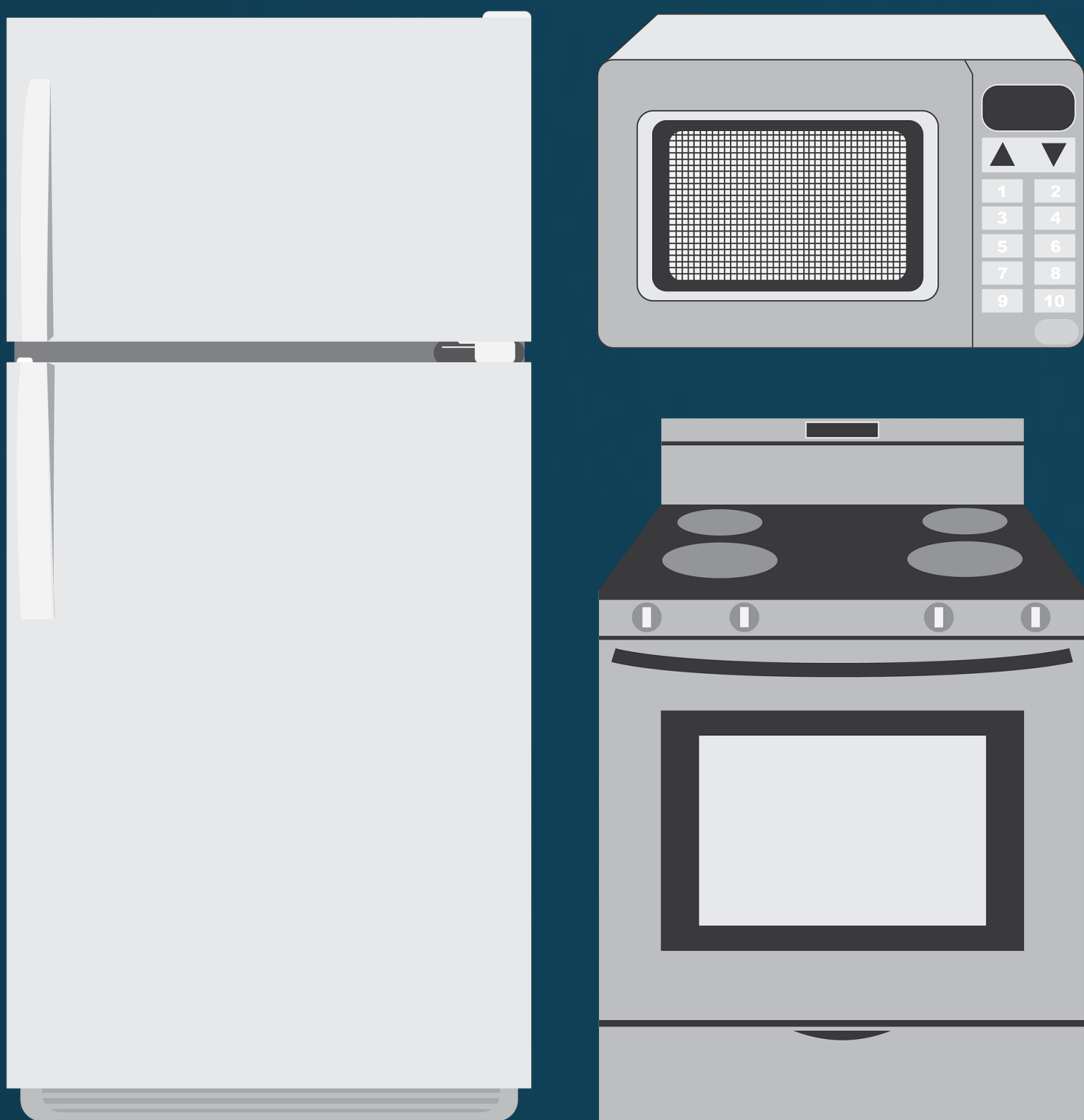# Python for Energy Policy Research

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Purpose

Encourage fellow Pythonistas to apply their ninja skills to influence large scale improvements in energy consumption patterns.

Appliance standards

Smart home for energy efficiency

Modernize the grid

Electric Vehicles

Solar Panels

Advanced windows

U.S. primary energy consumption by source and sector, 2015
Total = 97.7 quadrillion British thermal units (Btu)

percent of sources   percent of sectors

petroleum[1]
35.4
(36%)
[2]Excludes supplemental gaseous fuels.

natural gas[2]
28.3
(29%)

coal[3]
15.7
(16%)

renewable energy[4]
9.7 (10%)

nuclear electric power
8.3 (9%)

source

transportation
27.6
(28%)

industrial[5]
21.2
(22%)

residential and
commercial[6]
10.6 (11%)

electric power[7]
38.2
(39%)

sector

72 92
23 3
4 5
1
39
3 44
33 7 11 15
28 76
35
1
1
9 1
31 26
91 14
24 37
9 13
53 22
100

[1]Does not include biofuels that have been blended with petroleum—biofuels are included in "Renewable Energy."
[2]Excludes supplemental gaseous fuels.
[3]Includes less than -0.02 quadrillion Btu of coal coke net imports.
[4]Conventional hydroelectric power, geothermal, solar/photovoltaic, wind, and biomass.
[5]Includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants.
[6]Includes commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

[7]Electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes 0.2 quadrillion Btu of electricity net imports not shown under "Source."
Notes: Primary energy in the form that it is first accounted for in a statistical energy balance, before any transformation to secondary or tertiary forms of energy (for example, coal is used to generate electricity). Sum of components may not equal total due to independent rounding.
Sources: U.S. Energy Information Administration, Monthly Energy Review (April 2016), Tables 1.3, 2.1-2.6.

Energy use by type of industry, 2010[1]

Other
22%

Petroleum
refining
31%

Metal
9%

Paper
11%

Chemical
27%

Source: U.S. Energy Information Administration, Manufacturing Energy Consumption Survey 2010, Table 1.2 (March 2013)

[1]Includes all use of energy and fuels; excludes shipments of energy sources produced onsite.

How Energy Is Used in Homes (2009)*

Space Heating
42%

Lighting and Other
Appliances
30%

Water Heating
18%

Refrigeration
5%

Air
Conditioning
6%

* 2009 is the most recent year for which data are available.

Source: U.S. Energy Information Administration, Residential Energy Consumption Survey (RECS) 2009.