C40CITIES

CLIMATE LEADERSHIP GROUP

GHG measurement standards for cities

IPCC Expert Meeting: Application of 2006 IPCC Guidelines to Other Areas

Contents

Agenda

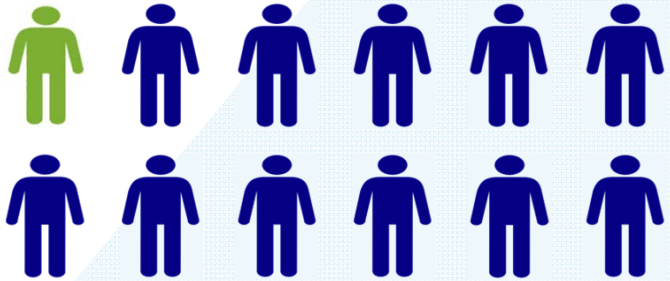
1. About C40
2. Measurement standards
3. Challenges

C40 Cities Climate Leadership Group

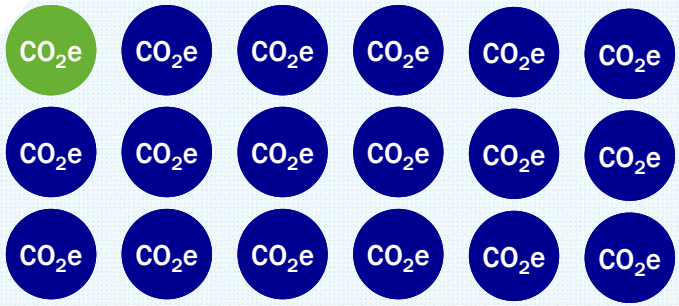
The C40 Cities

The Power of the C40

8%
of all humans



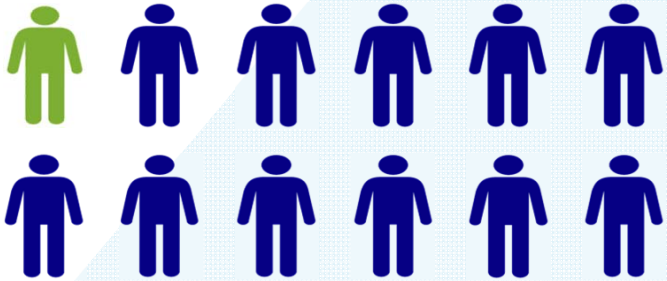
5%
of global GHG emissions



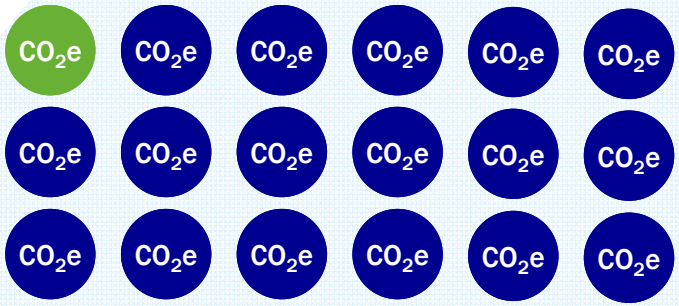
21%
of global GDP

The Power of the C40

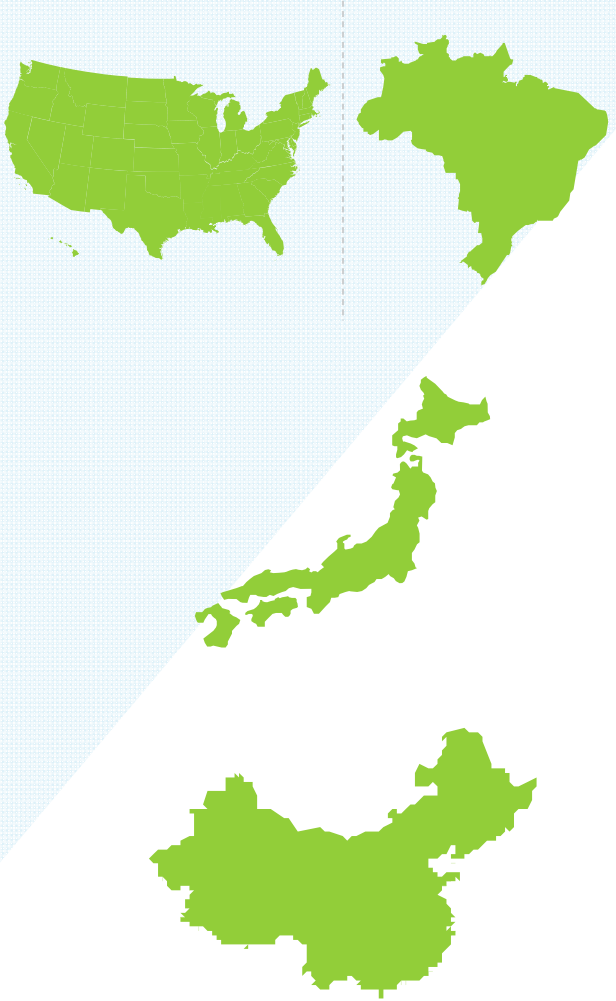
8%
of all humans



