## 1. A macro view of city-level policies

Since 2011, C40 has been tracking the climate actions of its cities and now holds a unique dataset that demonstrates the sheer scale and variety of city action in its landmark report *Climate Action in Megacities 2.0 (CAM 2.0)*. Covering the fields of transport, energy efficiency, energy supply, adaptation and water, waste management, finance and economic development, and sustainable communities, CAM 2.0 provides an overview of the global climate action landscape across sectors, including building energy efficiency. This chapter draws out some of the relevant highlights from the report.

Building energy efficiency is one of the most prominent sectors in terms of reported activity within C40 cities, and accounts for more than 20% of all actions reported across all sectors<sup>1</sup>. Moreover, the buildings sector has shown the most progression of actions from the proposal and pilot stages in 2011 to the transformative and significant level in 2013<sup>2</sup>.

<sup>&</sup>lt;sup>1</sup> C40 Climate Leadership Group and Arup (2014) Climate Action in Megacities 2.0 [figure 2.1].

<sup>&</sup>lt;sup>2</sup> Ibid., [figure 3.6].

Space conditioning is the most common way energy is used in buildings, accounting for 38% of total energy use (see **Figure 1.1**). Therefore it makes sense that cities report insulation and heating/cooling efficiency amongst their top five buildings actions. The other three most reported actions are directed towards measuring building performance, namely, audits and advice, energy performance certification and benchmarking. These data-gathering measures are often the precursor to implementing changes to the building fabric or operation<sup>3</sup>.



**Figure 1.1** Percentage Building Energy Use, by Usage Type (Copyright C40/Arup 2014, reprinted from CAM 2.0 with kind permission)

<sup>3</sup> Ibid., [figure 5.13].

C40 complements its analysis of city actions in CAM 2.0 with an analysis of mayoral powers, or how action relates to the degree of influence mayors or city leaders exert over city functions compared to other levels of government and the private sector. In building energy efficiency as a whole, C40 cities have relatively strong power, but this breaks down into a diverse picture (see **Figure 1.2**). Cities have the strongest and broadest powers over existing and municipal buildings, with at least 70% of cities having strong powers of ownership or operational control, policy-setting and enforcement, and budgetary control. This is significantly different from city powers over private buildings, where ownership is naturally non-existent and budgetary control is minimal. However, cities often do have partial or even strong powers to set policies and vision for private sector buildings.

Assets/functions	Types of power				ğ
Streetlights	46 5	34 18	34 16	39 14	r Lightir
Traffic lights and signals	41 5	35 15	36 12	39 13	Outdoc
New municipal buildings	45 3	43 5	42 6	36 12	
Existing municipal offices	43 5	40 11	42 10	41 10	
New non-residential buildings (private)	45 3	43 5	42 6	36 12	
Existing municipally-owned housing	34 4	27 14	22 20	24 21	siency
Existing public education buildings	29 5	27 11	23 16	22 22	ergy Effic
New residential buildings (private)	N/A	30 16	13	14 28	Ē
Existing commercial/ industrial buildings (private)	N/A	31 15	15	15 30	
Existing residential (private)	N/A	27 18	16	14 29	
Private housing	N/A	26 14	11	11 27	
	Own/operate	Set/enforce policies	Control budget	Set vision	
	Strong power	ng power Partial power			

**Figure 1.2** Number of Cities (Out Of 57 Responding) with Strong or Partial Powers over Assets/Functions, by Types of Power (*Copyright C40/Arup 2014, reprinted from CAM 2.0 with kind permission*)

Turning to the future, we see that cities have significant plans to address energy consumption in their buildings, mainly through energy efficiency (see **Figure 1.3**). It is

notable that the top five actions cities prioritise for the future are the same five actions they are currently pursuing. This suggests that scaling-up is a greater priority than exploring new actions. Overall, CAM 2.0 paints a picture of cities taking considerable action in the buildings sector, and using a range of mechanisms to do so. *Urban Efficiency* hopes to make a valuable contribution to C40 cities around the world by taking the analysis to the next level – documenting the range of approaches taken by individual cities and illuminating how these approaches are being implemented.



Transformative (city wide)	Significant (across most of the city)
Proposed (awaiting final authorization)	Pilot (being tested)

**Figure 1.3** Top 15 most common actions for future expansion in the buildings sector, by scale

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