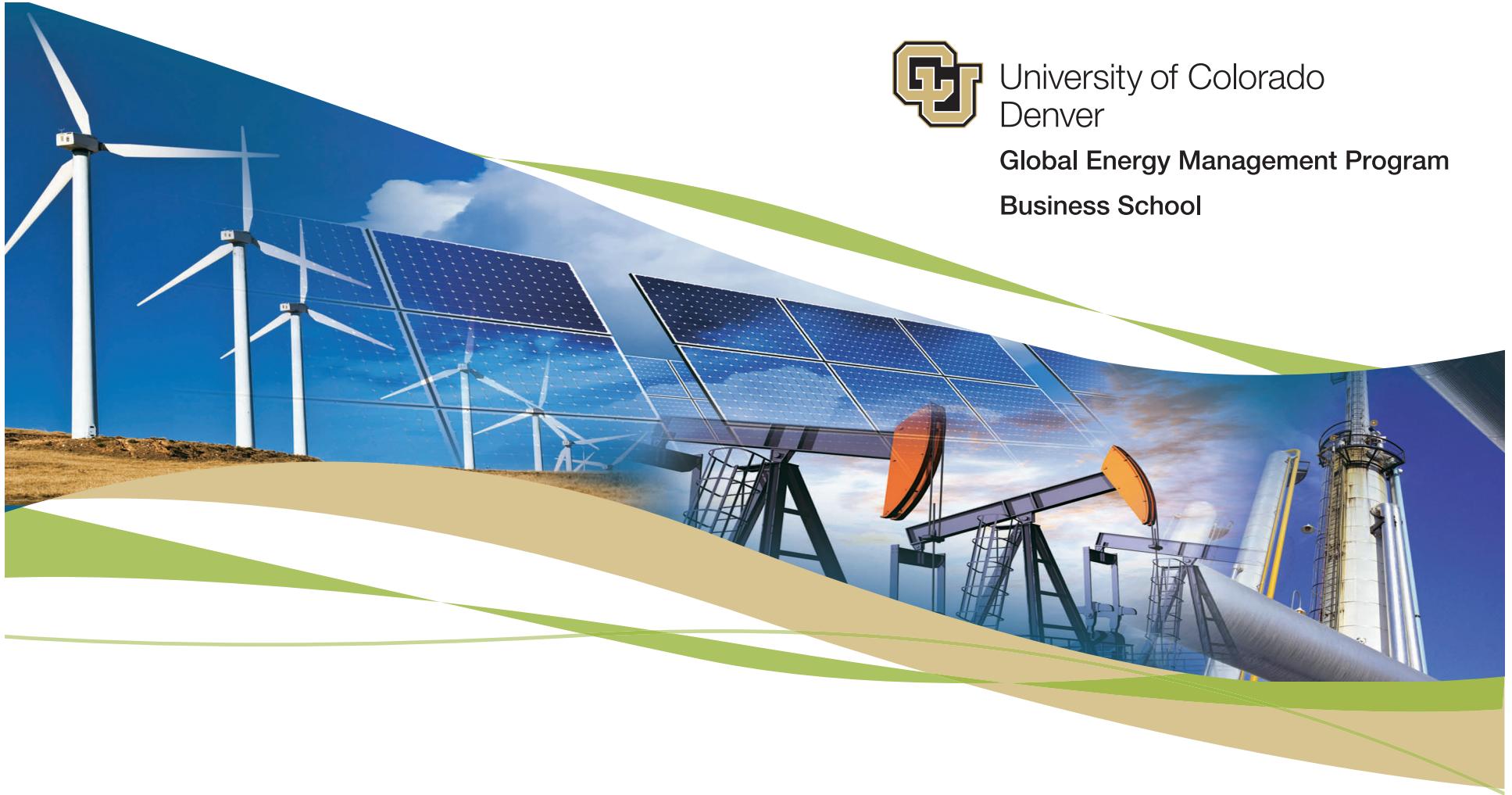




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Fundamentals of Global Energy Business

Michael J. Orlando

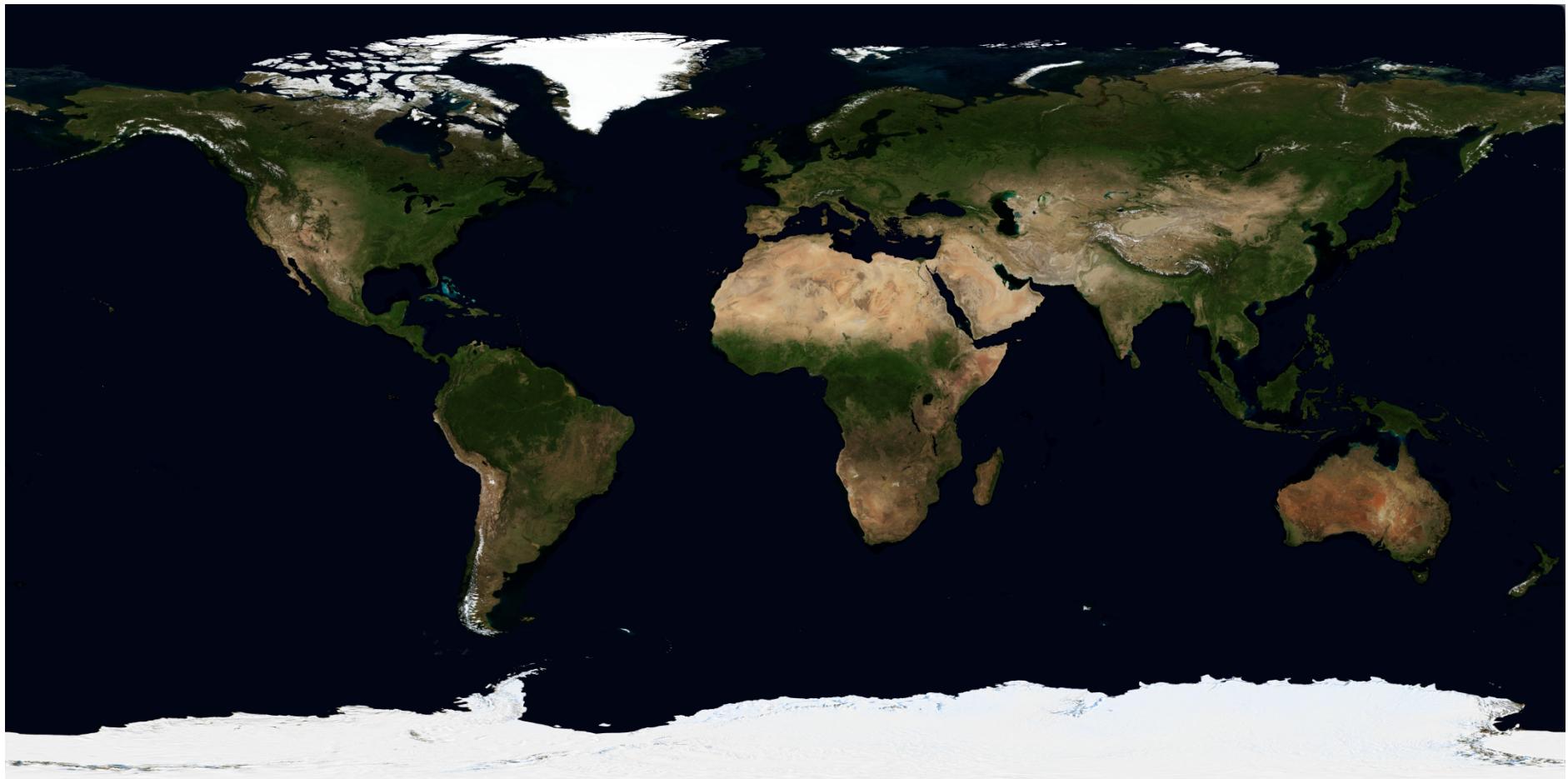
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week 1: Demand for Energy

