

# Climate change and its Impacts

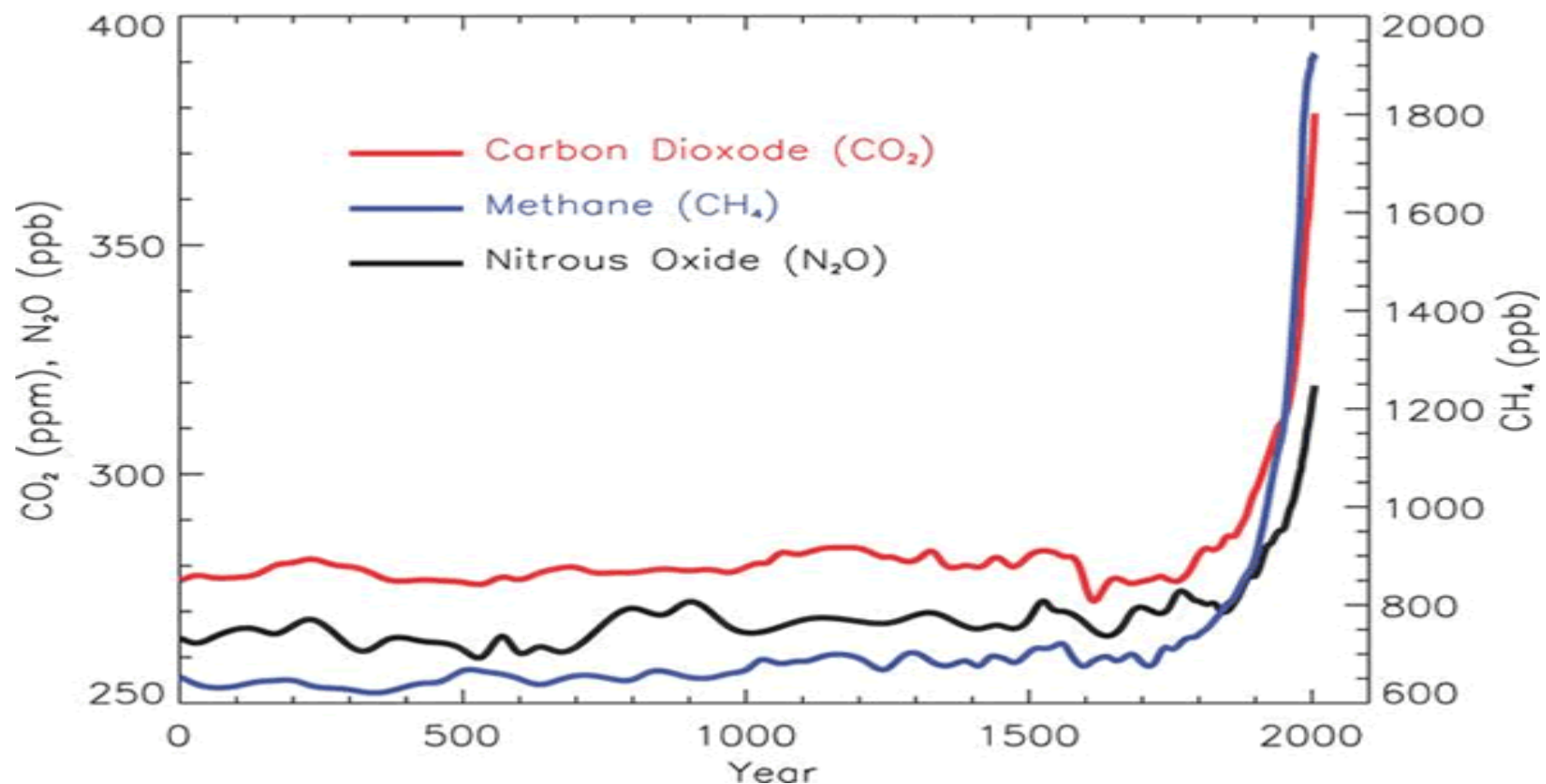
**Roland deSouza**

*Shehri: Citizens for a  
Better Environment*

The world is heading towards an abyss --- and we have our foot on the accelerator!!

