

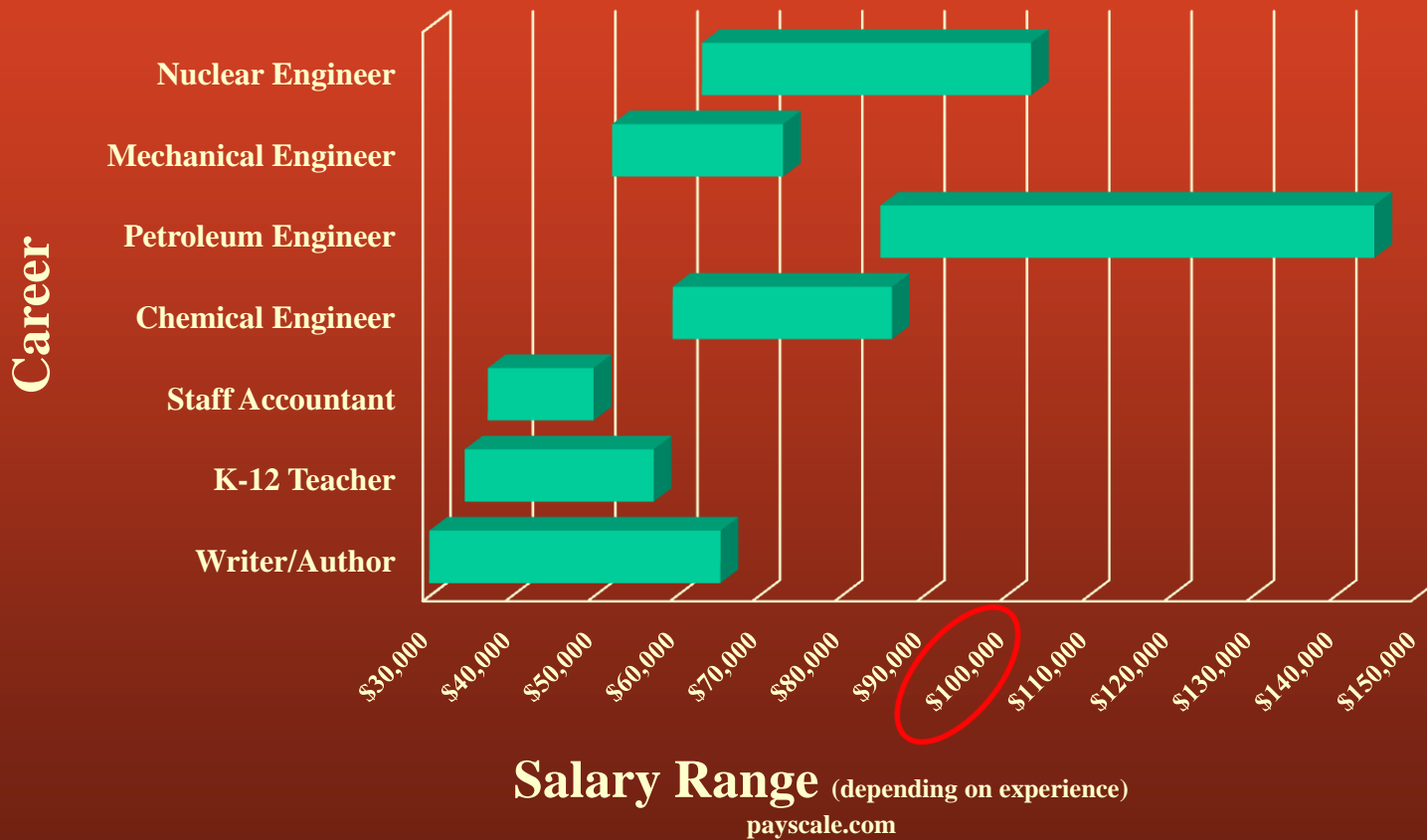


# Engineering at UTPB

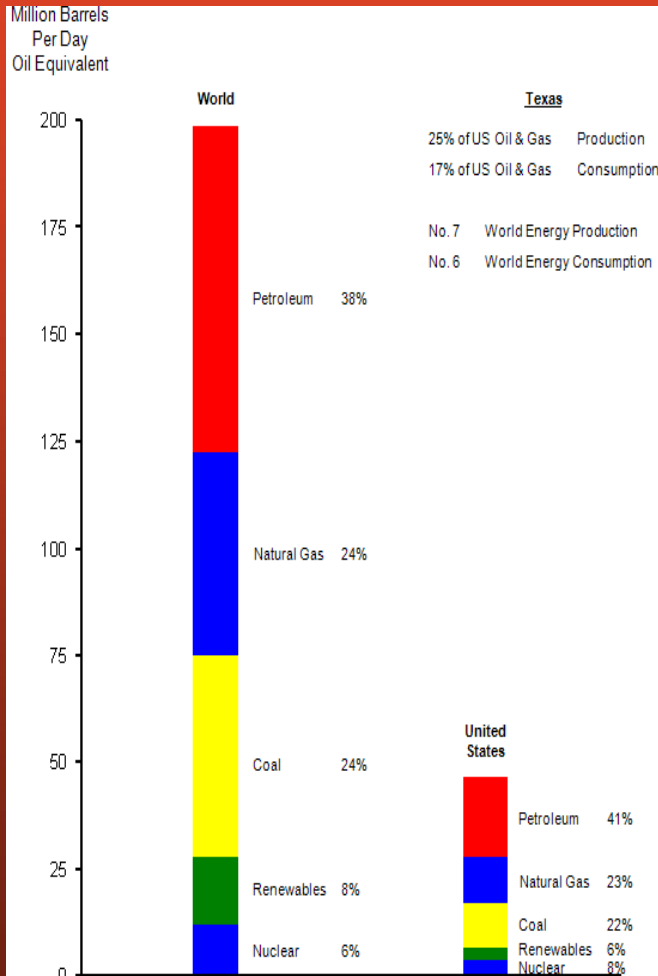
- Mechanical:
  - Nuclear Option
  - Classical
- Petroleum (Fall 2011)
- Chemical (planned)