Video 6: Global Demand Conditions



WHERE is energy demand?



Source: <http://eoimages.gsfc.nasa.gov/images/imagerecords/74000/74393/world.topo.200407.3x5400x2700.jpg>, downloaded 11/11/2013.

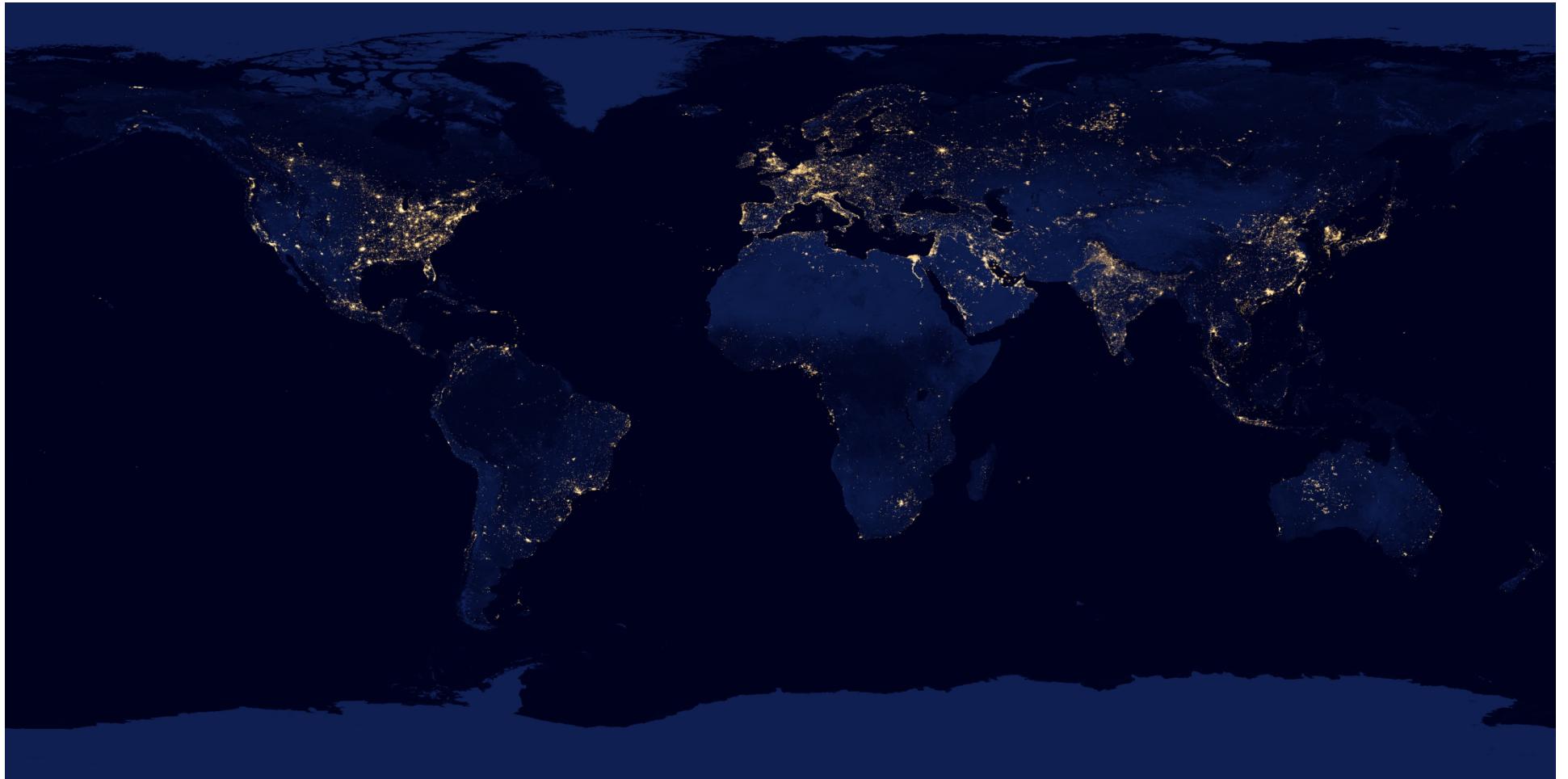
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A: where are the lights?



Source: http://eoimages2.gsfc.nasa.gov/images/imagerecords/79000/79765/dnb_land_ocean_ice.2012.3600x1800.jpg, downloaded 11/11/2013.

