The American Cities Climate Challenge Impact Analysis Model (ACCC IAM)

The mayors from 25 major US cities have announced that they will join the American Cities Climate Challenge, promoting efforts to reduce greenhouse gas emissions from the buildings and transportation sectors that are responsible for over 90% of emissions in cities. Collectively, these cities will aim to achieve emissions reductions exceeding 40 million metric tons through significant local efforts. If successful, this would represent over 26-28% cut in emissions from 2005 levels, ensuring these cities contribute their part to what the US agreed to in 2015 as a part of the Paris Climate Agreement.

The American Cities Climate Challenge makes use of a data-driven approach. A customized computer impact analysis model – ACCC IAM – has been developed for each city that estimates the impact of adopting any of dozens of policy options at various levels of ambition. It builds on years of experience and research on energy and climate policy options that work to reduce emissions from the buildings and transportation sectors. For each participating ACCC city, thousands of data points are brought together to evaluate where a city has been, where it is now, and where it is likely to go in the coming decade. [1]

The ACCC IAM is unique in its ability to rapidly evaluate carbon reduction potentials for dozens of actions for any participating ACCC city and comes packaged with the necessary baseline data, allowing the city in the future to easily assess the impact of specific policy options. This data will help the ACCC cities focus and refine their commitments with a tool that is calibrated to each city's unique situation, where each city will be able to see results centered in their own context.

The ACCC IAM tool was jointly developed by The Greenlink Group and the Stockholm Environment Institute. For more information please contact Matt Cox (Matt Cox mcox@thegreenlinkgroup.com) and Derik Broekhoff (derik.broekhoff@sei.org).

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[1] Reference case emissions are projected by applying national and regional trends to each city, derived from the Energy Information Administration's *Annual Energy Outlook.* Current year and 2005 energy use and GHG emissions data for each city are derived from academic publications and a number of US Department of Energy tools and datasets, including the City Energy Profile tool. These data are supplemented with city-specific data on building stocks (from cities, CoStar, and tax assessor databases) and public transit service (from the American Public Transportation Association). Other data – including fuel and vehicle mixes – are derived from national, regional, and/or state data averages (from various sources, including the EIA and Department of Transportation), disaggregated to each city. GHG reductions associated with city actions are calculated against a "business-as-usual" reference case. The tool estimates reference case emissions by translating the Energy Information Administration's Annual Energy Outlook (AEO) reference case for 2017 down to the level of individual cities. City populations are projected to follow census-region trends. Building energy use intensities follow regional trends and vehicle-miles per capita follow national trends from the AEO.