5%
of global GHG emissions



21%
of global GDP

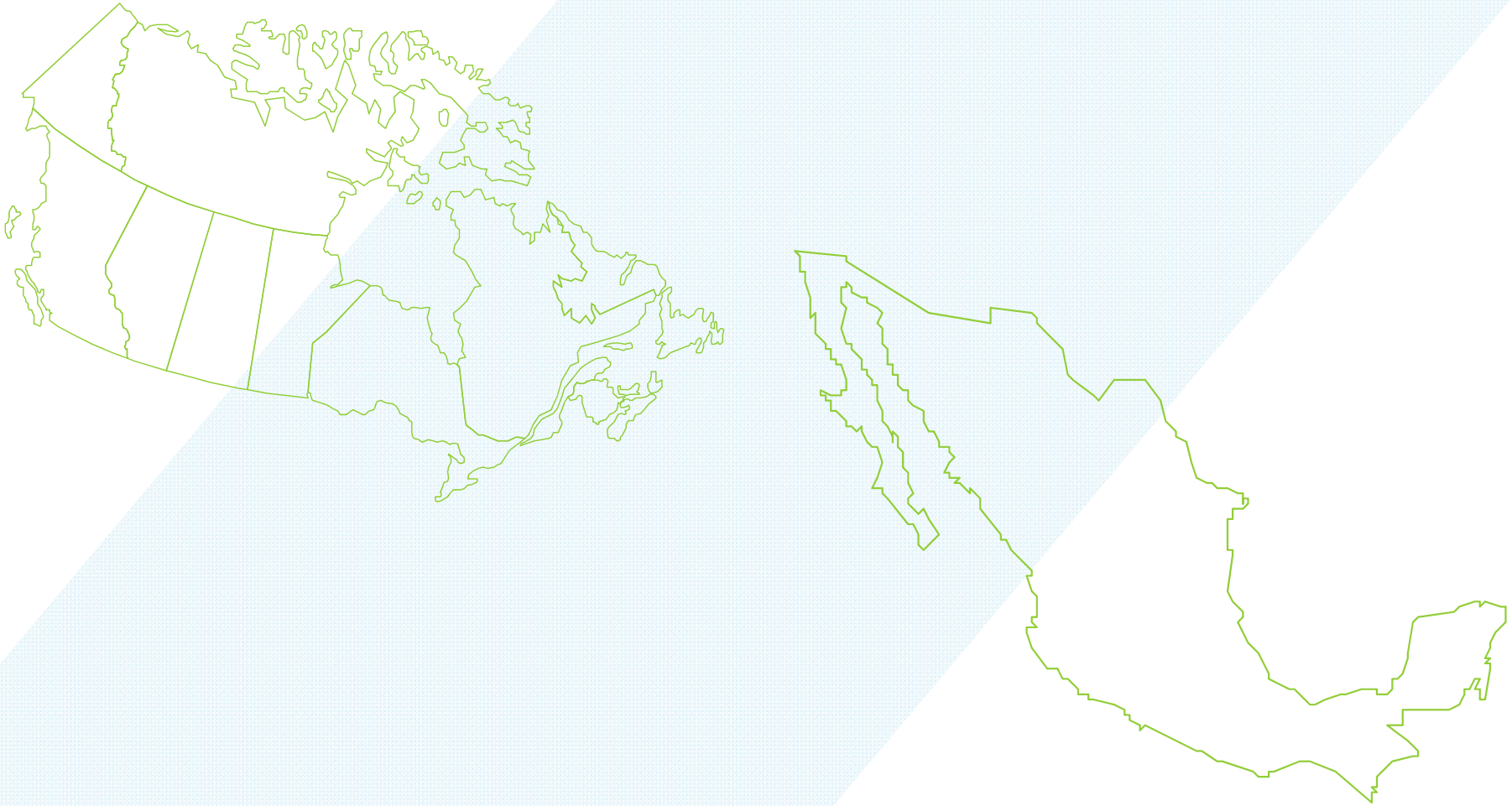


The Power of the C40

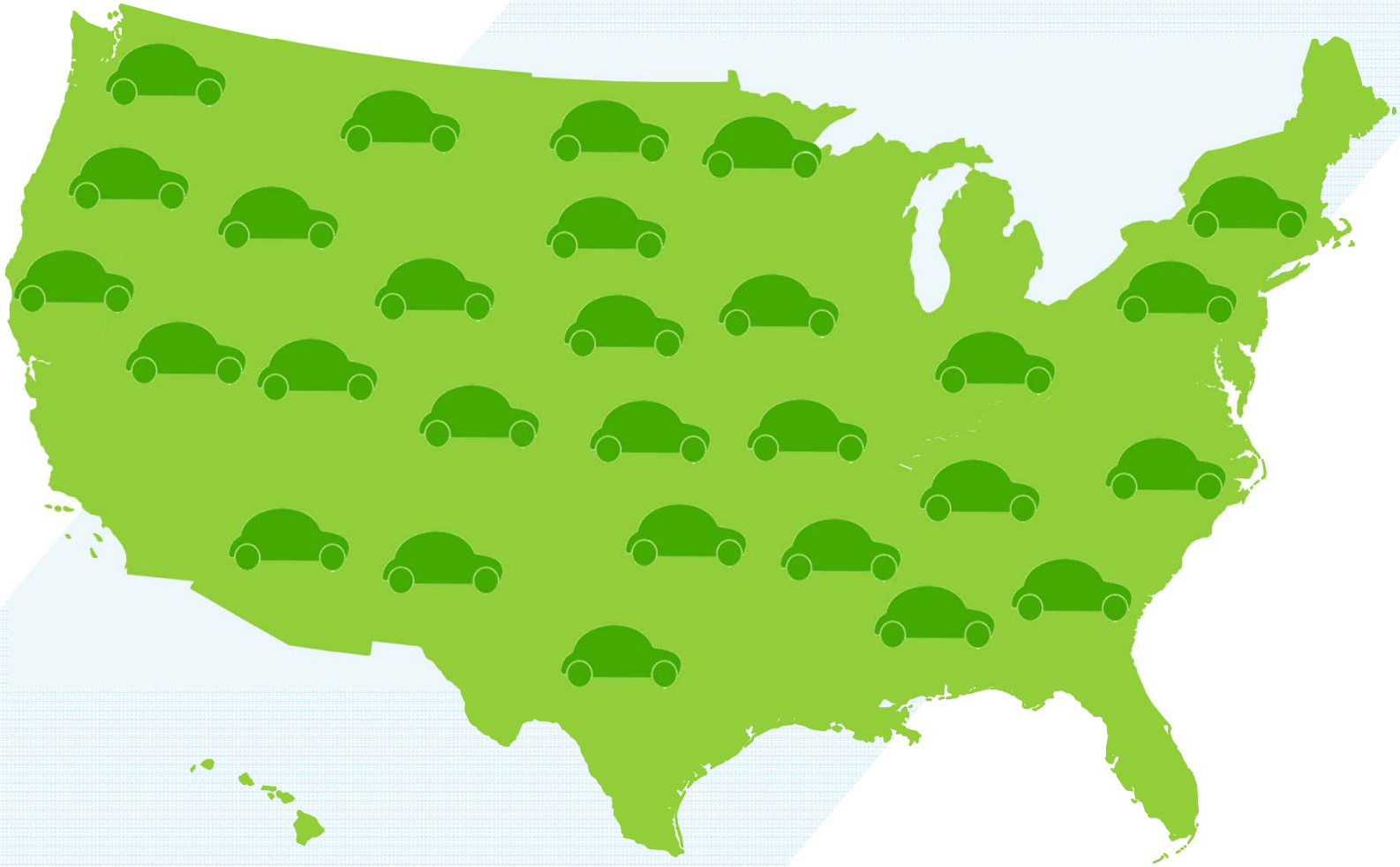
ONE BILLION TONS IN POTENTIAL REDUCTIONS

The Power of the C40

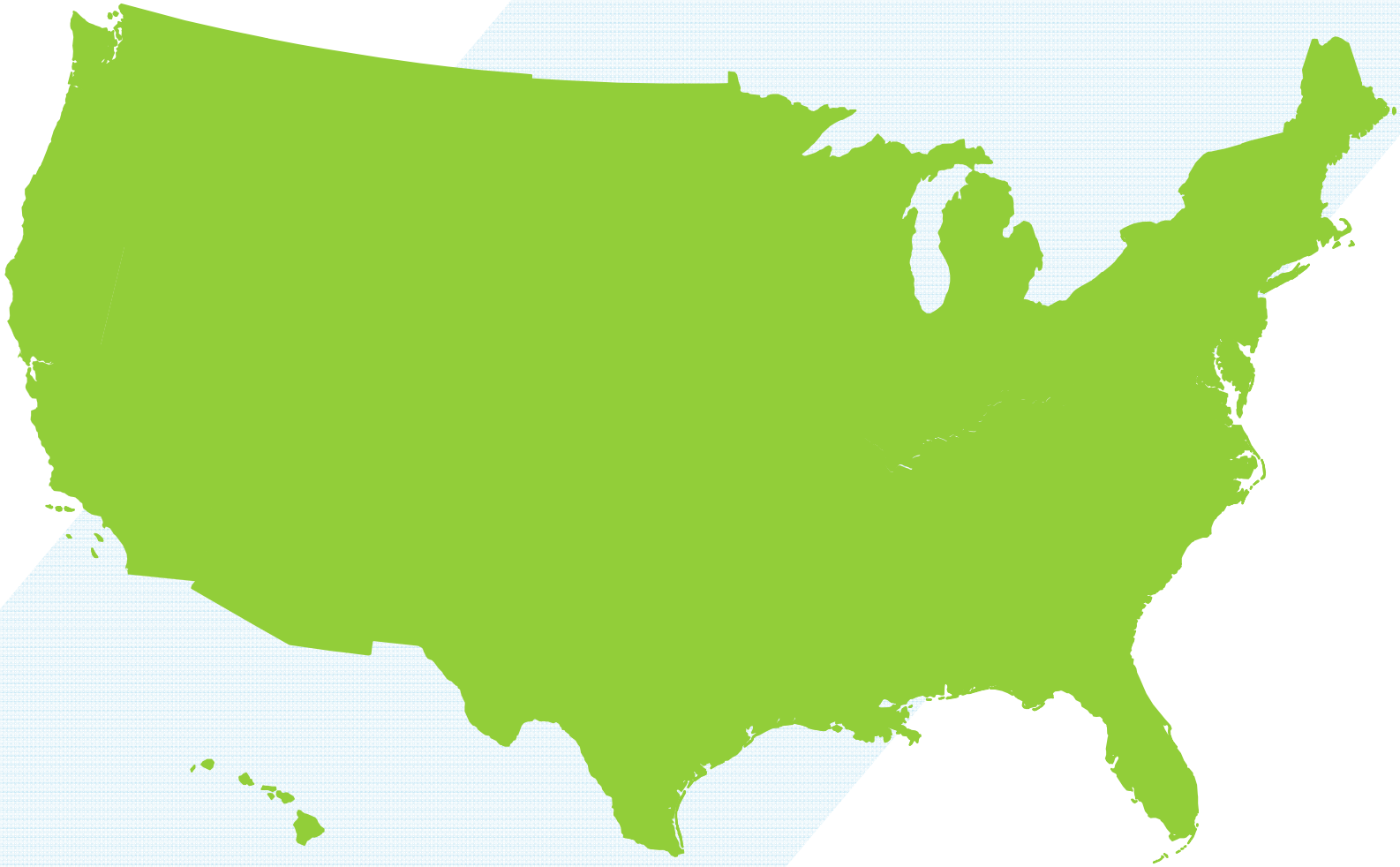
ONE BILLION TONS IN POTENTIAL REDUCTIONS