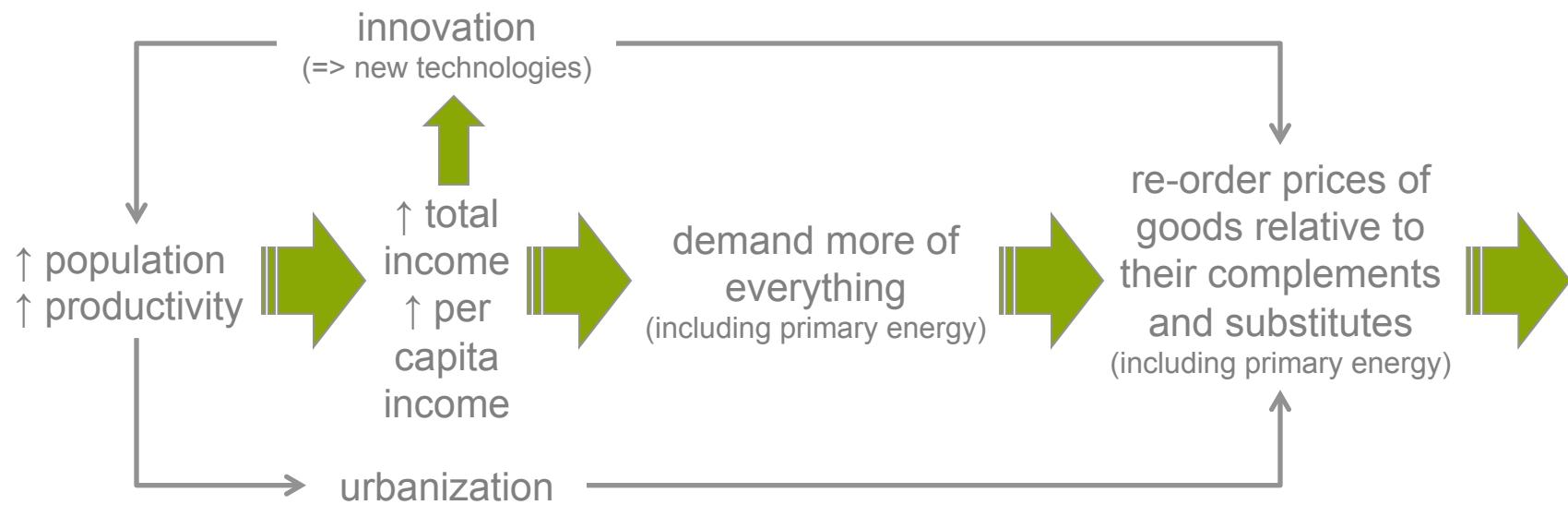
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Determinants of Demand



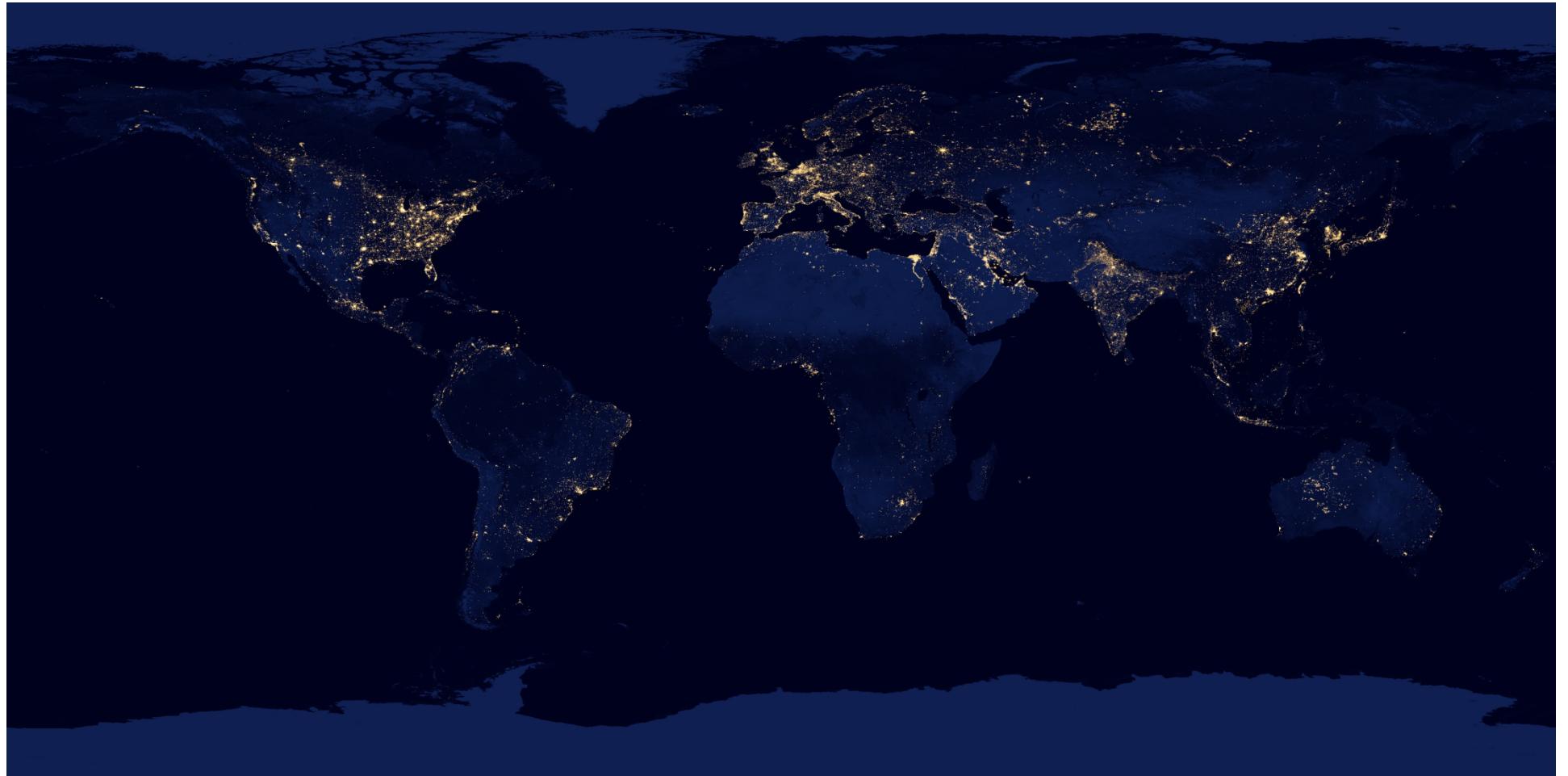
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A: where are the lights?



Source: http://eoimages2.gsfc.nasa.gov/images/imagerecords/79000/79765/dnb_land_ocean_ice.2012.3600x1800.jpg, downloaded 11/11/2013.

