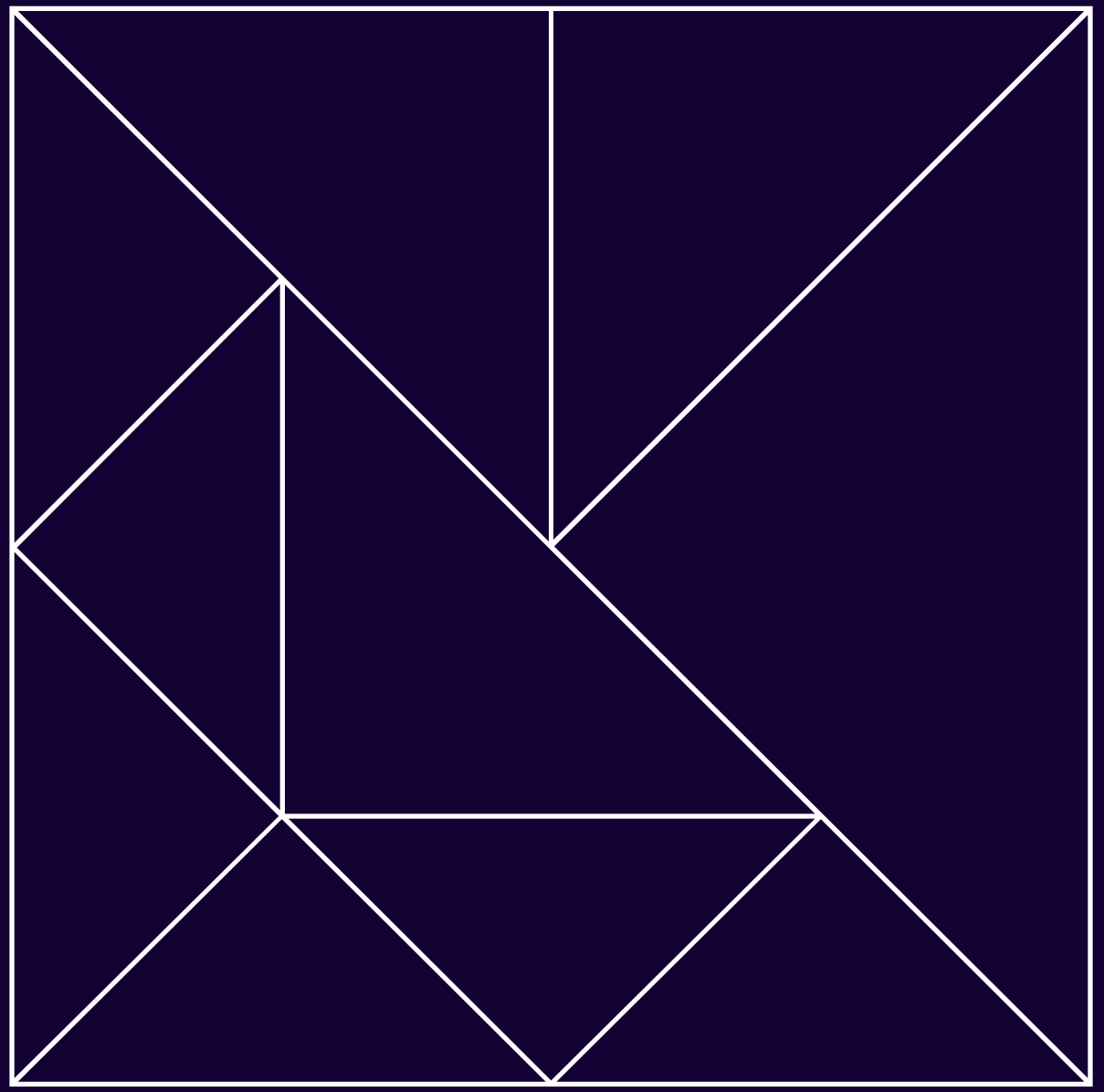
28 July 2022

VTS Accelerated depreciation

Scenario analysis



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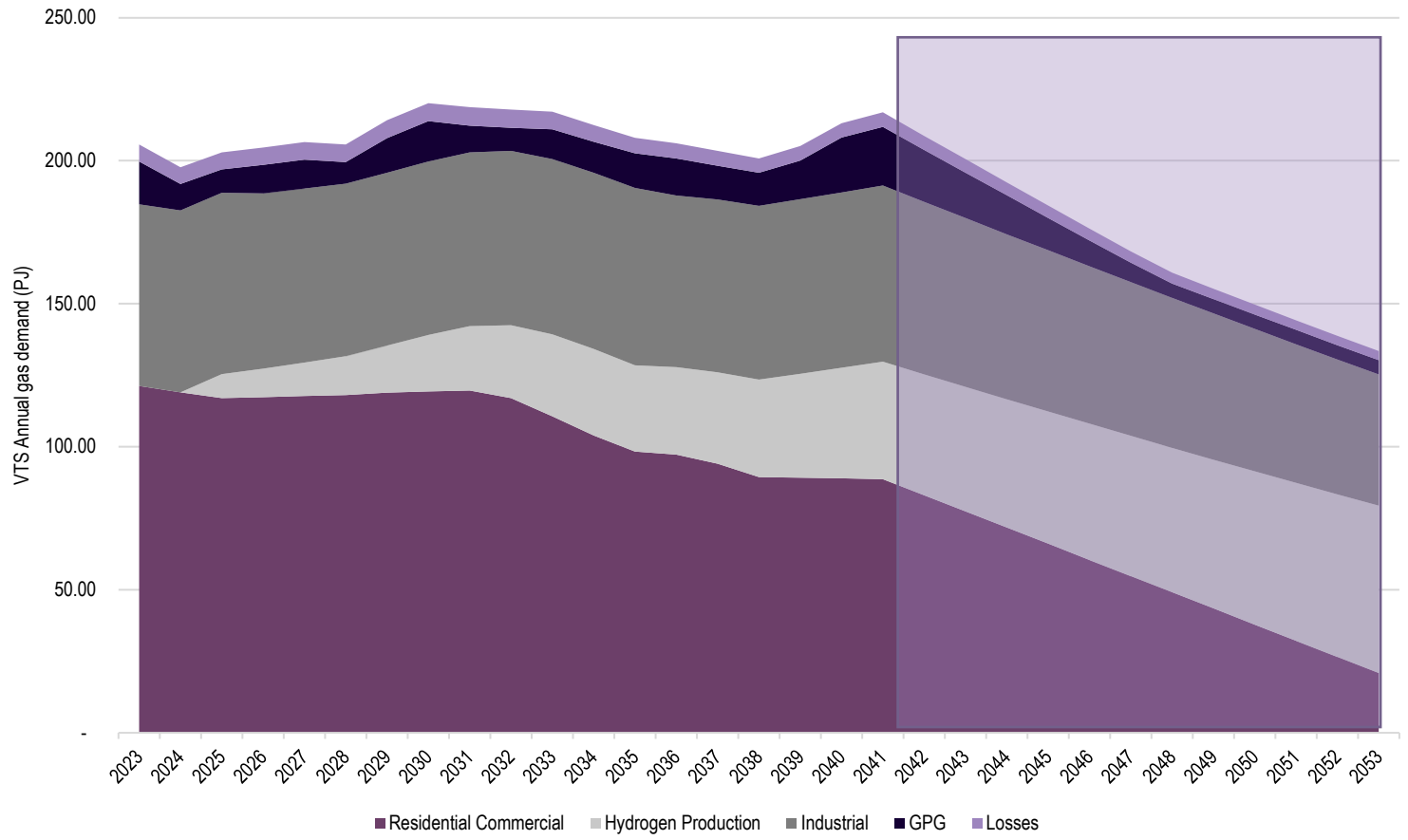
ACIL Allen's brief

- Assess the need to bring forward depreciation as demand falls on the VTS through the energy market transition – net-zero by 2050
  - Natural gas demand is expected to fall to much lower levels, but not necessarily to zero (potential to use offsets)
  - VTS may transport some hydrogen (limited by suitability of pipeline)
- Principle that future customers should not pay higher tariffs (in real terms) than current customers for the use of the same assets – caused by demand destruction
  - Projected capex from 2023-2027 access period is included
  - Stay in business capital included annually from 2028
- Average annual tariff calculated as the (average return on capital and return of capital)/projected annual demand
  - Maintain constant average annual tariff over time
  - Total capital returns to remain steady in real terms over time
  - Adjust asset lives to effect the above