# \$ix Figure \$alary?

## 2010 Payscale Data



# What is Energy?



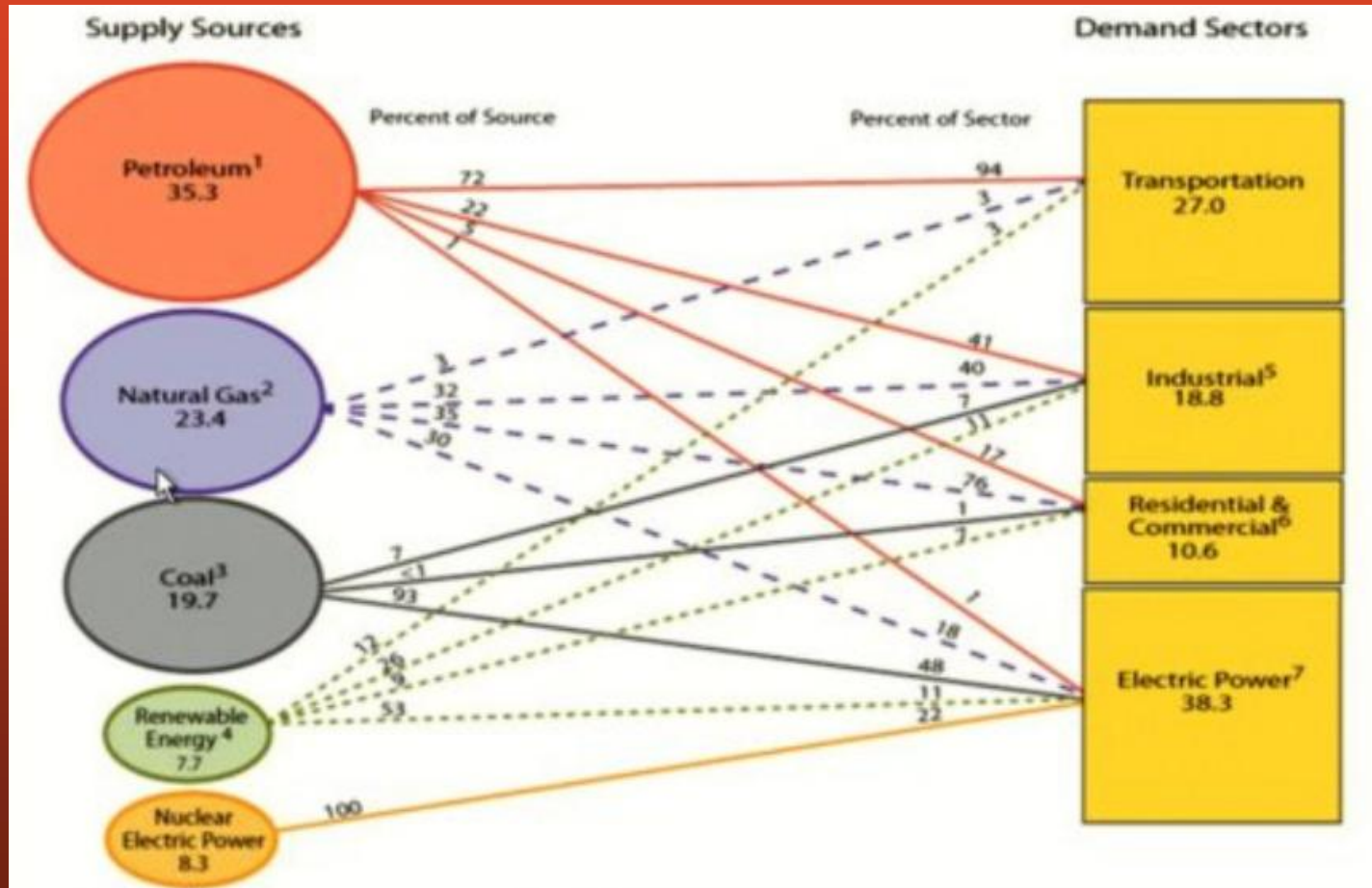
- Gives ability to “do something”
- Comes in many forms
- Changes form only
  - Conservation
- Measured in Joules or KWh.

