

Survey of the Built Environment Professions, 2020



Authors

Commonwealth Association of Architects
Commonwealth Association of Planners
Commonwealth Association of Surveyors and Land Economists
Commonwealth Engineers Council

Commentators

- Architects Registration Council, Botswana
- Institute of Architects Bangladesh
- Pakistan Council of Architects and Town Planners
- Sierra Leone Urban Research Centre
- Commonwealth Local Government Forum
- Canberra University, Australia
- International Growth Centre, Uganda
- Oxford University, Kellogg College, UK
- UCL Energy Institute, UK
- Water Aid, UK

Supporters

- Commonwealth Secretariat
- The Prince of Wales Charitable Fund

UN Sustainable Development Goals, 2030



UN Sustainable Development Goals, 2030

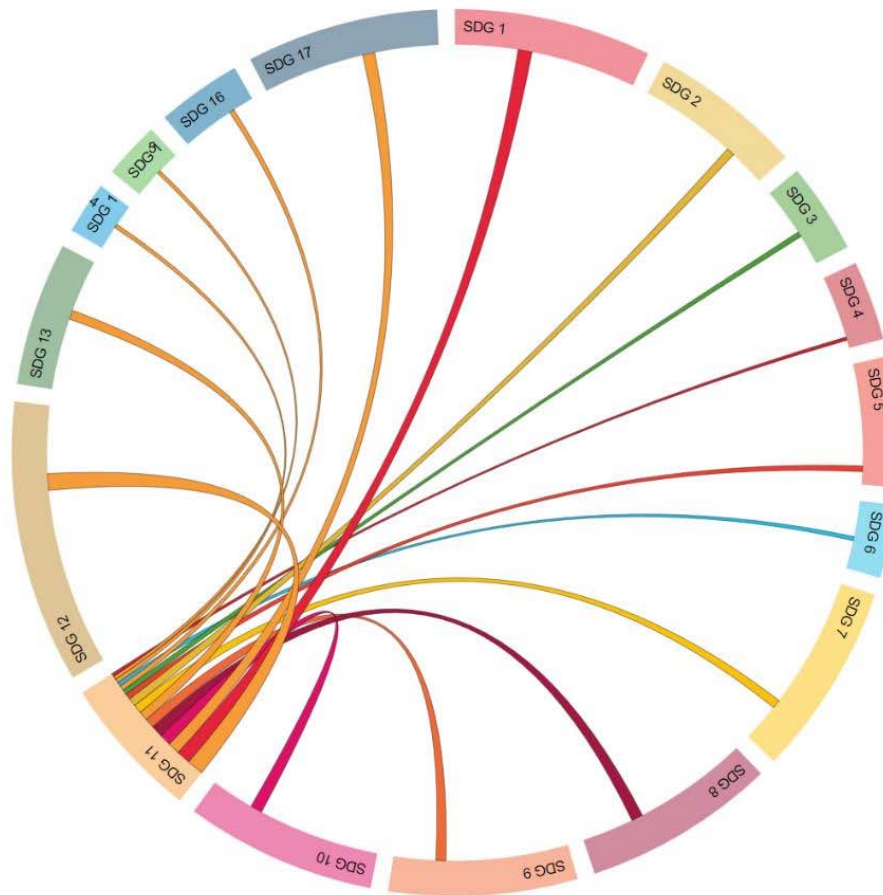


Sustainable Development Goals

1. No Poverty
2. Zero Hunger
3. Good Health and Well-Being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals

Source: 'Centre for Innovation', Leiden University

UN Sustainable Development Goals, 2030



Source: 'Centre for Innovation', Leiden University

Sustainable Development Goals

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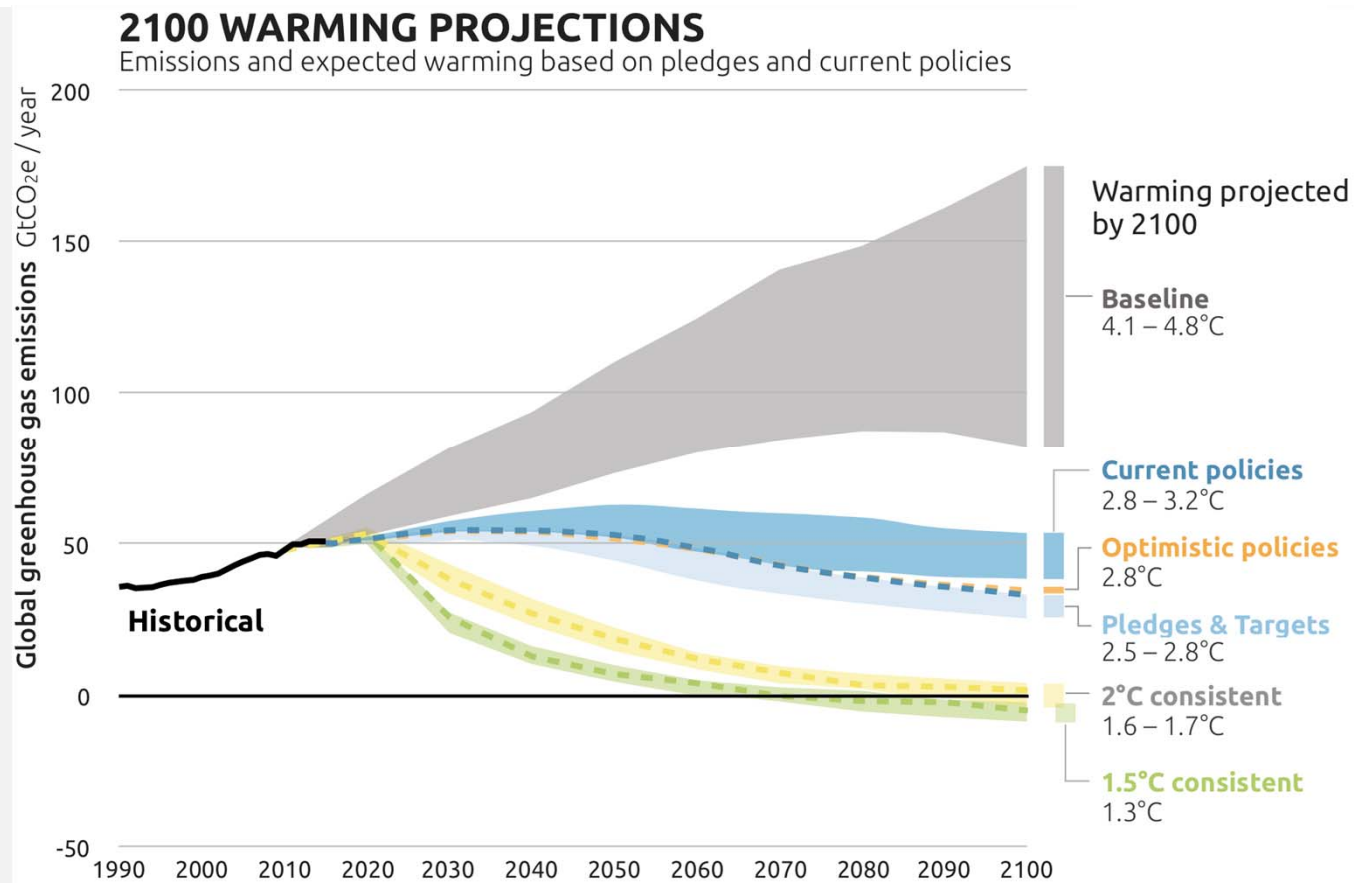
UN Sustainable Development Goals, 2030

65% of the 169 targets underlying the 17 Goals are linked to territorial and urban development

1. FIN DE LA POBREZA	2. HUNTRIE CERO	3. SALUD Y BIENESTAR	4. EDUCACIÓN DE CALIDAD	5. EQUITAD DE GÉNERO	6. AGUA LIMPIA Y SANEAMIENTO	7. ENERGÍA ASESORABLE Y LIMPIA	8. TRABAJO DECENTE Y CRECIMIENTO ECONÓMICO	9. INDUSTRIA, INNOVACIÓN E INFRAESTRUCTURA	10. REDUCCIÓN DE LAS DESIGUALDADES	11. CIUDADES Y COMUNIDADES SOSTENIBLES	12. PRODUCCIÓN Y CONSUMO RESPONSABLES	13. ACCIÓN POR EL CLIMA	14. VIDA ACUÁTICA	15. VIDA DE ECOSISTEMAS TERRESTRES	16. PAZ, JUSTICIA E INSTITUCIONES SÓLIDAS	17. ALIANZAS PARA LOGRAR LOS OBJETIVOS
1.1	2.1	3.1	4.1	5.1	6.1	7.1	8.1	9.1	10.1	11.1	12.1	13.1	14.1	15.1	16.1	17.1
1.2	2.2	3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2	12.2	13.2	14.2	15.2	16.2	17.2
1.3	2.3	3.3	4.3	5.3	6.3	7.3	8.3	9.3	10.3	11.3	12.3	13.3	14.3	15.3	16.3	17.3
1.4	2.4	3.4	4.4	5.4	6.4	7a	8.4	9.4	10.4	11.4	12.4	13a	14.4	15.4	16.4	17.4
1.5	2.5	3.5	4.5	5.5	6.5	7b	8.5	9.5	10.5	11.5	12.5	13b	14.5	15.5	16.5	17.5
1a	2a	3.6	4.5	5.6	6.6		8.6	9a	10.6	11.6	12.6		14.6	15.6	16.6	17.6
1b	2b	3.7	4.6	5a	6a		8.7	9b	10.7	11.7	12.7		14.7	15.7	16.7	17.7
		3.8	4a	5b	6b		8.8	9c	10a	11a	12.8		14a	15.8	16.8	17.8
		3.9	4b	5c			8.9		10b	11b	12a		14b	15.9	16.9	17.9
		3a	4c				8.10		10c	11c	12b		14c	15a	16.10	17.10
		3b					8a				12c			15b	16a	17.11
		3c					8b							15c	16b	17.12
		3d														17.13
																17.14
																17.15
																17.16
																17.17
																17.18
																17.19

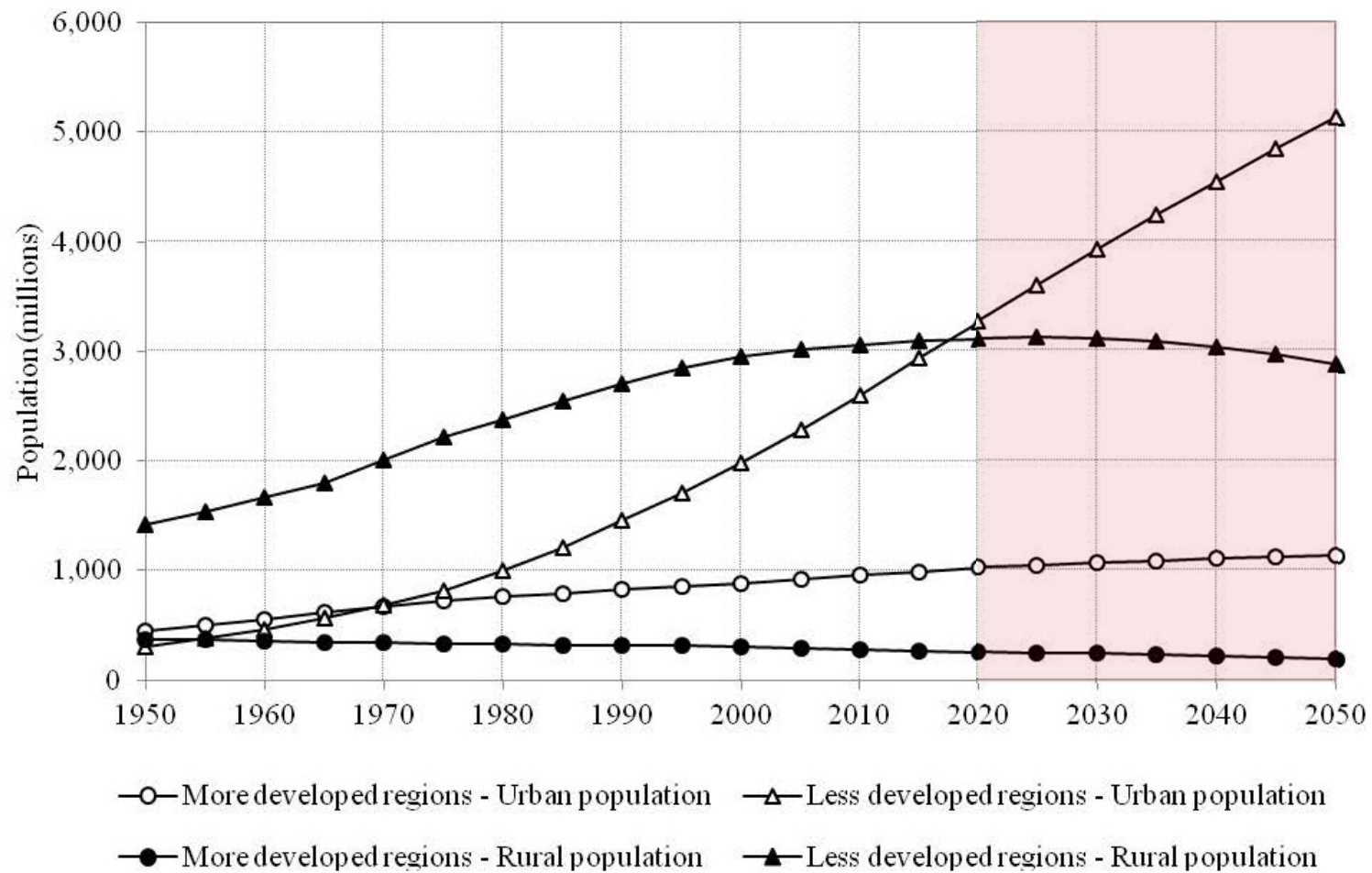
Source: 'Financing Sustainable Urbanisation', UN Habitat, February 2020

