

# Energy Wedges

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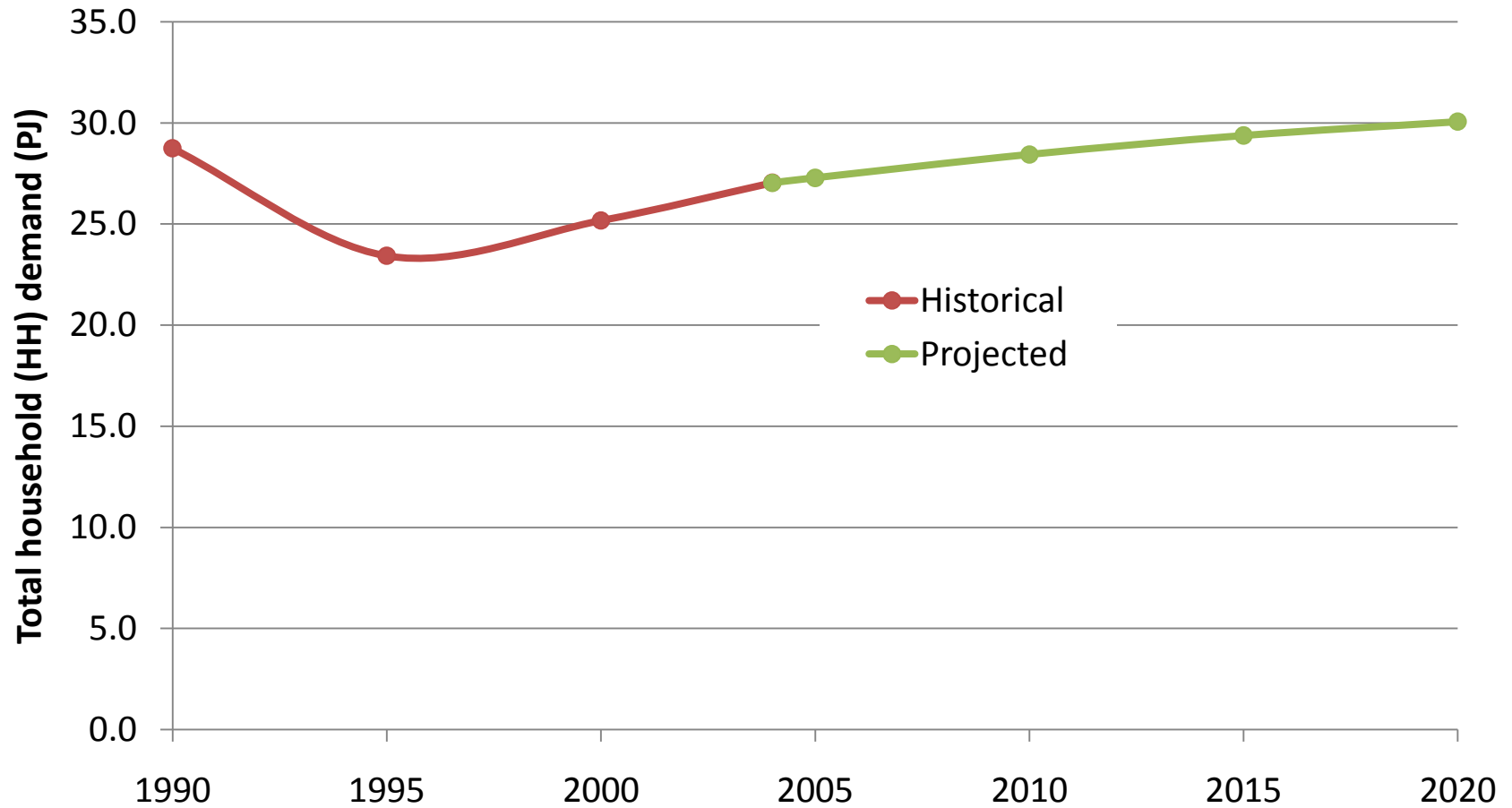
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# Energy wedges

