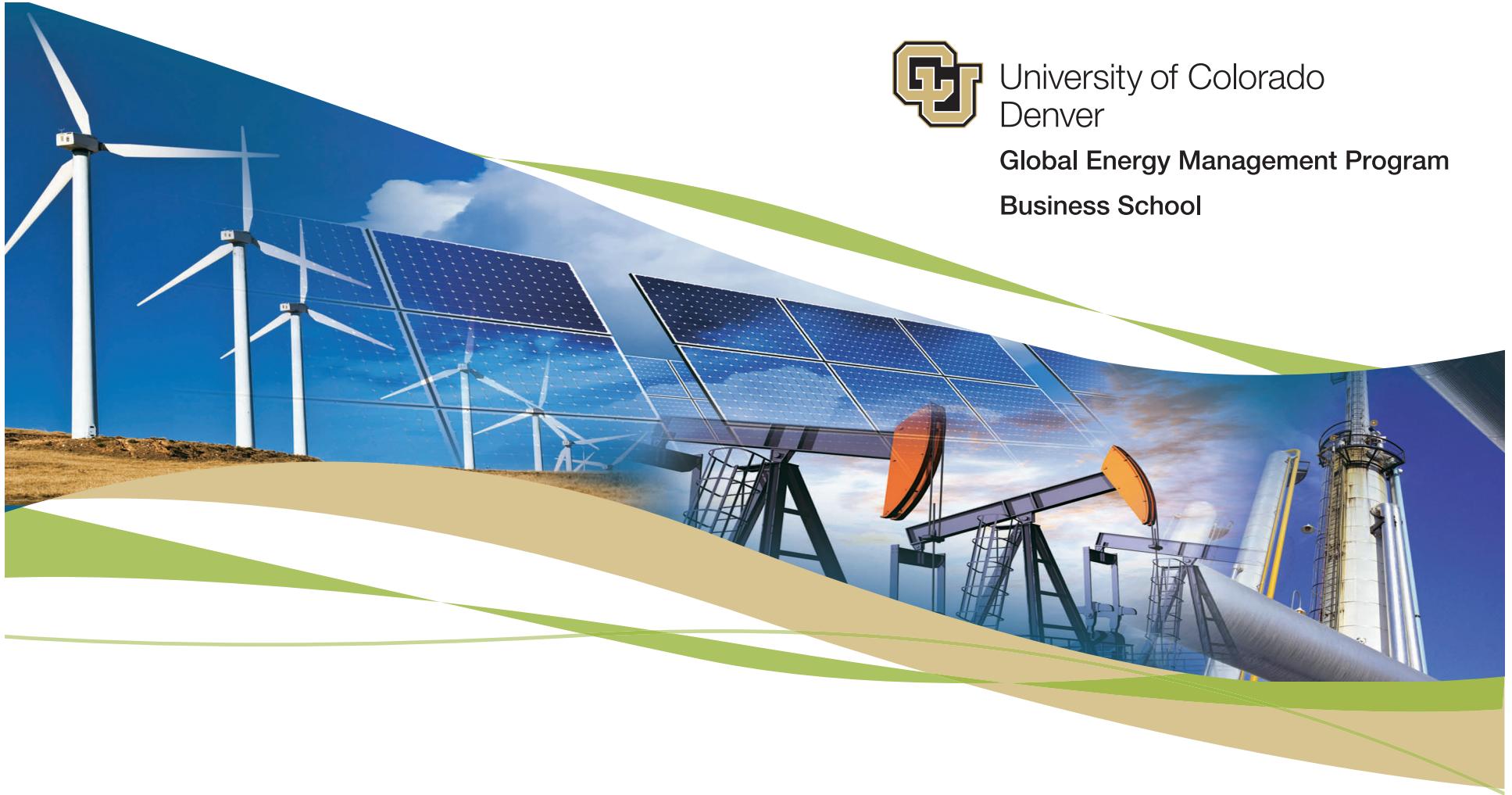




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# Fundamentals of Global Energy Business