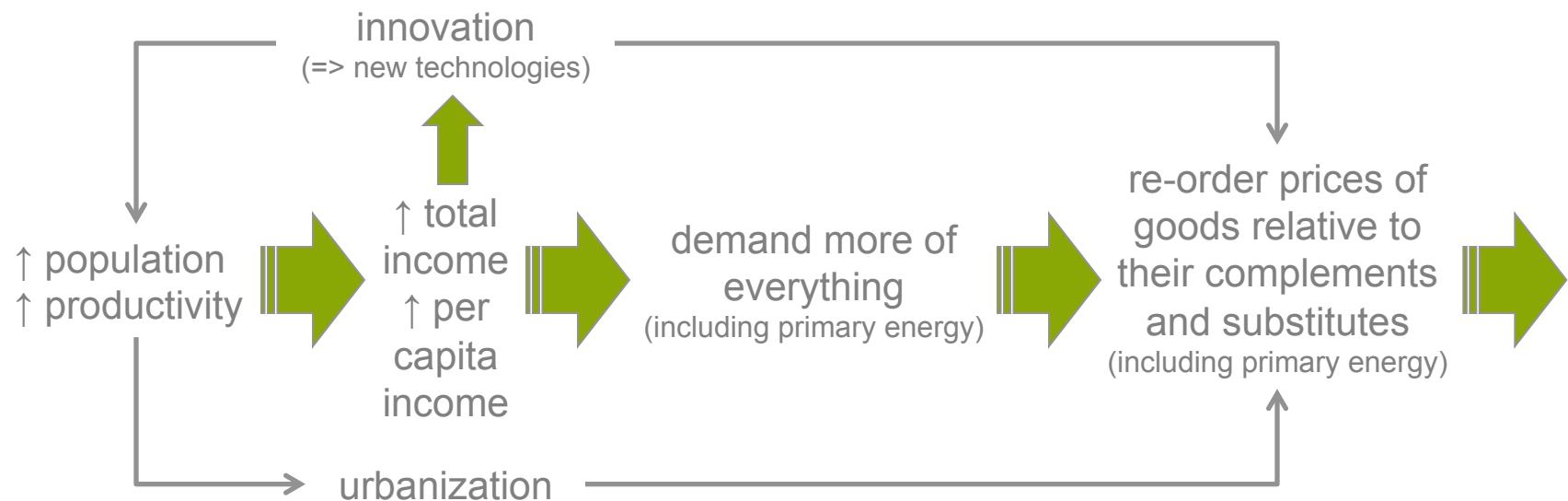
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Determinants of Demand



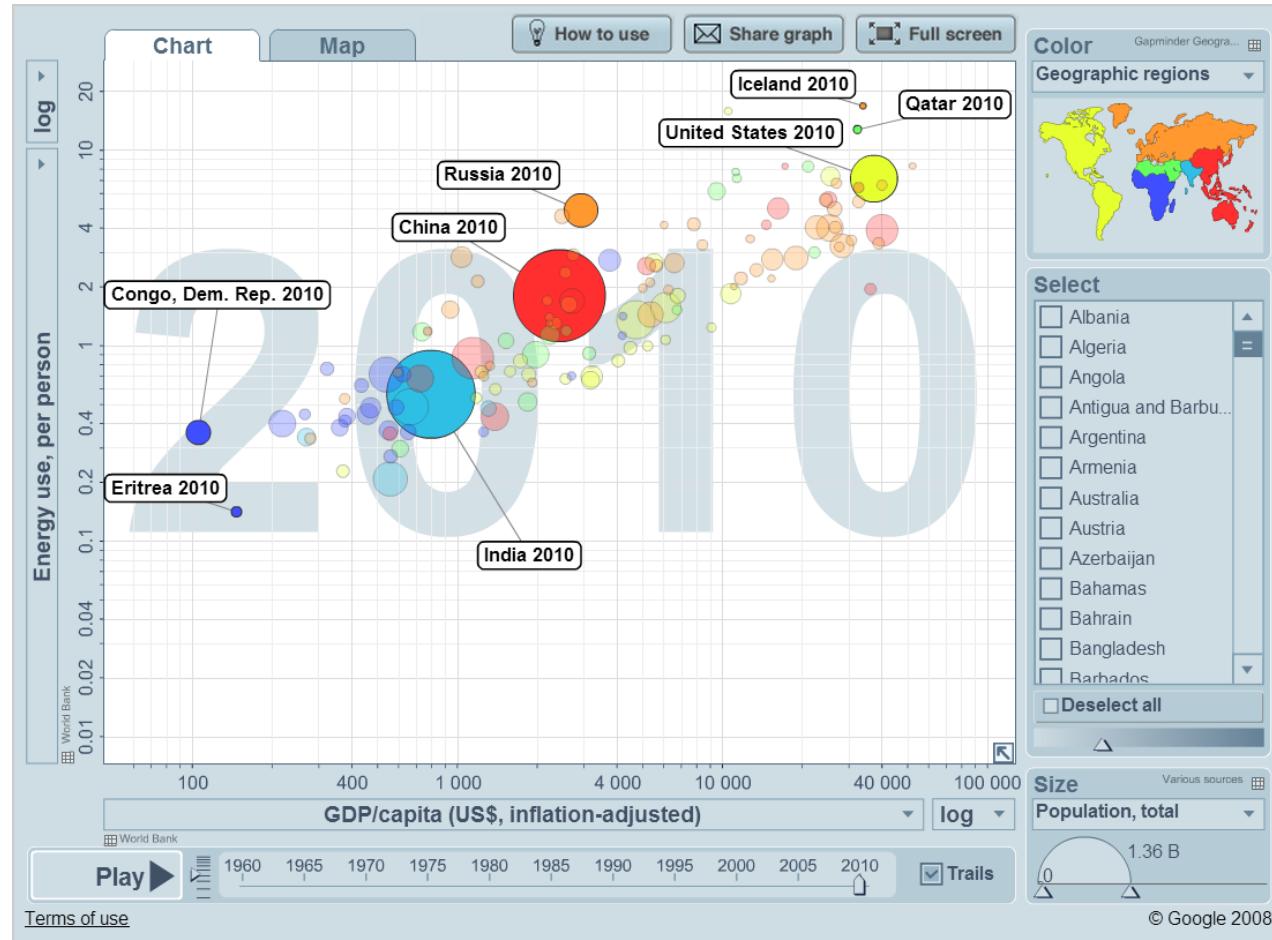
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Differences in income explain a lot