Climate Change

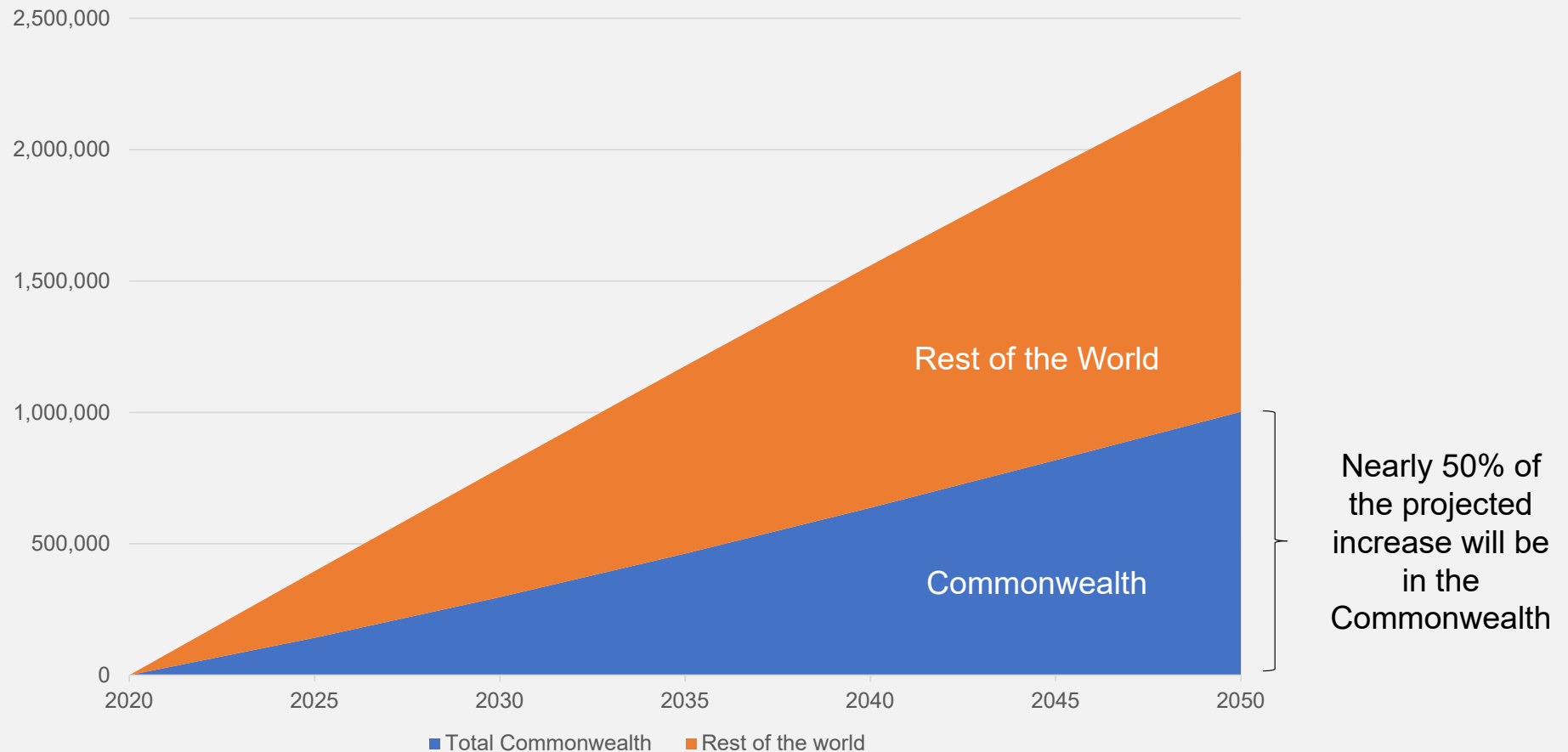


Source: Climate Action Tracker, December 2019 Update

UN Habitat World Urbanisation Prospects

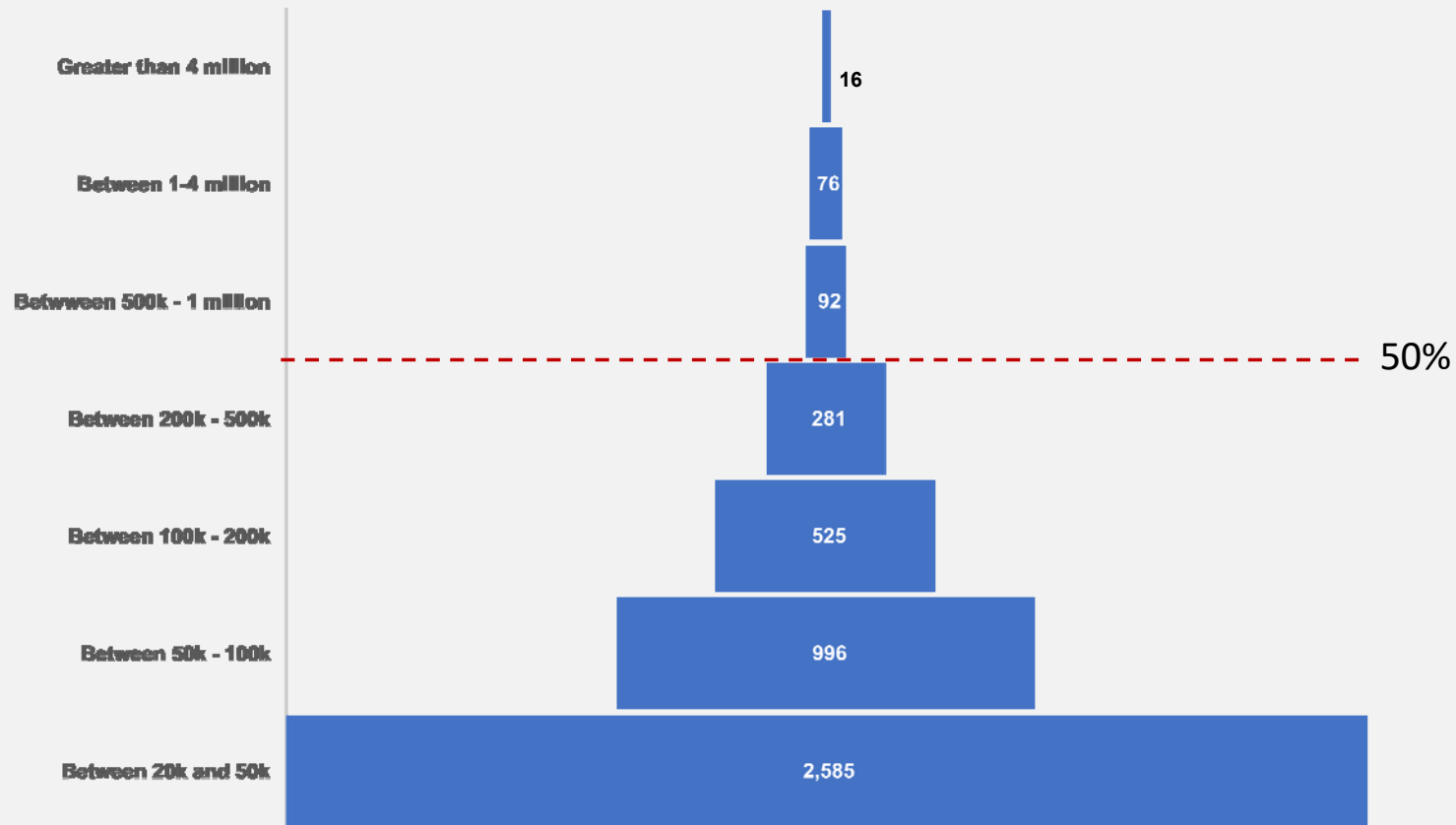


UN Habitat World Urbanisation Prospects



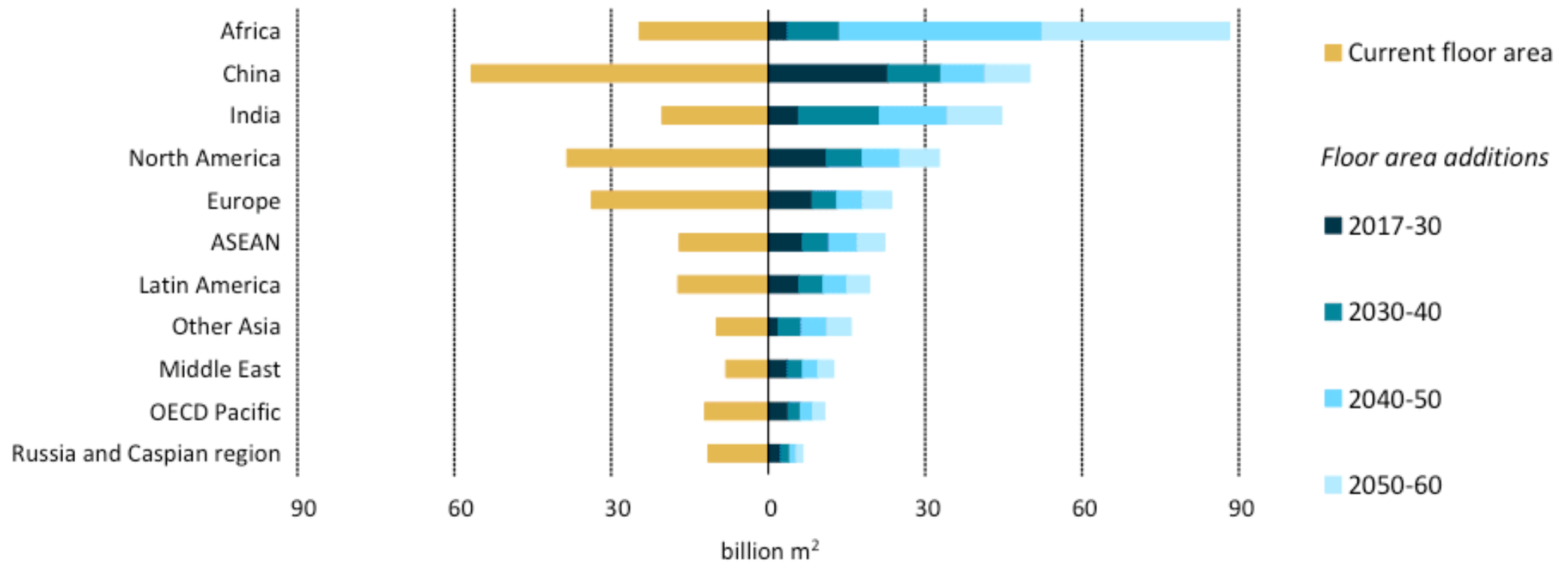
Source: 'World Urbanisation Prospects, 2018', UN Habitat