Michael J. Orlando

University of Colorado - Denver

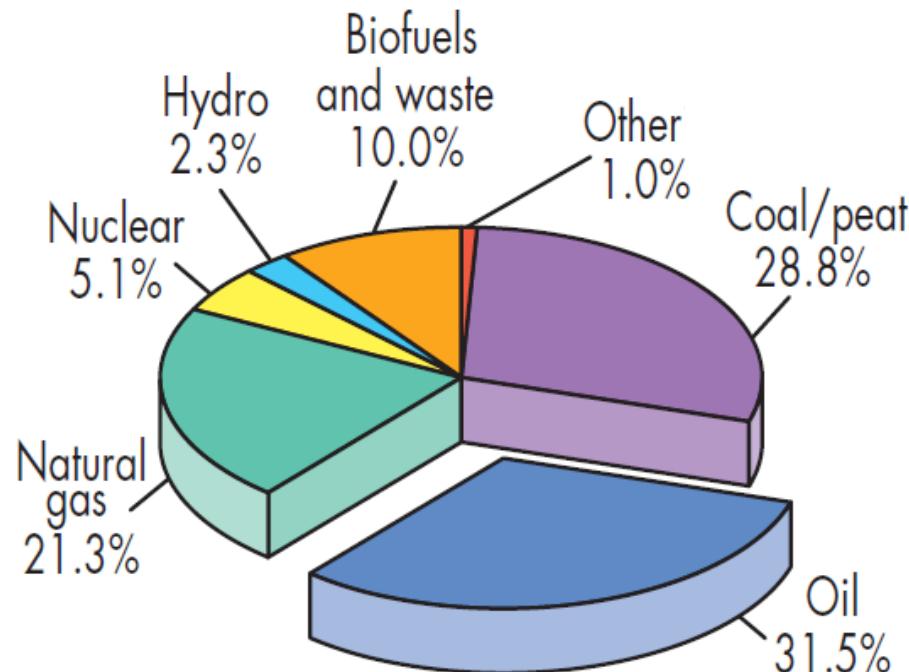
week 2: Supply of Energy

video 4: Where are Primary Energy Resources  
Located?



# Global Energy Supplies

## 2011 fuel shares of TPES



**13 113 Mtoe**

Source: International Energy Agency – 2013 Key World Energy Statistics <<http://www.iea.org/publications/freepublications/publication/KeyWorld2013.pdf>> (accessed 1/25/2014)

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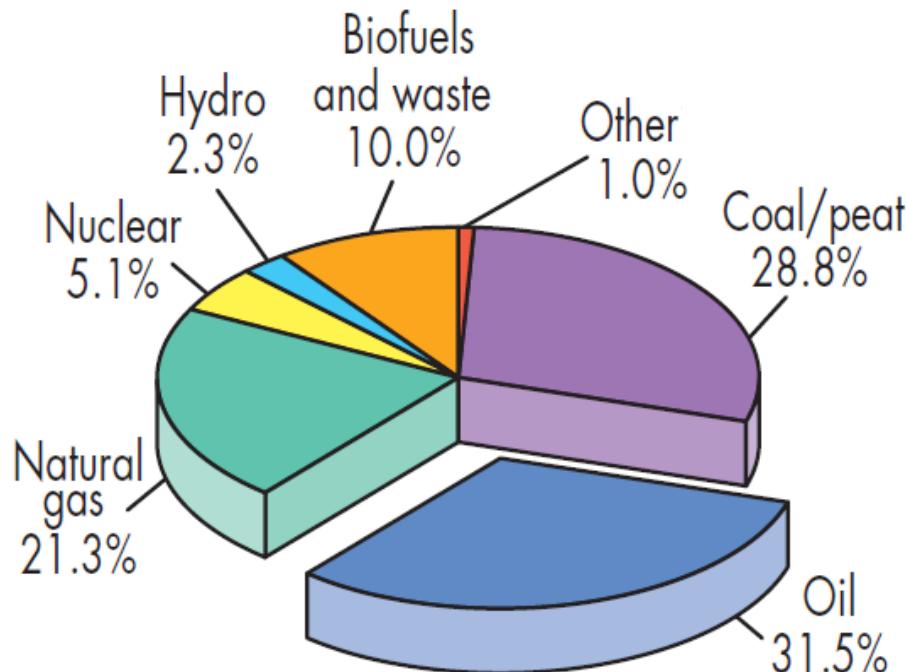


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# Global Energy Supplies

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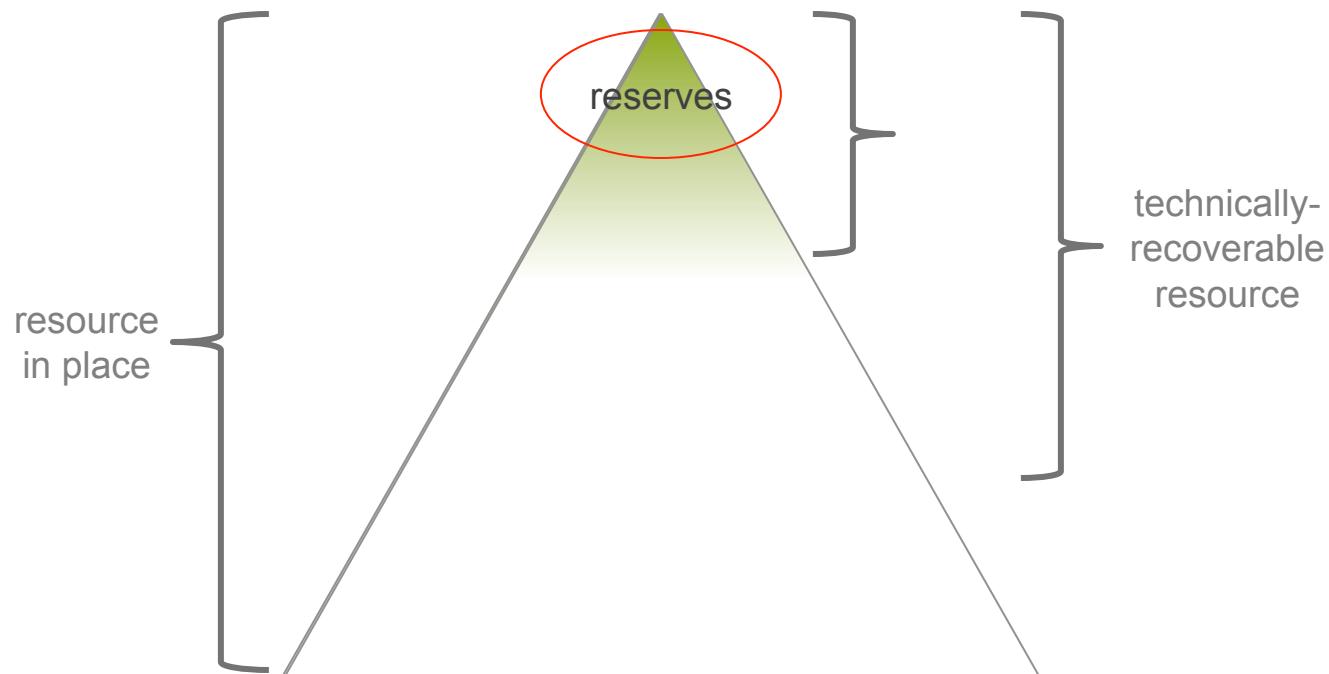