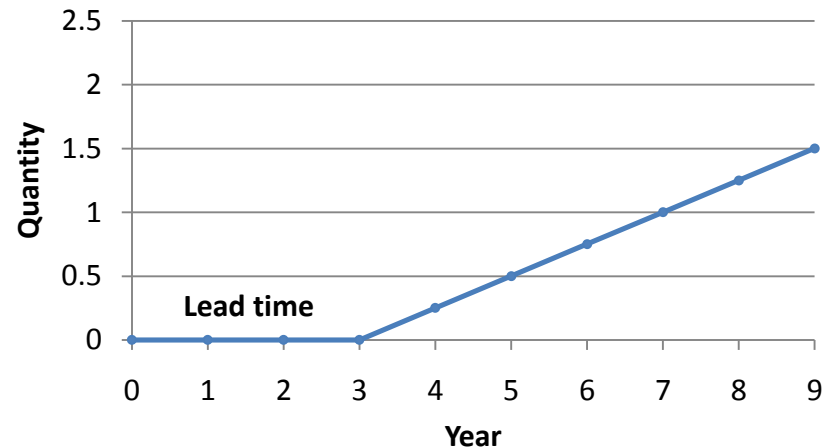
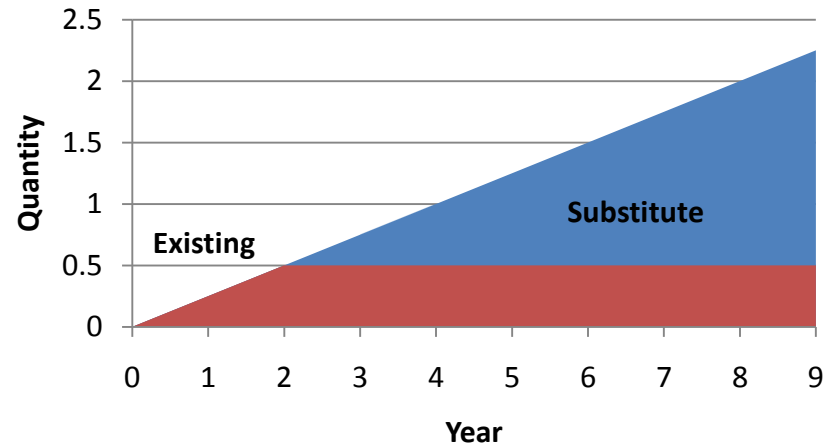
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# Nova Scotia residential space heating



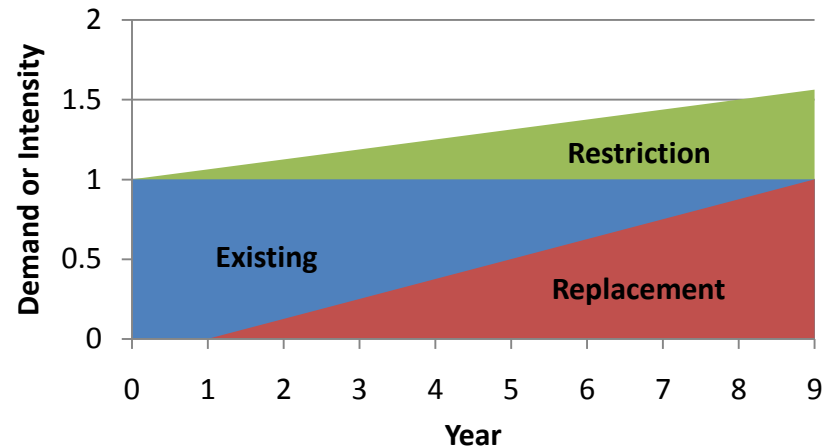
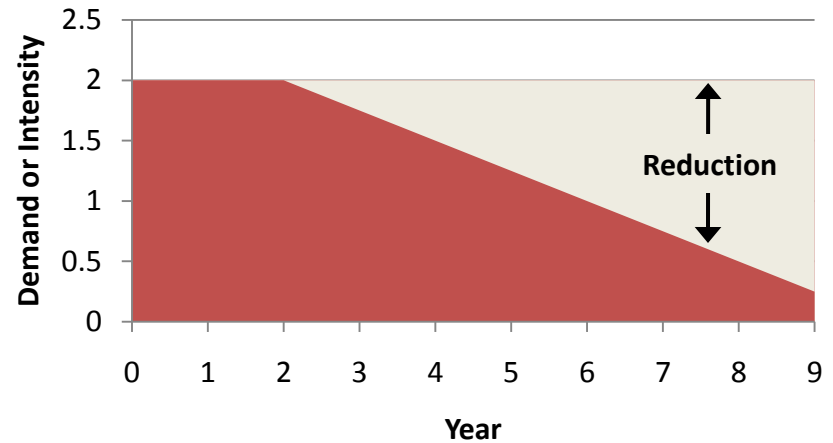
# Wedges

- A systematic approach to addressing climate change.
- Long-term policies that result in a change over time—substituting one technology with another.
- “Stabilization wedges” proposed by Pacala and Socolow in 2004.
- Hirsch introduced the need for adoption lead-time (2006).



