LSE Cities
AN INTERNATIONAL CENTRE SUPPORTED BY DEUTSCHE BANK

LSE Works: LSE Cities public lecture

Better Growth, Better Climate: cities and the new climate economy

Graham Floater
Director, NCE Cities Research Programme
Principal Research Fellow, LSE

Philipp Rode
Executive Director, LSE Cities
Co-Director, NCE Cities Research Programme

Dimitri Zenghelis
Co-Head, Climate Policy Grantham Research Institute, LSE

Professor Fran Tonkiss
Professor of Sociology, Academic Director of the Cities Programme, LSE Cities
Chair

Suggested hashtag for Twitter users: **#LSEworks**

LSE events

CPD CERTIFIED
The CPD Certification Service

CITIES AND THE NEW CLIMATE ECONOMY
the transformative role of urbanisation

LSE Works Lecture and Discussion
London, 29 January 2015

THE NEW CLIMATE ECONOMY
The Global Commission on the Economy and Climate

Graham Floater, LSE Cities / New Climate Economy - Cities
London School of Economics and Political Science

LSECities

One of the most critical and urgent challenges facing countries today is achieving economic prosperity and development while also combating climate change.

The **Global Commission on the Economy and Climate**, and its flagship project **The New Climate Economy**, have been set up to help governments, businesses and society make better-informed decisions on these crucial issues.

THE GLOBAL NEW CLIMATE ECONOMY PARTNERSHIP

Global Commission

21 global leaders, chaired by former President of Mexico **Felipe Calderón**

Economic Advisory Panel

14 world leading economists, chaired by **Professor Lord Stern**

Includes:
Fan Gang (China's National Economics Institute)

Two Nobel prize winners:
Daniel Kahneman and **Michael Spence**

7 Commissioning Countries

Colombia
Ethiopia
Indonesia
Norway
Sweden
South Korea
United Kingdom

8 Partner Research Institutes

Climate Policy Initiative (USA)
Ethiopian Development and Research Institute
Indian Centre for Research on Economic Relations
Global Green Growth Institute (South Korea)
LSE Cities, London School of Economics (UK)
Stockholm Environment Institute (Sweden)
Tsinghua University (China)
World Resources Institute (USA)

NCE REPORT LAUNCHED AT THE UNITED NATIONS

How can we have the growth we want in the next 25 years and the stable climate we need?

Questions we are asking:

1. How do we **double energy production** and reduce carbon emissions by half at the same time?
2. How do we **increase food production by 50%** while cutting land emissions by half?
3. How do we increase **the rate of innovation** and speed of deployment?
4. What role should **carbon pricing** play in fiscal policy?
5. How can **global cooperation** improve economic and climate performance for everyone?