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# Resource Base Categories

- for finite (non-renewable) resources



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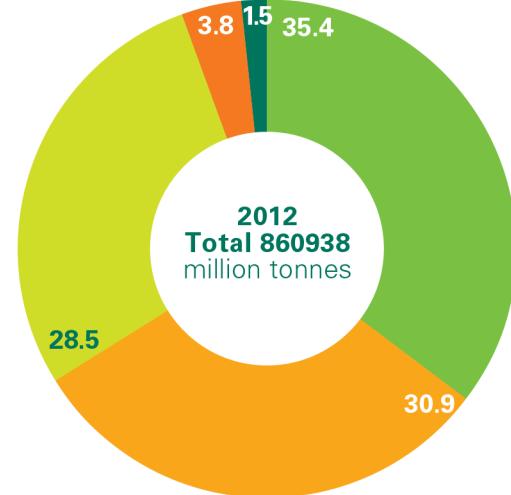
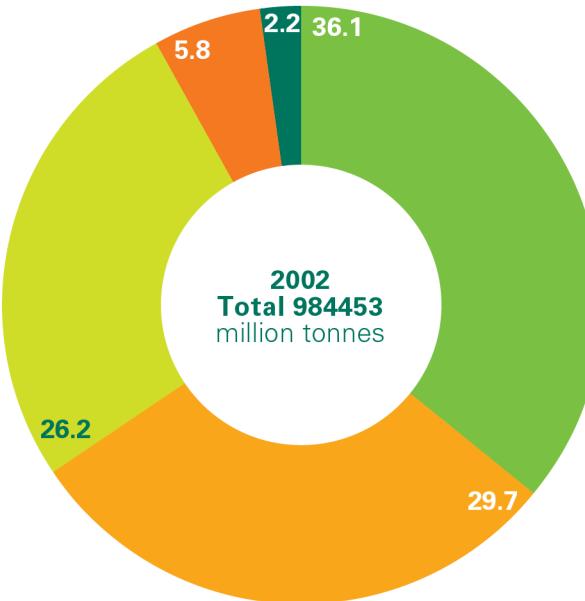
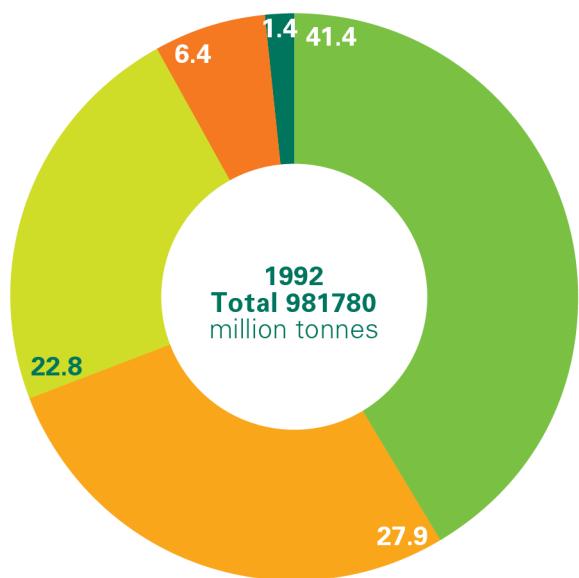
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# Distribution of proved coal reserves

(percentages of annual totals)

- Europe & Eurasia
- Asia Pacific
- North America
- Middle East & Africa
- S. & Cent. America



BP Statistical Review of World Energy 2013, from World Energy Council Survey of Energy Resources 2010

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# Who has the oil?



<http://gcaptain.com/who-has-the-oil-a-map-of-world-oil-reserves?534>, last accessed 07.30.2011