Source: Gapminder.com

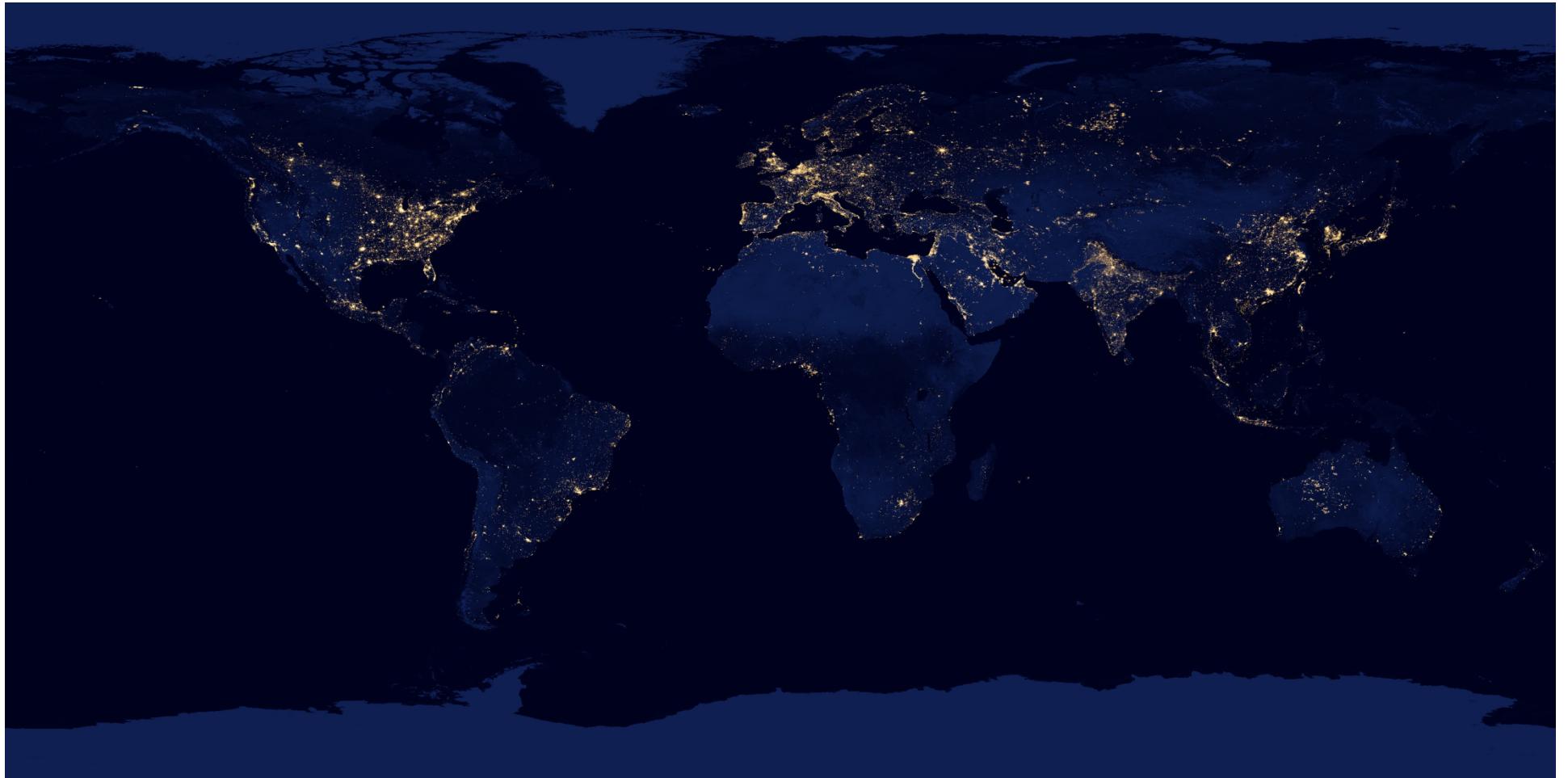
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A: where are the lights?



Source: http://eoimages2.gsfc.nasa.gov/images/imagerecords/79000/79765/dnb_land_ocean_ice.2012.3600x1800.jpg, downloaded 11/11/2013.

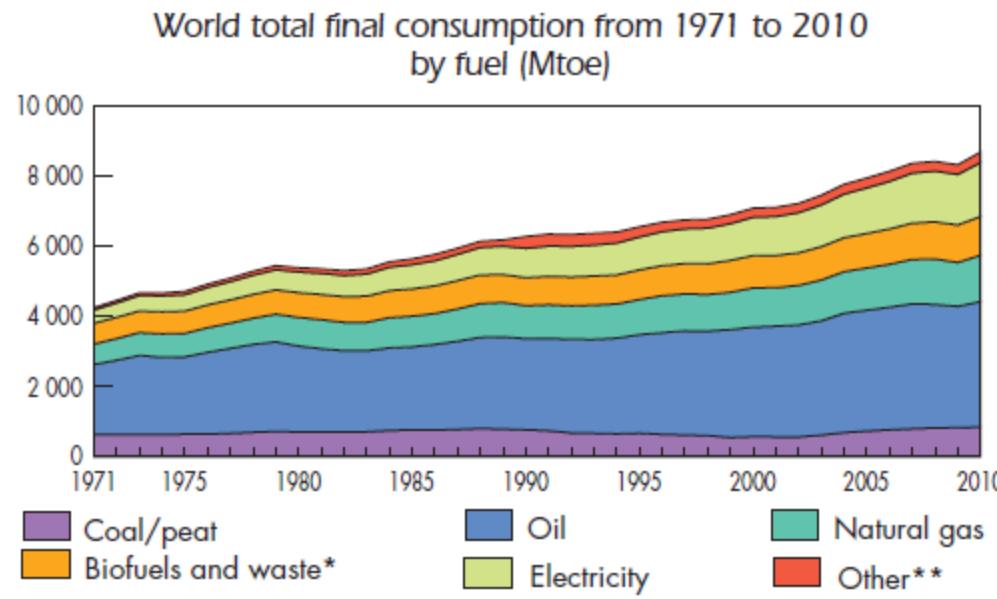
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The evolving composition of demand



Source: IEA 2012 Key Energy Statistics

<http://www.iea.org/publications/frepublications/publication/kwes.pdf> accessed 12/9/13

