**ZERO CARBON CITIES BY 2050 (**[**View full report**](https://bit.ly/2ZzROzo)**)**

*Mitigation potential by sector and level of government in six key countries*

**Background**

This short note summarises the results of a detailed study undertaken by the Stockholm Environment Institute for the Coalition for Urban Transitions, in partnership with the Global Covenant of Mayors. It provides an understanding of urban GHG abatement potential and the powers to deliver this by different tiers of government for six key countries: Brazil, China, India, Indonesia, Mexico, South Africa. It also analyses the share of mitigation potential that each of four major urban sectors hold: buildings, materials, transport, waste. Each of the six countries are substantial players in their own right, so the decisions made within their borders are critical for achieving global goals, including the Paris Agreement. They are also some of the largest players in regional (if not global) markets, influencing and setting precedents for neighbouring countries.

**Key Messages**

**CHINA**

* Of the 4 sectors analysed, the **buildings sector** holds the largest share of abatement potential (48% of potential)
* Abatement potential by urban population size:
  + Cities of **fewer than 1 million** residents represent **52%** of potential
  + Cities with **more than 1 million** residents represent **48%** of potential
* Share of primary authority over measures to achieve abatement potential (including decarbonisation of electricity sector) by level of government:
  + Local government = 0%, shared = 14%, national or state-level = 86%
* National policy priorities:
  + Decarbonize the electricity sector, including distributed energy resources
  + Invest in aggressive electrification and efficiency improvements in residential and commercial buildings
  + Lower emissions intensity of steel, cement, and aluminium production
  + Improve efficiency of urban design

**INDIA**

* **Buildings sector** holds the largest share of abatement potential (72% of potential)
* Abatement potential by urban population size:
  + Cities of **fewer than 300,000** residents represent **42%** of potential
  + Cities with **more than 5 million** residents represent **25%** of potential
* Share of primary authority over measures to achieve abatement potential (including decarbonisation of electricity sector) by level of government:
  + Local government = 4%, shared = 15%, national or state-level = 81%
* National policy priorities:
  + Decarbonize the electricity sector, including distributed energy resources
  + Invest in aggressive electrification and efficiency improvements in residential and commercial buildings
  + Improve multi-level and metropolitan coordination related to housing, urban design, transportation, and waste management

**INDONESIA**

* **Buildings sector** holds the largest share of abatement potential (69% of potential)
* Abatement potential by urban population size:
  + Cities of **fewer than 300,000** residents represent **68%** of potential
  + Cities with **more than 1 million** residents represent **24%** of potential
* Share of primary authority over measures to achieve abatement potential (including decarbonisation of electricity sector) by level of government:
  + Local government = 7%, shared = 37%, national or state-level = 55%
* National policy priorities:
  + Decarbonize the electricity sector, including distributed energy resources
  + Invest in aggressive electrification and efficiency improvements in residential and commercial buildings, including higher efficiency standards for appliances and lighting
  + Promote compact, transit-oriented development and active transportation options in growing cities – e.g., expand and replicate efforts in Jakarta

**MEXICO**

* **Buildings sector** holds the largest share of abatement potential (51% of potential)
* Abatement potential by urban population size:
  + Cities of **fewer than 300,000** residents represent **31%** of potential
  + **Mexico City** (over 10 million residents) represents **19%** of potential
* Share of primary authority over measures to achieve abatement potential (including decarbonisation of electricity sector) by level of government:
  + Local government = 29%, shared = 19%, national or state-level = 52%
* National policy priorities:
  + Decarbonize the electricity sector, including distributed energy resources
  + Invest in aggressive electrification and efficiency improvements in residential and commercial buildings
  + Improve vehicle fuel economy and expand adoption of electric vehicles (EVs)
  + Limit and reduce urban sprawl

**SOUTH AFRICA**

* **Buildings sector** holds the largest share of abatement potential (73% of potential)
* Abatement potential by urban population size:
  + Cities of **fewer than 300,000** residents represent **32%** of potential
  + Cities with **1-5 million** residents represent **54%** of potential
* Share of primary authority over measures to achieve abatement potential (including decarbonisation of electricity sector) by level of government:
  + Local government = 14%, shared = 9%, national or state-level = 77%
* National policy priorities:
  + Decarbonize the electricity sector, including distributed energy resources
  + Invest in aggressive electrification and efficiency improvements in residential and commercial buildings
  + Improve urban spatial planning
  + Electrify vehicles and switch to low-carbon fuels

**BRAZIL**

* **Transport sector** holds the largest share of abatement potential (45% of potential)
* Abatement potential by urban population size:
  + Cities of **fewer than 300,000** residents represent **42%** of potential
  + Cities with **over 1 million** residents represent **48%** of potential
* National policy priorities:
  + Expand public transit, promote transit-oriented development, reduce motorized travel demand
  + Improve vehicle fuel economies and switch to zero-emission vehicles (ZEVs)
  + Invest in aggressive electrification and efficiency improvements in residential and commercial buildings