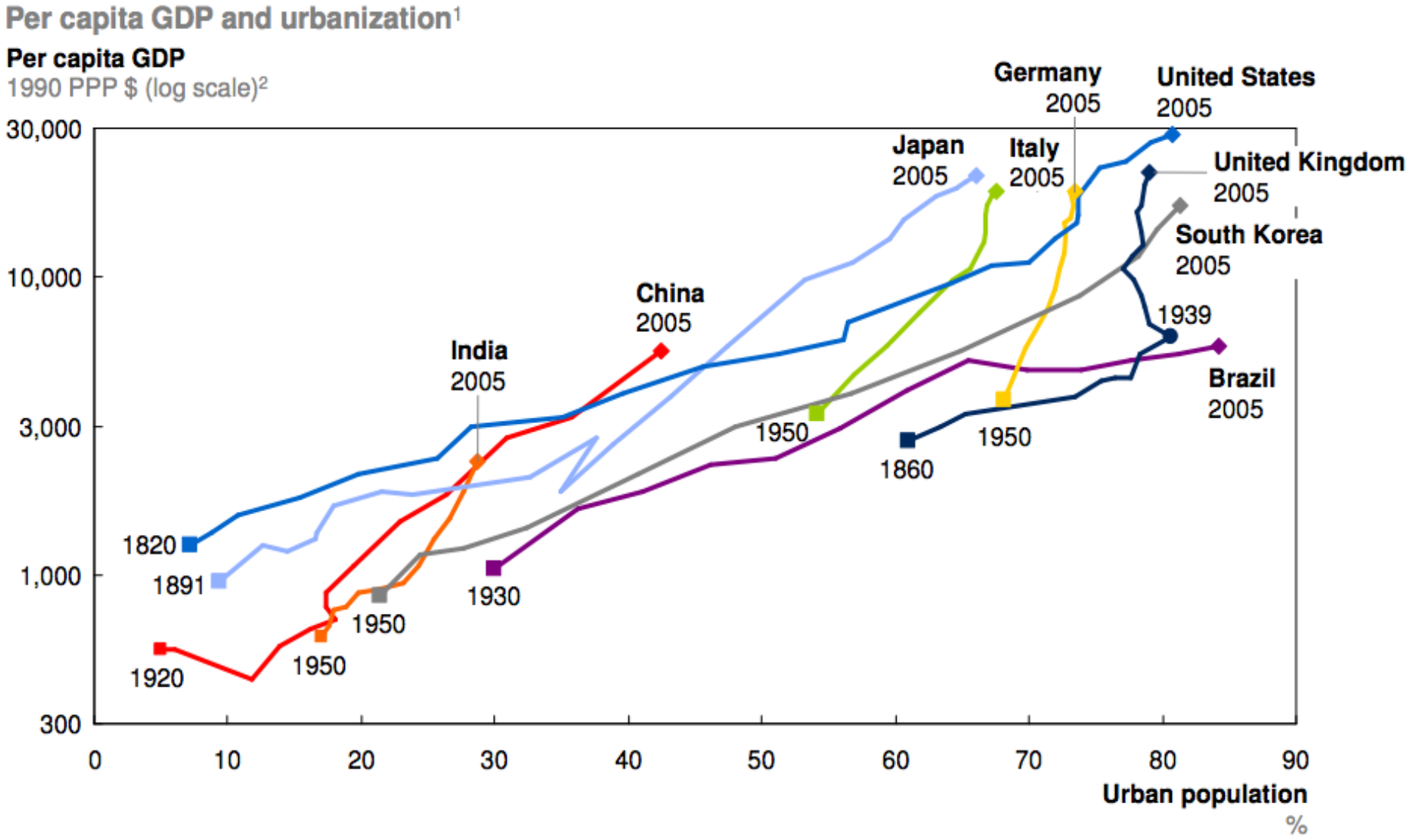
How do we **urbanise** the next billion people while cutting urban emissions per capita to 2 tonnes?

Cities and the global economy

Cities as hubs of growth

- People aggregate in cities to exploit efficiencies
- Agglomeration effects raise productivity as people and firms meet, share knowledge and innovate
- Developed countries have all undergone a rural to urban transition - with thriving cities at their heart
- GDP of the 100 largest Chinese cities is now over $6 trillion - more than Germany and France combined
- Cities are also hubs of regional economic growth

URBANISATION AND ECONOMIC DEVELOPMENT



1 Definition of urbanization varies by country; pre-1950 figures for the United Kingdom are estimated.
2 Historical per capita GDP series expressed in 1990 Geary-Khamis dollars, which reflect purchasing power parity.

SOURCE: McKinsey Global Institute, Population Division of the United Nations; Angus Maddison via Timetrics; Global Insight; Census reports of England and Wales; Honda in Steckel & Floud,1997; Bairoch, 1975