*Ban Ki-moon, UN Secretary-General*

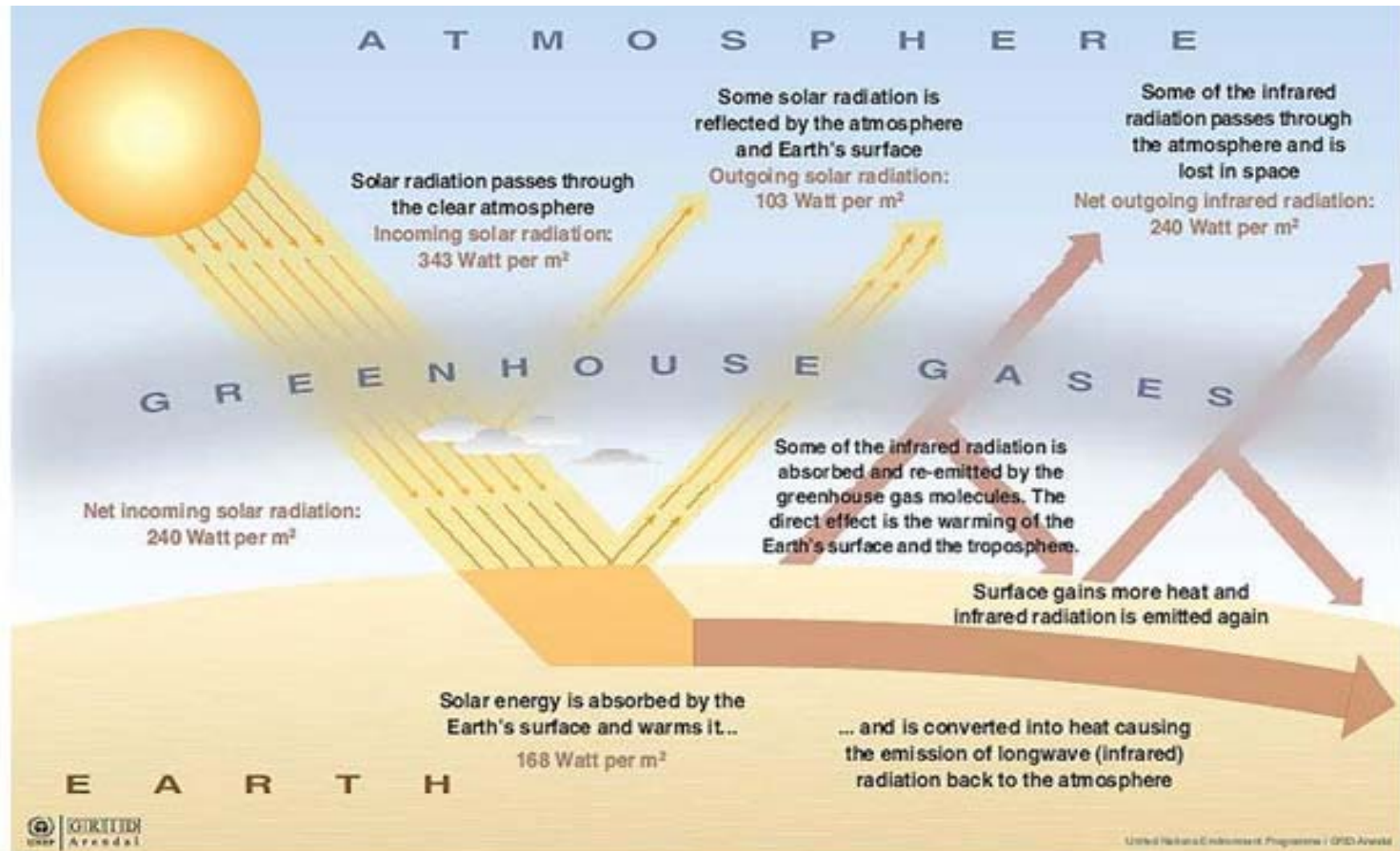
# Concentrations of greenhouse gases (Year 0 to 2005)



