Life Cycle Costing looks at not only the purchase price of an acquisition but also the operating, maintenance, training costs, warranty provisions and other elements which either increase or decrease the anticipated life time cost of a product. Life cycle cost can be an important factor in the final selection of a product.

Given the information in the attached chart, conduct an analysis of the three vendors offering a 50 gallon water heater addressing the four areas below. If this spurs interest in water heater efficiency, there actually is a government website where you can calculate the cost of electric and gas heaters <http://energy.gov/eere/femp/energy-cost-calculator-electric-and-gas-water-heaters-0>

1. Conduct a life cycle price analysis price to determine the purchase, maintenance and operating cost for the 10 year life cycle. You may find it helpful to develop a chart and enter cost for these three aspects for each year.

2. Next consider the other aspects of the systems which are presented and frame a discussion on what would influence you personally in your purchasing decision beyond mere price. Which would you select and why?

3. Finally, consider the following scenarios and determine which system each buyer would likely select and why

a. Family of 10

b. Couple living in Leadville, Colorado at 10,152 ft. above sea level

c. System to be used in Honolulu Hawaii

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| --- | --- | --- | --- |
| **characteristics** | **Water Wonder** | **Hydro Gennie** | **Aqua Buddy** |
| ***Energy Star Compliant*** | Yes and qualifies for 30% federal rebate on purchase price | Energy star | No |
| ***Amperage (amps)*** | 22 | 18.8 | 18.8 |
| ***Fuel Type*** | Electric heat pump system | Electric | Gas |
| ***Labor Warranty*** | 1 year | None | 2 year |
| ***Part Warranty*** | 3 year | 6 year | 8 year |
| ***Life Expectancy*** | 10 years | 10 years | 10 years |
| ***Annual Maintenance Cost*** | $125 | $125 | $125 |
| ***Operational range*** | 40-120 degrees | 60-140 degrees | 60-160 degrees |
| ***Tank type*** | Stainless steel | Non-metallic tank and jacket resists corrosion | Steel |
| ***Self Cleaning*** | Yes | No | yes |
| ***Other*** | Easy to use LED touch pad | First 3 years of annual maintenance included | Factory-installed temperature and pressure relief valve  Rated up to 10,200 feet |
| ***Cost info*** | Hybrid saves estimated 18% in operating cost over gas system | Annual operating cost $515 | Gas saves $5 per year over electric |
| ***Price*** | $1,500 | $1,100 | $1,300 |