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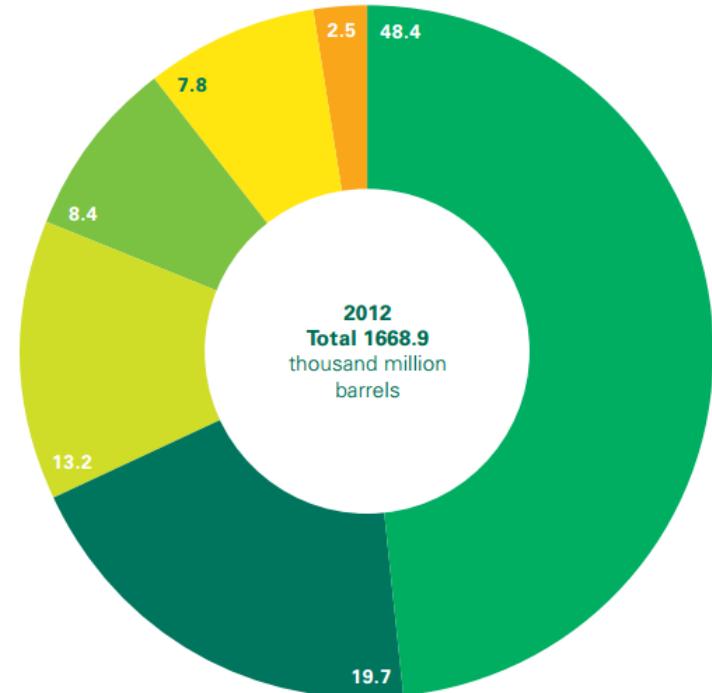
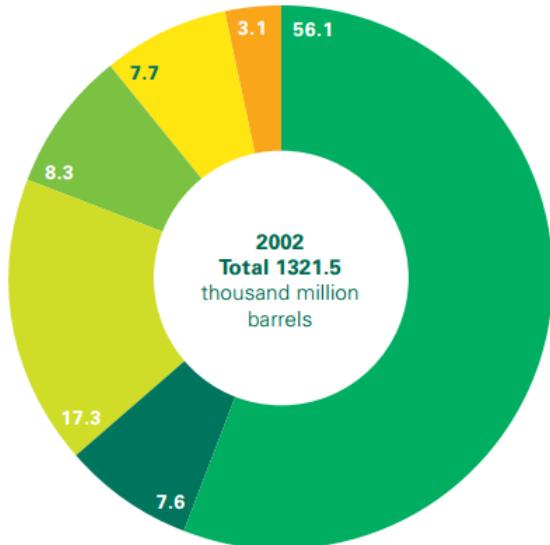
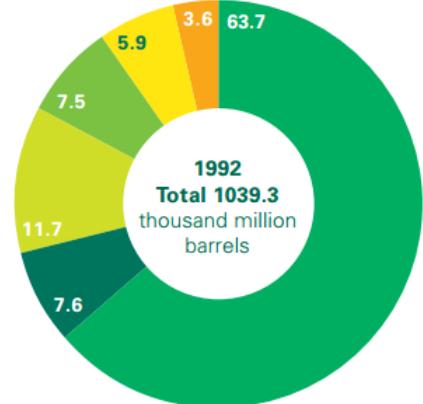
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# Distribution of proved oil reserves

**Distribution of proved oil reserves in 1992, 2002 and 2012**

Percentage

- Middle East
- S. & Cent. America
- North America
- Europe & Eurasia
- Africa
- Asia Pacific



BP Statistical Review of World Energy 2012

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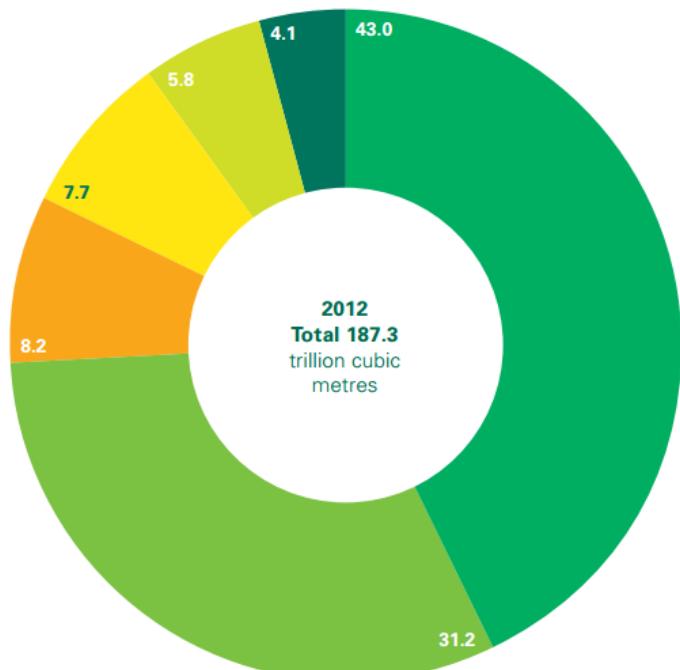
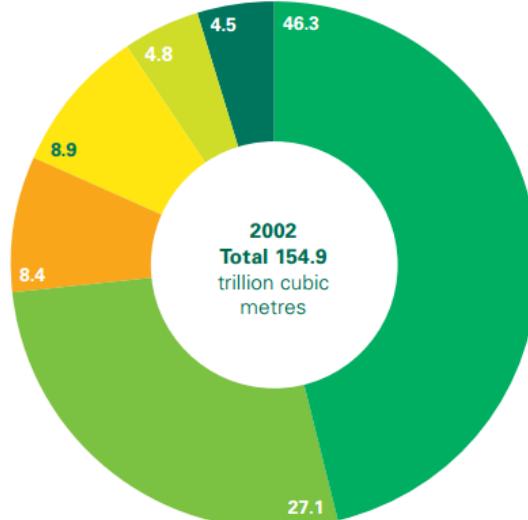
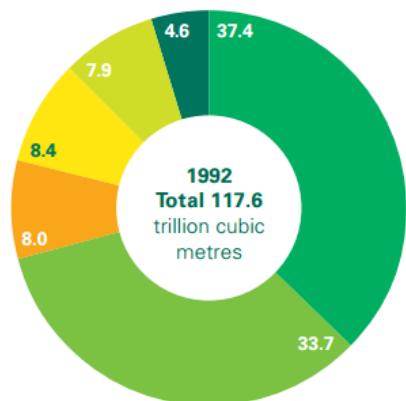
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# Distribution of proved gas reserves