Secondary Cities, the Hidden Story



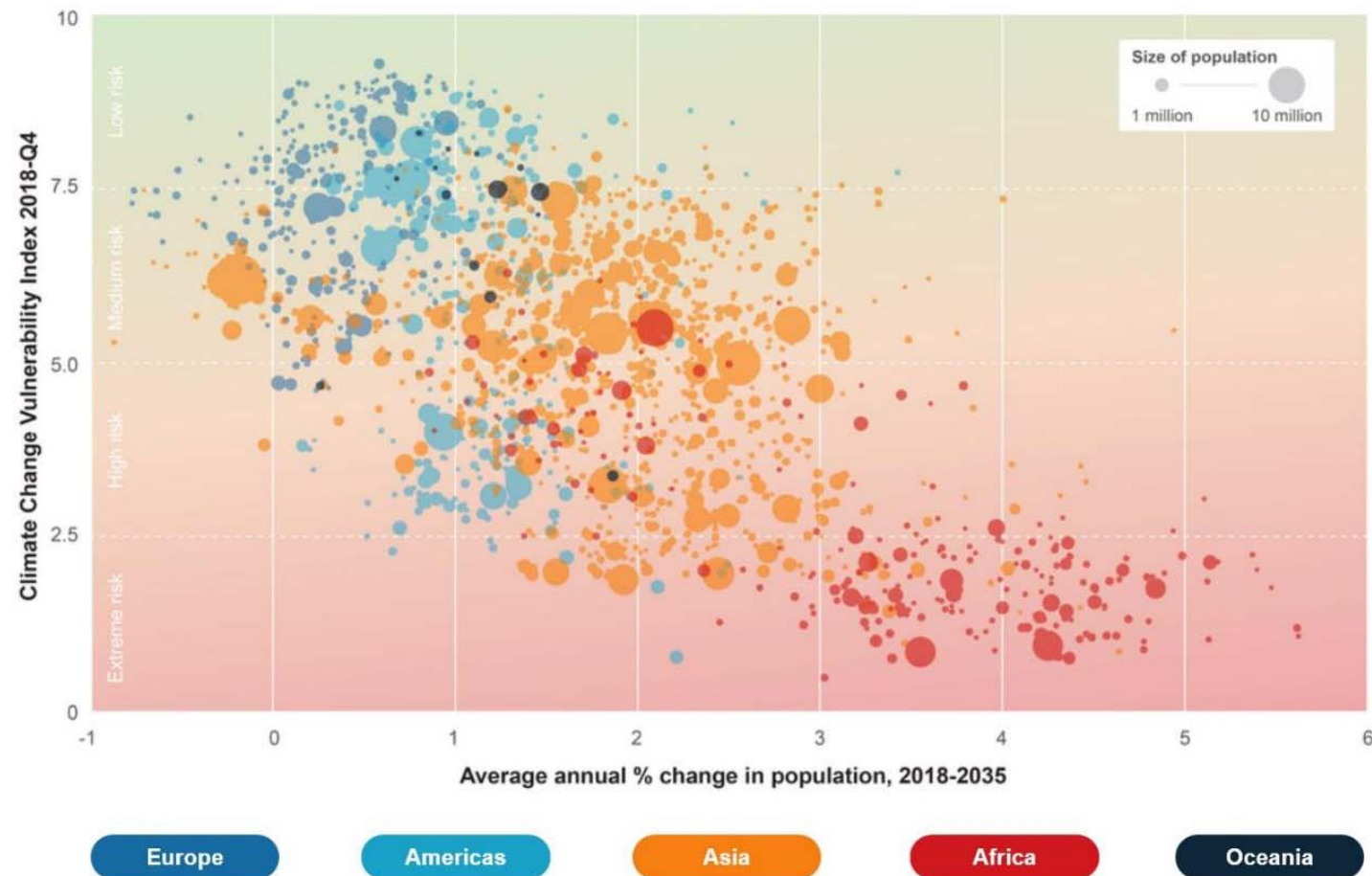
Source: NYU Marron Institute of Urban Management, Nicolas Galarza, 2000

Floor area additions by 2060



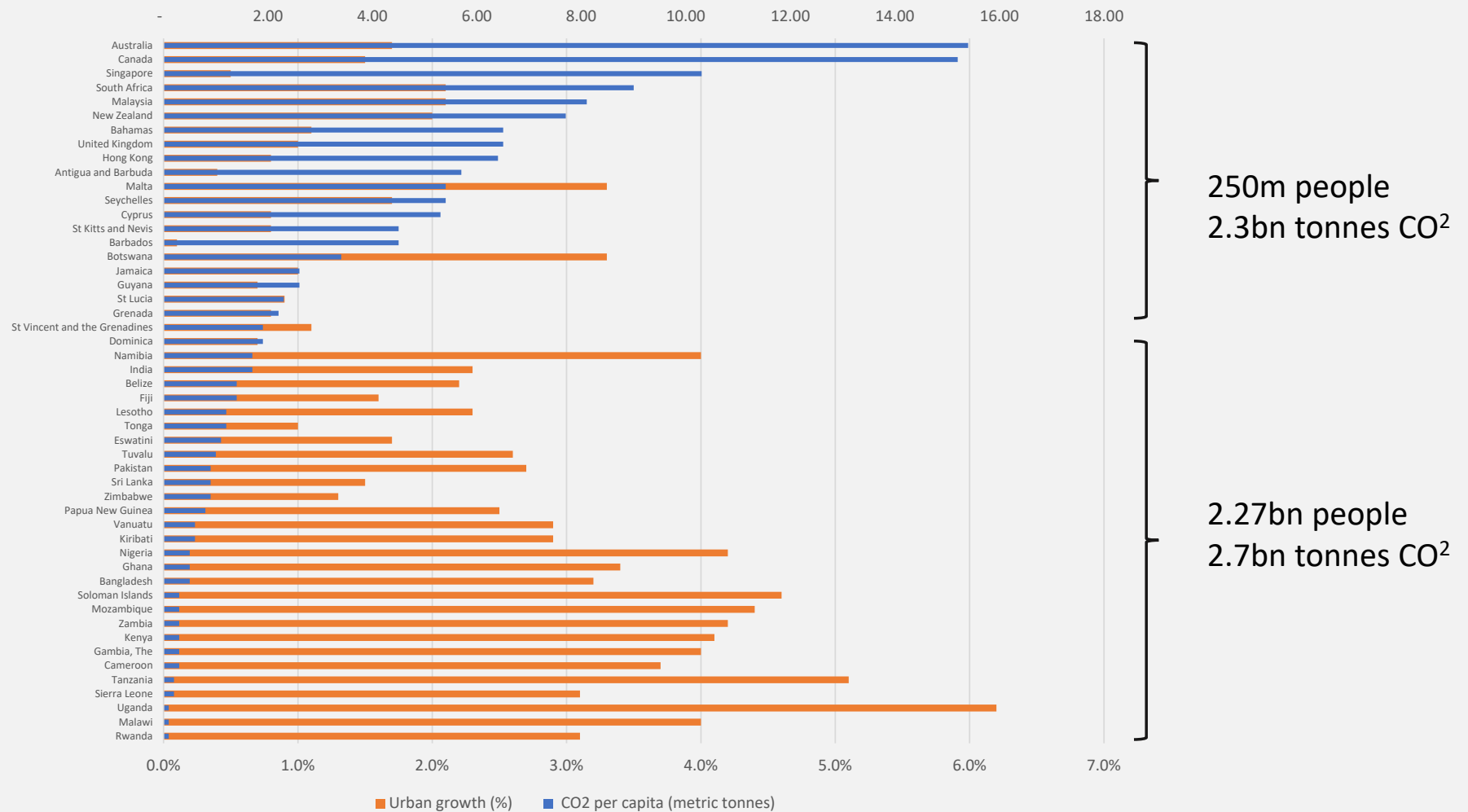
Source: 'Energy Technology Perspectives', International Energy Agency/OECD, 2017

Climate Change Risk

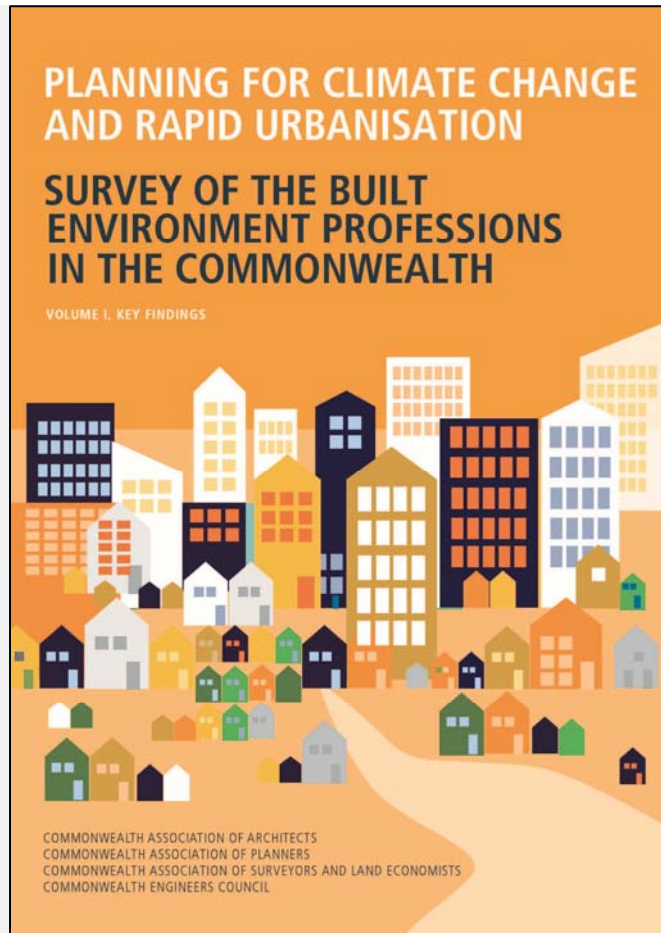


Source: 'Climate Change Risks', Verisk Maplecroft 2018

CO₂ per Capita v Rates of Urbanisation



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- Commonwealth Association of Surveyors and Land Economists
- Commonwealth Engineers Council

Contributors, by Discipline (61)

- **Architecture:** 29
- **Engineering:** 10
- **Surveying:** 5
- **Town Planning:** 17

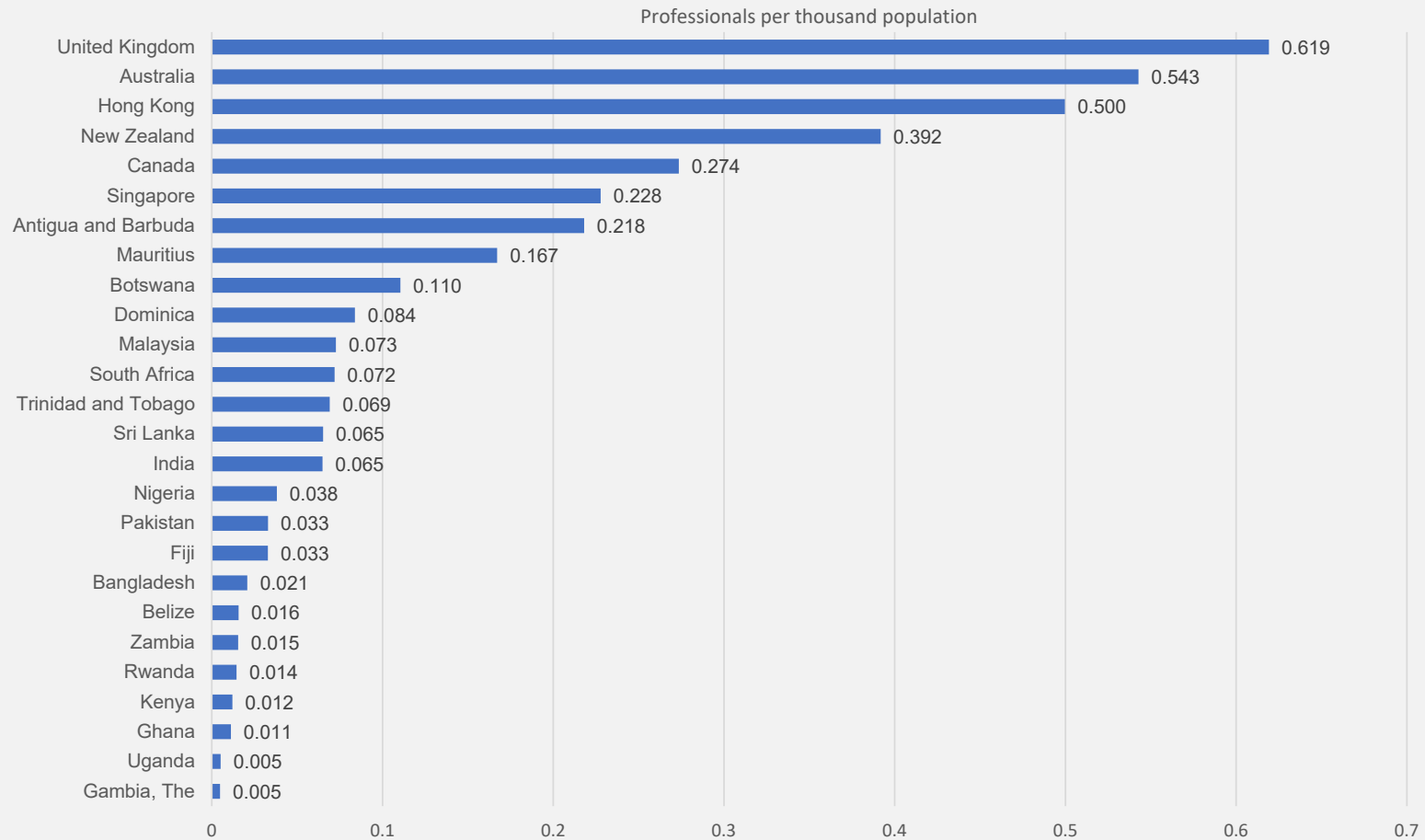
Contributors, by Country (31)

