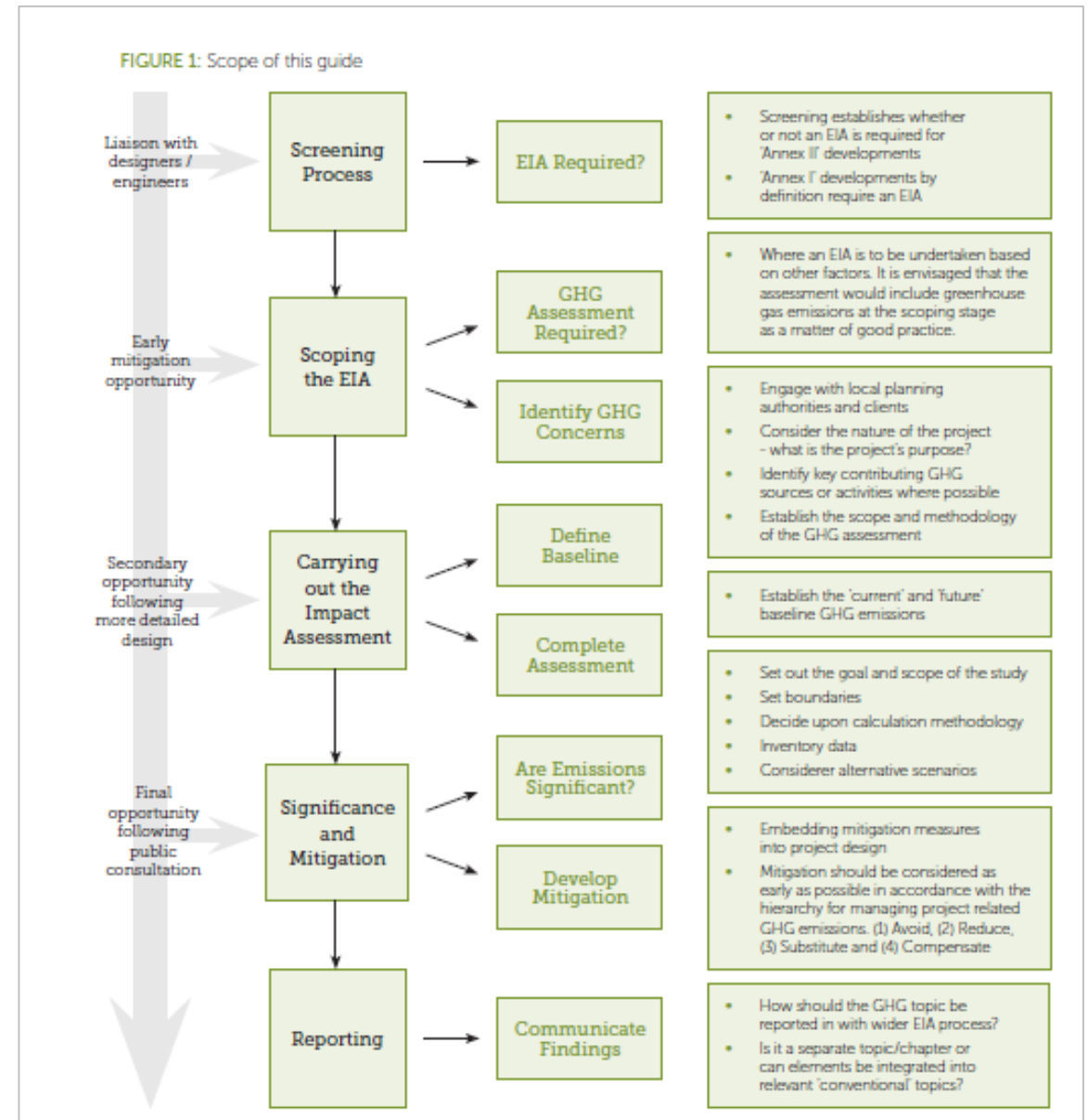
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The EIA and project relationship



The EIA and project relationship



Scoping – key points

- A ‘good practice’ approach is advocated where GHG emissions are always considered and reported but at varying degrees of detail of approach depending on the project
- A focus on proportionate assessment is important in avoiding undue burden
- Mitigation should be embedded as a principle throughout the project life