The future for natural gas

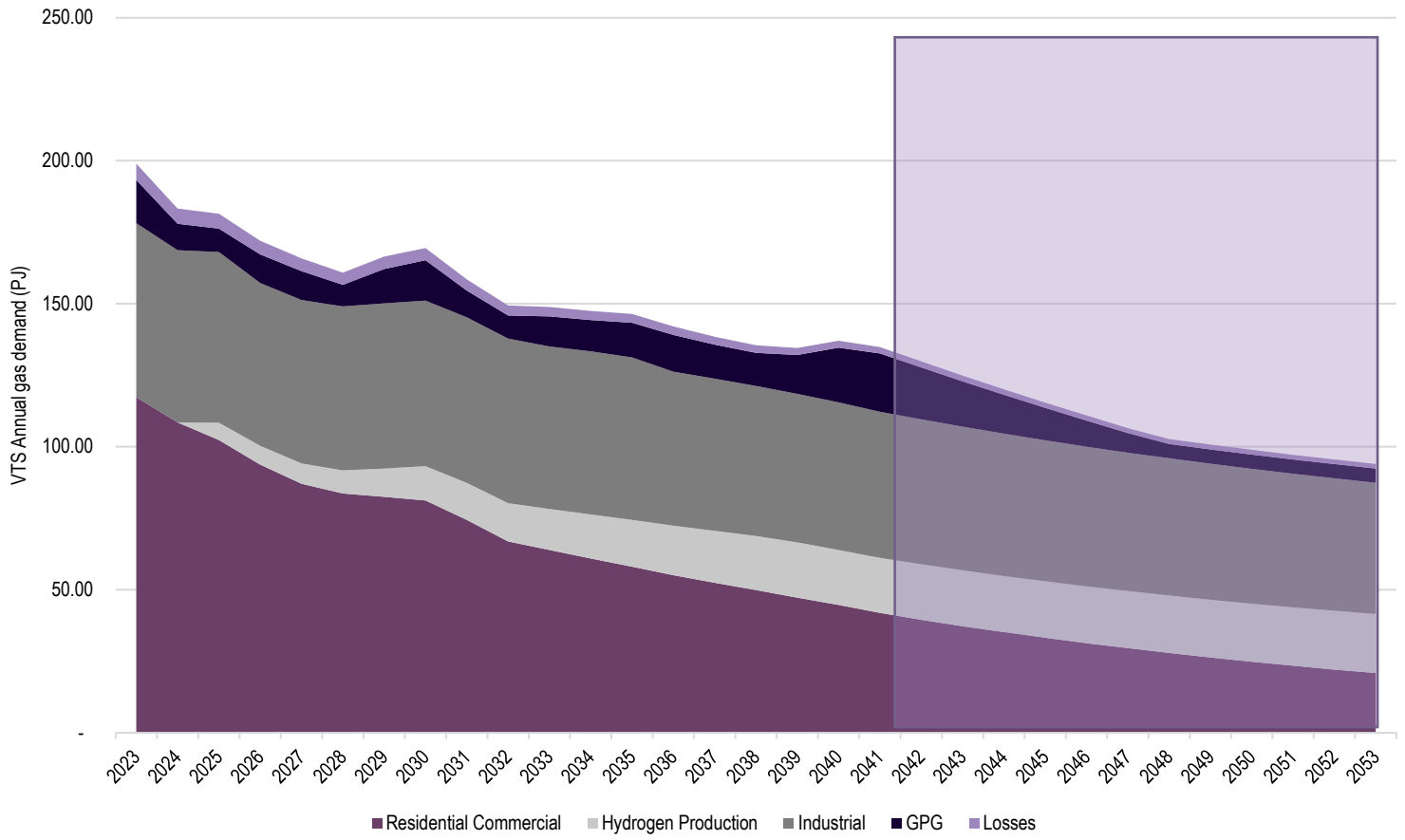
- Net zero emissions by 2050 is a fundamental factor in all gas forecasts.
- Hydrogen or electrification
  - Economics of hydrogen may be better in the long run but intermediate economics may favour electrification
  - Government policy through subsidies and regulation of usage of natural gas is likely to be a critical factor in the outcome
- In the long run, moderate amounts of natural gas could be consumed covered by carbon offsets. This is most likely for:
  - industrial and feedstock applications where there is no ready natural gas substitute or hydrogen remains highly uneconomic
  - Gas for power generation to provide backup grid support (wind droughts, cloudy periods, etc.)
- Continuation of reticulation of gas through the Victorian distribution system will also be a key factor:
  - Victorian government policy
  - Low levels of consumption may make reticulated gas uneconomic – change over to onsite tanks for appliances that remain in service

