

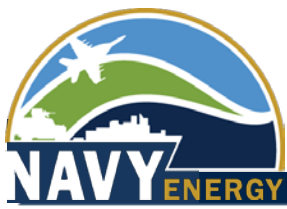


Energy and Total Ownership Cost

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Lifecycle Cost and TOC

System Acquisition Costs

Operations & Support

Concept Refinement

Afloat Life Cycle Costs

Maintenance

Fuel

Technology Development

Supply

Training and Training Support

System Development & Demonstration

20-30%

70-80%

Transport

Configuration Management

System Acquisition

Operation & Support

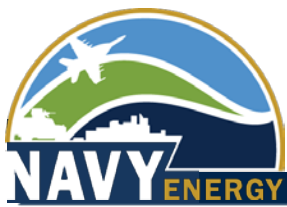
Manpower and Personnel

Engineering

Production & Deployment

Facilities

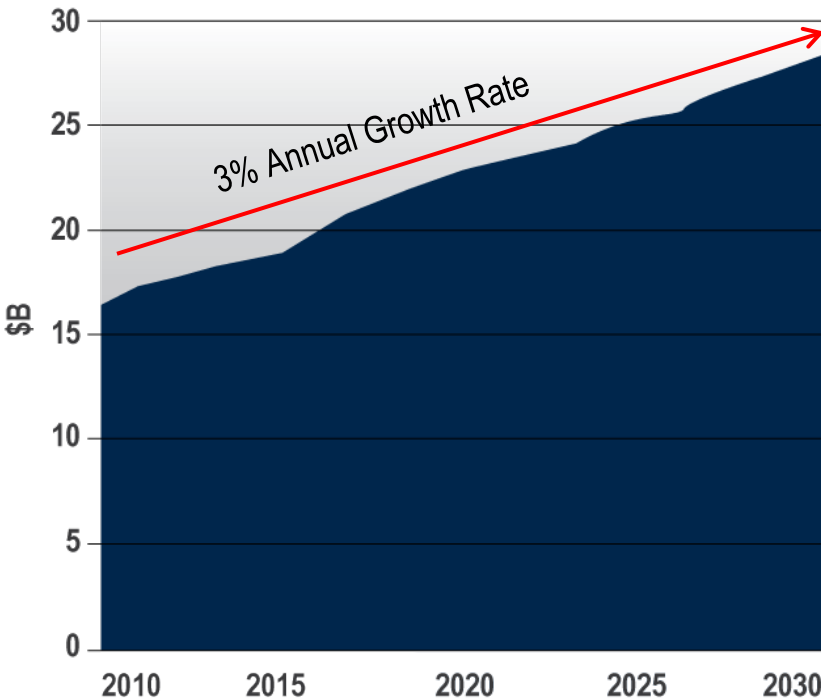
Information Technology



Energy Cost Growing

Navy TOC: Aviation, Ship, & Sub OM&R*

Reflects Flying Hour, Aviation Depot, Ship Ops, Ship Maintenance Programs

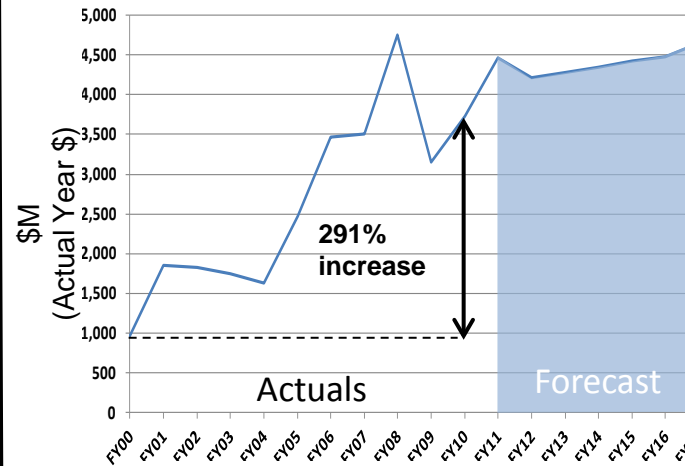


* Study performed in 2007/2008

- Operating and maintaining our Fleet is on a trend that is unsustainable

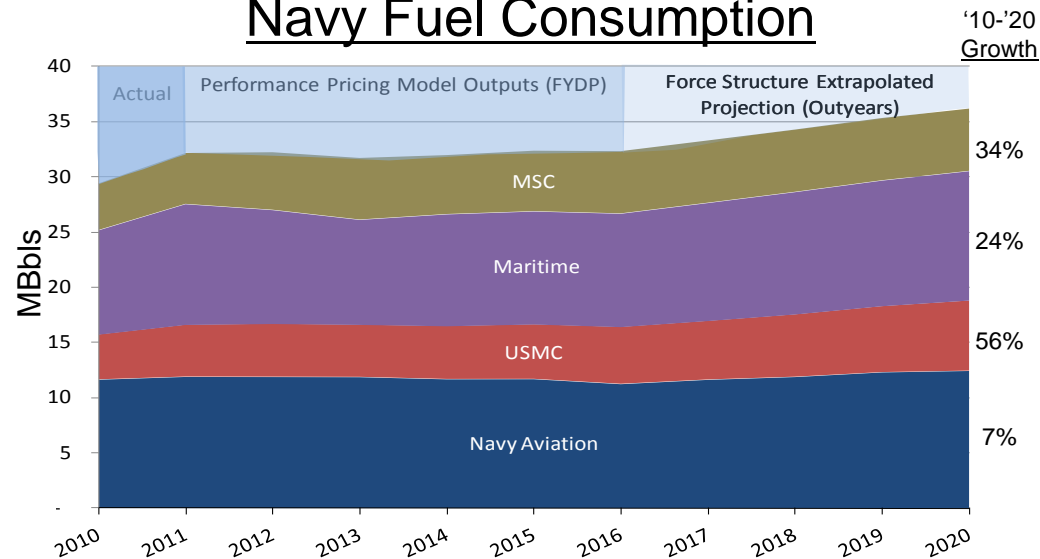
Growing energy costs and consumption are the most dynamic component of TOC