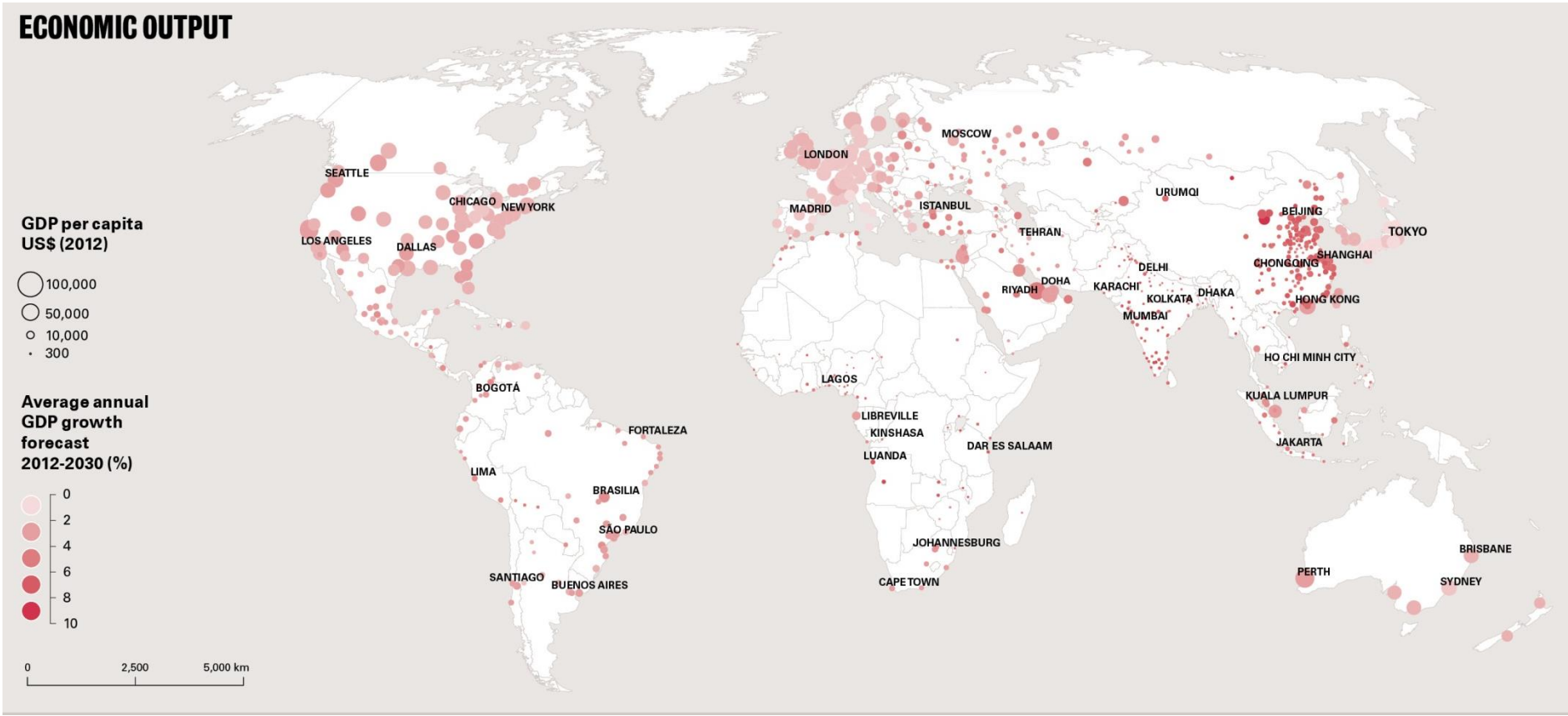
CITIES WILL BE CENTRAL TO GLOBAL GROWTH THIS CENTURY

Two forces will shape the 21st Century: urbanisation in China and technological innovation in the US

Joseph Stiglitz, Nobel Laureate in Economics

Urban population projected to grow by around 2.5 billion from 2015 - 2050

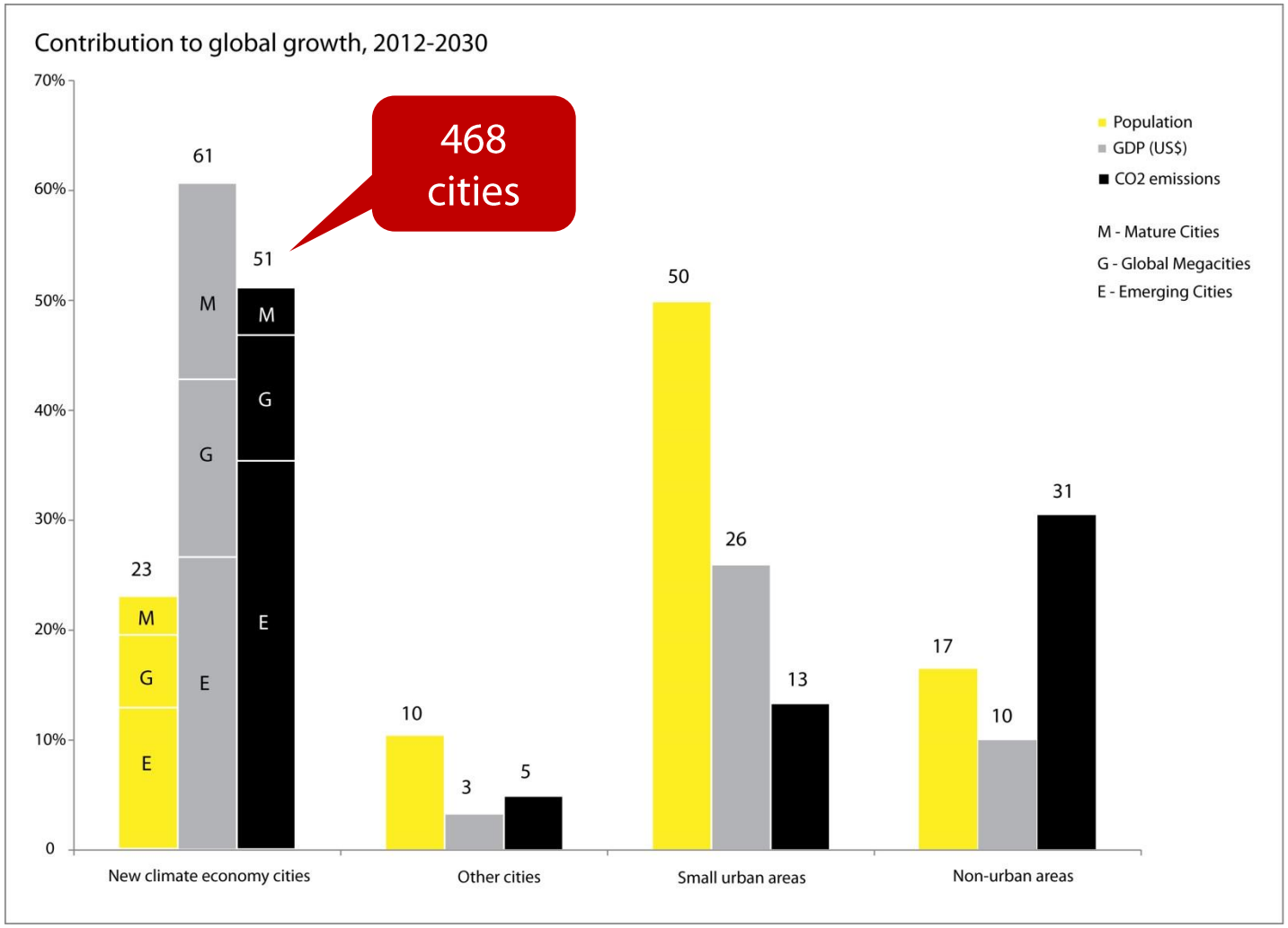
Our analysis shows that cities above 0.5 million will contribute around 64% of total global GDP growth out to 2030