AEMO demand projections – Progressive change



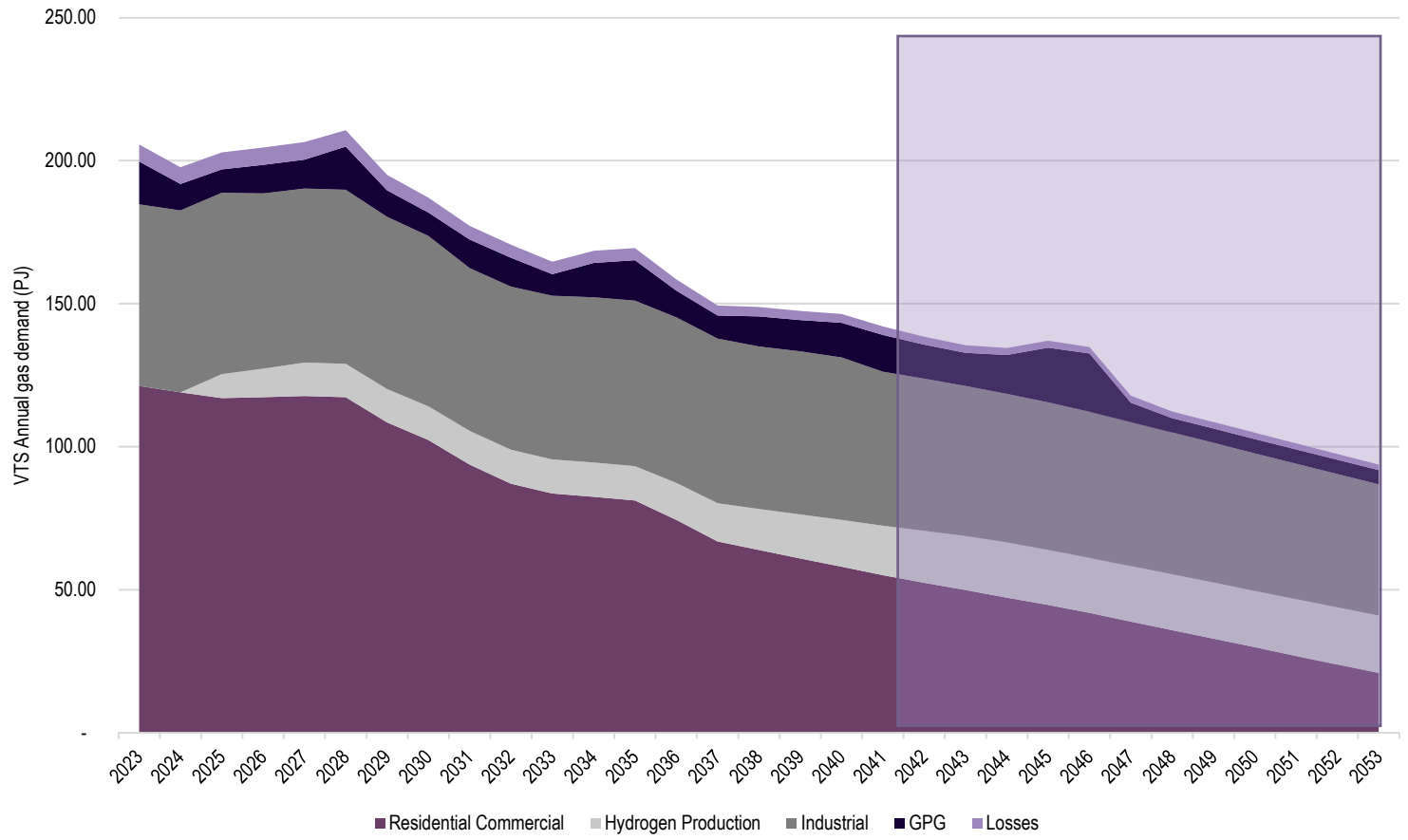
- Shaded period is projection beyond AEMO forecast
- Demand relatively stable to 2040
- Residential/commercial demand commences to fall from 2035 (electrification)
  - declines to around 20 PJ by 2053
- Increase in GPG between 2035 and 2040 and then decline through the 2040s (held at 5 PJ from 2048)
- Hydrogen is projected to grow to around 60 PJ by 2053
- Industrial demand declines incrementally from 2040 to around 45 PJ by 2053