Groppe, 2009



# US Energy Consumption, 2009

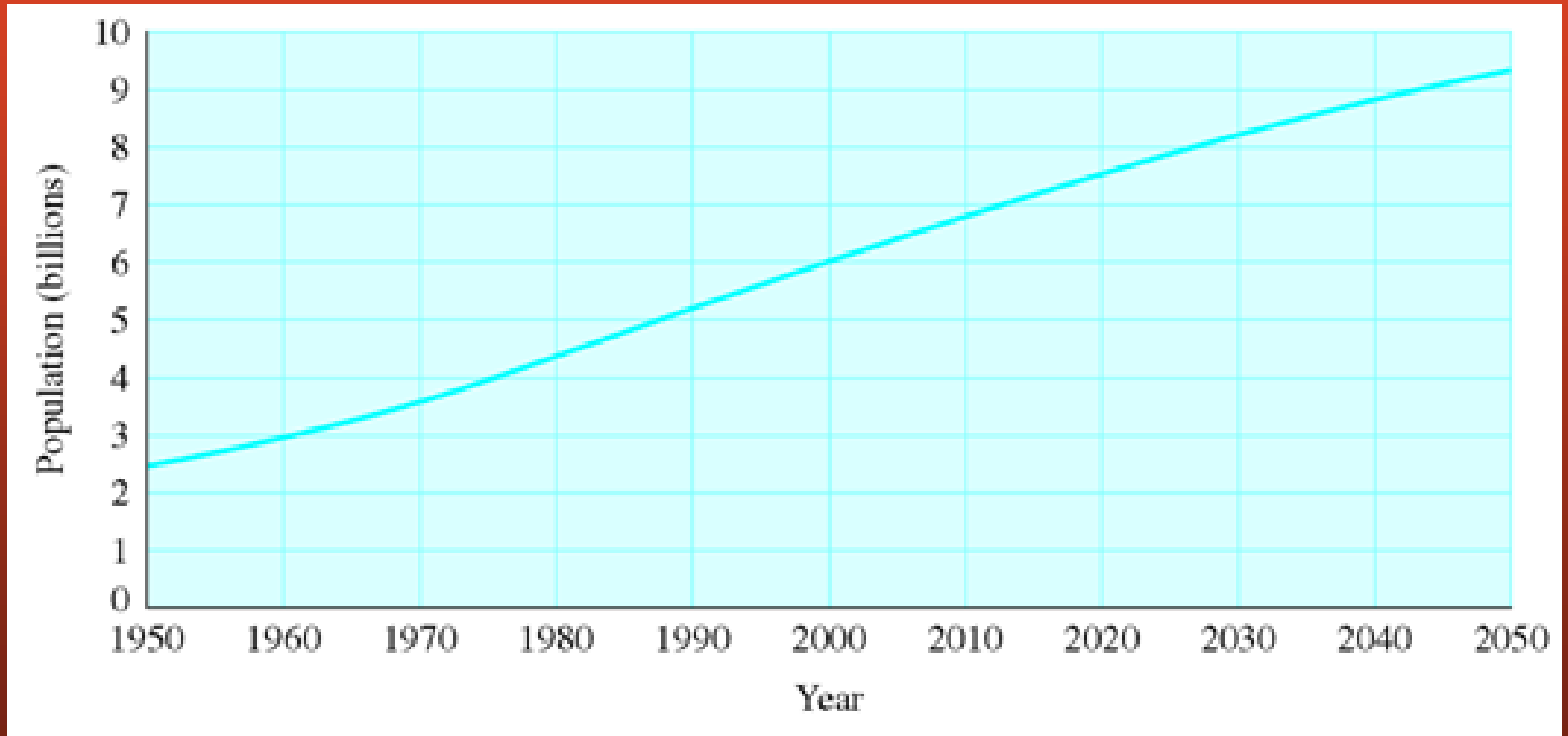
(Quadrillion BTU)



