

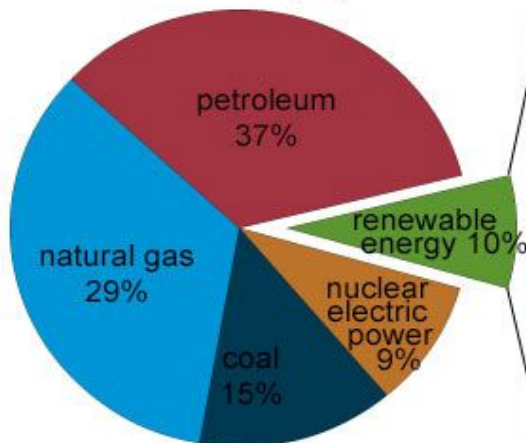
March Newsletter

Some facts regarding 2016 energy usage in U.S

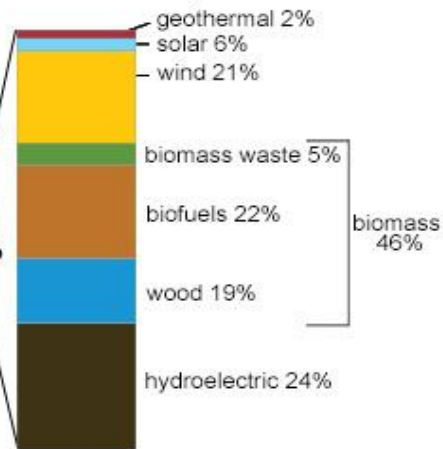
- In 2016, total U.S. primary energy consumption per person (or per capita consumption) was about 301 million British thermal units (Btu).
- The United States is the second biggest consumer of energy in the world.
- In 2016, world total primary energy consumption was about 542 quadrillion British thermal units (Btu), and U.S. primary consumption was about 97 quadrillion Btu, equal to 18% of world total primary energy consumption.
- Fossil fuels continue to account for the bulk of U.S. energy consumption, and the consumption of petroleum and natural gas both increased in 2016.
- Approximately 40 percent of the energy consumed in the United States is used to generate electricity. But because of conversion losses during the electricity generation process, of that 40 percent, only 13 percent of this energy is available for end uses.

U.S. energy consumption by energy source, 2016

Total = 97.4 quadrillion
British thermal units (Btu)



Total = 10.2 quadrillion Btu



Note: Sum of components may not equal 100% because of independent rounding.

Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 and 10.1, April 2017, preliminary data



Why should we save energy ?

- Conservation can save you money!
- Less electricity used means less fossil fuels burned. It's true that we can obtain electricity from cleaner sources of energy such as wind and solar power, but much of the electricity that we use is still from sources such as oil and coal. Fossil fuels are not renewable sources and the more electricity we consume, the faster these resources will be depleted.

---Fossil fuels are not a clean source of energy. Conservation of electrical energy can help to lessen pollution and reduce greenhouse gas emissions.
---As part of the big picture, conservation can also help reduce the risk of oil spills and the threats that coal and oil procurement pose to our ecosystems around the world.

Energy saving around Arlington

The town of Arlington was designated a Green Community by the Massachusetts Department of Energy Resources in 2010. In 2014, we met our goal of reducing municipal energy use by 20%. More information about Arlington's reduction of municipal energy consumption can be found here:

<https://www.mass.gov/files/documents/2017/10/19/green-communities-case-study-arlington.pdf>

Energy saving initiatives at the Arlington Public Schools:

1- There are solar panels on six of the nine Arlington public school buildings (AHS, Dallin, Ottoson, Peirce, Stratton, Thompson) with display screens in each of the participating schools to educate the school community about how much clean energy each school is producing. Data about the solar panels from the six participating schools is also posted on the town website:

<https://www.arlingtonma.gov/i-want-to-/green-arlington/solar-pv-program>

2- Installation of new, efficient natural gas boilers in place of outdated oil boilers

3-LED exterior lighting

4-Installation of energy management systems (EMS) to provide centralized control, scheduling and monitoring of HVAC systems

5-Recent school rebuilds (Thompson Elementary, Stratton Elementary) were designed with light shelves, which reflect daylight into the rooms, daylight dimming sensors, occupancy sensors, and efficient plumbing fixtures. Thompson was designated as a Verified Leader through the Collaborative for High Performance Schools, which requires a school "must be balanced in providing benefits to the environment, student health and student performance."

6-The upcoming high school rebuild project is pursuing a net-zero energy design.

7- Peirce and Brackett Green Teams collected data on energy use in their schools and learned which lights are on sensors, which lights are left on at night and the weekends, which classrooms are too hot or cold, where they felt air getting in through openings in doorways, etc. Peirce Green Team plans to make signs in their schools to encourage students to save energy and reduce waste and Brackett Green Team reported their findings to Ken Pruitt, our Town Energy and Project Manager.

Monthly Challenges

---Try washing your clothes in cold water

--->You can save around \$115 per year by washing clothes in cold water. You can also save by making sure you select the shortest appropriate washing cycle and waiting until you have a full load.

---Try to invest your house's energy use. Create an energy-usage card for your house that notes the way your houses are built and insulated, heated and cooled, your lighting and water heating. Compare with your friends' cards and reflect on how you can efficiently reduce energy consumption for your household.

---Design a house model that applies the concept of passive solar heating

<https://www.energy.gov/energysaver/energy-efficient-home-design/passive-solar-home-design>

<https://sustainability.williams.edu/green-building-basics/passive-solar-design>



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---Senior at Arlington High School. Interested in science, especially biomedicine, and is currently taking AP Environmental Science course.