AEMO demand projections – Step change



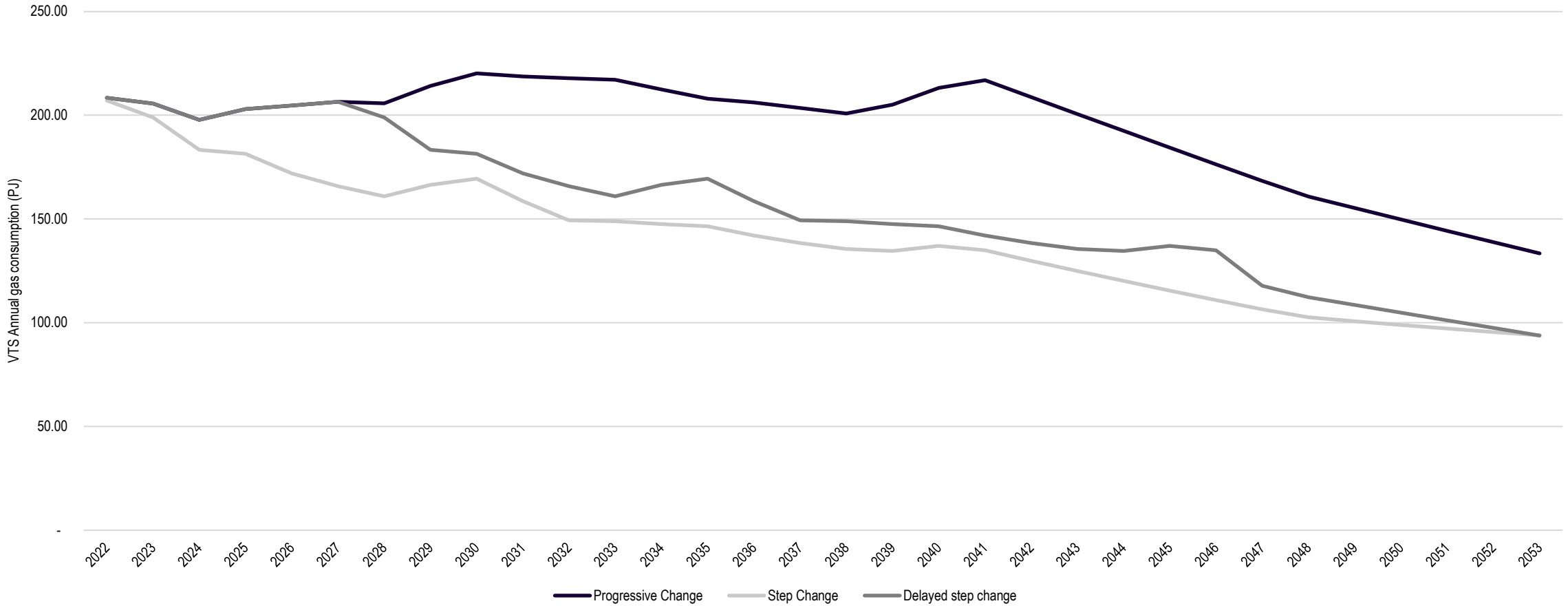
- Shaded period is projection beyond AEMO forecast
- Demand falls consistently from the start of the forecast
- Residential/commercial demand falls from 2023 and declines faster than in Progressive change
  - declines to around 20 PJ by 2053
- GPG follows similar path to Progressive change
- Shipping of hydrogen is projected to be much lower than Progressive change
  - Greater use of electricity
- Industrial demand declines incrementally from lower starting point in 2040 to around 45 PJ by 2053

AEMO demand projections – Delayed step change



- Shaded period is projection beyond AEMO forecast
- Demand relatively stable to 2028 and then follows delayed trajectory of Step change
- Residential/commercial demand falls slightly from 2023 and declines from 2028
  - declines to around 20 PJ by 2053
- Shipping of hydrogen is projected to start earlier than Step change
- Industrial demand declines incrementally from higher starting point than Step change in 2040 to around 45 PJ by 2053