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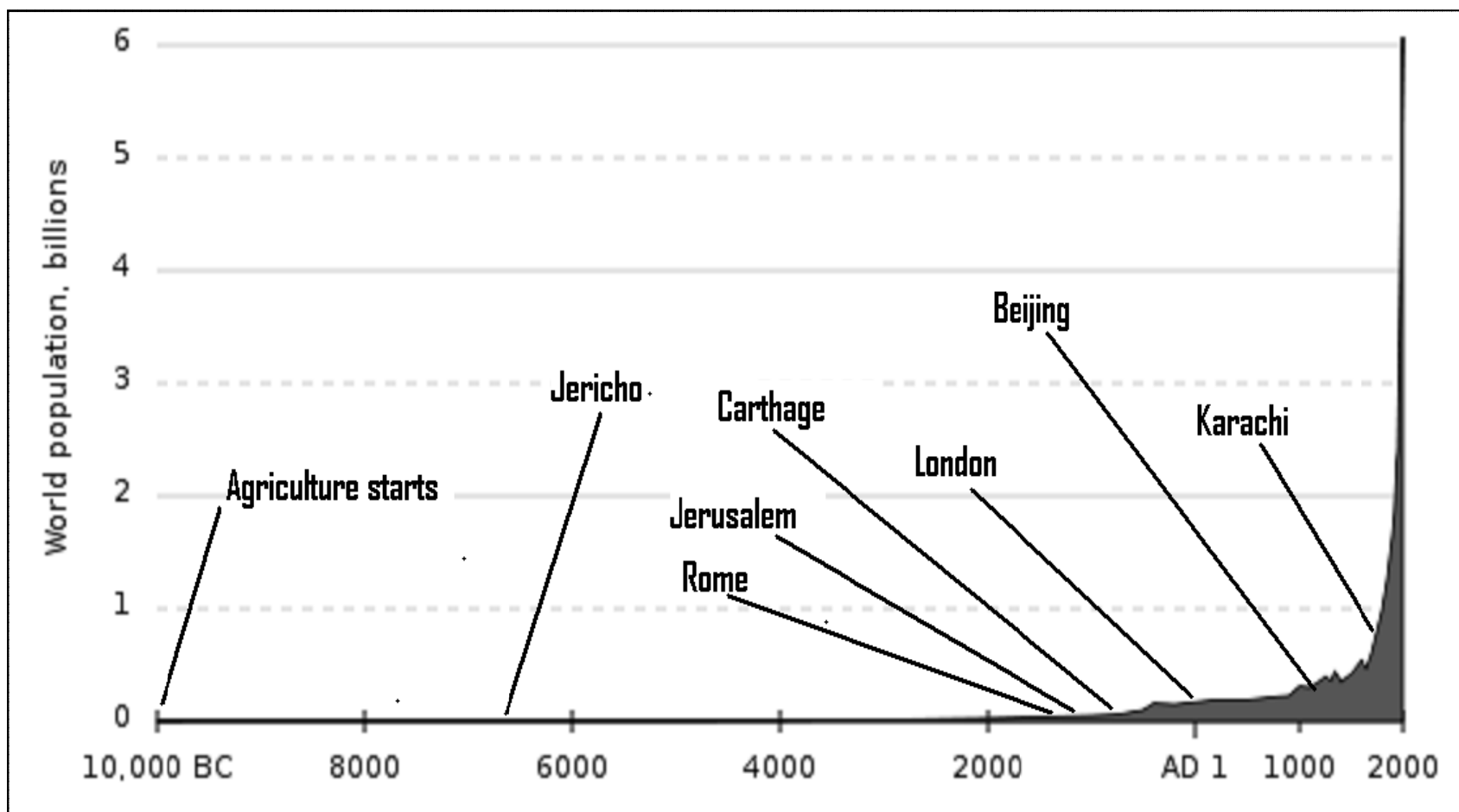
*Ban Ki-moon, UN Secretary-General*