The Power of the C40



The Power of the C40



C40 creates NETWORKS

PEER-TO-PEER EXCHANGE

ON-THE-GROUND CITY SUPPORT

RESEARCH & KNOWLEDGE MANAGEMENT

C40 EXCHANGE

C40 provides SUPPORT

PEER-TO-PEER EXCHANGE

ON-THE-GROUND CITY SUPPORT

RESEARCH & KNOWLEDGE MANAGEMENT

C40 EXCHANGE

C40 shares KNOWLEDGE

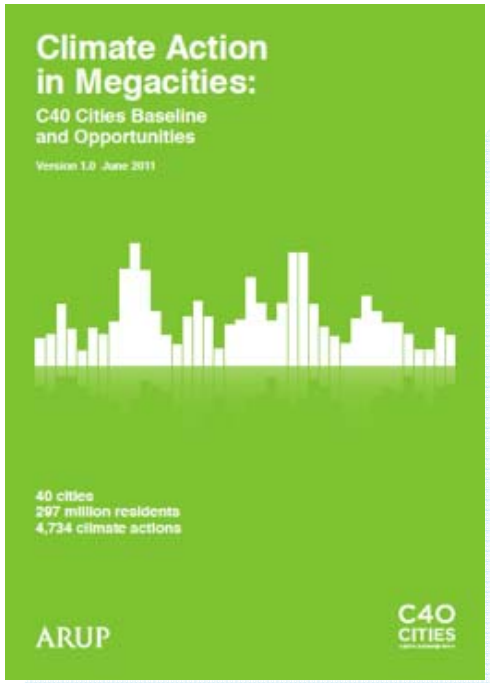
PEER-TO-PEER EXCHANGE

C40 EXCHANGE

ON-THE-GROUND CITY SUPPORT

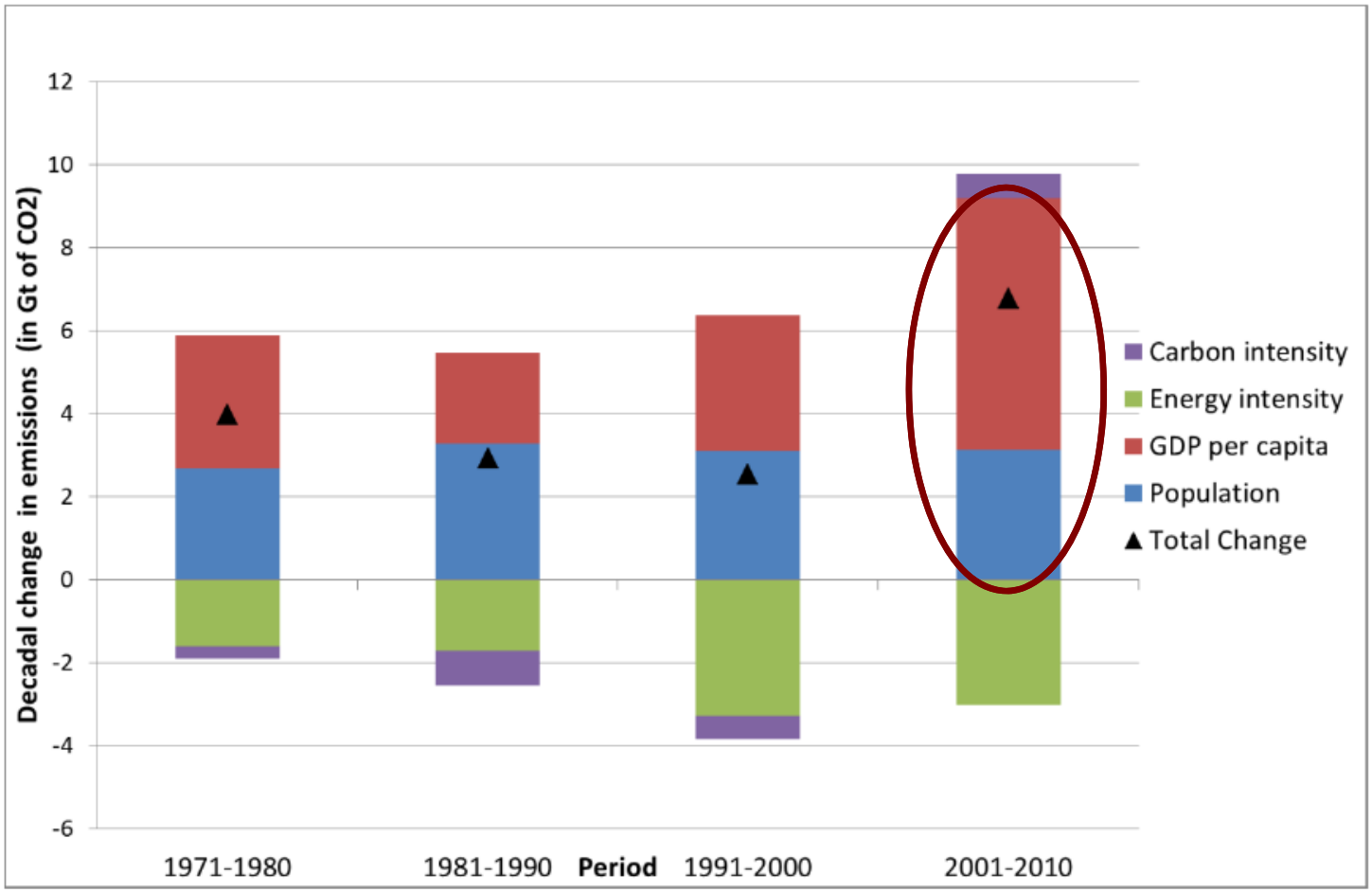
RESEARCH & KNOWLEDGE MANAGEMENT

Cities decide



City streets & parking	87%