**Distribution of proved gas reserves in 1992, 2002 and 2012**

Percentage

- Middle East
- Europe & Eurasia
- Asia Pacific
- Africa
- North America
- S. & Cent. America



BP Statistical Review of World Energy 2012

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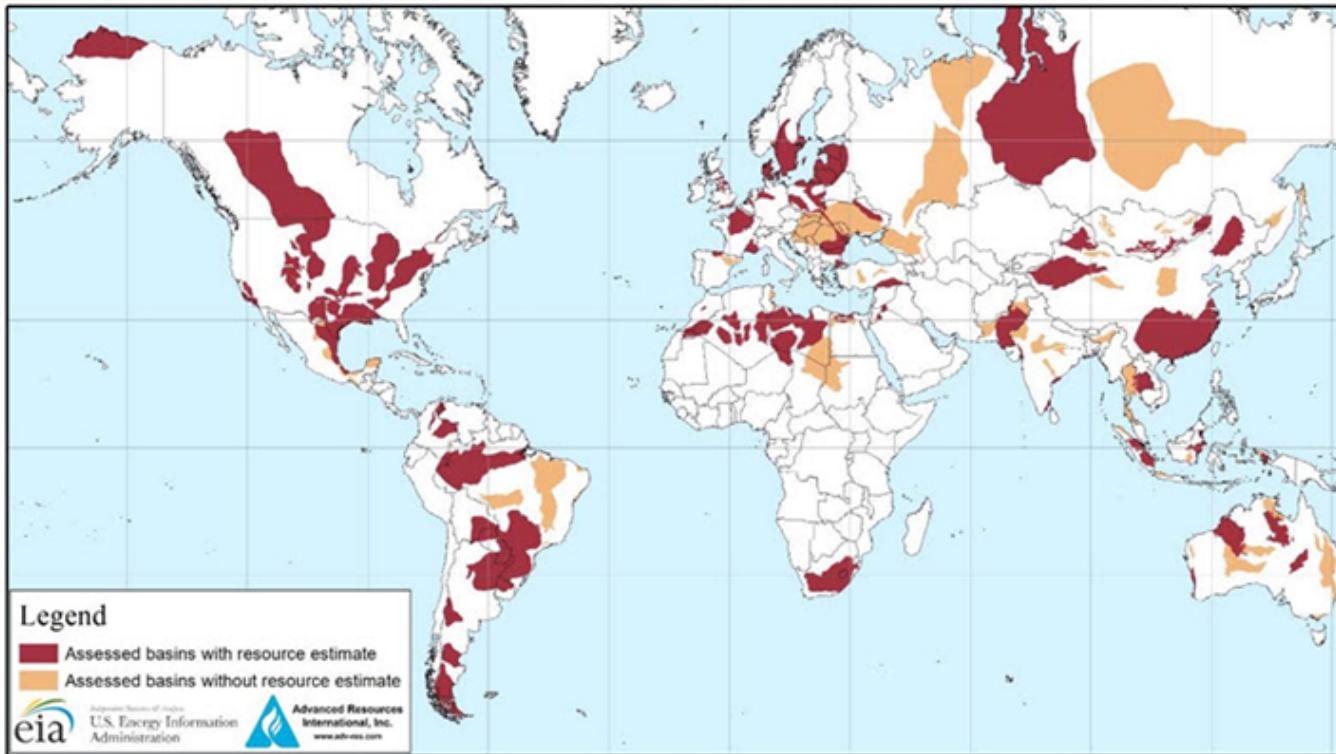


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# World Shale Gas Basins

Figure 1. Map of basins with assessed shale oil and shale gas formations, as of May 2013



Source: United States basins from U.S. Energy Information Administration and United States Geological Survey; other basins from ARI based on data from various published studies.

Source: EIA Maps <http://www.eia.gov/maps/> accessed 1/22/2014

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# Renewables potential

- Not ‘reserves’
- renewables energy supplies are those taken from natural flows occurring around us:
  - sun
  - wind
  - flowing water
- renewables potential  $\approx$  non-renewables reserves