# Greenhouse effect



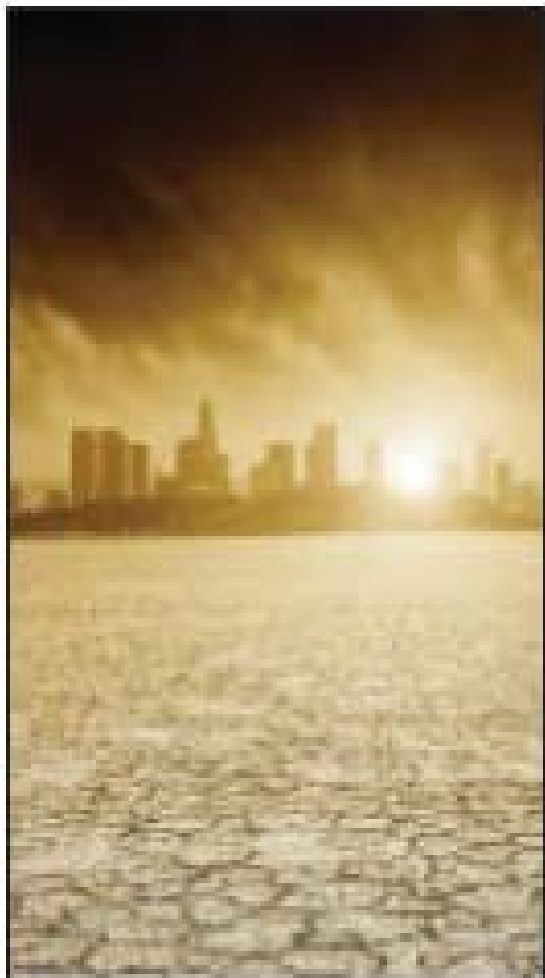
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# Establishment of cities



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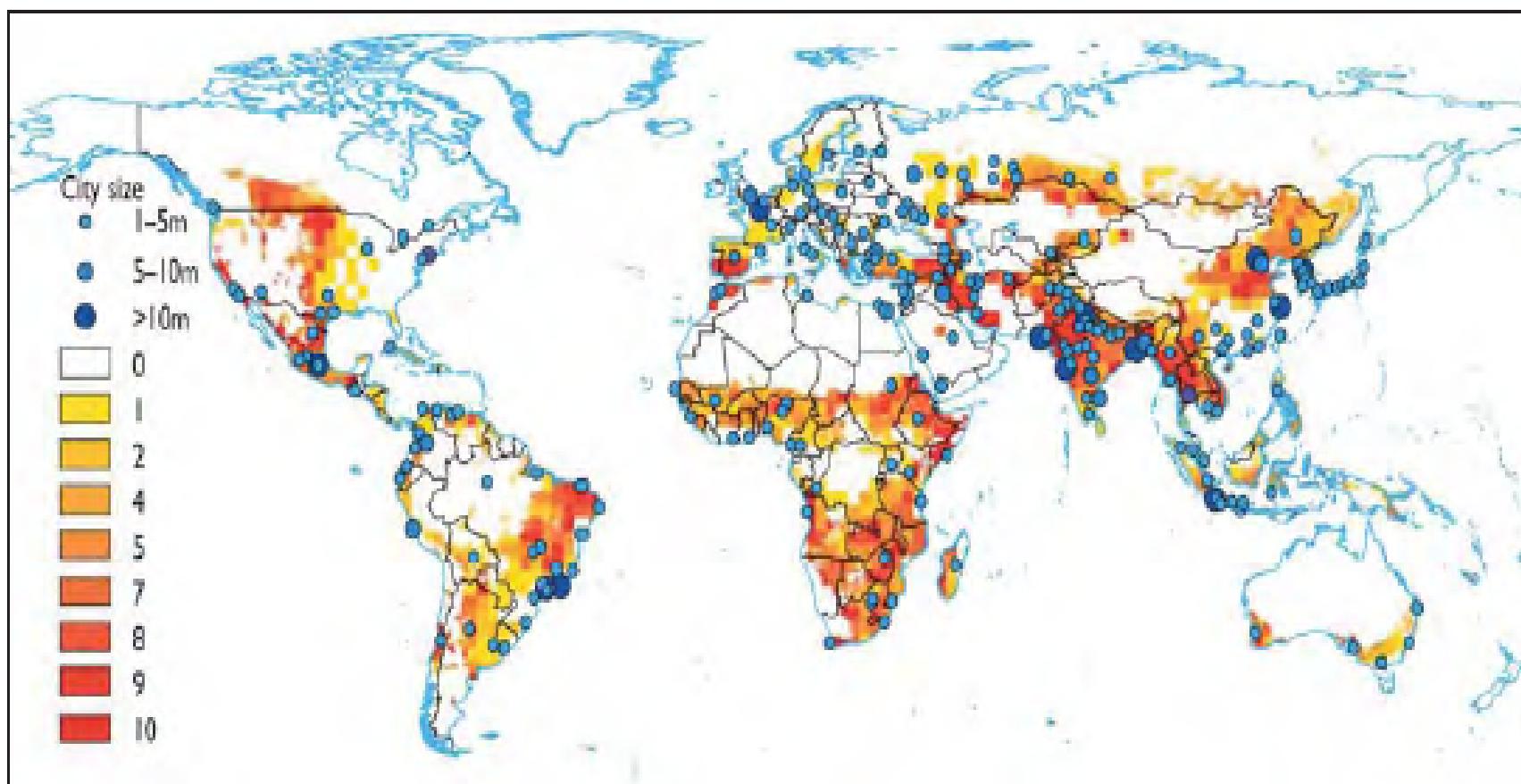
# Climate-change effects in urban areas