- **Africa** (13): Botswana, The Gambia, Ghana, Kenya, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Zambia
- **Asia** (6): Bangladesh, India, Malaysia, Pakistan, Singapore, Sri Lanka
- **Caribbean and Americas** (7): Antigua and Barbuda, Barbados, Belize, Canada, Dominica, Grenada, Trinidad and Tobago
- **Europe** (3): Cyprus, Malta, United Kingdom
- **Pacific** (3): Australia, Fiji, New Zealand

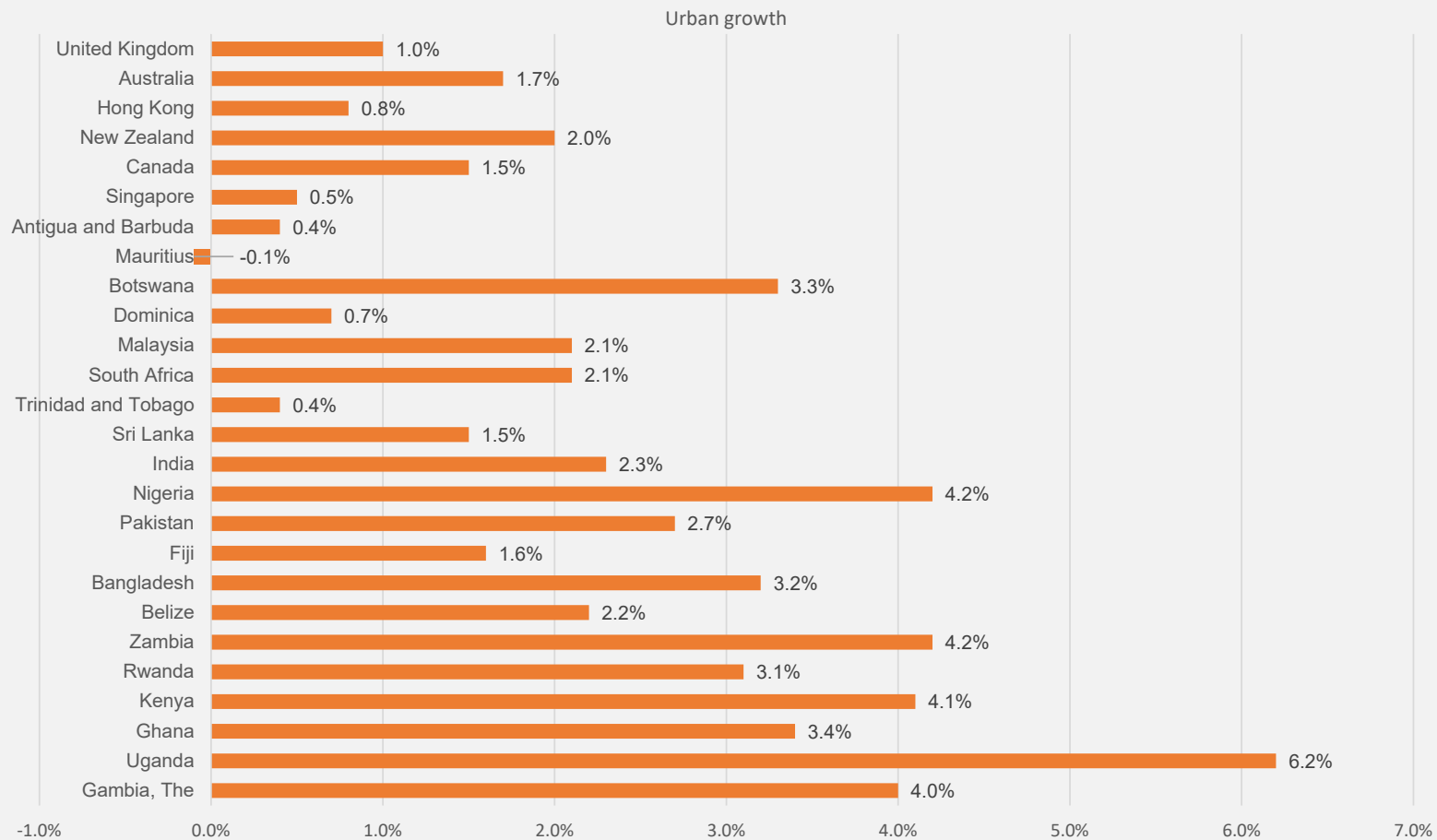
Built Environment Professions in the Commonwealth

Country	Architectural Institutes	Engineering Institutes	Town Planning Institutes	Surveying Institutes
Antigua and Barbuda	The Antigua & Barbuda Institute of Architects	Association of Professional Engineers Antigua and Barbuda	Unable to locate an institute	Unable to locate an institute
Australia	Australian Institute of Architects	Engineers Australia	Planning Institute of Australia	Australian Institute of Quantity Surveyors
Bahamas	Institute of Bahamian Architects	Professional Engineers Board	Unable to locate an institute	Bahamas Association of Land Surveyors
Bangladesh	Institute of Architects Bangladesh	The Institution of Engineers, Bangladesh	Bangladesh Institute of Planners	Unable to locate an institute
Barbados	Barbados Institute of Architects	Barbados Association of Professional Engineers	Barbados Town Planning Society	Barbados Association of Quantity Surveyors
Belize	Association of Professional Architects of Belize	Association of Professional Engineers of Belize	Belize Association of Planners	Unable to locate an institute
Botswana	Architects Association of Botswana	Botswana Institution of Engineers	Pula Institute of Town Planners	Botswana Institute of Development Professions
Brunei Darussalam	Pertubuhan Ukur Jurutera Dan Arkitek	Pertubuhan Ukur	Town and Country Planning Dept, Ministry of Development	Unable to locate an institute
Cameroon	Ordre National Des Architectes du Cameroun	Cameroon Society of Engineers	Unable to locate an institute	Unable to locate an institute
Canada	Royal Architectural Institute of Canada	The Engineering Institute of Canada	Canadian Institute of Planners	Canadian Institute of Quantity Surveyors
Cyprus	Cyprus Civil Engineers and Architects Association	Cyprus Engineering Society	Cyprus Association of Town Planners	Unable to locate an institute
Dominica	Dominica Society of Architects	Dominica Association of Professional Engineers	Planners Association of Dominica	Unable to locate an institute
Eswatini	Swaziland Association of Architects, Engineers and Surveyors	Swaziland Association of Engineers, Architects & surveyors	Unable to locate an institute	Unable to locate an institute
Fiji	Fiji Association of Architects	The Fiji Institution of Engineers	Fiji Planners Association	Fiji Institute of Surveors
Gambia, The	Association of Gambian Architects	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute
Ghana	Ghana Institute of Architects	Ghana Institution of Engineers	Ghana Institute of Planners	Ghana Institution of Surveyors
Grenada	Grenada Society of Architects	Grenada Institute of Professional Engineers	Unable to locate an institute	Unable to locate an institute
Guyana	Guyana Institute of Architects	Guyana Association of Professional Engineers	Unable to locate an institute	Unable to locate an institute
India	Indian Institute of Architects	Institution of Engineers India	Institute of Town Planners India	Indian Institute of Quantity Surveyors
Jamaica	Jamaican Institute of Architects	Jamaica Institution of Engineers	Jamaican Institute of Planners	Jamaican Institute of Quantity Surveyors
Kenya	Architectural Association of Kenya	The Institution of Engineers of Kenya	Kenya Institute of Planners	Institution of Quantity Surveyors of Kenya
Kiribati	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute
Lesotho	Lesotho Association of Construction Industry Consultants	Lesotho Association of Engineers	Unable to locate an institute	Unable to locate an institute
Malawi	Malawi Institute of Architects	Malawi Institution of Engineers	Malawi Institute of Physical Planners	Surveyors Institute of Malawi
Malaysia	Pertubuhan Akitek Malaysia	The Institution of Engineers Malaysia	Malaysian Institute of Planners	Royal Institution of Surveyors Malaysia
Maldives	Architects Association Maldives	Association of Civil Engineers	Unable to locate an institute	Unable to locate an institute
Malta	Kamra Tal-Periti, Malta	Malta Group of Professional Engineering Institutions	Malta Chamber of Planners	Land Surveyors of Malta
Mauritius	Mauritius Association of Architects	Institution of Engineers Mauritius	Town Planning Association of Mauritius	Unable to locate an institute
Mozambique	Unable to locate an institute	Ordem dos Engenheiros de Mocambique	Unable to locate an institute	Unable to locate an institute
Namibia	Namibia Institute of Architects	Engineering Professions Association of Namibia	Namibia Council of Town and Regional Planners	Unable to locate an institute
Nauru	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute
New Zealand	New Zealand Institute of Architects	Engineering New Zealand	New Zealand Planning Institute	New Zealand Institute of Surveyors
Nigeria	Nigerian Institute of Architects	Nigerian Institution of Engineers	Nigerian Institute of Town Planners	Nigerian Institute of Quantity Surveyors
Pakistan	Institute of Architects Pakistan	The Institution of Engineers, Pakistan	Institute of Planners Pakistan	Survey of Pakistan
Papua New Guinea	Papua New Guinea Institute of Architects	Institution of Engineers, Papua New Guinea	Unable to locate an institute	Association of Surveyors of Papua New Guinea
Rwanda	Rwanda Institute of Architects	Institution of Engineers Rwanda	Rwanda Urban Planning Institute*	Rwanda Institute of Real Property Valuers
Saint Kitts and Nevis	St.Kitts-Nevis Institute of Architects	St. Kitts/Nevis Association of Professional Engineers	Unable to locate an institute	Unable to locate an institute
Saint Lucia	St Lucia Institute of Architects	Association of Professional Engineers of St. Lucia	Saint Lucia Institute of Land Use Planners	Institute of Surveyors of Saint Lucia
Samoa	Unable to locate an institute	Institution of Professional Engineers Samoa	Unable to locate an institute	Unable to locate an institute
Seychelles	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute
Sierra Leone	Sierra Leone Institute of Architects	Sierra Leone Institution of Engineers	Unable to locate an institute	Unable to locate an institute
Singapore	Singapore Institute of Architects	Institution of Engineers Singapore	Singapore Institute of Planners	Singapore Institute of Surveyors and Valuers
Solomon Islands	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute
South Africa	South African Institute of Architects	The South African Institution Of Civil Engineering	South African Planning Institute	Association of South African Quantity Surveyors
Sri Lanka	Sri Lanka Institute of Architects	The Institution of Engineers, Sri Lanka	Institute of Town Planners Sri Lanka	Institution of Quantity Surveyors Sri Lanka
St Vincent and The Grenadines	St Vincent & the Grenadines Institute of Architects	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute
Tanzania	Architects Association of Tanzania	Institution of Engineers Tanzania	Tanzania Association of Planners	Institution of Surveyors Tanzania
Tonga	Unable to locate an institute	South Pacific Engineers Association	Unable to locate an institute	Unable to locate an institute
Trinidad and Tobago	Trinidad and Tobago Institute of Architects	The Association of Professional Engineers of Trinidad and Tobago	Trinidad and Tobago Society of Planners	Institution of Surveyors of Trindad and Tobago
Tuvalu	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute	Unable to locate an institute
Uganda	Uganda Society of Architects	Uganda Institution of Professional Engineers	Uganda Institute of Physical Planners	Institution of Surveyors of Uganda
United Kingdom	Royal Institute of British Architects	Institution of Civil Engineers	Royal Town Planning Institute	Royal Institution of Quantity Surveyors
Vanuatu	Unable to locate an institute	South Pacific Engineers Association	Unable to locate an institute	Unable to locate an institute
Zambia	Zambia Institute of Architects	The Engineering Institution of Zambia	Zambia Institute of Planners	Institution of Surveyors Zambia
Totals	45 Architectural Institutes	47 Engineering Institutes	32 Town Planning Institutes	28 Surveying Institutes