BS EN 15978:2011

Incorporating corrigendum November 2011



BSI Standards Publication

Sustainability of construction works — Assessment of environmental performance of buildings — Calculation method

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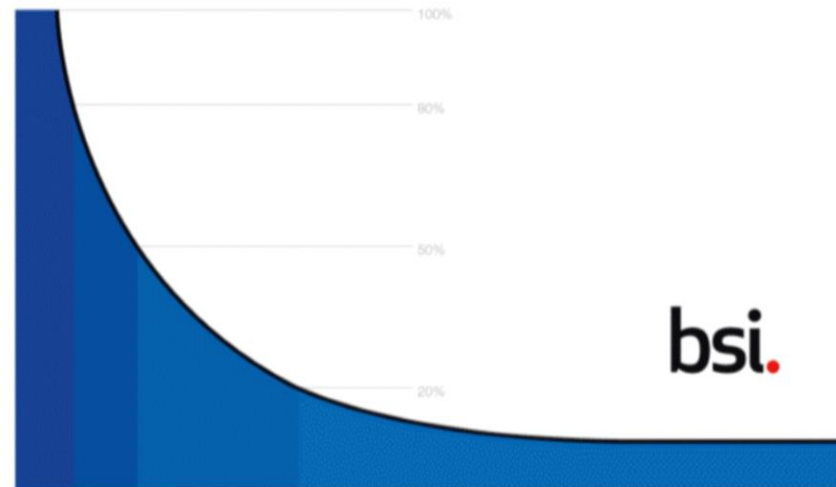
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Carbon Management in Infrastructure



Construction
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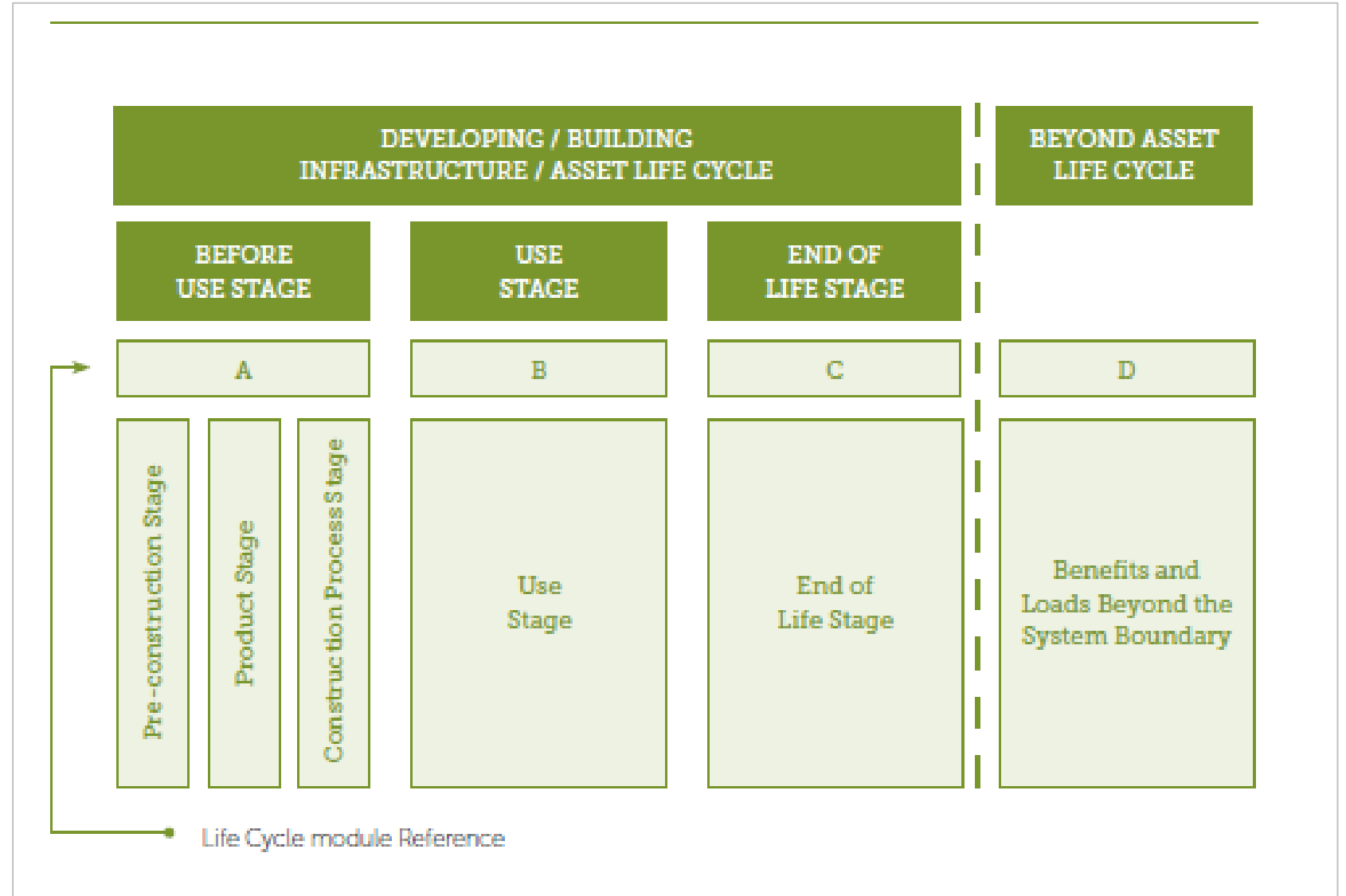
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GHG emissions assessment method