- ✓ *Rising temperatures*
- ✓ *Increasingly severe weather*
  - *Tropical cyclones, hurricanes*
  - *Storms, with heavy precipitation*
  - *Droughts and drying of areas*
- ✓ *Rising sea levels*
- ✓ *Melting & thawing*

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# Cities in relation to climate-change hazards



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# Contributions to GHG emissions

*Urban sprawl*

*Elite consumerism*



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***Increased dependence  
on private vehicles***

***Industrial development  
for consumers***



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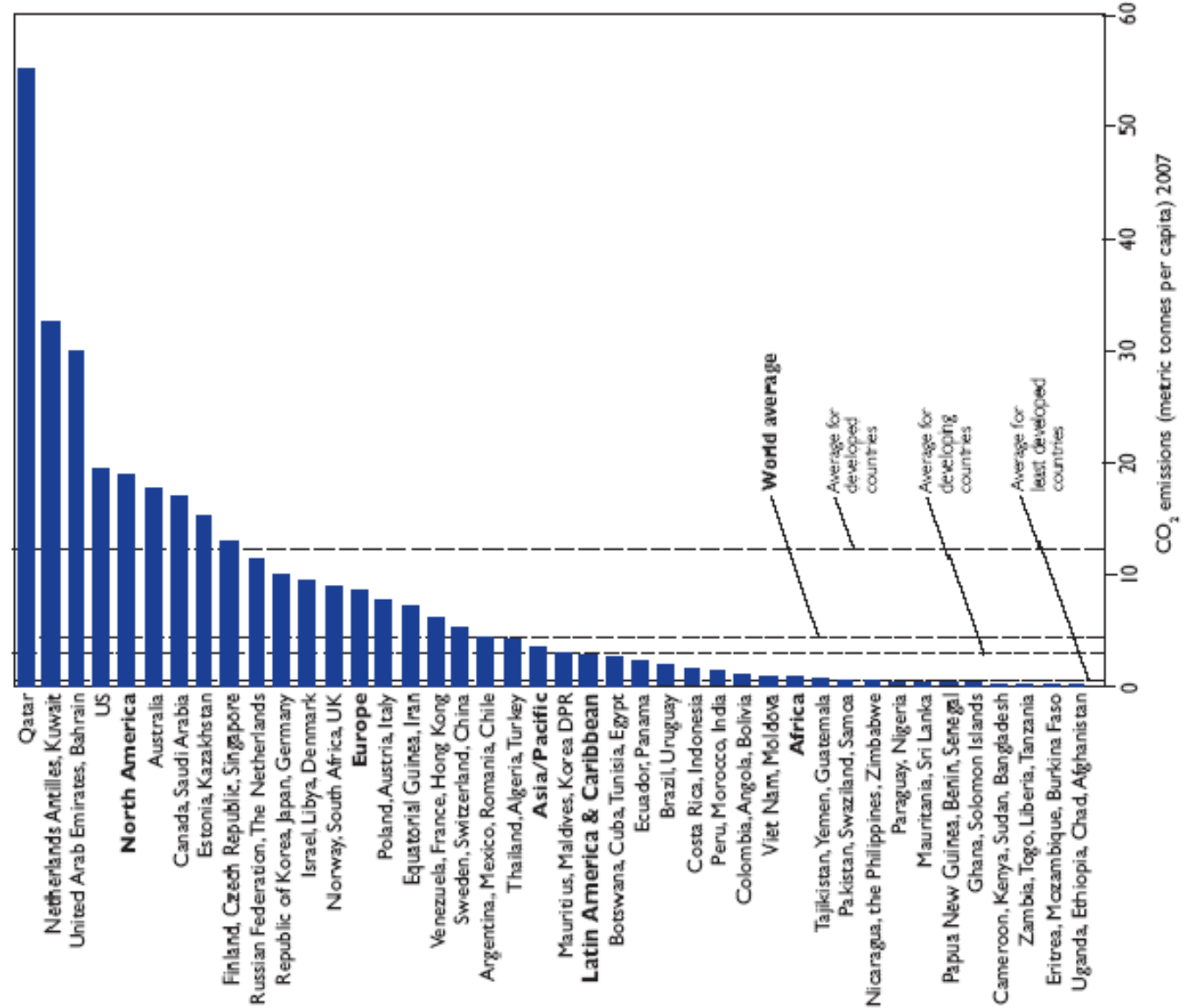