Outdoor lighting	80%
Transit	63%
Residential waste	66%
Landfills	60%
Building regulation	57%
Water supply	60%
City planning	50%

Final demand as driver of emissions



Source: John Barrett, Lead author, IPCC Working Group III

What gets measured …

Cities are **critical** to mitigation

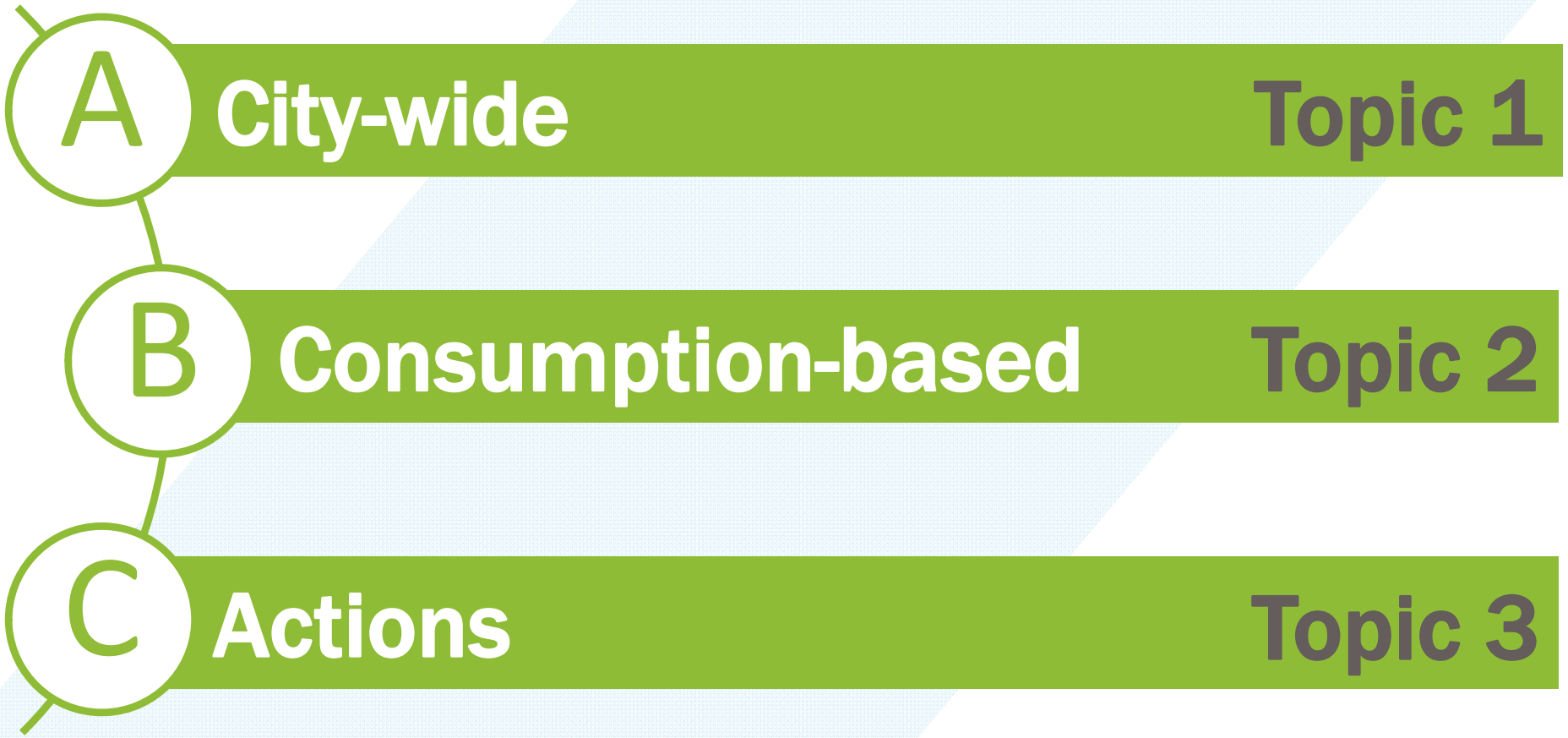
- Release GHGs
- Capacity to act (contribute to national targets)

Ability of city leaders to take effective action depends on **access to good quality data** on GHG emissions

Measurement enables cities to:

- Assess risks and opportunities
- Track their progress
- Partnerships
- Create a strategy to reduce GHG emissions
- Report (legal / voluntary)
- Access to finance

2. Measurement standards



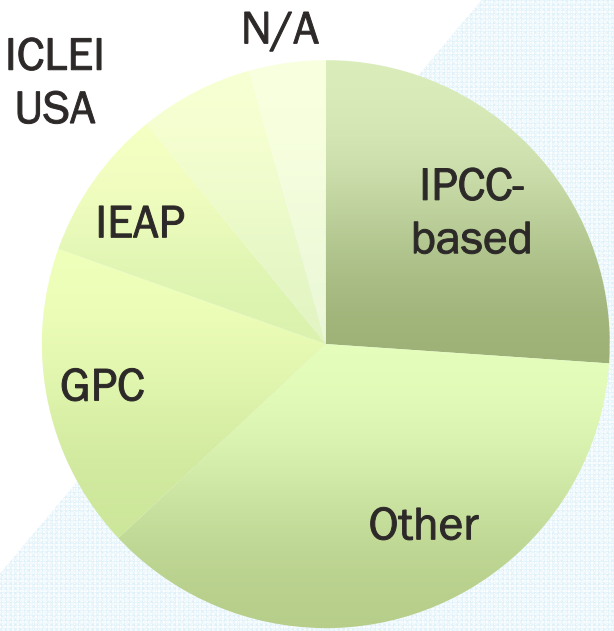
2A. City-wide inventories

CDP Cities Survey 2014

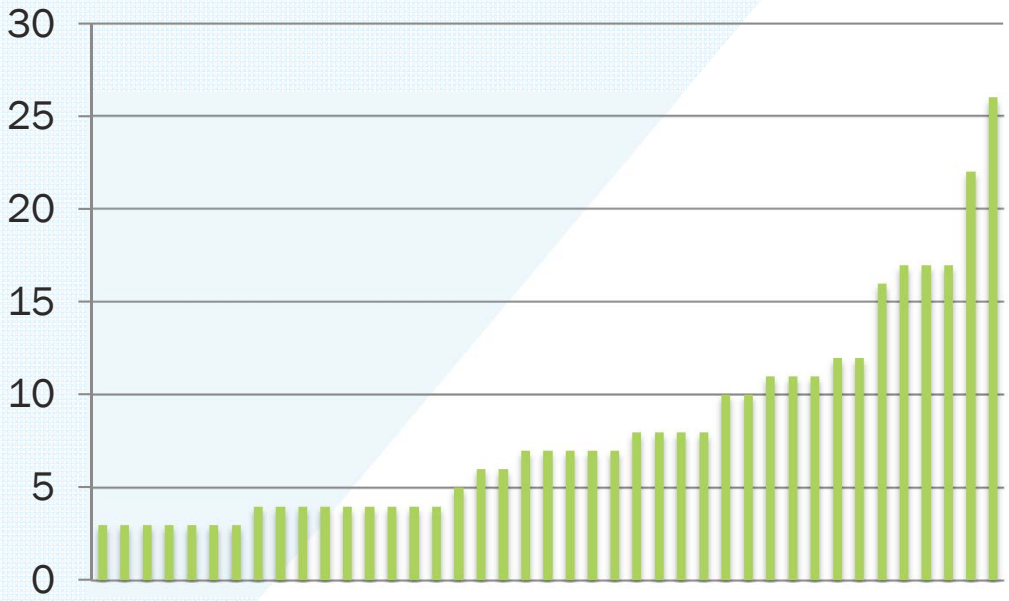
60 Cities reported (90%)

46 City-wide GHG inventories (77%)

Methodologies



Categories



➡ Need for greater consistency and improved access to data

2A. City-wide inventories

Global protocol for community-scale GHG emissions

➡ GPC Presentation, Wee Kean Fong, WRI

2A. City-wide inventories

Challenges

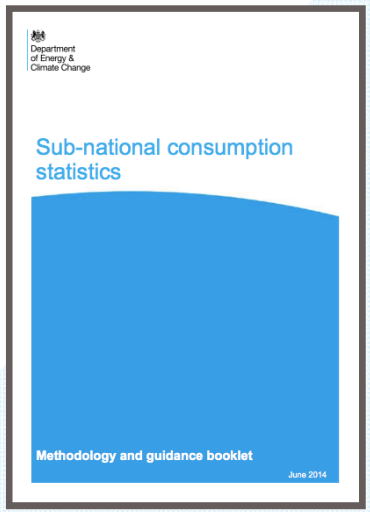
- Emissions from grid-supplied energy generation counted at point of consumption rather than production
- Emissions from transboundary transport included – travel and hubs located out of boundary
- Emissions from waste treatment based on waste generated
- Availability of detailed transport data
- Disaggregation of data at sub-national scale and by sub-sectors
- Data confidentiality (point sources may be significant at city-scale)

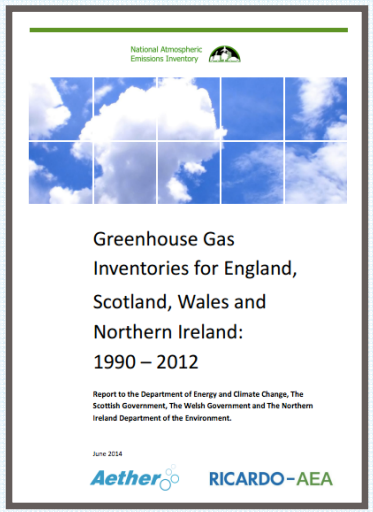
2A. City-wide inventories

ASK

- Guidance on disaggregation of national-level data
- Guidance on aggregating sub-national GHG inventories