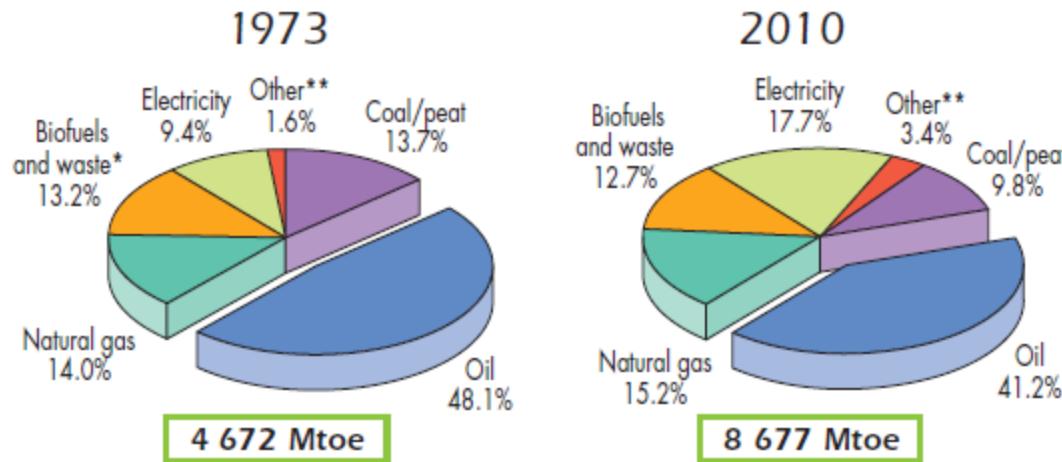
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The evolving composition of demand



*Data prior to 1994 for biofuels and waste final consumption have been estimated.

**Other includes geothermal, solar, wind, heat, etc.

Source: IEA 2012 Key Energy Statistics

<http://www.iea.org/publications/freepublications/publication/kwes.pdf> accessed 12/9/13

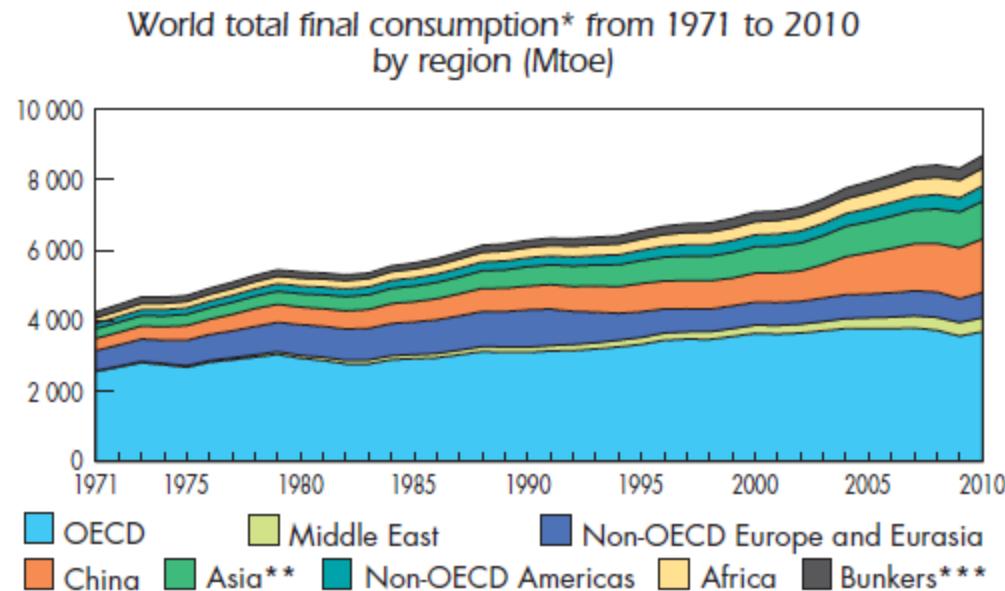
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The emerging geography of demand



*Data prior to 1994 for biofuels and waste final consumption have been estimated.

**Asia excludes China.

***Includes international aviation and international marine bunkers.

Source: IEA 2012 Key Energy Statistics

<http://www.iea.org/publications/freepublications/publication/kwes.pdf> accessed 12/9/13

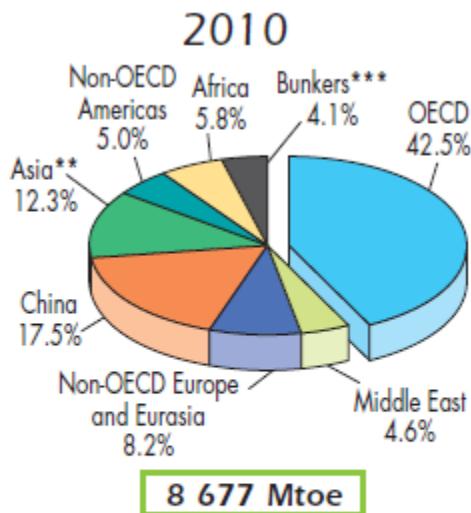
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The emerging geography of demand



*Data prior to 1994 for biofuels and waste final consumption have been estimated.

**Asia excludes China.

***Includes international aviation and international marine bunkers.

Source: IEA 2012 Key Energy Statistics

<http://www.iea.org/publications/freepublications/publication/kwes.pdf> accessed 12/9/13

