

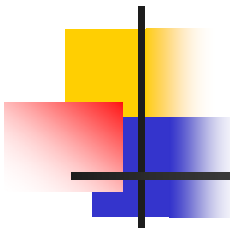
# Comments on Importance of Energy Service Demand Representation in Manufacturing

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by

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# Data and Models: The Chicken and Egg Problem?

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- MECS
  - Census Regions to Census Divisions
  - Characterization of Manufacturing Energy Demand
- Energy Intensity or Total Energy Consumption
  - NE-MARKAL
- Resolution (3 or 4/5/6 digit?)
  - Primary Metal or
    - Iron and Steel
    - Aluminium



# End Use Energy Demand

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- Energy Services Demands
  - Need to develop consistent categories across manufacturing sub-sectors
  - Should be quantifiable



# Efficiency of What?

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- Conversion efficiency
  - Carnot Cycle Efficiency
  - Electric Motor Efficiency
- Utilization efficiency
- Energy Utilization Coefficient (EUC)
  - Potential to take into account improvements resulting from better management of energy in the production process
  - Example, Reducing tool swap time in a machining process



# Technology Choices

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- How to make flexible and rigid choice in a model
  - DC/AC Motor V/S Stepper Motor
  - Detailed technical sub-sector info needed