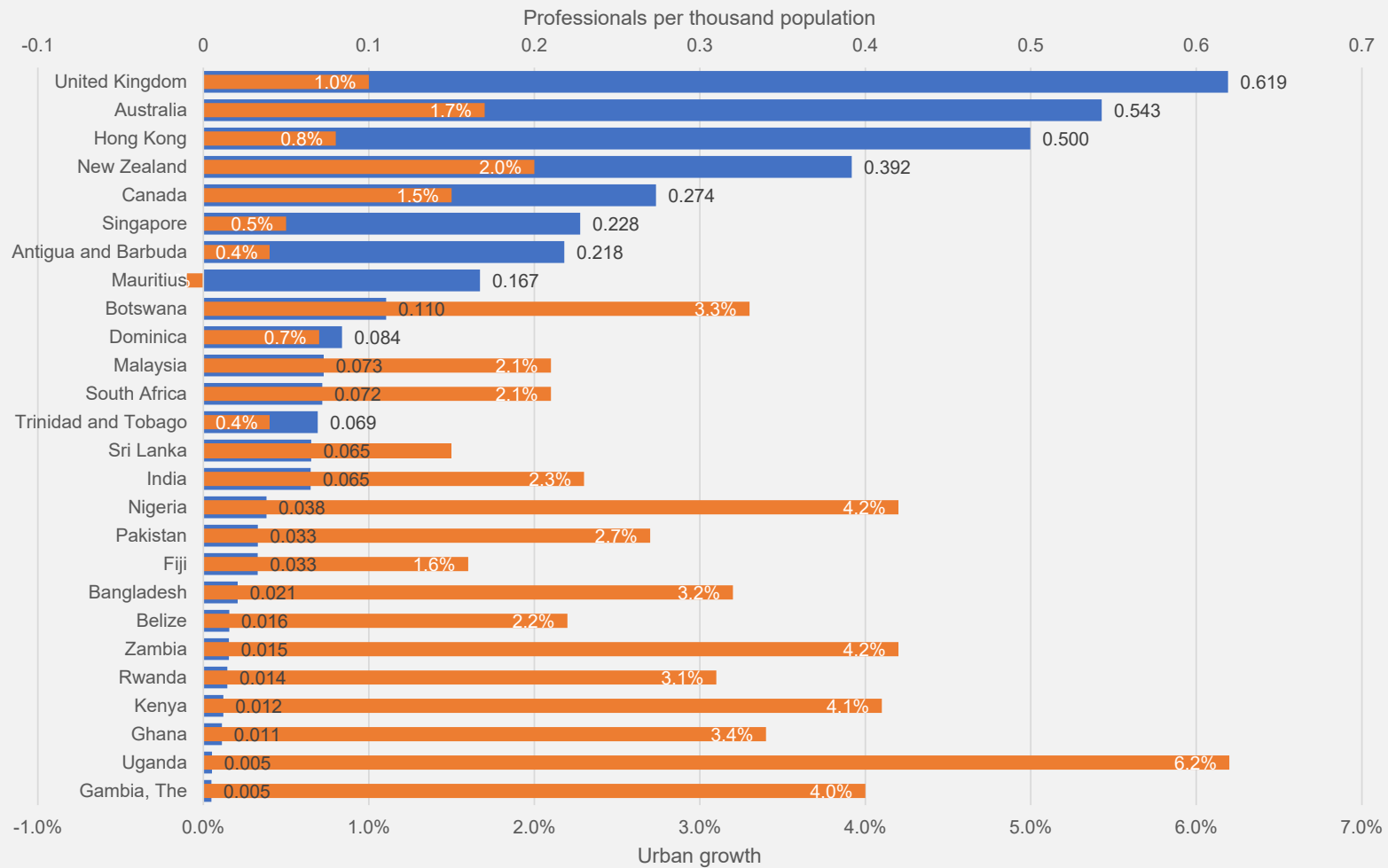
Ratio of Architects v Rates of Urbanisation, 2019



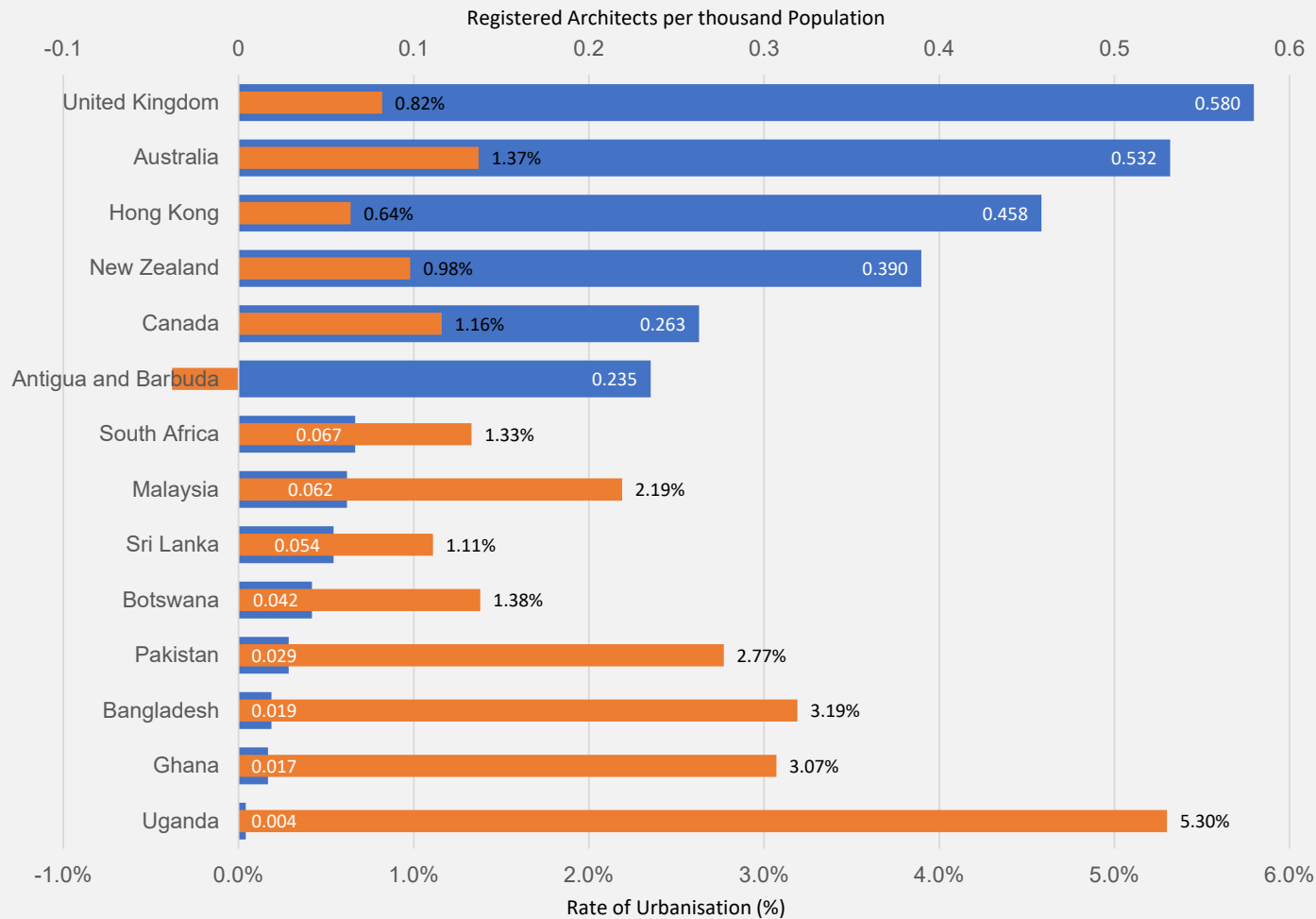
Ratio of Architects v Rates of Urbanisation, 2019



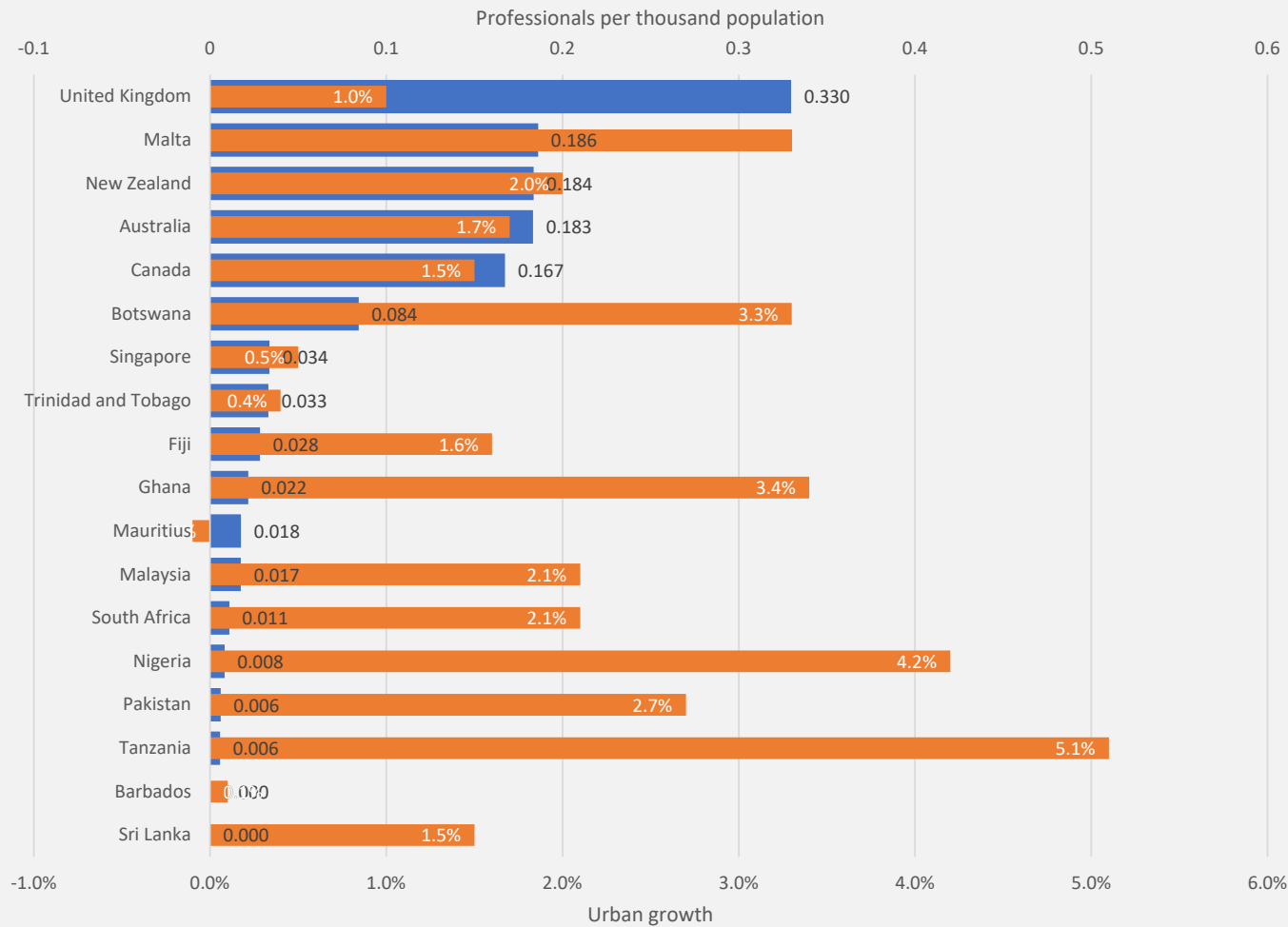
Ratio of Architects v Rates of Urbanisation, 2019