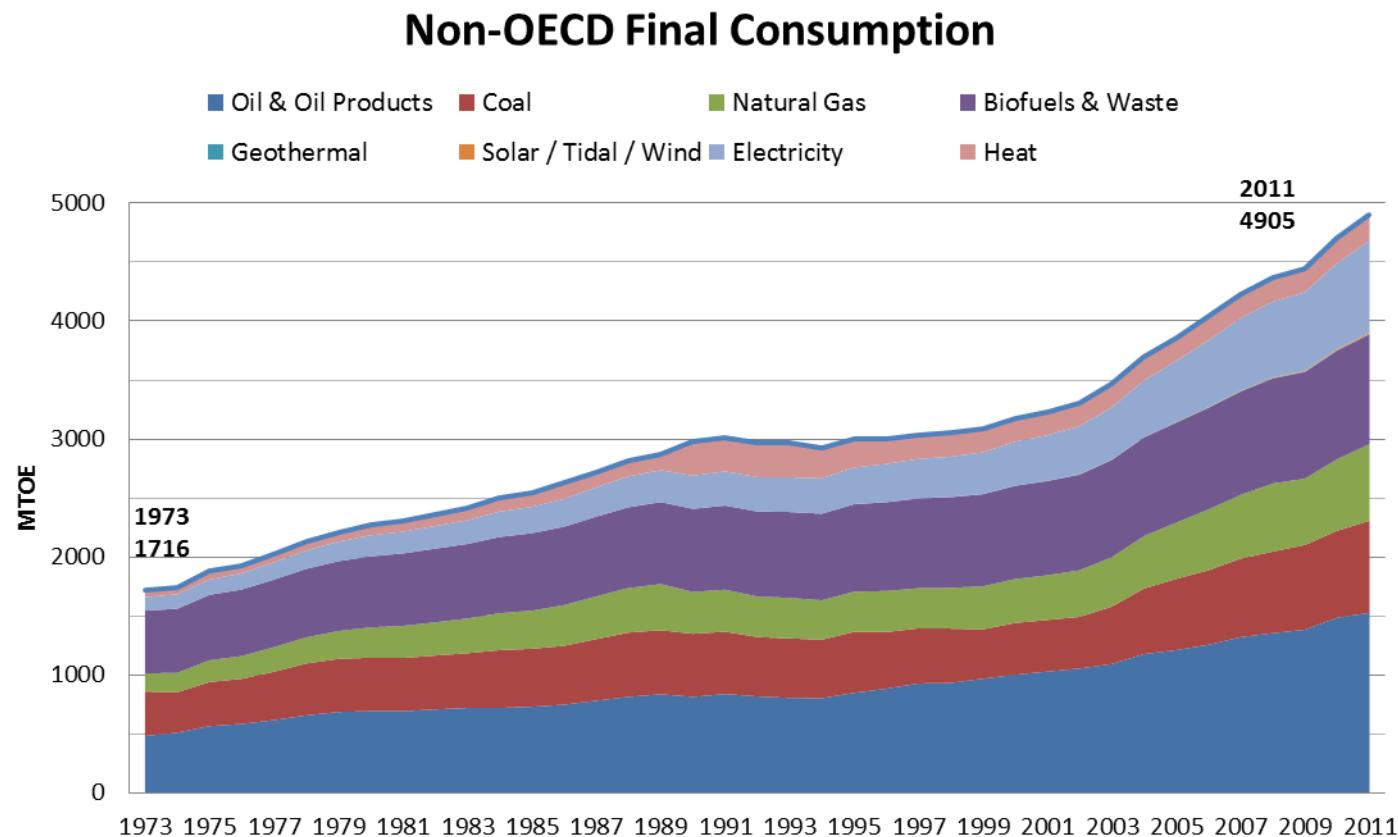
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Demand in emerging economies



Source: IEA Energy Statistics

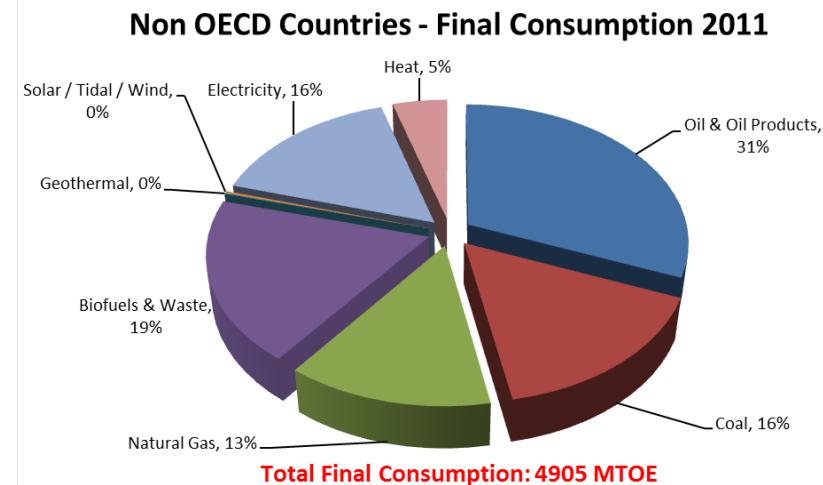
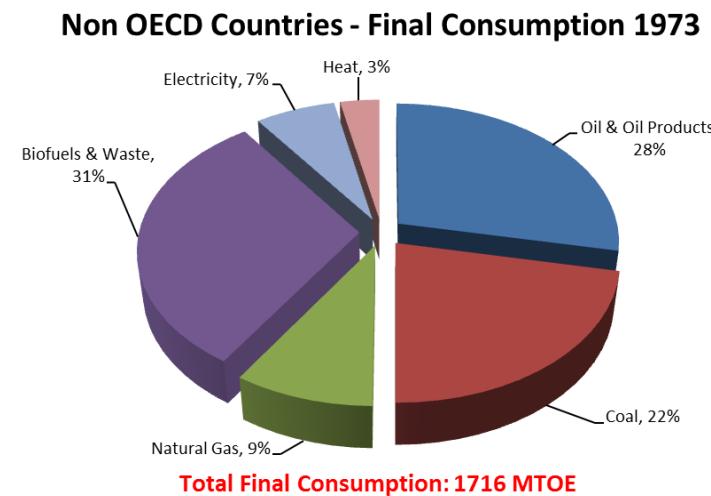
<http://www.iea.org/Sankey/index.html#?c=Non-OECD Total&s=Final consumption> accessed 12/13/13



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Demand in emerging economies



Source: IEA Energy Statistics

<http://www.iea.org/Sankey/index.html#?c=Non-OECD Total&s=Final consumption> accessed 12/13/13