Groups of cities crucial to global growth and emissions

Emerging Cities	Global Megacities	Mature Cities
Population: >1m	Population: >10m	Population: >1m
Income: 2K – 20K per capita	Income: >2K per capita	Income: >20K per capita
Very rapid growth	Strong growth	Variable growth
Large and growing industrial sector	Large financial/ business sector	Range of sector growth
e.g. Kunming, Pune, Ulaanbaatar, Puebla	e.g. Delhi, Beijing, Rio, Bangkok, Mexico DF, London, New York, Tokyo	e.g. Stockholm, Singapore, Detroit, San Francisco
291 cities	33 cities	144 cities

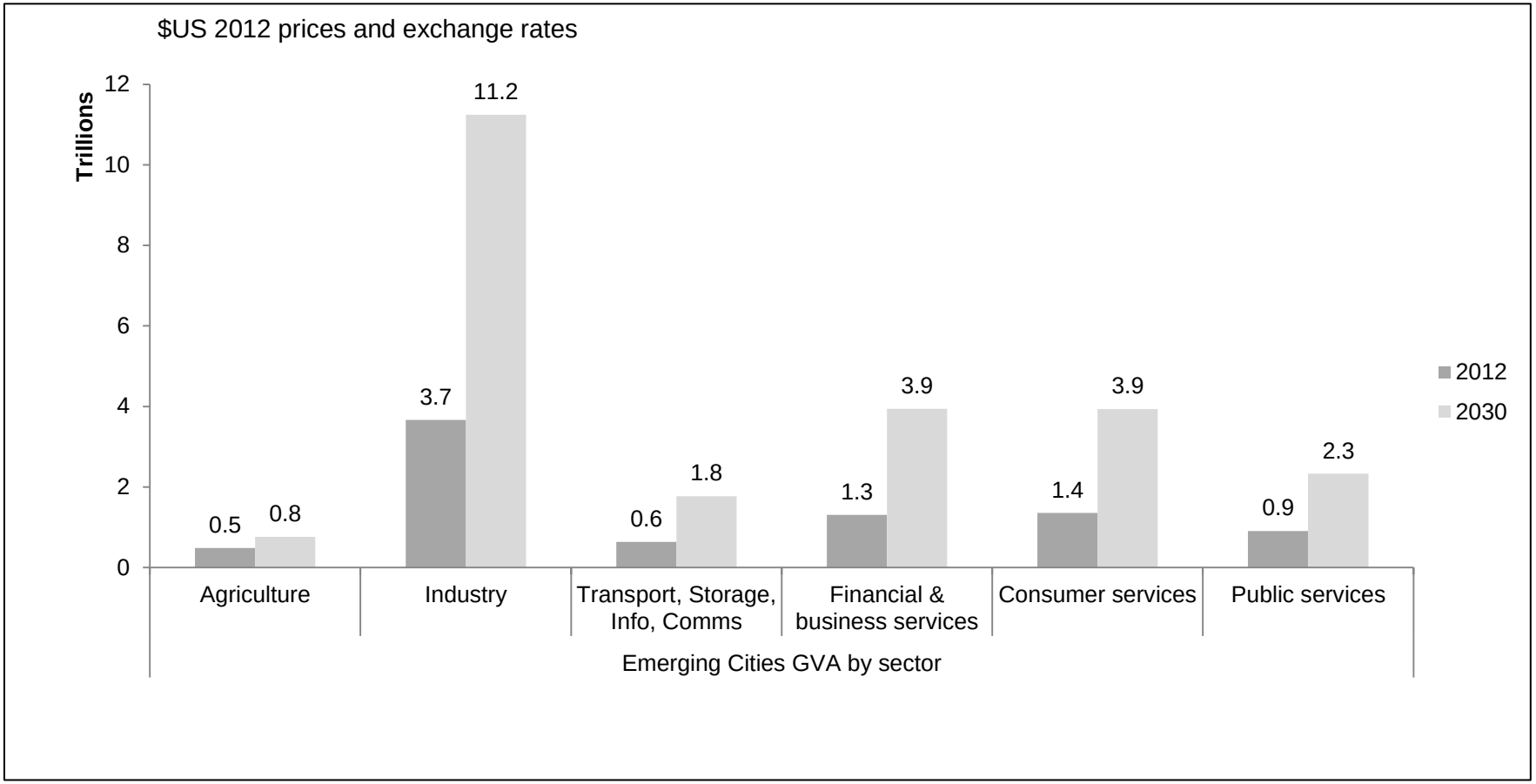
Just 468 cities will contribute over 60% of global GDP growth and over 50% of CO_2 emissions growth out to 2030