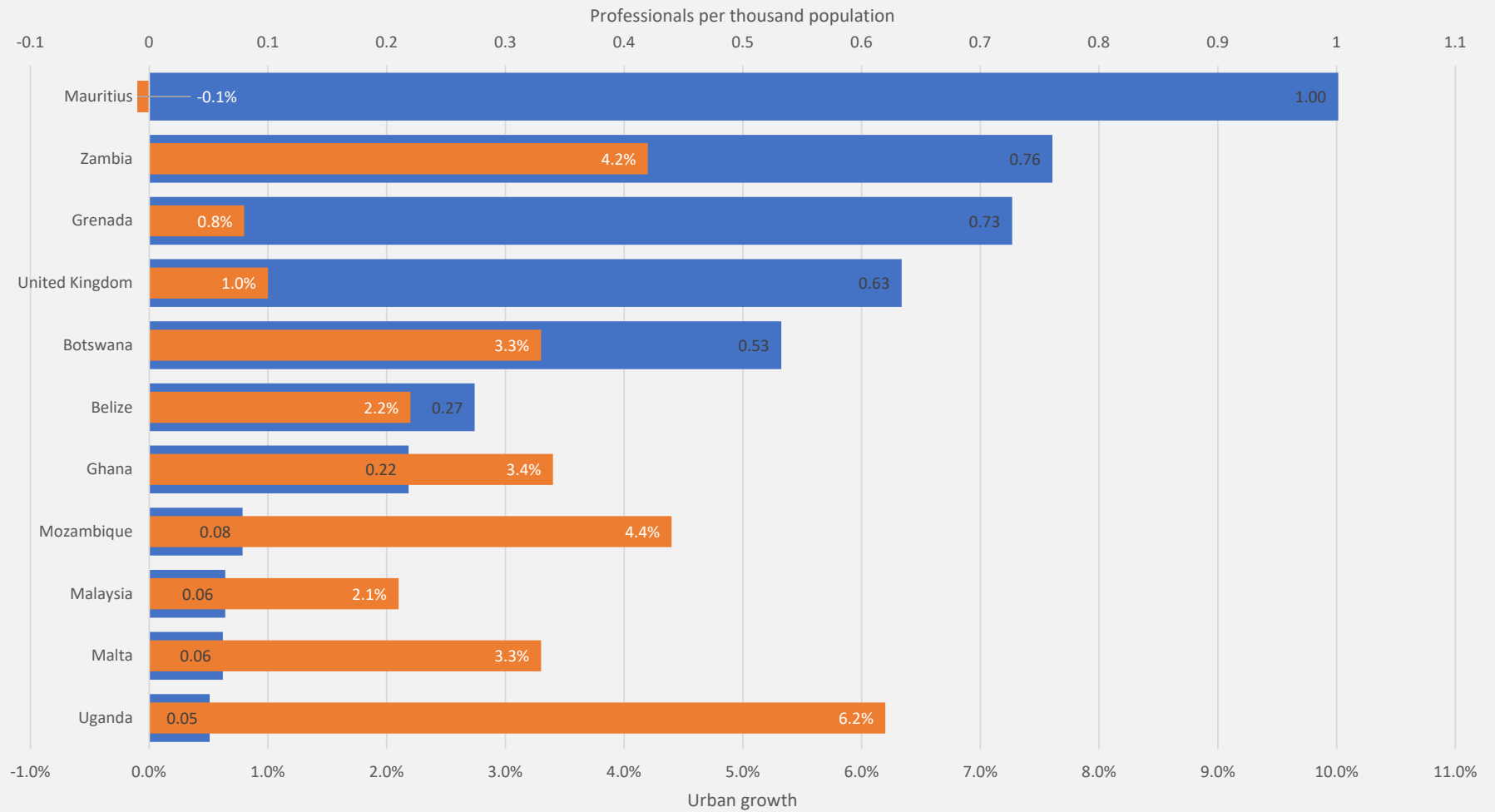
Ratio of Architects v Rates of Urbanisation, 2017



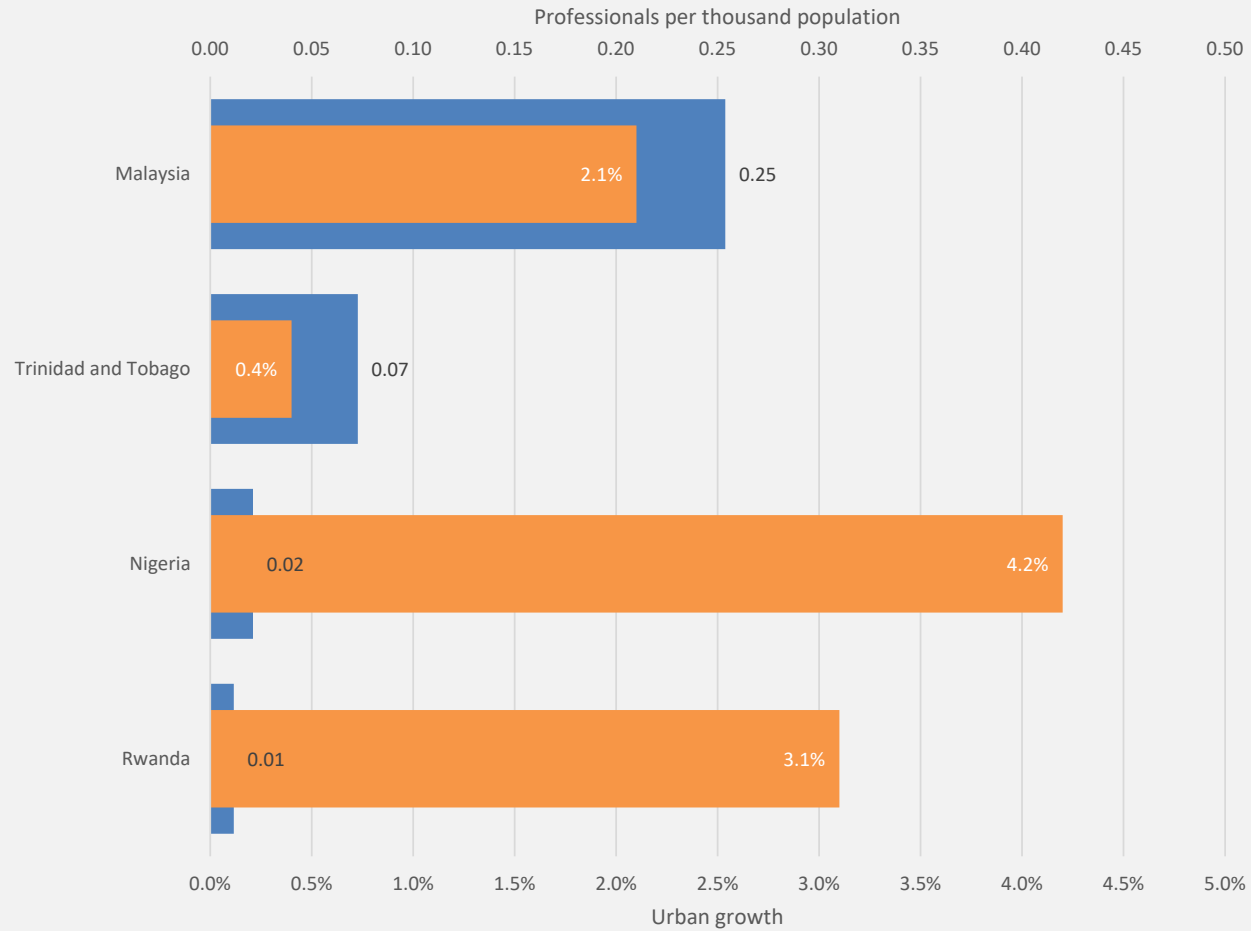
Ratio of Planners v Rates of Urbanisation, 2019



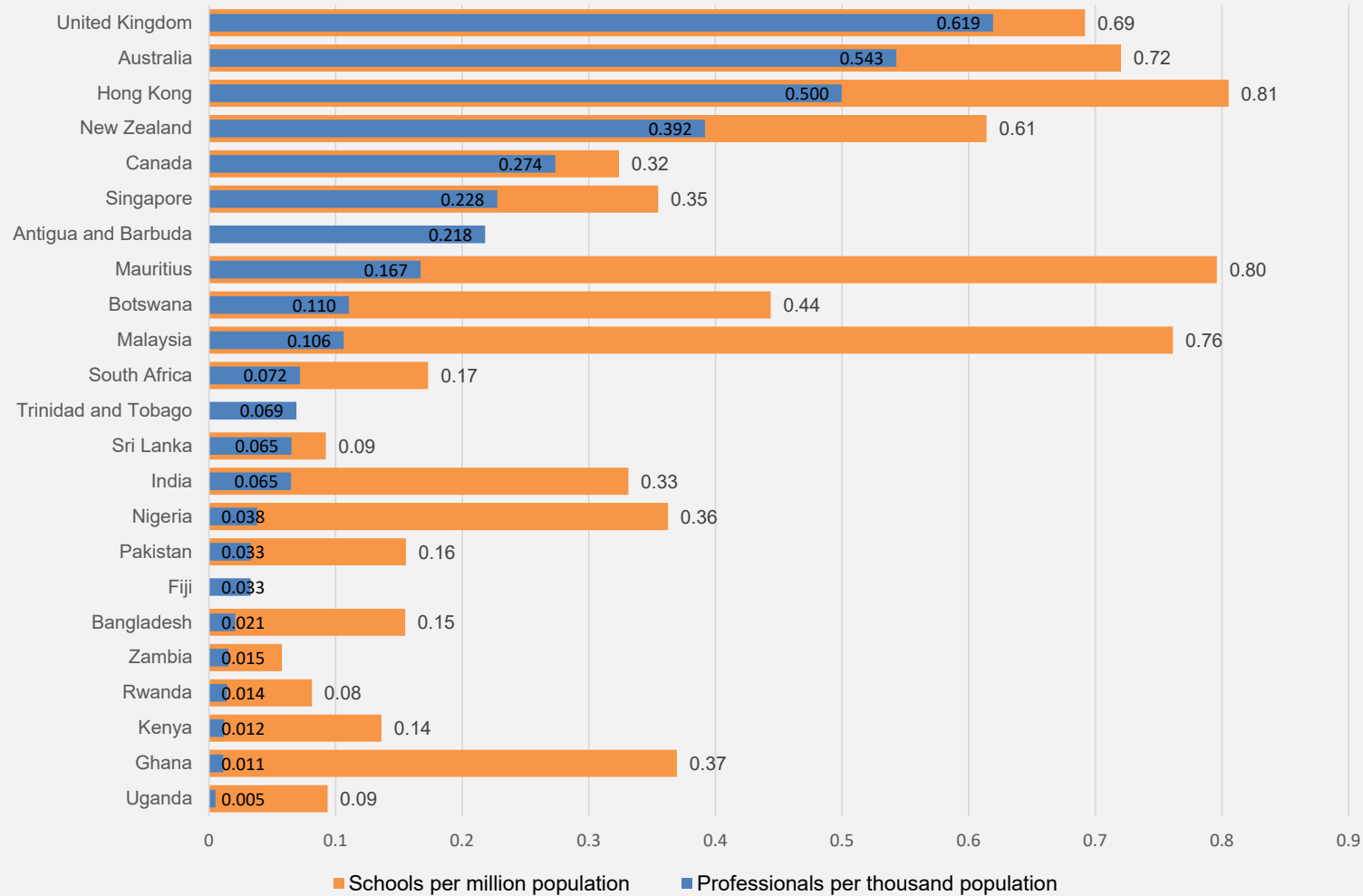
Ratio of Engineers v Rates of Urbanisation, 2019



Ration of Surveyors v Rates of Urbanisation, 2019

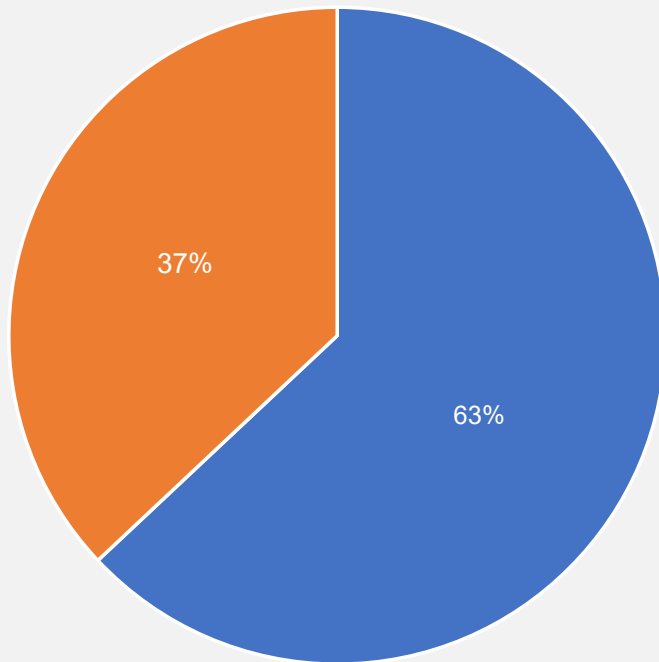


Ratio of Architects v Ratio of Schools, 2019



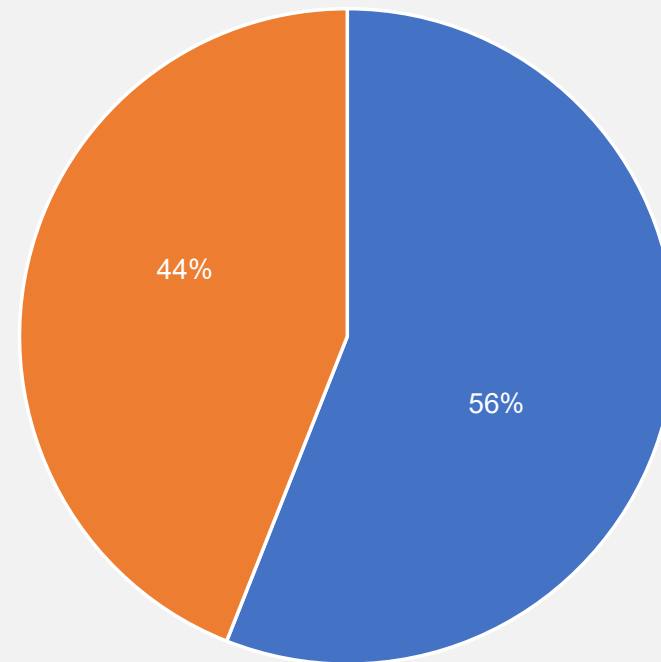
Continuing Professional Development

Architects, Mandatory CPD?