60%

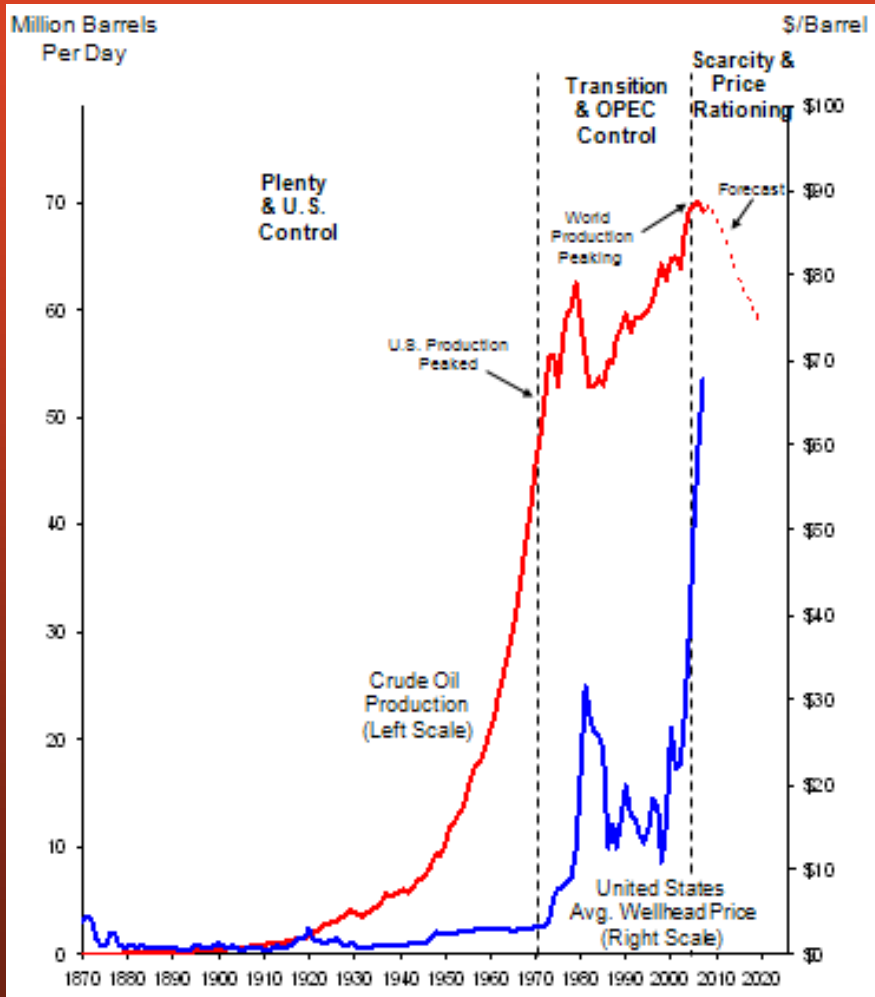
Energy Information Administration, 2009

# World Population



Moaveni, 2008

# Oil Prices

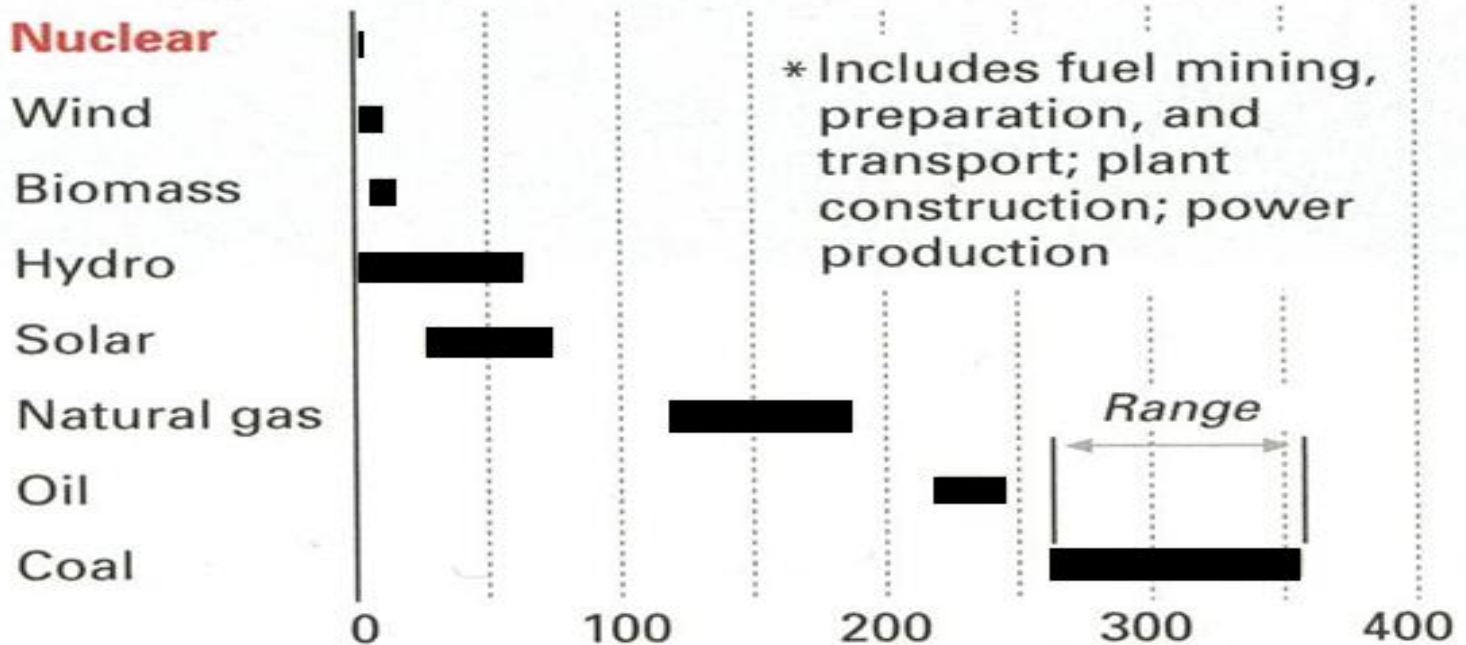


- Three periods
- Future: Scarcity
- Impetus for new main source
- Many options available:
  - Fossil Fuels
    - Coal
    - Natural Gas
  - Biomass
  - Renewables:
    - Wind
    - Solar
    - Geothermal
    - Osmosis
  - Nuclear