Source: Floater, Rode et al. 2014 *Cities and the New Climate Economy: the transformative role of global urban growth.* LSE / Oxford Economics. Projections under business as usual scenario.

Growth led by Emerging Cities with high carbon industry

Gross value added across sectors, 2012 and 2030



Source: Floater, Rode et al. 2014 *Cities and the New Climate Economy: the transformative role of global urban growth.* LSE / Oxford Economics

Costs

poorly managed urban growth

Urban policy choices today will determine the world of tomorrow

- Policy choices today will lock in the urban form of cities for the future
- Poor urban management could create spatial form and infrastructure that locks in lower productivity, higher emissions and social costs for centuries
- The risk is particularly high for fast-growing Emerging Cities – around 75% of India's buildings and infrastructure in 2050 has yet to be built

Much of today's urbanisation is poorly managed, potentially locking in economic and climate risks for centuries

Costs of poorly managed urban growth

1. Infrastructure gap	$1 trillion investment gap annually leaving many cities without basic services
2. Traffic congestion	Costs of 2-5% of GDP in Asia and Latin America. Up to 15% of GDP in Beijing
3. Air pollution	7 million premature deaths in 2012
4. Energy inefficiencies	60% of growth in energy consumption due to urban sprawl
5. Social exclusion	Informal settlements projected to increase
6. Other socio-economic costs	Around half a million road deaths in cities
7. Embedded emissions from urban construction	Urban sprawl requires more concrete and steel – could lead to 470 GT of CO2
8. Operational emissions	CO2 from transport could double by 2050