Navy Fuel Bill



- An ever increasing percentage of our operating costs
- \$1 change in a barrel of oil leads to \$30M change to fuel budget
- Volatility of oil prices increasing

Navy Fuel Consumption

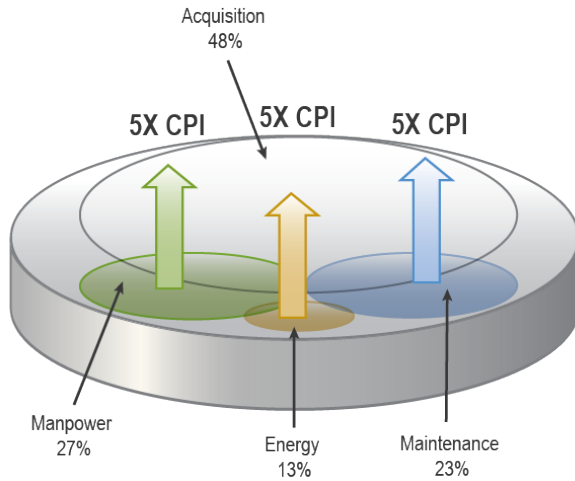


'10-'20 Growth

23% increase across the decade

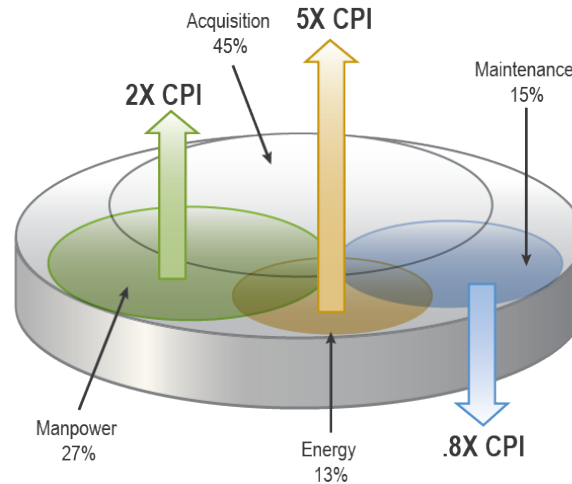
Total Ownership Cost Challenges

Typical Rotary Wing Platform (1996–2009)



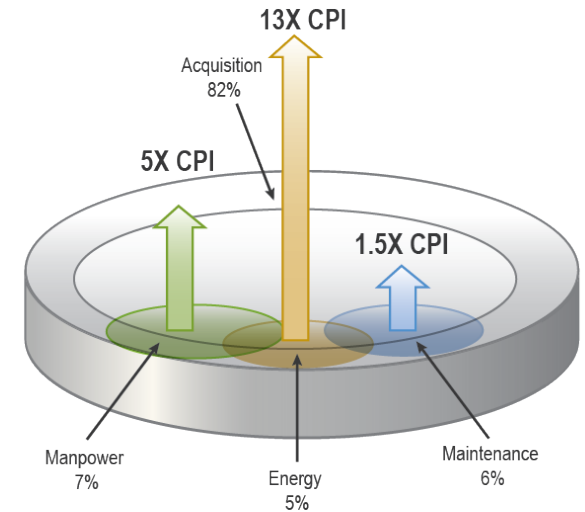
- CPI increased 39%
- Maintenance costs increased 187%...
Nearly five times CPI!
- Military Manpower costs increased 208%...
Over five times CPI!
- Energy Costs increased 200%... ***Five times CPI!***

Typical Surface Combatant (1991–2009)



- CPI increased 59%
- Private sector depot port rates increased 49%...
Slightly less than CPI
- Military Manpower costs increased 114%...
Almost double CPI
- Energy Costs increased 292%... ***Five times CPI!***

Typical Fixed Wing Platform (2001–2009)



- CPI increased 23%
- Maintenance costs increased 35%...
One and one-half times CPI
- Military Manpower costs increased 130%...
Five times CPI!
- Energy Costs increased 300%... ***Thirteen times CPI!***

World War II

Cold War

Tomorrow's War



- Increased efficiency translates to greater combat capability
 - Consuming less fuel allows for greater range with same amount of fuel
 - Lower fuel consumption means reduced strain on supply lines

Efficiency is warfighting advantage