Groppe, 2009

# Why Nuclear?

**Greenhouse gas emissions by fuel type\***  
(grams of carbon equivalent per kilowatt-hour)

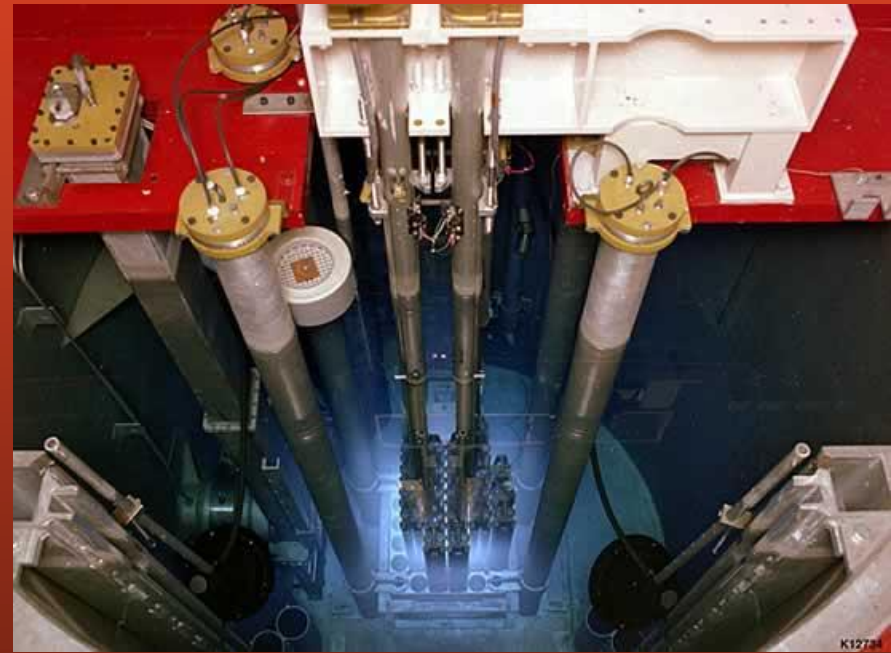


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# Future Energy Source

- Clean
- Inherently Safe
- High Energy Yield: Uranium 10 Million times Carbon fuels (per atom<sup>1</sup>).
- Waste issue: Must Reprocess
- 110 US Nuclear Power Plants

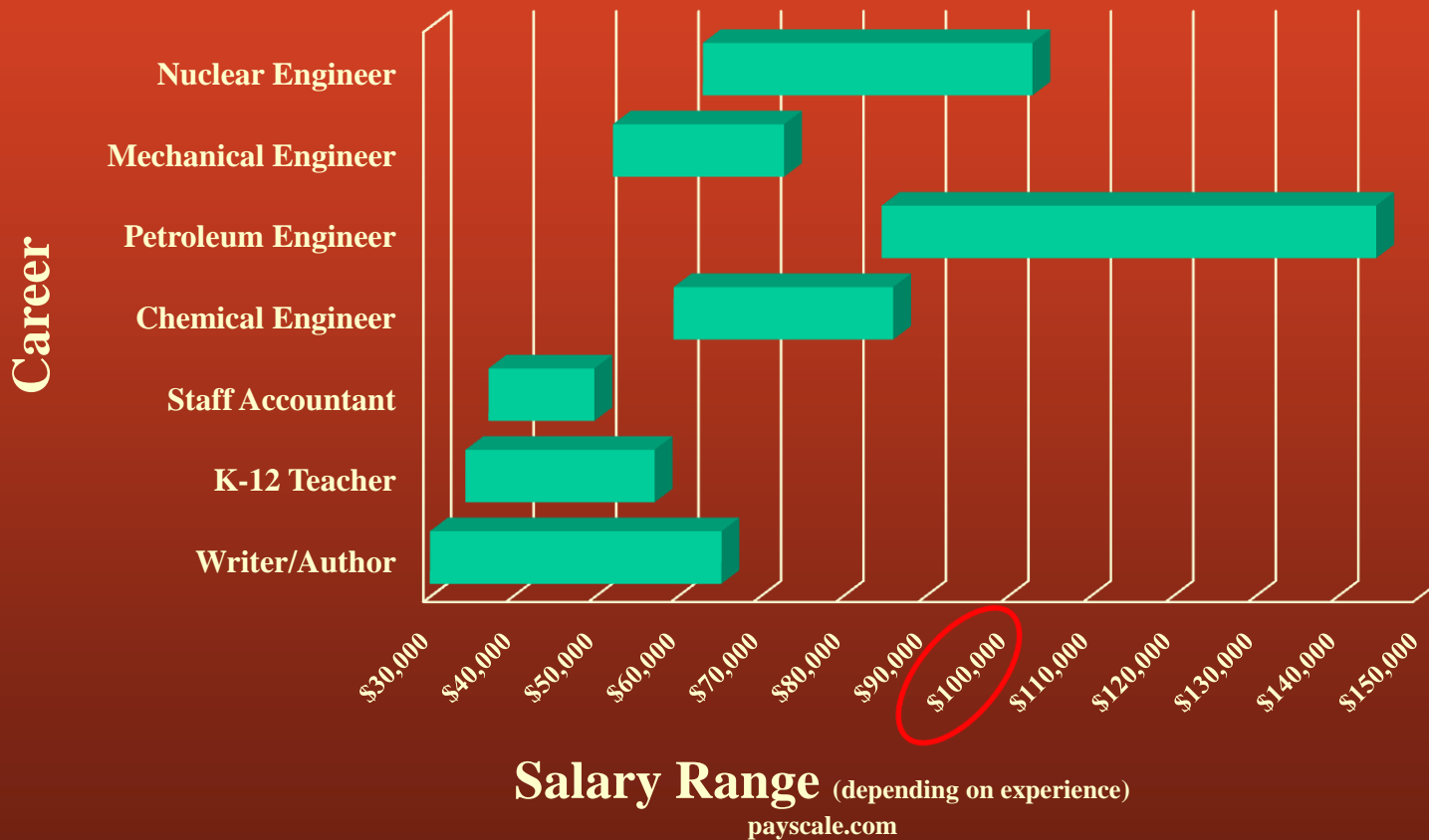
1. 1/3 AAA battery-size Uranium pellet equivalent to: **149** gallons of oil, **1** tons of coal, **17,000** ft<sup>3</sup> of natural gas.