■ Yes ■ No

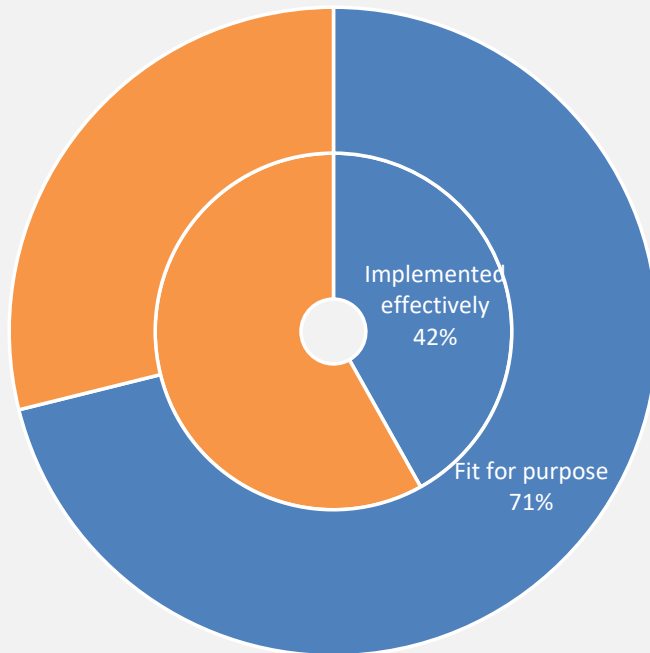
Planners, Mandatory CPD?