Example: Sub-national disaggregation, United Kingdom





- GHG inventories for England, Scotland, Wales and Northern Ireland
- Energy consumption statistics at local authority level (gas, electricity and residual fuels)

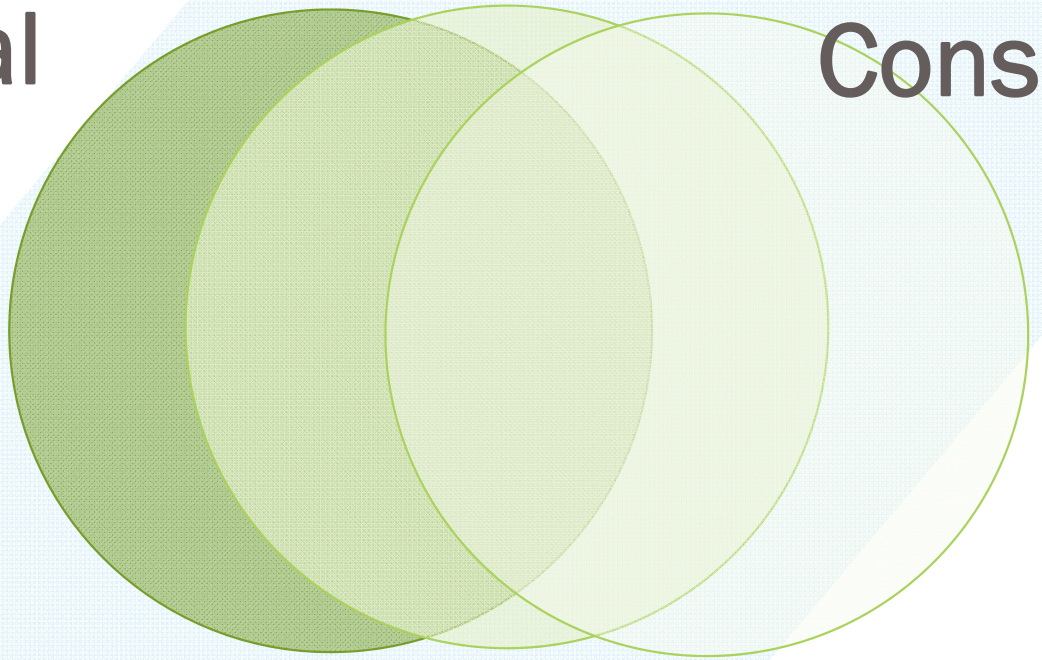
2B. Consumption-based

Emissions from sources within boundary

Territorial

Emissions from activities within boundary

Consumption-based



Inboundary “plus”

2B. Consumption-based

Cities are networks of commerce, people … and GHGs

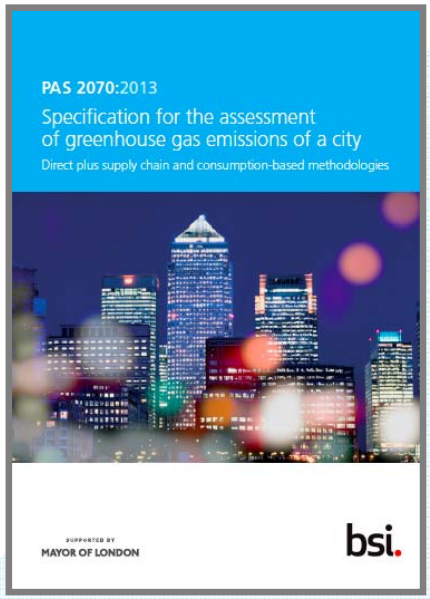
Research indicates significant trade in GHGs between "*consumer cities*" and "*producer cities*"

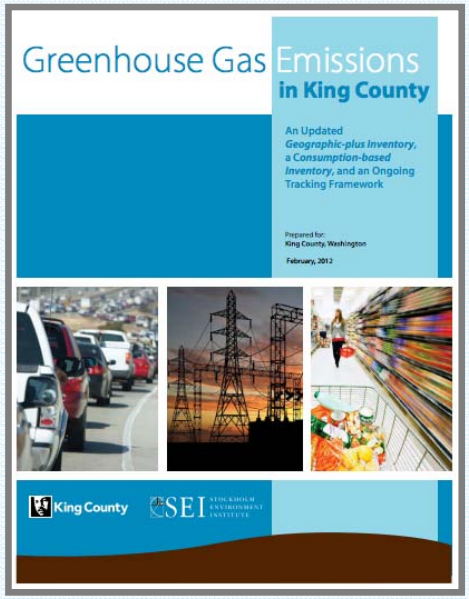
2B. Consumption-based

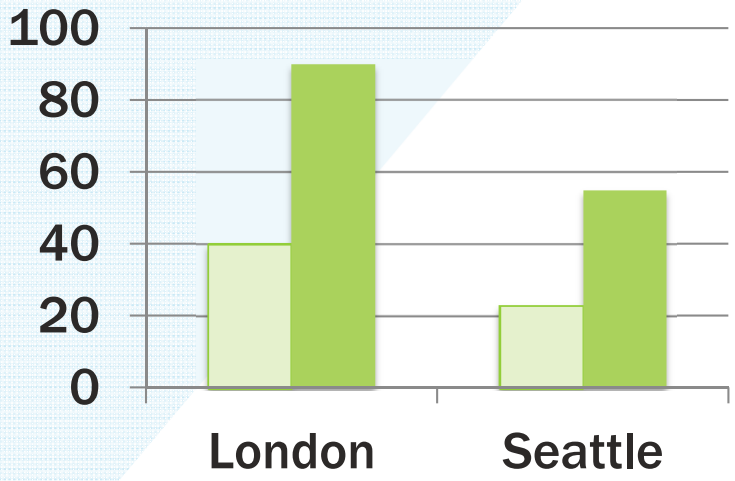
17 cities measure scope 3 emissions (30%)