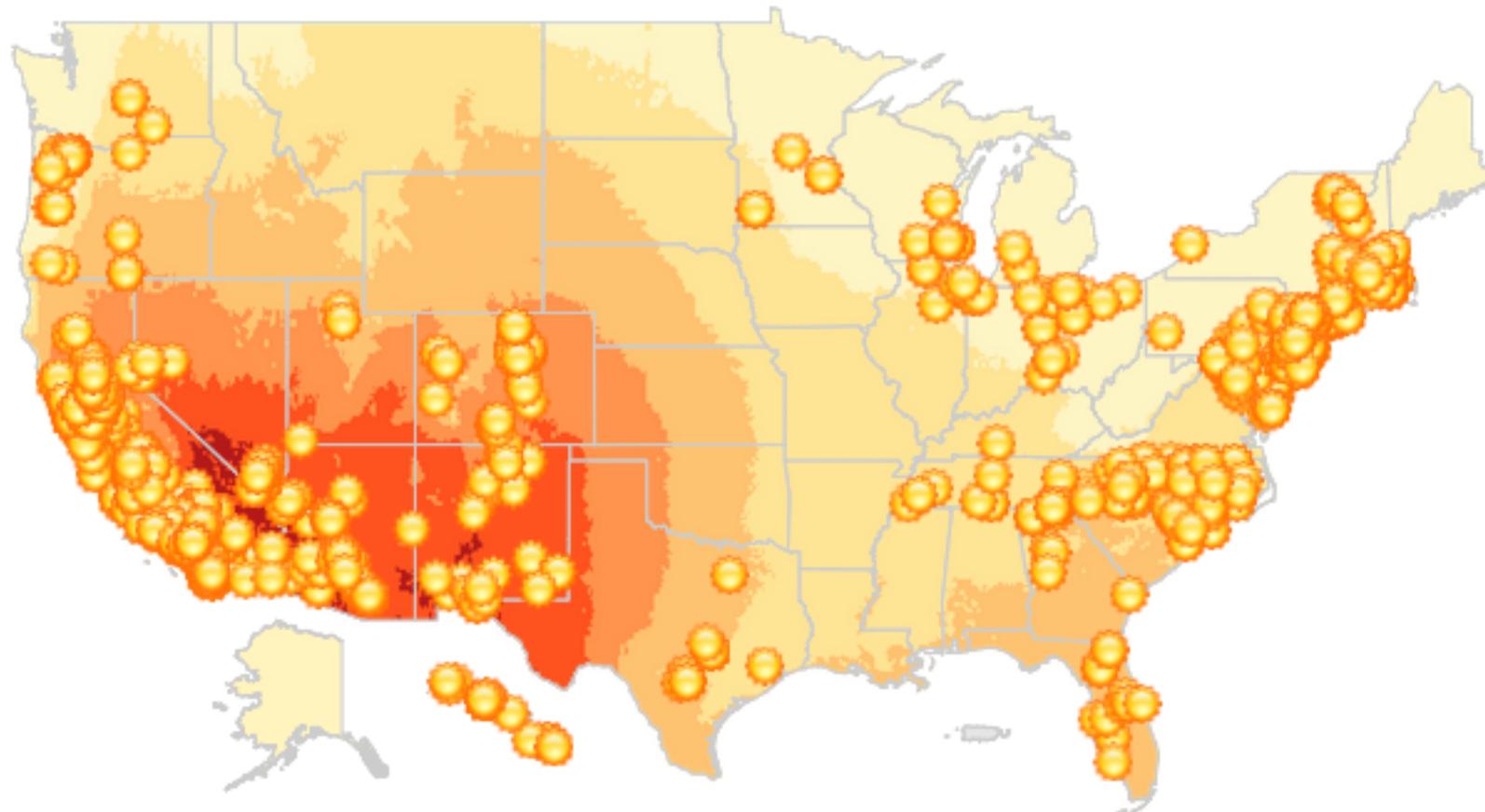
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# Renewables potential – US Solar