Comparison of scenarios



Next steps

- Model to estimate the variations in the depreciation schedule
  - Maintain constant average tariff in $2022
  - Match life of the asset to expected usage as it declines
    - Significant potential variation in future demand
    - May not result in straight line depreciation
- Determine the residual life schedule for the VTS assets

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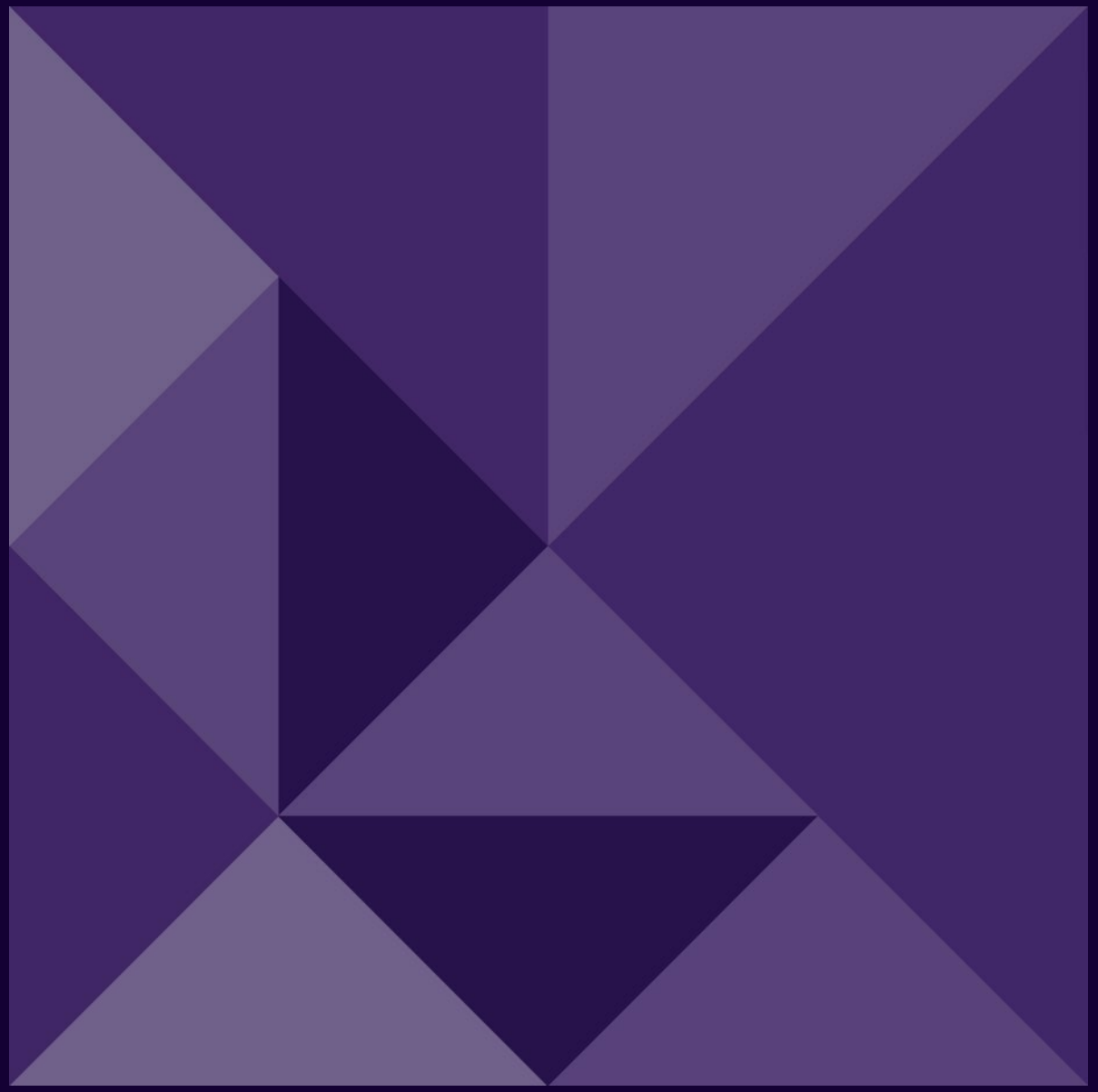

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