2 cities have conducted full consumption-based assessment

1 city developed standard (PAS 2070; London and BSI)







➡ Assessment of consumption-based emissions

2B. Consumption-based

Consumption-based measurement allows cities to:

- Take a more holistic approach to GHG emissions
- Assess the carbon dependence of the local economy
- Realize opportunities for more efficient urban supply chains – cross-sector and international

ASK

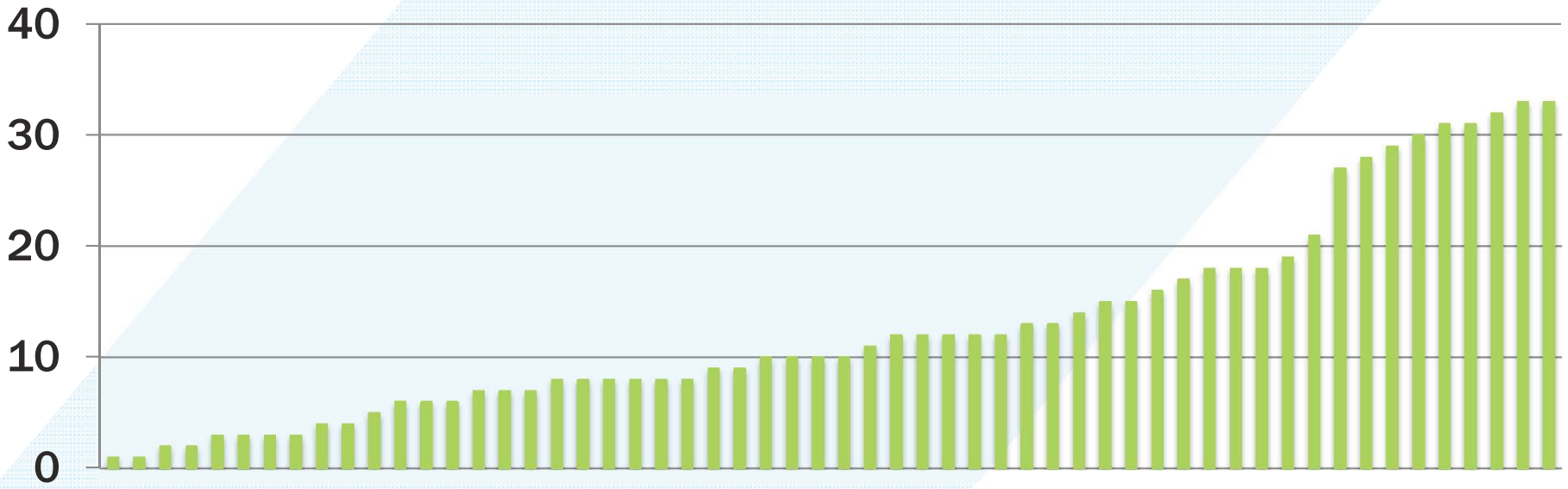
- Guidance on conducting LCA
- Guidance on disaggregating national consumption-based data based on I-O assessments

2C. Actions

CDP Cities Survey 2014

718 Actions reported (median = 10)

110 Quantified actions (15%, majority 0.1 to 1m+ tCO_2e)



➡ Need to quantify GHG effects of policies and actions

2C. Actions

CDP Cities Survey 2014

City	Project	tCO_2e
Rio de Janeiro	Capture of landfill gas	1,240,000
Cape Town	Renewable energy	2,055,018
Washington DC	Building design	2,234,500
Rotterdam	CCS	15,200,000

Also need to capture other activity in city – led by national governments and companies. Requires consistent framework and clever reporting to avoid double counting and leakage, and ensure proper attribution.

2C. Actions

ASK

- Guidance on project-specific accounting to ensure consistency between national governments, cities, companies and others

Before	Define activity and conduct high-level estimate
	Map causal chain and define assessment boundary
	Estimate baseline emissions & GHG effects ex-ante
During	Monitor performance
After	Estimate GHG effects ex-post
	Verification and reporting

3. Challenges

- Boundary issues: city accounting very different to national accounting
- Availability of activity data: Lack of data at city-scale
- Limited resources and capacity issue

Opportunities to empower city-scale action

- Guidance on disaggregation of national-level data for smaller spatial scales
- Guidance on aggregation sub-national inventories
- Guidance on LCA and consumption-based accounting
- Guidance on project-specific accounting

Concluding remarks

Cities

- Critical to mitigation
- Capacity act

Measurement standards

- New **global processes** for measuring city GHG emissions
- Consumption-based accounting
- Actions and policies

Challenges and opportunities

- Activity data gap – more data, better insight
- Win-win from closer alignment of national and city reporting

CONNECT WITH US

C40 CITIES
CLIMATE LEADERSHIP GROUP

www.C40cities.org

@C40cities

C40 Cities