Source: Natural Resources Defense Council

<<http://www.nrdc.org/energy/renewables/energymap.asp> (accessed 1/16/2014)>

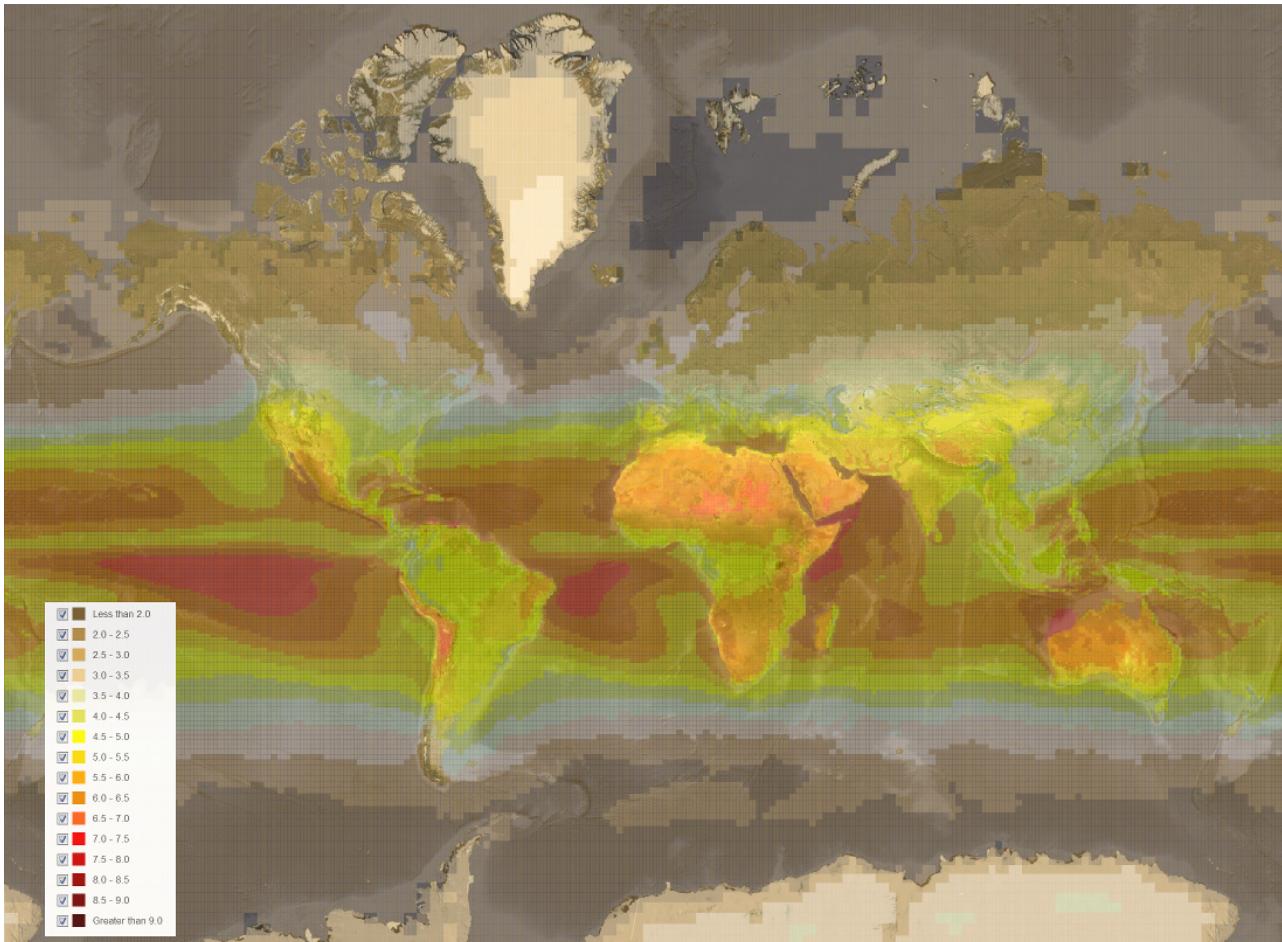
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# Renewables potential – Global Solar



Source: International Renewable Energy Agency (IRENA)

<http://www.nrdc.org/energy/renewables/energymap.asp> (accessed 1/16/2014)

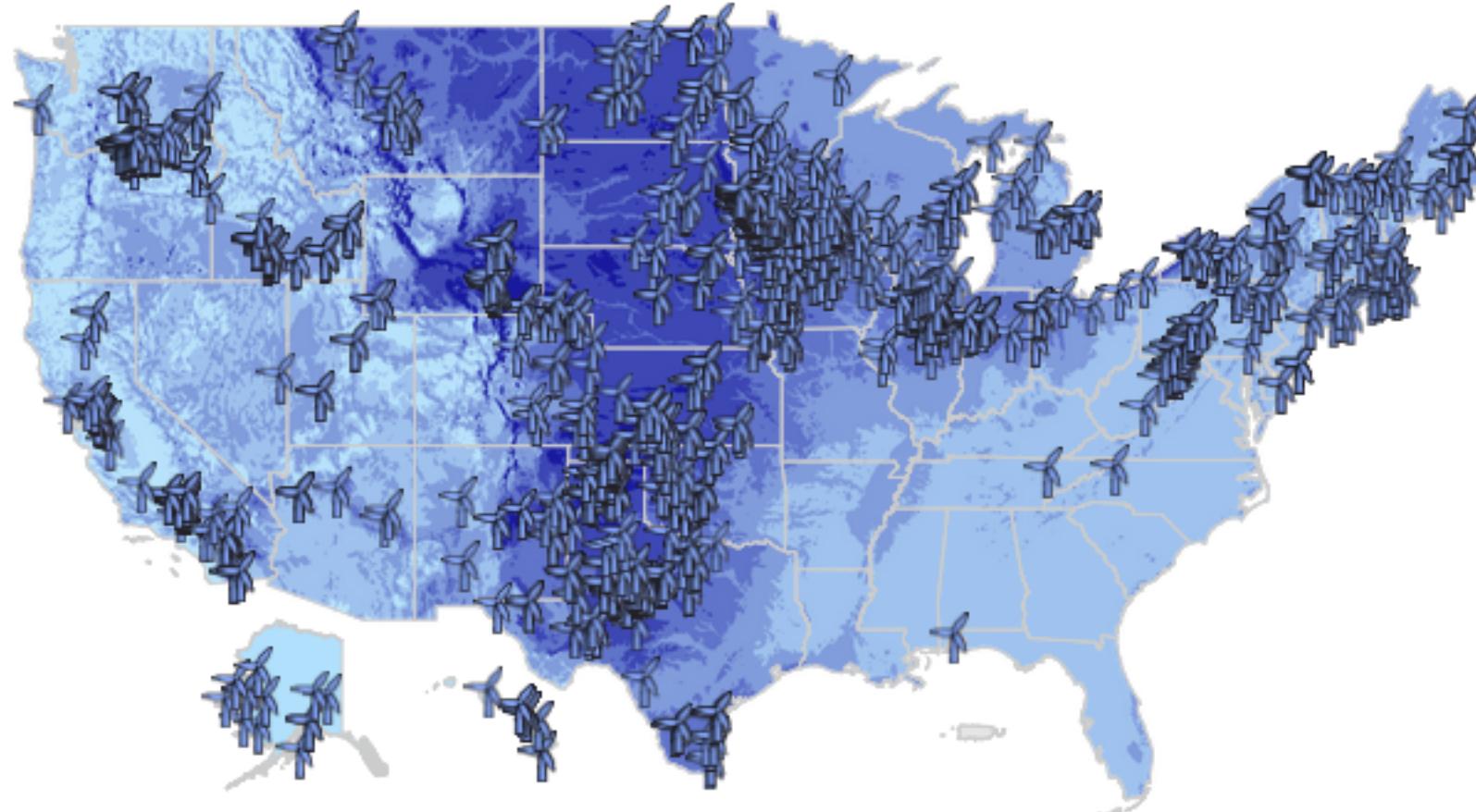
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# Renewables potential – US Wind