***Building airconditioning  
drives  
energy consumption  
upwards***

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# CO<sub>2</sub> emissions per capita



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# Climate-change impacts fall disproportionately on the poor



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***Sea-level rise  
in coastal cities***

***Cyclone/storm  
flooding & damage***



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***Poor children/women  
especially vulnerable in  
natural disasters***

***“Climate migration”  
will increase***



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***Droughts  
will become  
more common***

***Urban poor  
worldover cannot  
afford insurance***



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# Responses in urban areas

## Part of the problem

- *50% of world population lives in cities*
- *By 2030, 95% increase in urban area, bulk in develop. countries*
- *By 2030, 70 million more slum dwellers in cities*
- *Urban conc. of social/ economic activity produces GHGs*
- *Urban areas will produce 40 - 70% anthropogenic GHGs*
- *By 2030, 80% of global energy increase (over 2006) from cities*

## Part of the solution

- *Municipalities responsible for GHGs at local level*
- *Municipalities can act as 'laboratories' for innovation*
- *Municipalities can be partners for private-sector & civil society*
- *Cities have many private-sector actor on climate-change*
- *Cities arenas for civil society mobilization on climate-change*

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***Renewable energy  
systems can  
reduce GHGs***

***Compact city development  
can reduce sprawl-related  
energy consumption***



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***Energy-efficient  
transportation systems  
reduce GHGs***

***Coastal cities  
will have to adapt  
to climate change***



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# Mitigation opportunities & constraints

## Examples of opportunities

## Examples of constraints

<b>Institutional</b>	<ul style="list-style-type: none"> <li>• <i>Proactive national/ regional government</i></li> <li>• <i>Member of int’nl municipal networks</i></li> <li>• <i>Formation of partnerships</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Limited powers for municipality</i></li> <li>• <i>Absence of policy coordination</i></li> </ul>
<b>Tech &amp; Econ’ic</b>	<ul style="list-style-type: none"> <li>• <i>Knowledge of urban GHGs</i></li> <li>• <i>External funding available</i></li> <li>• <i>Reliable finance mechanisms</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Lack of expertise</i></li> <li>• <i>Lack of finances</i></li> <li>• <i>Suitability of technology</i></li> </ul>
<b>Political</b>	<ul style="list-style-type: none"> <li>• <i>Political champions</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Departure of key persons</i></li> </ul>
	<ul style="list-style-type: none"> <li>• <i>Recognition of co-benefits</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Lack of finances</i></li> </ul>
	<ul style="list-style-type: none"> <li>• <i>Political will</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Suitability of technology</i></li> </ul>

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# While greatest responsibility lies with developed countries . . .



***We cannot continue to worsen the situation!!***

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**Start to act . . .**

***Ask yourself . . .***

***If not you, then who?***

***If not now, then when?***



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