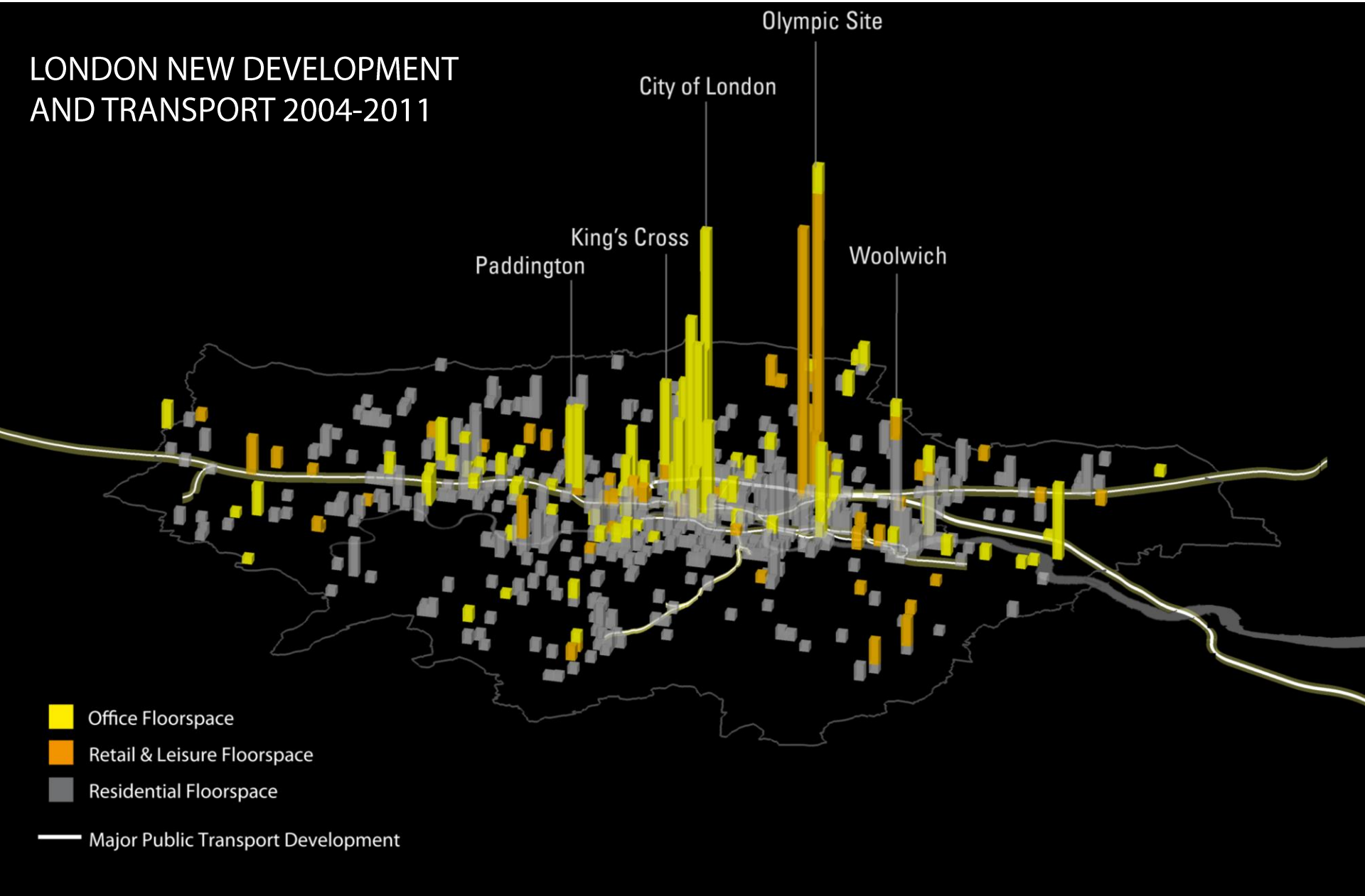
The 3C model

well managed urban growth

The 3C model: three pillars of well-managed urban growth

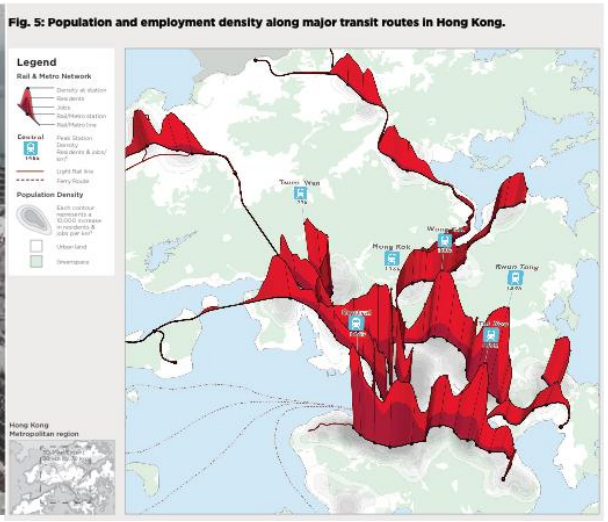
1. COMPACT urban growth	Managed expansion, higher densities, mixed neighbourhoods, walkable and human scale, re-development of brownfield sites, green space
2. CONNECTED infrastructure	Smarter public transport, cycling, car sharing, traffic information, electric cars, smart grids, lighting technologies, efficient buildings
3. COORDINATED governance	Effective and accountable institutions delivering integrated policy programmes