Source: Natural Resources Defense Council

<http://www.nrdc.org/energy/renewables/energymap.asp> (accessed 1/16/2014)

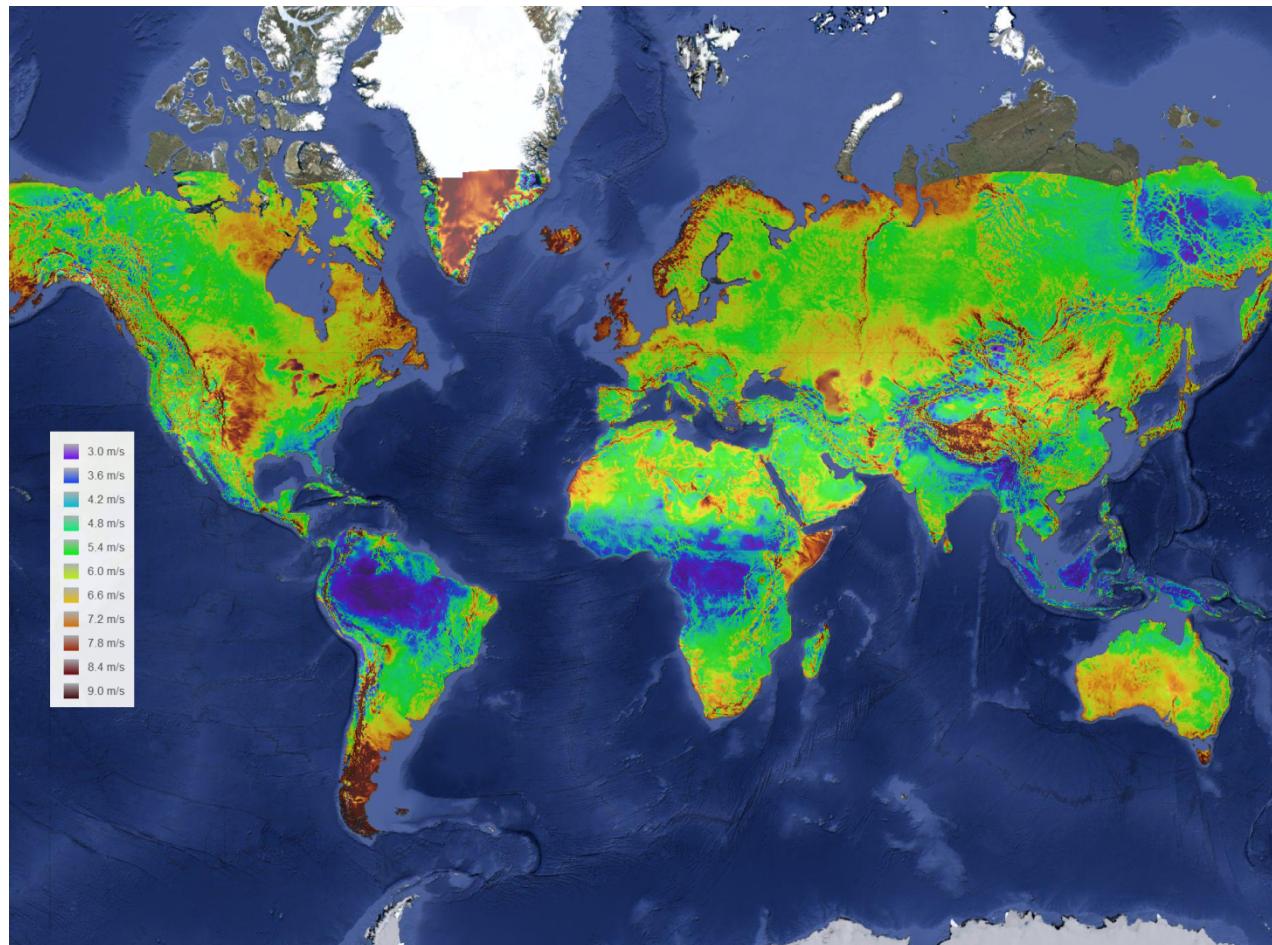
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# Renewables potential – Global Wind



Source: International Renewable Energy Agency (IRENA)

<http://www.nrdc.org/energy/renewables/energymap.asp> (accessed 1/16/2014)

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