



**1.818J/2.65J/3.564J/10.391J/11.371J/22.811J/ESD166J**  
**SUSTAINABLE ENERGY**

Prof. Michael W. Golay  
Nuclear Engineering Dept.

# ENERGY HISTORY MILESTONES

Before 1700 – A Renewable Energy World: Biomass, Wind, Hydro

1698	Thomas Savery	Steam-driven pump
1711	Thomas Newcomen	Atmospheric piston-driven steam engine for a pump
1785	James Watt	More efficient, higher pressure, separated steam engine – First to produce sufficient power for broad-scale use
1862	Beau de Rochas	Four-stroke reciprocating piston, spark-ignited internal combustion engine
1876	Baron Otto	Improved four-stroke reciprocating piston, spark-ignited internal combustion engine
1881	Brush Electric Light Co., Philadelphia	First electric power plant
1892	Rudolph Diesel	Diesel engine
1896	Henri Becquarel	Discovery of natural radioactivity
1903	Fisk St. Sta., Commonwealth Edison Co., Chicago	First steam turbine-driven electric power plant

# ENERGY HISTORY MILESTONES, continued

1932	James Chadwick	Discovery of the neutron
1933	Irene and Frederic Joliot-Curie	Discovery of artificial radioactivity
1938	Otto Hahn, Lise Meitner and Fritz Strassmann	Discovery of neutron-induced fission
1942	Enrico Fermi	First man-made critical nuclear reactor
1951	Howard Zinn	First nuclear electricity produced, by EBR-1
1954	Hylan Rickover	First nuclear submarine, USS Nautilus
1958	Atomic Energy Commission	First commercial nuclear electric power plant, Shippingport