1. COMPACT urban growth

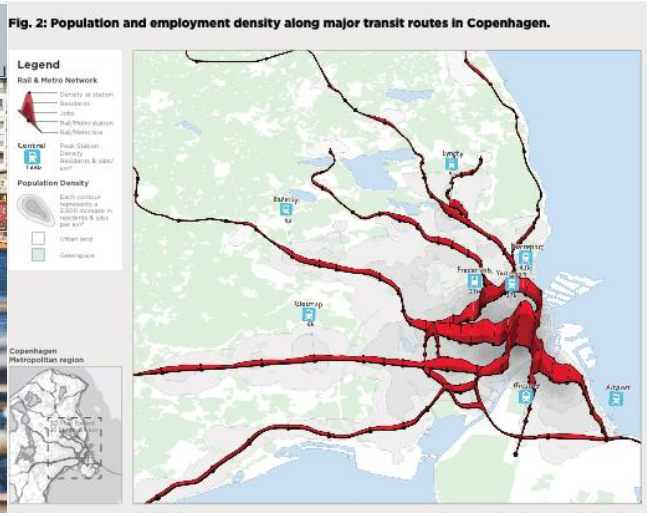


2. CONNECTED infrastructure

Hong Kong



Copenhagen



Transport costs

Copenhagen: 4% GDP

Houston: 14% GDP

3. COORDINATED governance

- Multilevel governance – national/regional policies for supporting well-planned urban growth
- City leadership and fiscal control
- Transparency and accountability – e governance
- Integrated policy programmes

Benefits of the 3C model

Raised productivity	More compact urban growth in China could lead to raised productivity
Reduced infrastructure gap	$200 billion could be saved each year in the US from reduced subsidies in sprawl
Transport cost savings	Time and cost savings of 20 to 50% from BRT in Buenos Aires and Lagos
Co-benefits	E.g. reduced congestion, increased health, enhanced energy security
Health benefits	More compact urban growth could reduce PM pollutants by 44% in Ho Chi Minh
Lower carbon emissions	Global transport emissions could be reduced by around 1.5 billion tonnes

