



Behind the  
Wheel:  
Management  
Focus

# Fundamentals of Asset Mixing Decisions

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# Fundamentals of Asset Mixing Decisions



Behind the  
Wheel:  
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Focus

- What are your assets?
- What drives the decisions?
- How do you start?
- Start on a goal today!



# Fundamentals of Asset Mixing Decisions



**Behind the  
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- What are your assets?
  - Load side
  - Supply side

*We will address the supply side today*



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- What are your assets?
  - Supply side
    - Self-generated
      - Generators
      - CHP
      - Automatic or proactive load reduction strategies (“negawatts”)
      - Green (wind, PV, etc.)
    - Utilities
      - T&D side
      - Generation



# Fundamentals of Asset Mixing Decisions



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- Decision drivers:
  - Forecasting
  - Power Reliability Requirements
  - Power Quality Requirements
  - Economics



# Step 1 - Forecasting

- Determine the time window
- Review projected growth in demand and consumption
- Review projected energy cost changes
- Review the reliability record of incoming utilities and fuel suppliers



## Step 2 - Reliability

- Determine required level of reliability across the time window
- Determine power quality specifications across the time window
- Determine best asset mix to meet that need
- This asset mix and costs for demand and usage become the baseline

## Step 3 – Economics

Using the reliability mix  
as the baseline...

- Investigate additional investments that
  - Do not degrade the reliability/PQ levels
  - Provide additional savings
  - Provide acceptable payback



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## Starting Point:

- Evaluate rate and tariff options
  - Are you deregulated?
  - Can you lock purchases?
  - Does rate options reward secondary generation or alternative?
- Do you have flexibility?
  - Fuel switching
  - Fuel choices
- Determine cost options
- Lock rates for selected option



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- Plan ahead
  - Contract expiration dates
  - Purchase cycles
- Use an expert
  - GSA
  - DESC
  - Private Consultants



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- Alternative “green” energy sources
  - PV
  - Wind
  - Geothermal
- Justified by economics or PR?
- Can it supplement other options?
- State/Federal incentives?



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- On site generation
  - Hard to justify on pure economics
  - Based on power availability
- CHP
  - Requires large domestic hot water or other heat requirement
  - Absorption chillers – reliability?



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- Economics drives decision unless there are operational requirements
- Economics are often complex:
  - Mix fuel types
  - Rate structures
  - Offsets
  - Secondary uses



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- Start on a Goal Today!
  - Can be complex matrix to build – get started
  - Site, unit or company specific- understand all variables
  - Balance rates for electric and gas
  - Balance availability with cost
  - As minimum, lock rates at the right time



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***Complex problem where there  
are no "canned" answers***

***Get Smart and/or hire experts***

***Do something now!!***