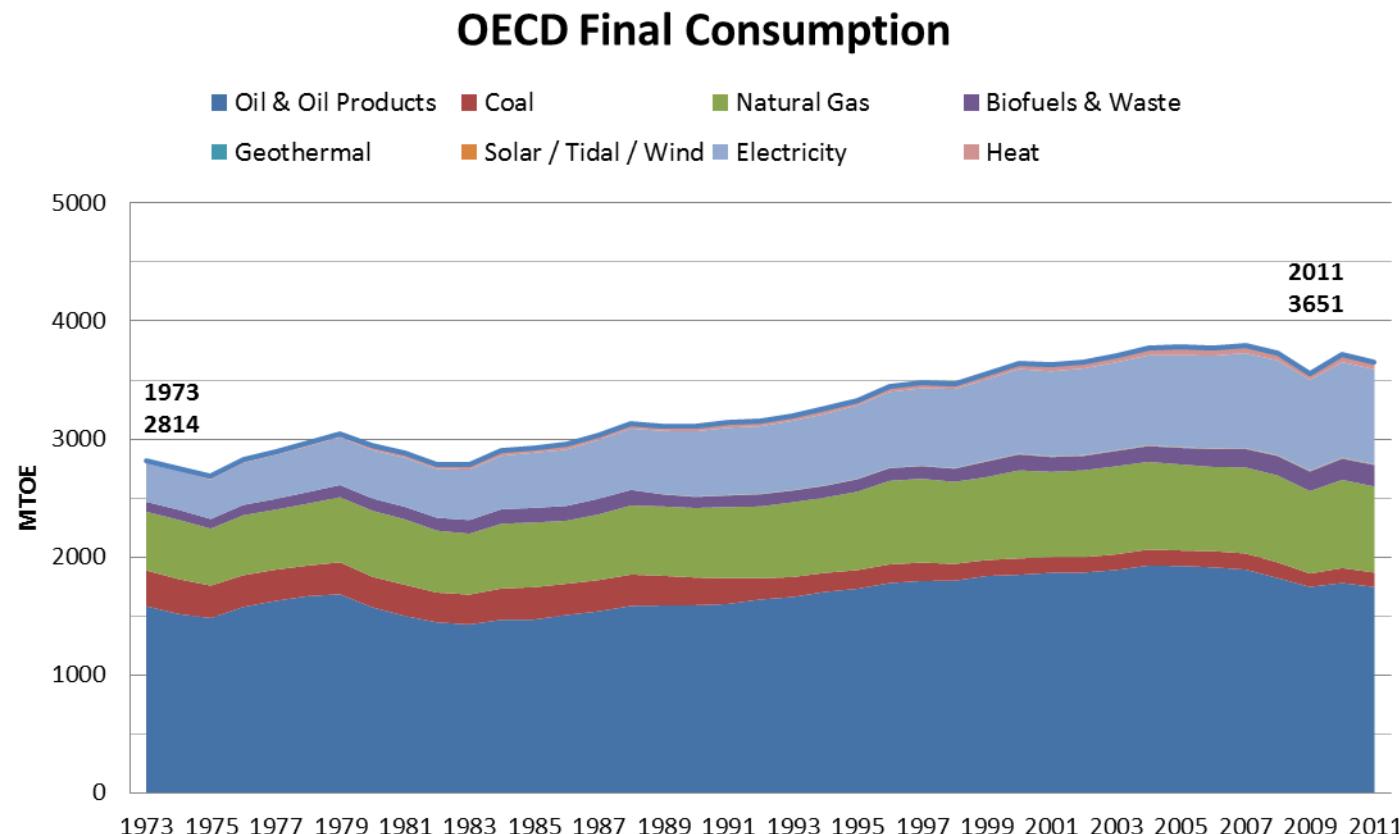
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Demand in developed nations



Source: IEA Energy Statistics

<http://www.iea.org/Sankey/index.html#?c=OECD Total&s=Final consumption> accessed 12/15/13¹⁶

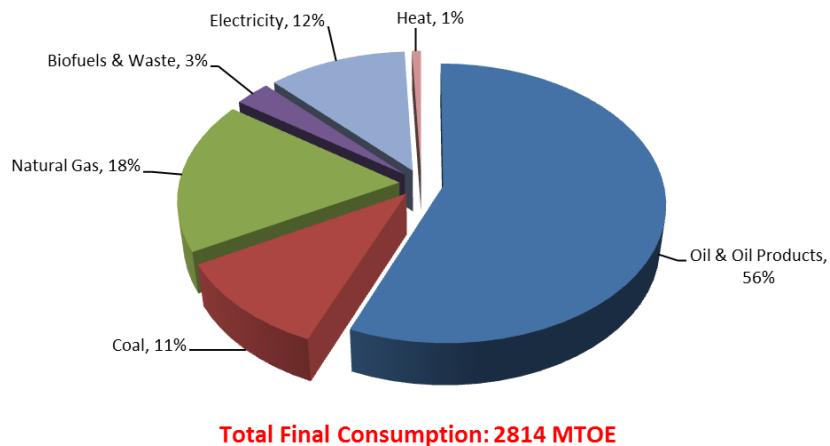


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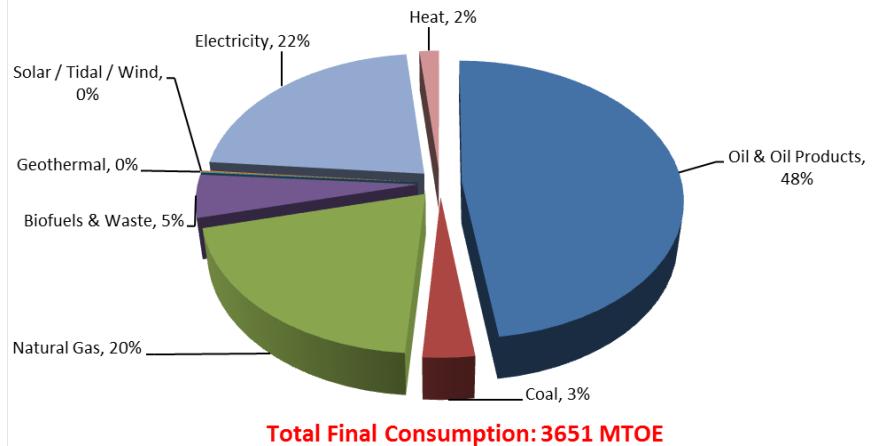
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Demand in developed nations

OECD Countries - Final Consumption 1973



OECD Countries - Final Consumption 2011



Source: IEA Energy Statistics

<http://www.iea.org/Sankey/index.html#?c=OECD Total&s=Final consumption> accessed 12/13/13¹⁷



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Global demand for energy

- Modest growth, diversification in developed nations
 - total OECD demand up 0.7% annually
 - decline in coal, flat oil, growth in electricity, natural gas, and renewables
- Global growth led by emerging economies
 - demand up for all types of energy
 - rapid growth since early 2000's
 - equivalent to 61% of OECD demand in 1973
 - up to 134% of OECD demand in 2011

