

Foundation for Science & Technology Debate - Urban Air Quality

April 26, 2017

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The energy challenge

There is more demand for energy globally as the world's population and living standards increase



Growing population

Global population is expected to increase from around 7.4 billion today to nearly 10 billion by 2050, with 67% living in cities.



Rising demand

Global energy demand will likely be almost 60% higher in 2060 than today, with 2 billion vehicles on the road (800 million today).



Ongoing supply

Renewable energy could triple by 2050, but we will still need large amounts of oil and gas to provide the full range of energy products that the world needs.



Mitigating climate change

Net-zero emissions is a potentially achievable societal ambition.

Source: UN Population Fund; UN World Population Prospects (2015 revision); World Urbanization Prospects (2014 revision); International Energy Agency, Energy Technology Perspectives 2015; Shell New Lens Scenarios.

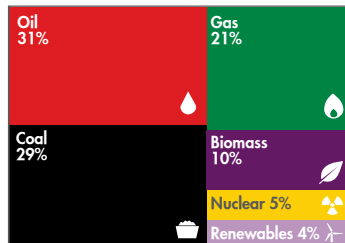
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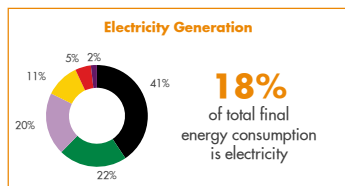
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Today's energy needs

▼ Current global energy demand



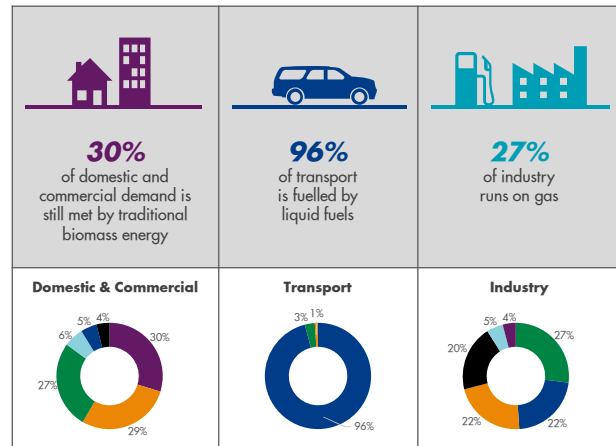
- Oil
- Coal
- Gas
- Biomass
- Nuclear
- Renewables (including hydro)
- Electricity
- Heat
- Liquid fuels (including biofuels)



Source: International Energy Agency, Key world energy statistics 2015 and World energy outlook 2015

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▼ Energy consumption by sector and consumer trends

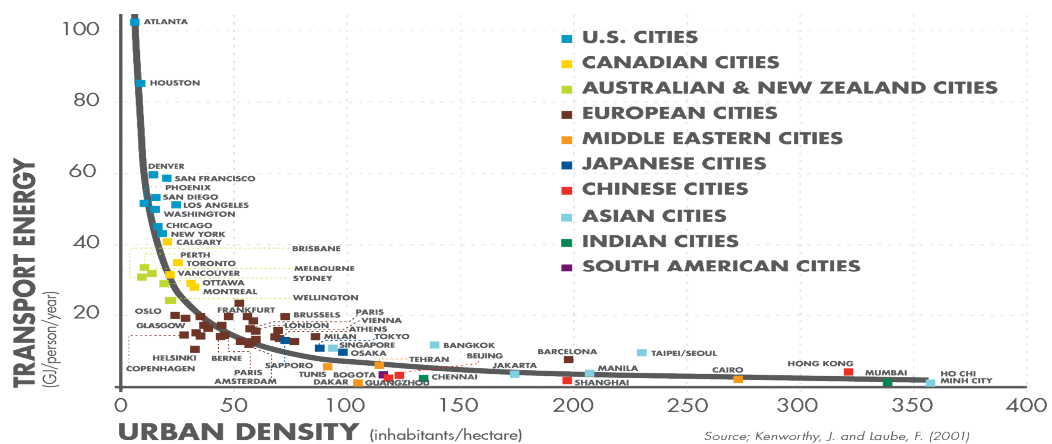


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Resource Impact of Urban Density

Urban density and transport-related energy consumption

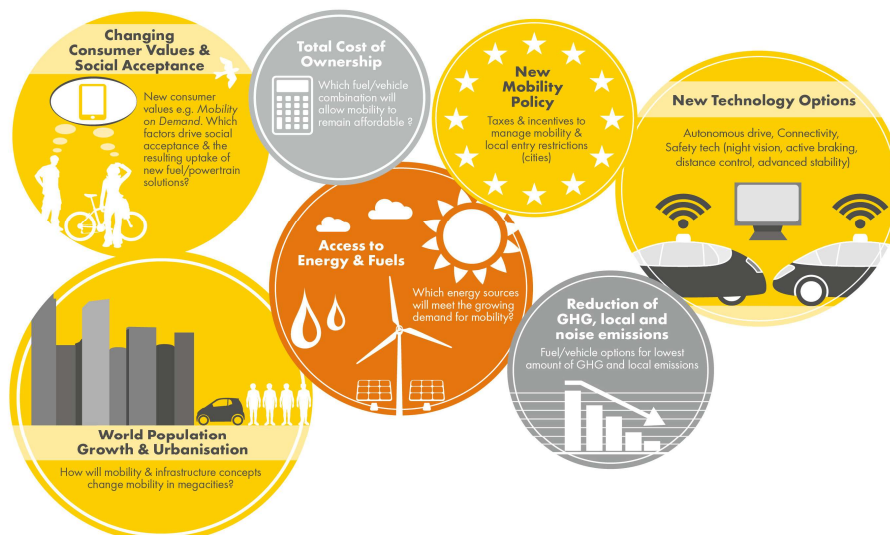


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Challenges for future mobility

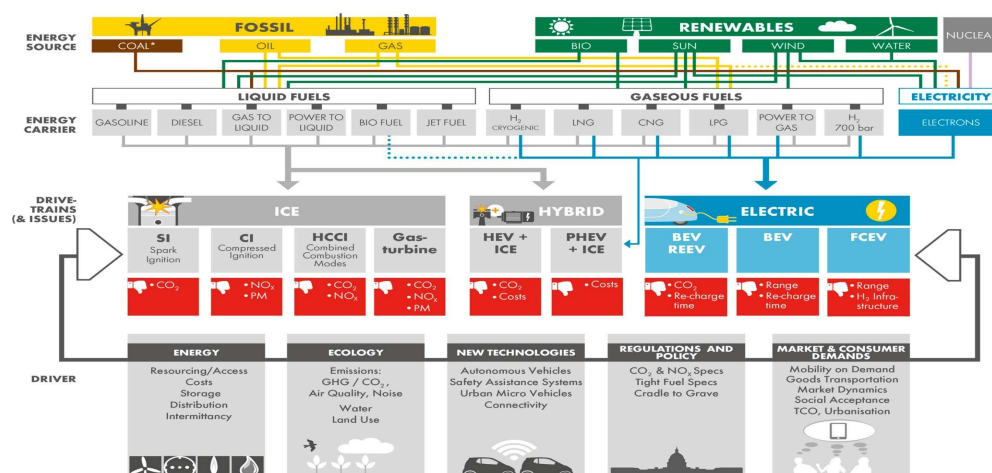


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No "silver bullet" – a mosaic of potential solutions



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Powering Progress Together – innovation through collaboration



*The Charging Interface Initiative
(launched March 2017)*

*The Hydrogen Council (launched
Davos, January 2017)*



DRC Development Research Center of the State Council
of the People's Republic of China

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