Energy Engineer

**Industry Demand of Energy Engineer**

* Energy, particularly renewable energy, is one of the biggest engineering challenges of the 21st century.
* Development of new energy sources (Wind, Hydro, Geothermal etc) and the construction of new energy sources (Power Plant) is always growing. The energy industry is a growing industry which would also be on demand no matter what.
* In particular, there is rising demand for Specialist Energy Engineers. An example of this are experts in Wind Energy Engineering

**Average Salary**

* The salary depends on the type of energy that the energy engineer specializes in as each type of energy can have very different market demands
  + Wind Energy Engineering: Average Salary of $ 94,000/year (USA) and Rp 11.200.00,00/month (Indonesia)
  + Hydropower Energy Engineering: Average Salary of $ 88,000
  + Nuclear Energy Engineering: Average Salary of $ 110,000

**Core Tasks**

* Research, develop, and implement new energy technology or improve existing energy technology.
* Lead new energy-related projects (building a new power plant, improving a power grid).
* Evaluate energy consumption, feasibility, costs, and conservation measures

**Working Conditions**

* Will most likely be working on installing new energy-related projects like building a new power plant or be involved in research projects.
* A lot of collaboration with other engineers, physicists, and engineers

**Skills Required**

* Matlab
* Aspen HYSYS
* RStudio
* Autocad
* Problem Solving Skills
* Communication Skills

**Career progression data**

* Pathways :
  + Earn a bachelor degree in Energy Engineering/Mechanical Engineering/Physics
  + Earn a masters degree in related degree which does not necessarily have to be engineering (Business, Math etc)
  + Can be promoted further to Engineering manager/Operations Manager
  + Can go into research further in the career
  + Can become an independent consultant further in the career
* To become an energy engineer, a bachelor’s degree is enough though further education (masters) can increase pay.

**Possible University Major**

* Energy Engineering
* Mechanical Engineering
* Physics

**School subjects required**

○ Math (Calculus I)

○ Physics (Newtonian Mechanics, Static Electricity)

○ Chemistry (General Chemistry)