# Energy security wedges

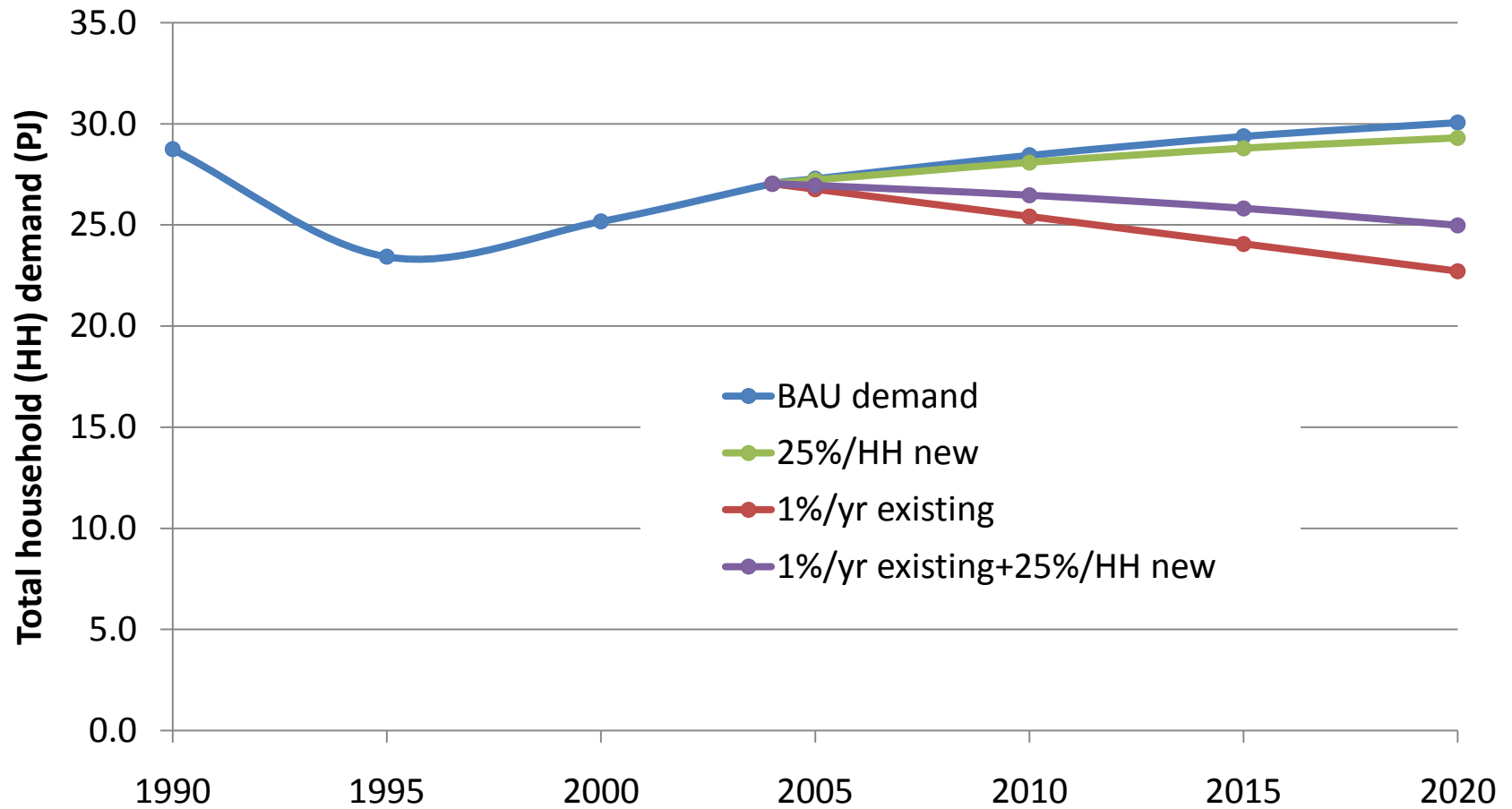
- Applying wedges to the four 'R's:
  - Review
  - Reduction
  - Replacement
  - Restriction
- Reduction wedges
- Replacement wedges:
  - Apply to existing demand
- Restriction wedges:
  - Apply to new demand



