

## **Using supplier reported emissions information to enhance an EEIO model to estimate the GHG emissions of businesses**

Topic: Environmental input-output modeling VII

Author: Robin Frost

Co-Authors: Mike Berners-Lee, Nick Hewitt

Many businesses recognise the contribution of scope 3 emissions to their Greenhouse Gas (GHG) emissions footprint and are often in a powerful position to positively influence the GHG policies of their supply chain partners. Estimates of their supply chain GHG footprint obtained by the application of environmentally extended input output (EEIO) models can form an important part of strategic decision making. In collaboration with LEC and SWC and using an EEIO model of the UK, an international telecommunications company estimated its supply chain GHG footprint for the past three financial years (April 2010-March 2013).

The existing EEIO model was found to be limited by the aggregated data it contains which typically reflects the emissions and technology of an industry sector within one economy. It had no capability to capture the emissions performance of individual suppliers. However since 2011, the company has also been actively encouraging supply chain partners to participate in the Carbon Disclosure Project's (CDP) climate change reporting programme. As a consequence, supplier reported information on recent supply chain emissions was available and the model was enhanced by incorporating scope 1 & 2 emissions intensity data. This paper reports on: 1) how supplier reported emissions intensities were integrated into an adapted EEIO model; and 2) the preliminary results arising.

While at the aggregate level only a small and non-significant difference in the estimates of the supply chain GHG footprint was found, interesting supplier level differences between high and low performing suppliers were identified. As more businesses engage in emissions reporting and methodologies for estimating footprints become standardised, it is argued that such supplier level insights could support more environmentally responsible purchasing allow businesses to predict the impact of supplier's emission reduction targets on future emissions, and support the monitoring of supplier progress towards such targets over time.