Cities taking a lead

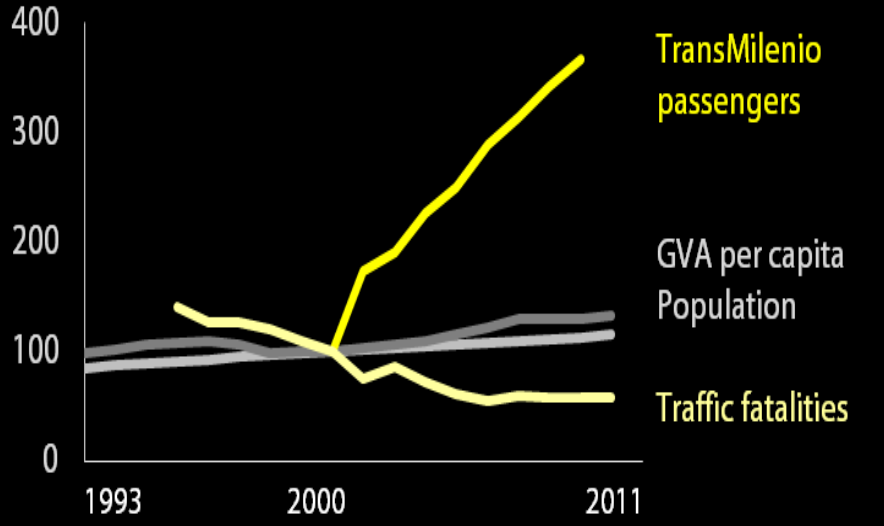

BOGOTA


COPENHAGEN

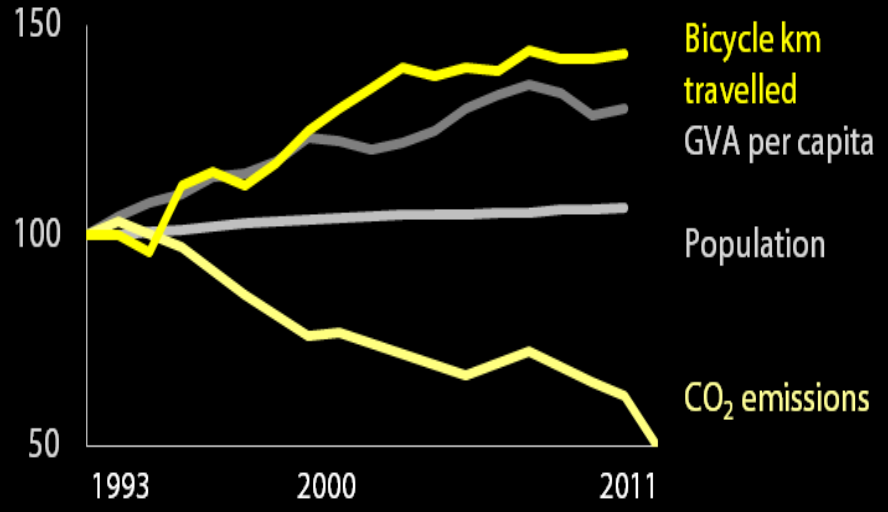

SINGAPORE


NEW YORK

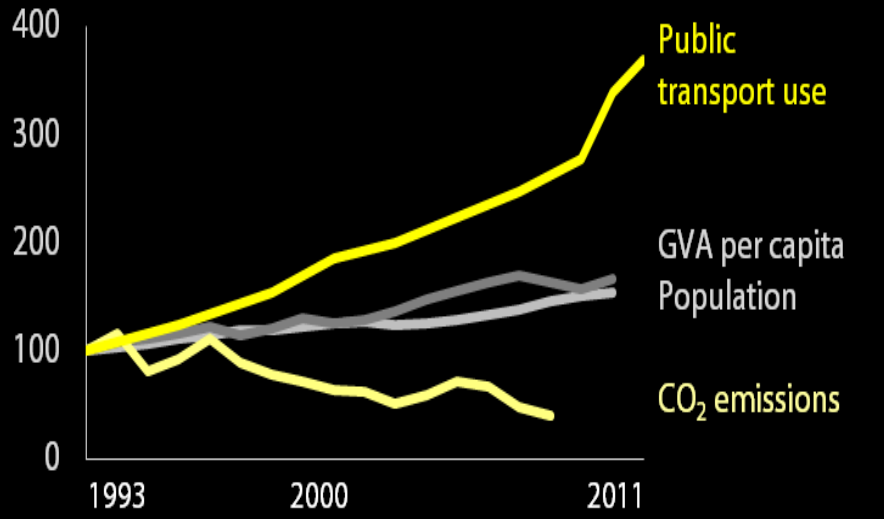
PATTERNS OF CHANGE



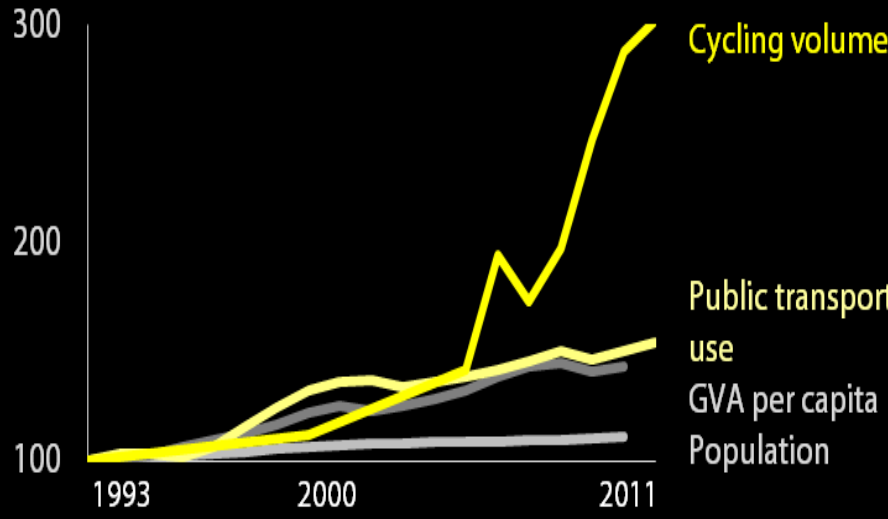
BOGOTA



COPENHAGEN



SINGAPORE



NEW YORK

RECOMMENDATIONS OF GLOBAL COMMISSION (1)

1. BETTER URBANISATION

Make better planned urban development a central element of national economic development strategies

2. FISCAL AUTONOMY

Consider greater fiscal autonomy for cities to unleash investment in smarter urban infrastructure

3. PRICE EXTERNALITIES

Eliminate fuel subsidies and other subsidies to sprawl and introduce mechanisms to price externalities such as traffic congestion

RECOMMENDATIONS OF GLOBAL COMMISSION (2)

4. REDIRECT INVESTMENT

Redirect existing infrastructure funding towards more compact, connected and coordinated urban infrastructure

5. PLANNING AND GOVERNANCE

Strengthen role of strategic planning at national, regional, and city levels incl. setting up integrated land use and transport authorities

6. FINANCING MODELS

Work in partnership with the private sector at new funding vehicles to unlock capital for mass transit and other smarter infrastructure

LSE Cities
AN INTERNATIONAL CENTRE SUPPORTED BY DEUTSCHE BANK

LSE Works: LSE Cities public lecture

Better Growth, Better Climate: cities and the new climate economy

Graham Floater
Director, NCE Cities Research Programme
Principal Research Fellow, LSE

Philipp Rode
Executive Director, LSE Cities
Co-Director, NCE Cities Research Programme

Dimitri Zenghelis
Co-Head, Climate Policy Grantham Research Institute, LSE

Professor Fran Tonkiss
Professor of Sociology, Academic Director of the Cities Programme, LSE Cities
Chair

Suggested hashtag for Twitter users: **#LSEworks**

LSE events

CPD CERTIFIED
The CPD Certification Service