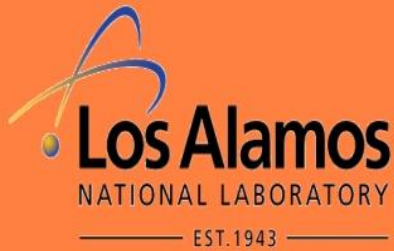


General Atomics: TRIGA Reactor

# \$ix Figure \$alary?

## 2010 Payscale Data





*Engineering and the HT<sup>3</sup>R*  
*(High-Temperature Teaching & Test Reactor)*

**Mechanical Engineering: Nuclear & Classical**

**Apply for \$8K Scholarships**

**[http://www.utpb.edu/research-grants/ht3r/  
tiny.cc/heater](http://www.utpb.edu/research-grants/ht3r/tiny.cc/heater)**  
**Phone: 432-552-2096**

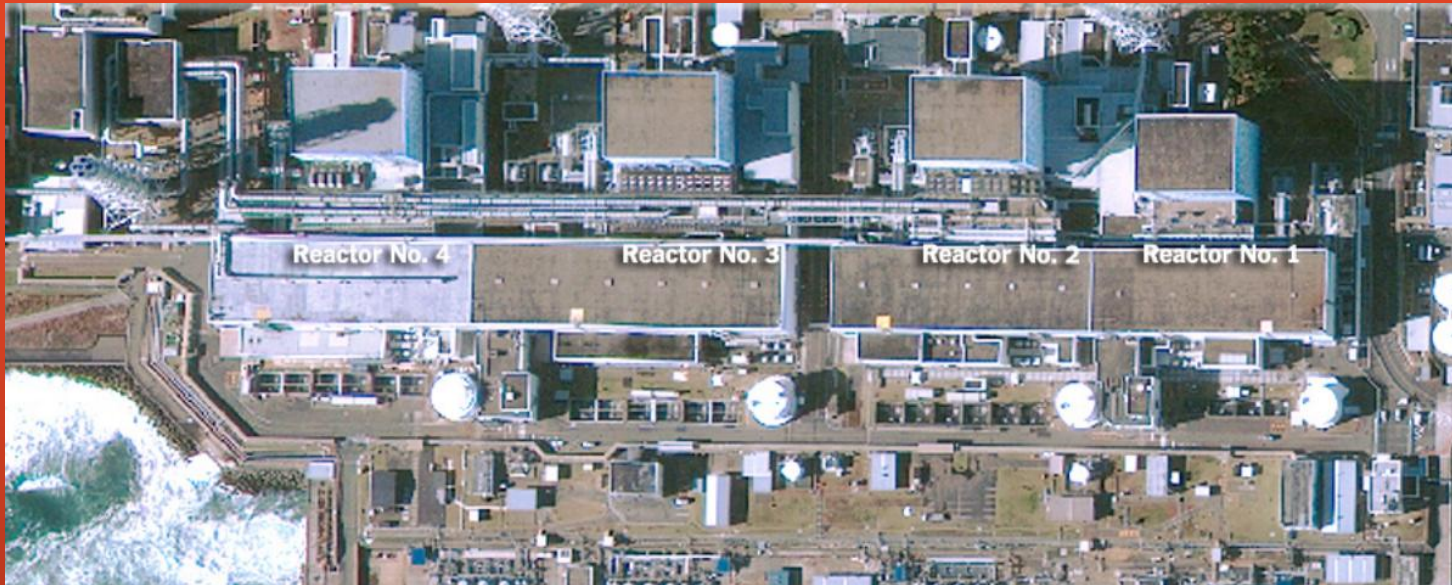


## Transfer Scholarships

- Excellence (3.0+ GPA), \$6K
- Spur (2.5-2.99 GPA), \$2K

No Additional Application

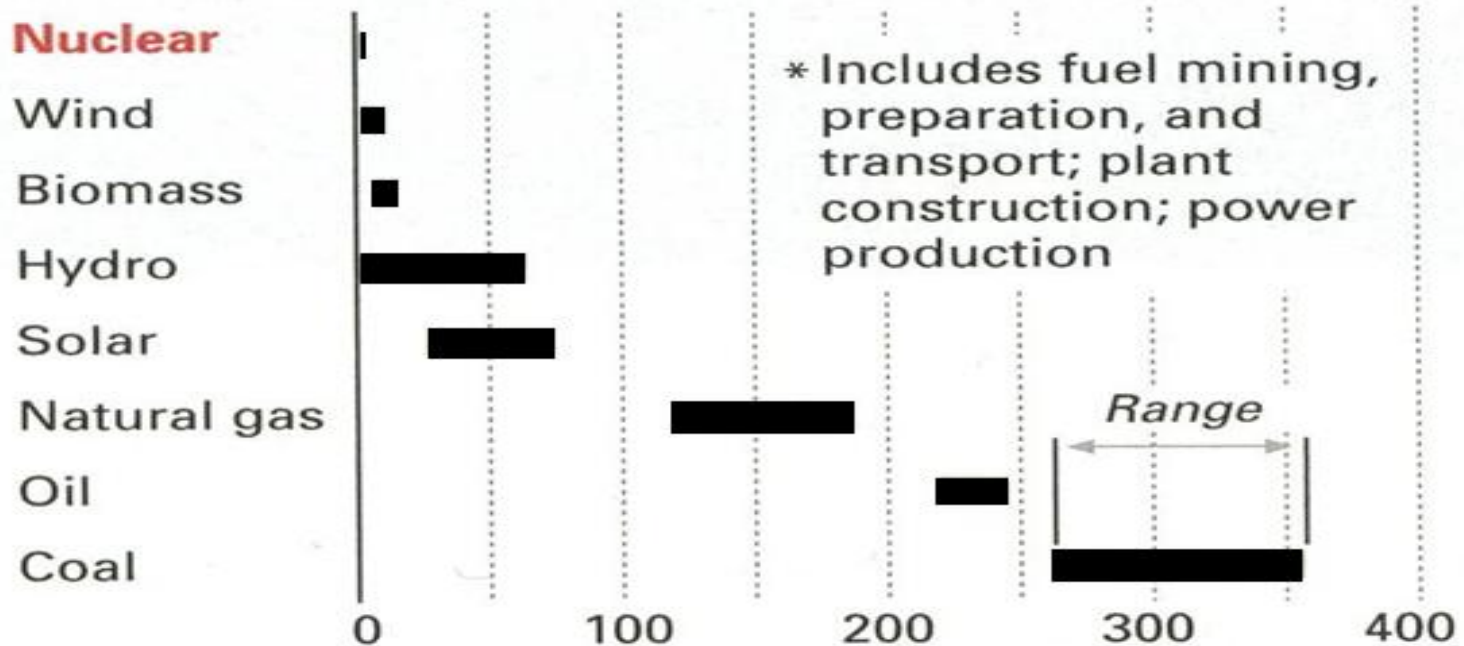
<http://www.utpb.edu/>  
Phone: 432-552-2605





# Why Nuclear?

**Greenhouse gas emissions by fuel type\***  
(grams of carbon equivalent per kilowatt-hour)



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# Want To Help?

The HT<sup>3</sup>R project is looking for good students.

- Federal Government: Los Alamos, NRC, DOE, DOD
- Industry: Areva, PBMR, Westinghouse, GE, Shaw, Toshiba, Mitsubishi, BWXT



Three of the above students are on full rides + monthly stipend courtesy of the Nuclear Regulatory Commission.

[www.bestplacestowork.org](http://www.bestplacestowork.org)

cameron\_g@utpb.edu



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