# Reduction wedges

- Actions that result in a reduction in demand or energy intensity:
  - Conservation.
  - Energy efficiency measures.
- Approaches:
  - Personal choice.
  - Subsidies.
  - Taxation.
  - Market forces.
- Reduction determines the amount of replacement and restriction.

# Reduction example

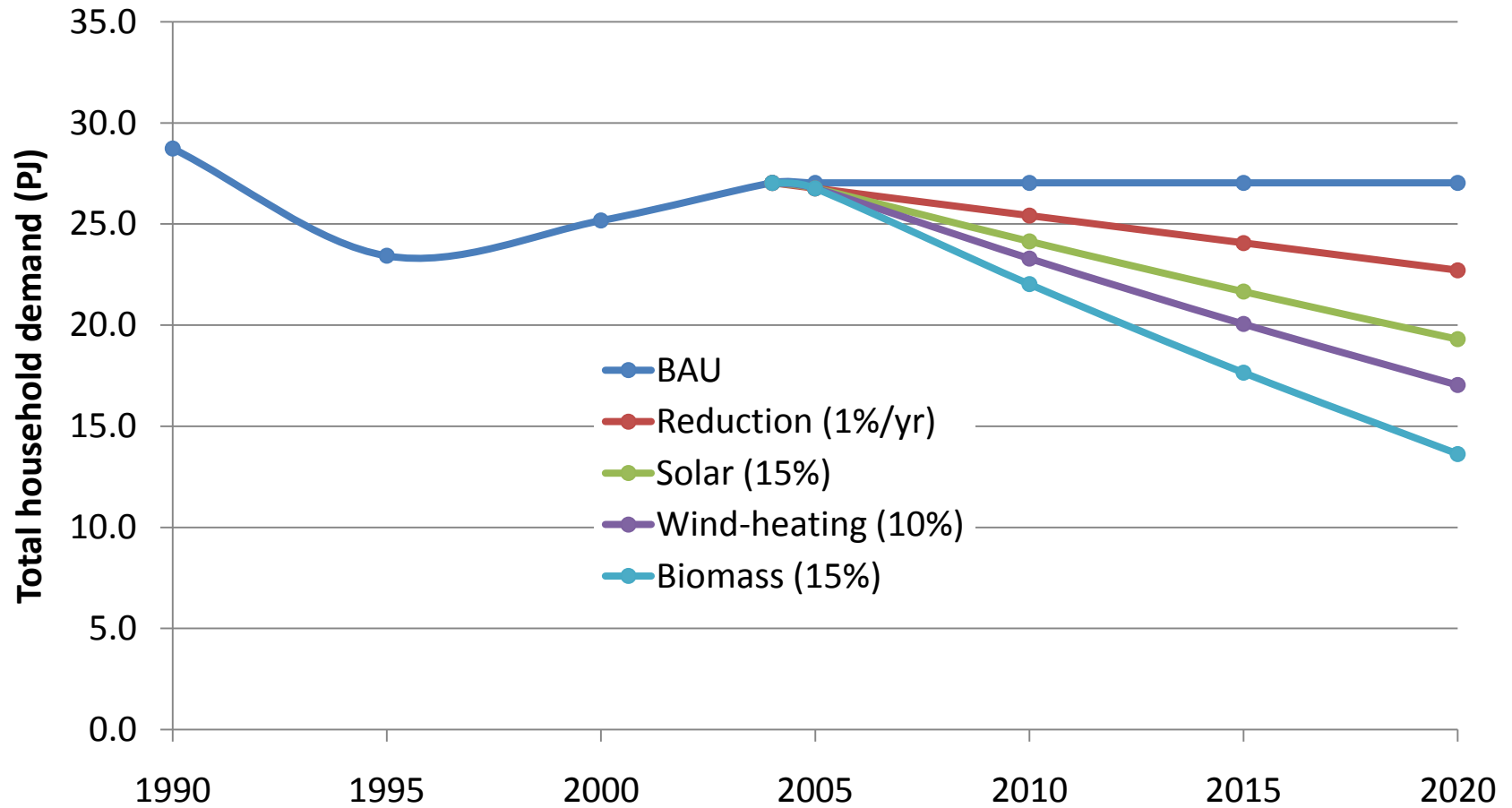


# Replacement wedges

- Existing insecure energy source(s) replaced by secure energy source(s).
- Limited by supply:
  - Availability of secure sources
- Limited by infrastructure:
  - Building orientation
  - Energy distribution network
  - Technology for new energy sources
- Does not reduce demand