- Defining study goal and scope
- Study boundaries
- Study period
- Inclusions and cut off rules
- Quantification methodology
- Uncertainty
- Data quality



Adopting a life cycle approach



Significance

- The GHG emissions from all projects will contribute to climate change; the largest inter-related cumulative environmental effect
- GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit, as such any GHG emissions or reductions from a project might be considered significant

“An EIA should ensure the project addresses *GHG emissions* occurrence by taking mitigating action”

Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their significance

Appendix C

Significance of GHG emissions

C1 Considering the significance of GHG emissions

GENERIC PROCESSES

1. Sacramento Metropolitan Air Quality Management District²⁹

Established a significance threshold of 1,100 metric tonnes (MTCO₂e per year). This is based on capturing 90% of the development projects across the state, ensuring that small projects, which generally have low emission levels, would not be considered significant. The small projects will still be required to reduce their GHG emissions because they must comply with state and local regulations that require energy efficiency and transport infrastructure improvements.

3. California Environmental Quality Act (CEQA) guidelines

According to Appendix G of the CEQA Guidelines, a project would have a significant effect associated with GHGs if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant and/or cumulative impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

2. California Air Pollution Control Officers Association³⁰

- GHG impacts are considered to be exclusively cumulative impacts because no single project makes a significant contribution to global climate change;
- Assessment of significance is based on whether a project's GHG emissions cumulatively represent a considerable contribution to the global atmosphere.

4. IEMA principles on climate change mitigation and EIA

The IEMA principles document provides a section on how to assess GHG emissions in EIA and states:

- “When evaluating significance, all new GHG emissions contribute to a significant negative environmental effect; however, some projects will replace existing development that have higher GHG profiles. The significance of a project's emissions should therefore be based on its net impact, which may be positive or negative.”
- “Where GHG emissions cannot be avoided, the EIA should aim to reduce the residual significance of a project's emissions at all stages.”
- “Where GHG emissions remain significant, but cannot be farther reduced... approaches to compensate the project's remaining emissions should be considered.”

Case studies
Science based targets

Summary thoughts

- All GHG emissions contribute to climate change
- Always scope in GHG emissions as good practice
- Flexibility: a detailed assessment may not always be necessary
- Early stakeholder engagement is encouraged to maximise mitigation

Why **carbon emissions** are relevant to the selection, design, procurement, and operation of built environment:

- Cut cost
- Win financing
- Co-benefits:
 - efficiency (e.g. less materials)
 - resilience (e.g. energy security)
 - environment (e.g. air quality)
 - + more....

Contact details:

Kristian Steele

Arup, 13 Fitzroy Street, London, W1T 4BQ

E: kristian.steele@arup.com

T: +44 20 7755 6549