■ Yes ■ No

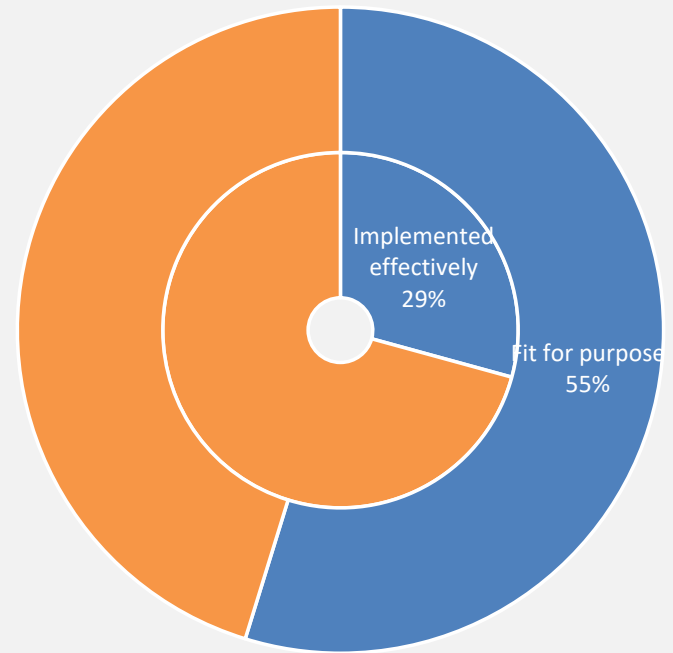
Built Environment Policy

Planning Legislation



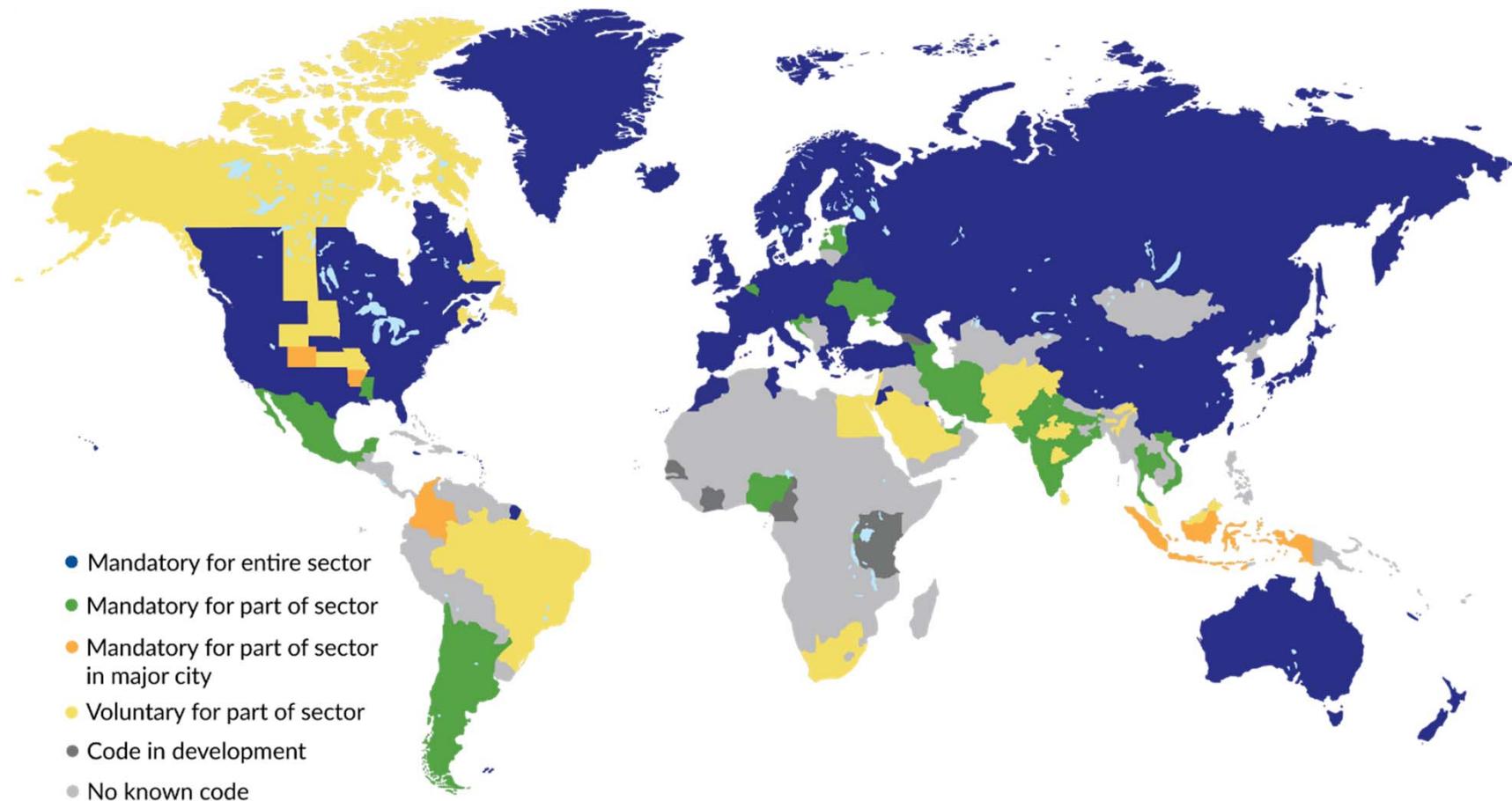
■ Yes ■ No

Building Codes



■ Yes ■ No

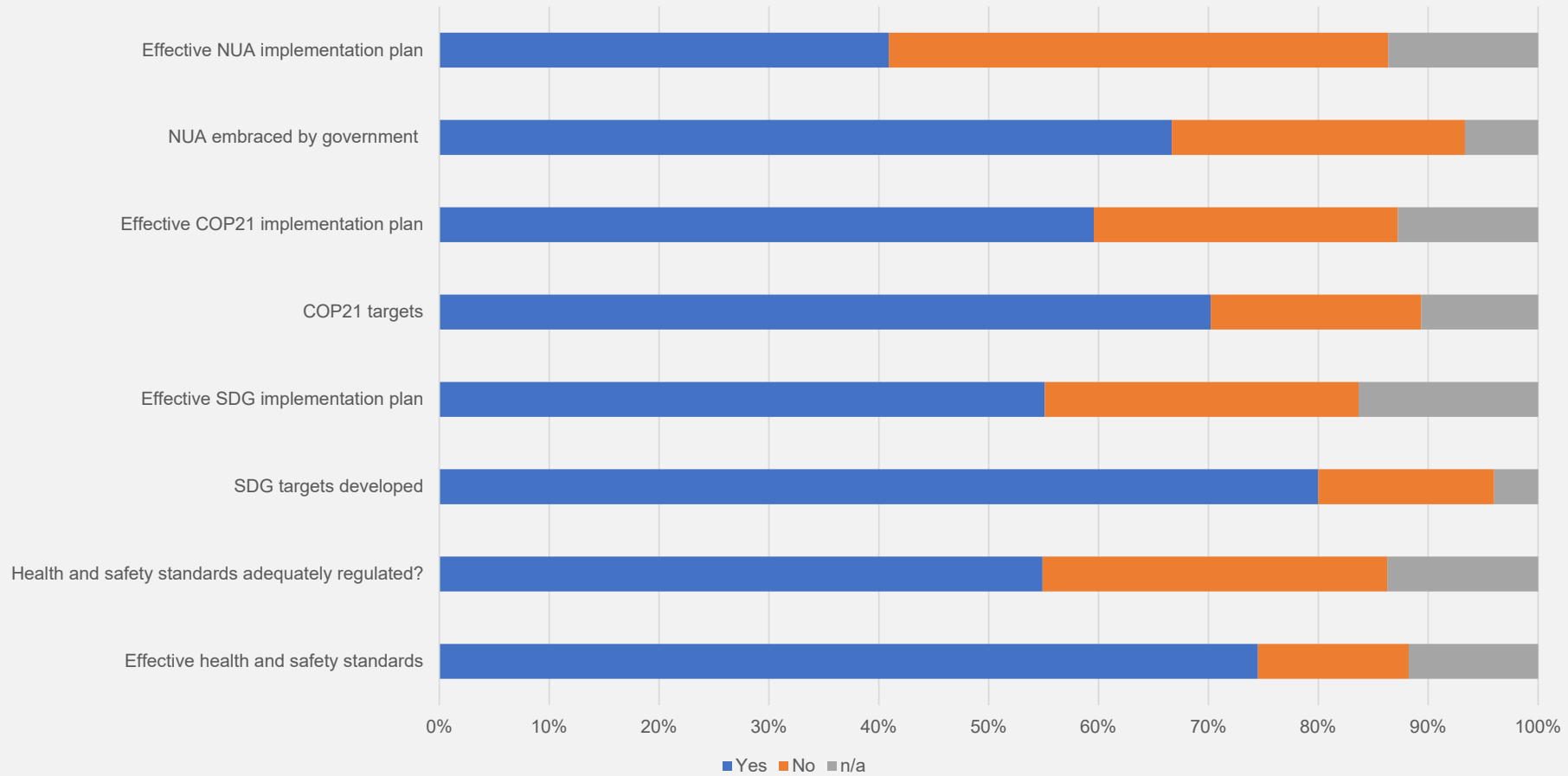
Building energy codes by country, 2018



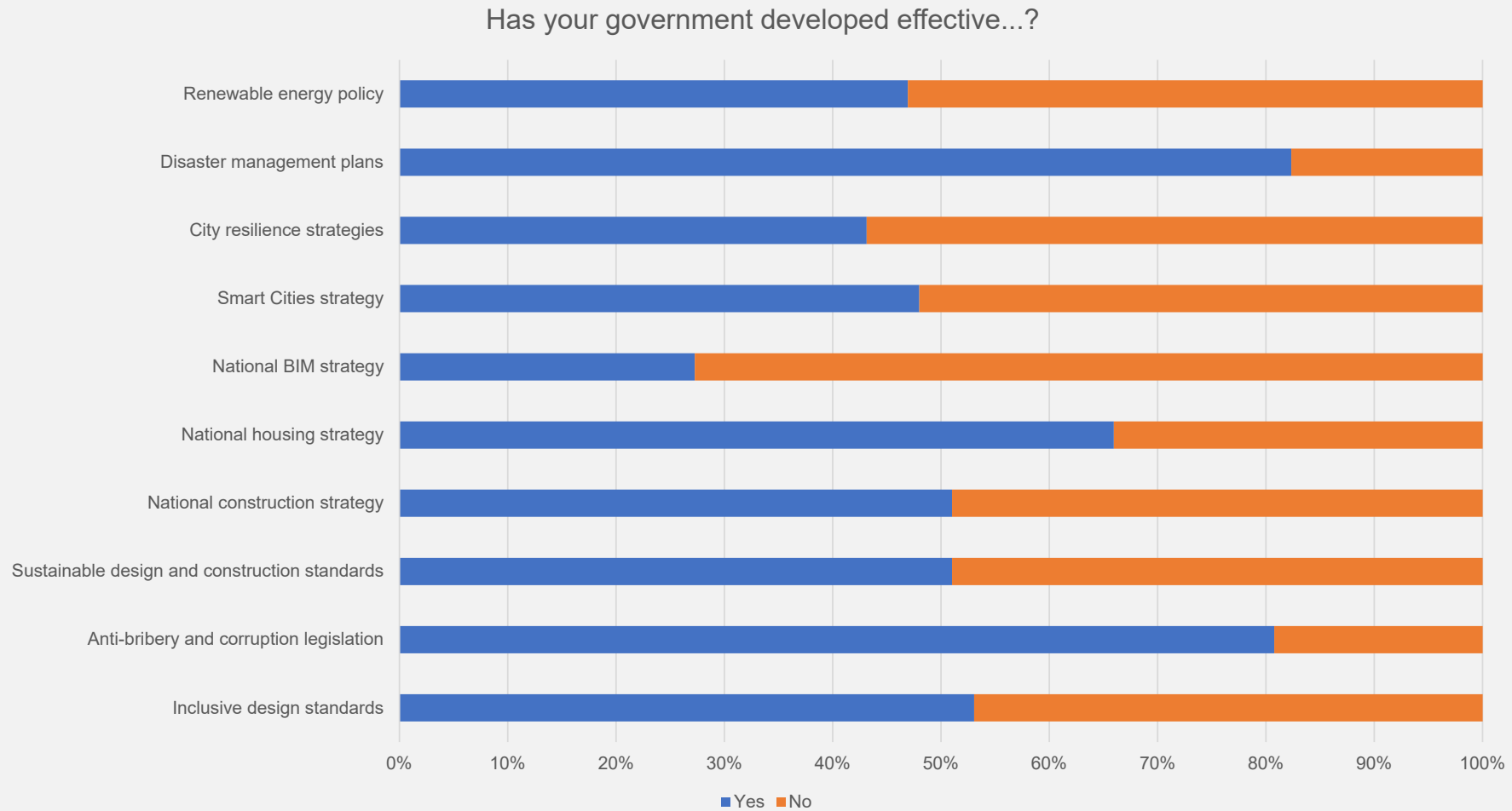
Source: International Energy Agency, March 2019

Built Environment Policy

Built-Environment Policy



Built Environment Policy



Biggest **Built Environment** challenges?

- Climate change
- Resilience to disaster and the need for adaptation
- Rapid urbanisation
- Urban sprawl
- Affordable housing
- Traffic congestion
- Lack of public transport
- Outdated planning policy and building code
- Lack of enforcement of existing regulations
- Lack of local building materials
- Skills shortage
- Economic uncertainty
- Corruption and uncontrolled development

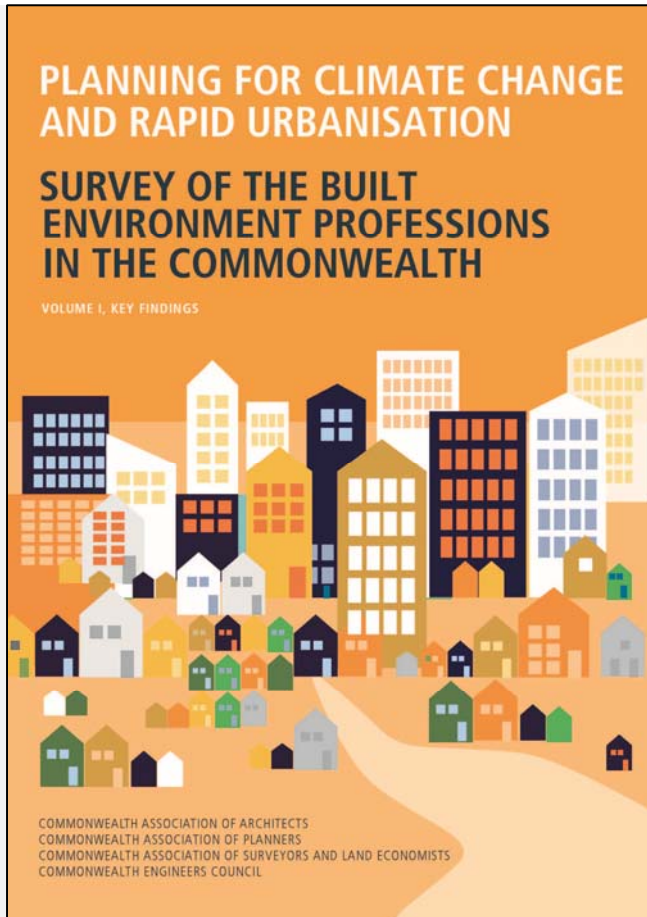
Biggest challenges for the **Profession**?

- Failure to develop and implement local plans
- Failure to enforce regulations
- Procurement methods and forms of contract
- Increasing use of Design & Build, loss of control
- Impact of foreign consultants and contractors
- Competition from unqualified persons
- Digitisation and advances in technology
- Declining fees v increasing risk and liability
- Need for continuing professional development
- Lack of resources to develop knowledge and skills
- Lack of government support and patronage
- Economic uncertainty
- Lack of respect for the professions

Biggest challenges facing **Education**?

- Insufficient universities, places of learning
- Poorly skilled and unqualified teaching staff
- Outdated curriculum
- Need to align education with the SDGs and industry needs
- Inadequate teaching material and lack of facilities, esp. digital tools
- Low standards compared with best practice
- Lack of practical training opportunities for students
- Low levels of funding v high fees/low pay
- Failure to attract the best students
- Lack of access to research facilities
- Lack of diversity in terms of gender and ethnicity

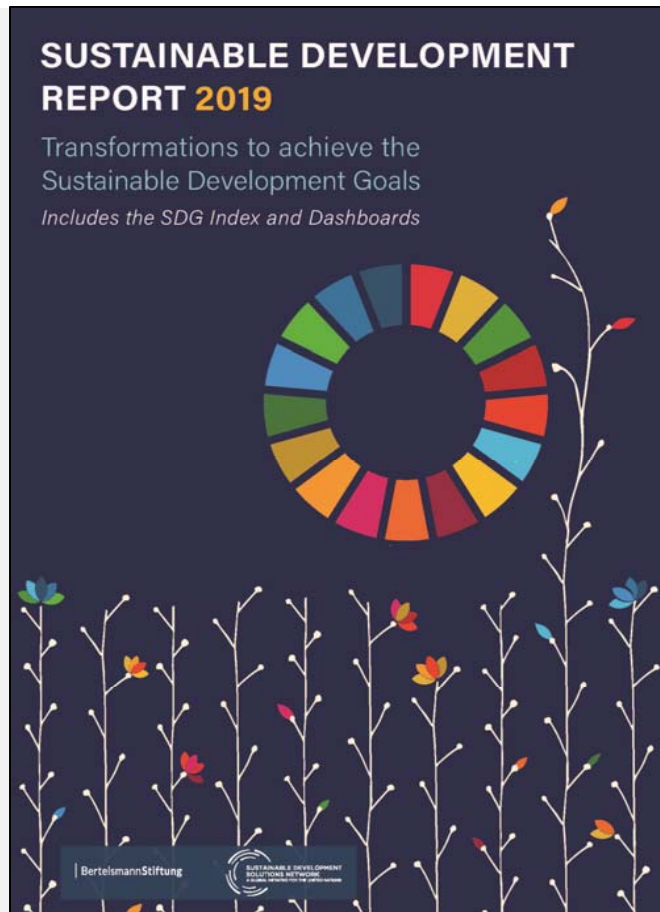
Survey of the Built Environment Professions, 2020



Key findings:

1. There is a **critical lack of capacity** in a number of Commonwealth countries, many of which are urbanising rapidly and are among the most vulnerable.
2. There is a corresponding **lack of educational and institutional capacity** to grow the profession fast enough in a number of Commonwealth countries.
3. There is a perceived **weakness in built environment policy** in many Commonwealth countries in terms of standards, implementation and enforcement.

2019 UN SDG Index



Commonwealth results

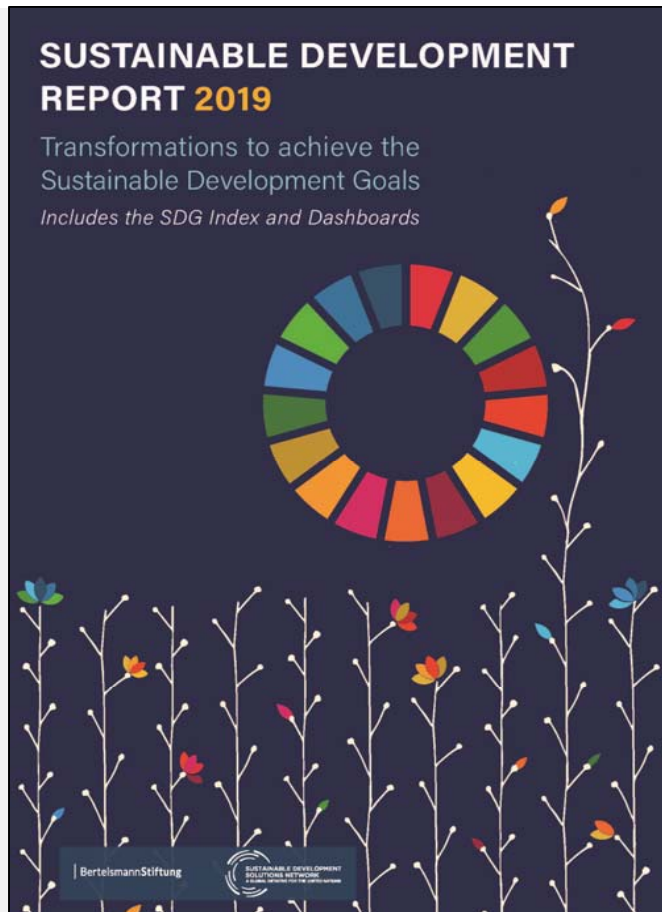
A study of the results of the 2019 report reveals that an assessment has only been made in 36 countries and that:

- **Challenges remain** in 10 countries
- **Significant challenges** remain in 13 countries
- **Major challenges** remain in 12 countries

The targets have only been achieved in 1 country.

Source: 'Sustainable Development Report 2019', UNSDSN

2019 UN SDG Index



Commonwealth results

A comparison of the results in 2017 and 2019 reveals that progress towards achievement of SDG 11 is:

- **unchanged** in 23 countries
- **improving** in only 2 countries
- **worsening** in 10 countries

Source: 'Sustainable Development Report 2019', UNSDSN

Unplanned?



Unplanned, poorly planned?



Unplanned, poorly planned, **well planned?**



CHOGM 2020, Rwanda



Land of a thousand hills

CHOGM 2020, Rwanda



Kigali Conference Centre

Reflections on the findings of the survey

Impact of the findings on the ground

- **Professor Barbara Norman**, University of Canberra
- **Mr Jalal Ahmed**, President, Institute of Architects Bangladesh
- **Ms Sithabile Mathe**, Chairperson, Architects Registration Council of Botswana
- **Mr Kalim Siddiqui**, Chairman, Pakistan Council of Architects and Town Planners
- **Mr Sulaiman Kamara**, Research and Community Officer at the Sierra Leone Urban Research Centre

Significance of the findings

- **Ms Astrid Haas**, Policy Director, International Growth Centre
- **Professor Tadj Oreszczyn** and Mike Davies, University College London, Energy Institute
- **Dr David Howard**, Associate Professor in Sustainable Urban Development, University of Oxford. Co-Director, Global Centre on Healthcare and Urbanisation, Kellogg College, Oxford
- **Ms Lucy Slack**, Deputy Secretary General, Commonwealth Local Government Forum
- **Mr VK Madhavan**, Chief Executive, WaterAid India

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- **Professor Barbara Norman**, University of Canberra
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- **Mr Sulaiman Kamara**, Research and Community Officer at the Sierra Leone Urban Research Centre

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- **Ms Astrid Haas**, Policy Director, International Growth Centre
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