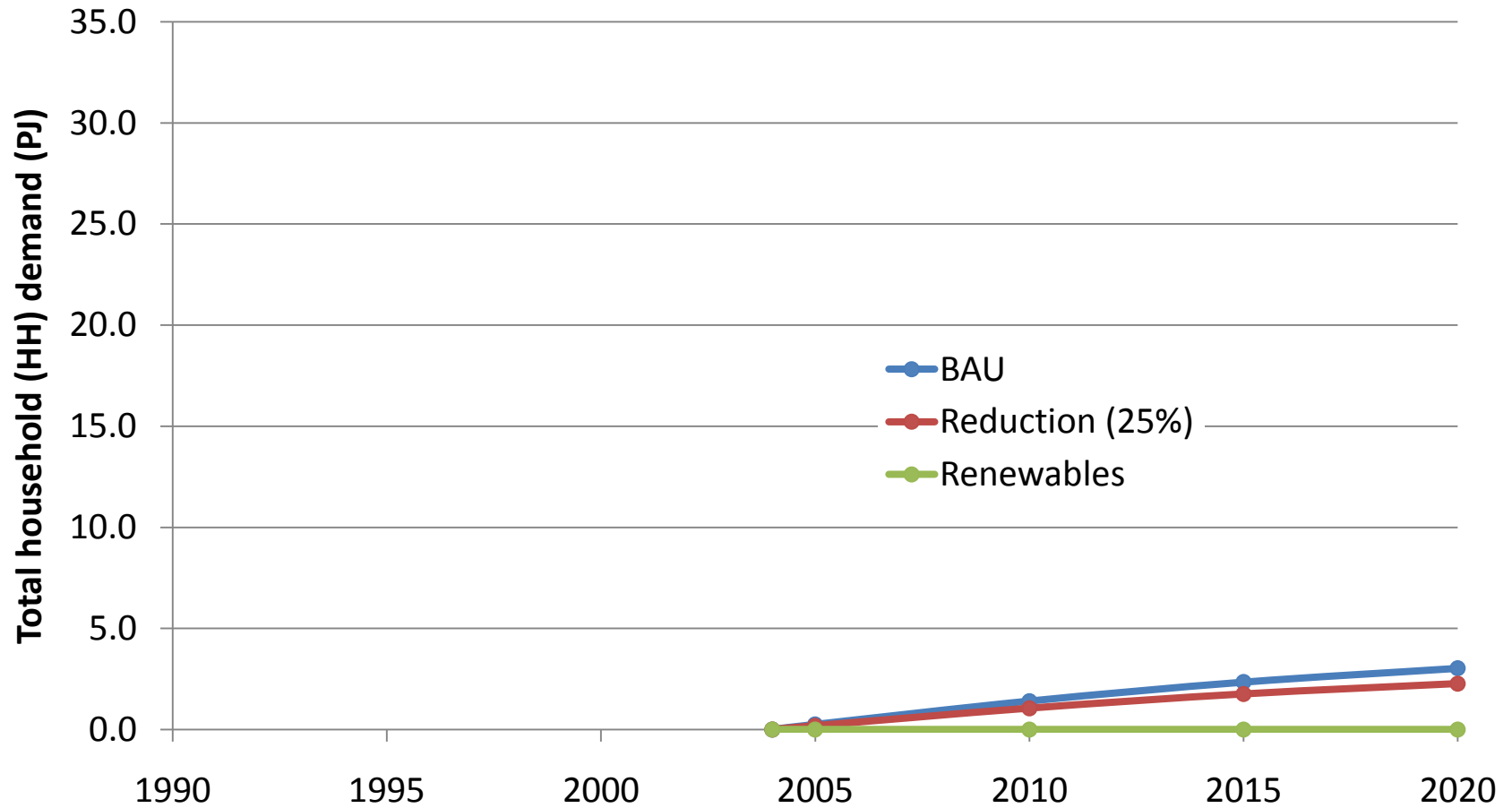
# Replacement example



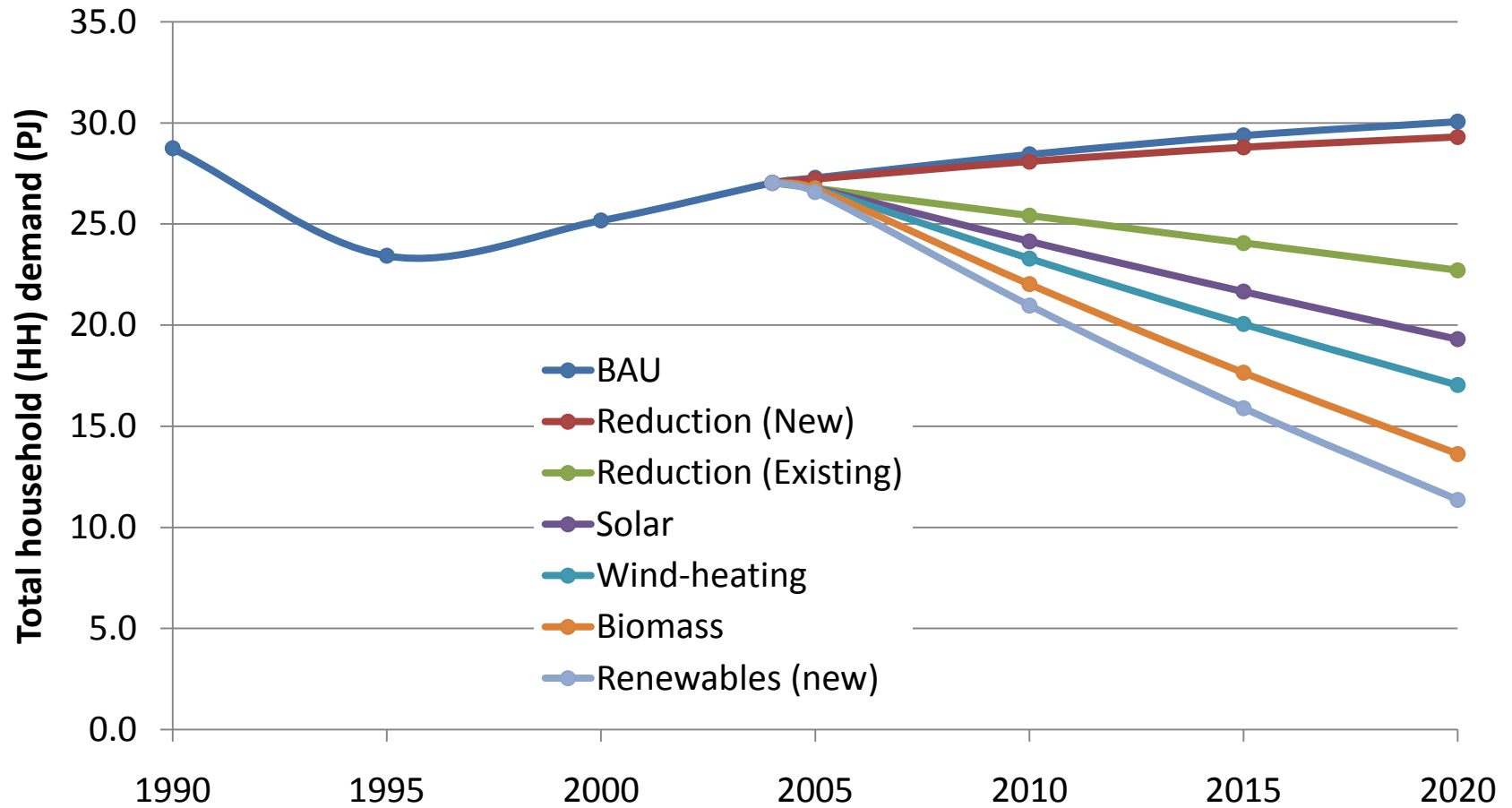
# Restriction

- Restrict new demand to secure sources
- Applied to new demand only
- Requires new energy sources
- May require new infrastructure

# Restriction example



# Combined



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