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Summary of Planning Area Forecasts: *CED 2017 Preliminary*

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Summary of Results

Average annual % growth in sales (2015-2028) and net peak (2016-2028)

	Electricity Sales (GWh)			Net Peak (MW)		
	High	Mid	Low	High	Mid	Low
LADWP	0.88	0.54	0.21	0.85	0.51	0.06
PG&E	0.54	0.19	-0.15	0.67	0.27	-0.18
SCE	0.74	0.37	0.04	0.29	-0.19	-0.54
SDG&E	0.58	0.14	-0.26	0.72	0.24	-0.20
SMUD	1.24	0.75	0.28	1.82	1.26	0.72

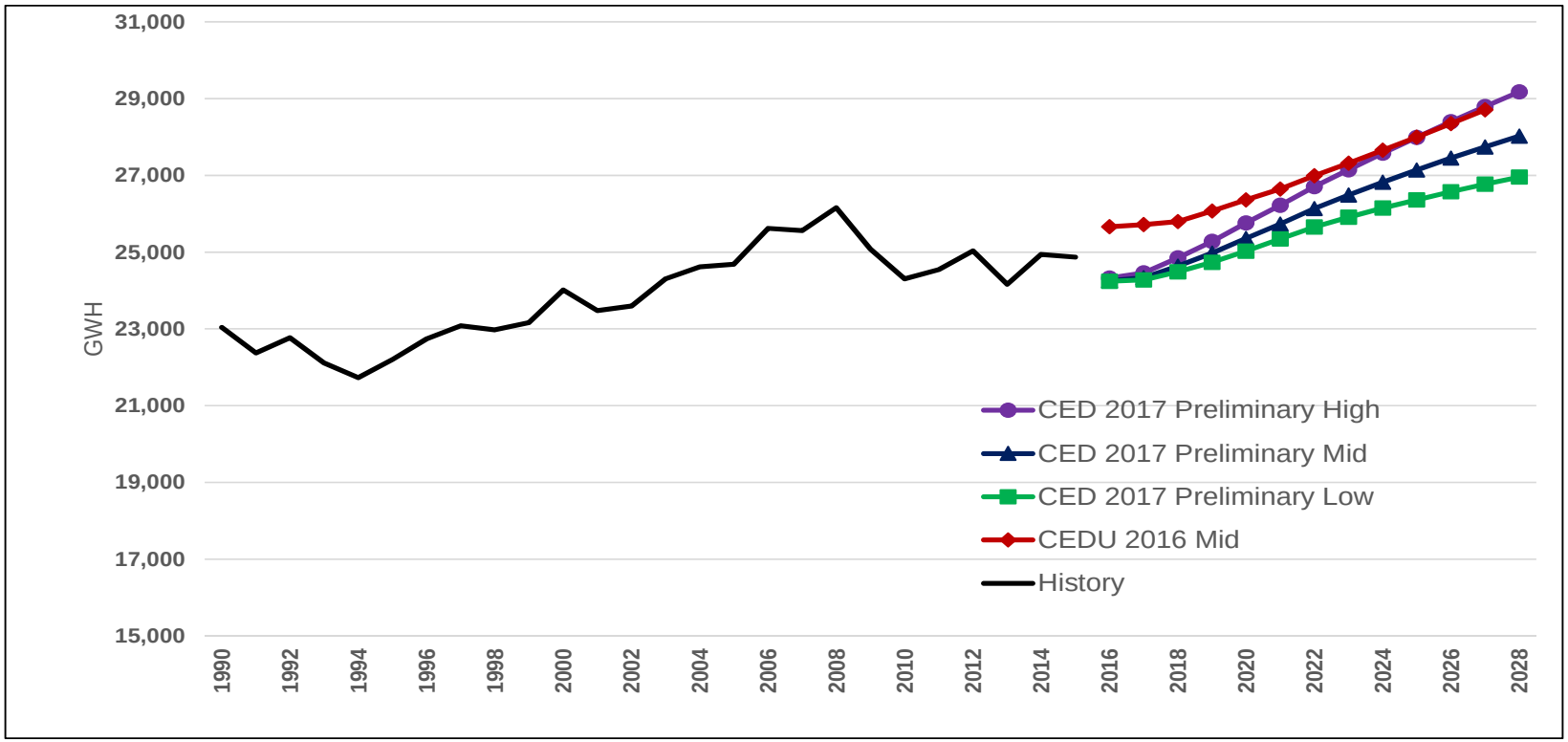
LADWP

LADWP Highlights (Inputs)

- Population growth of 0.53% per year 2016-2028, from 3.98 million to 4.24 million; growth in number of households of 0.75 percent per year in mid case
- Per capita income growth of 2.3% per year in mid case
- 238,000 light-duty EVs on the road in 2028 in the mid case, of which 132,000 are BEV; EV consumption of 860 gWh in 2028
- BTM PV installed capacity of 670 MW in 2028 in mid case

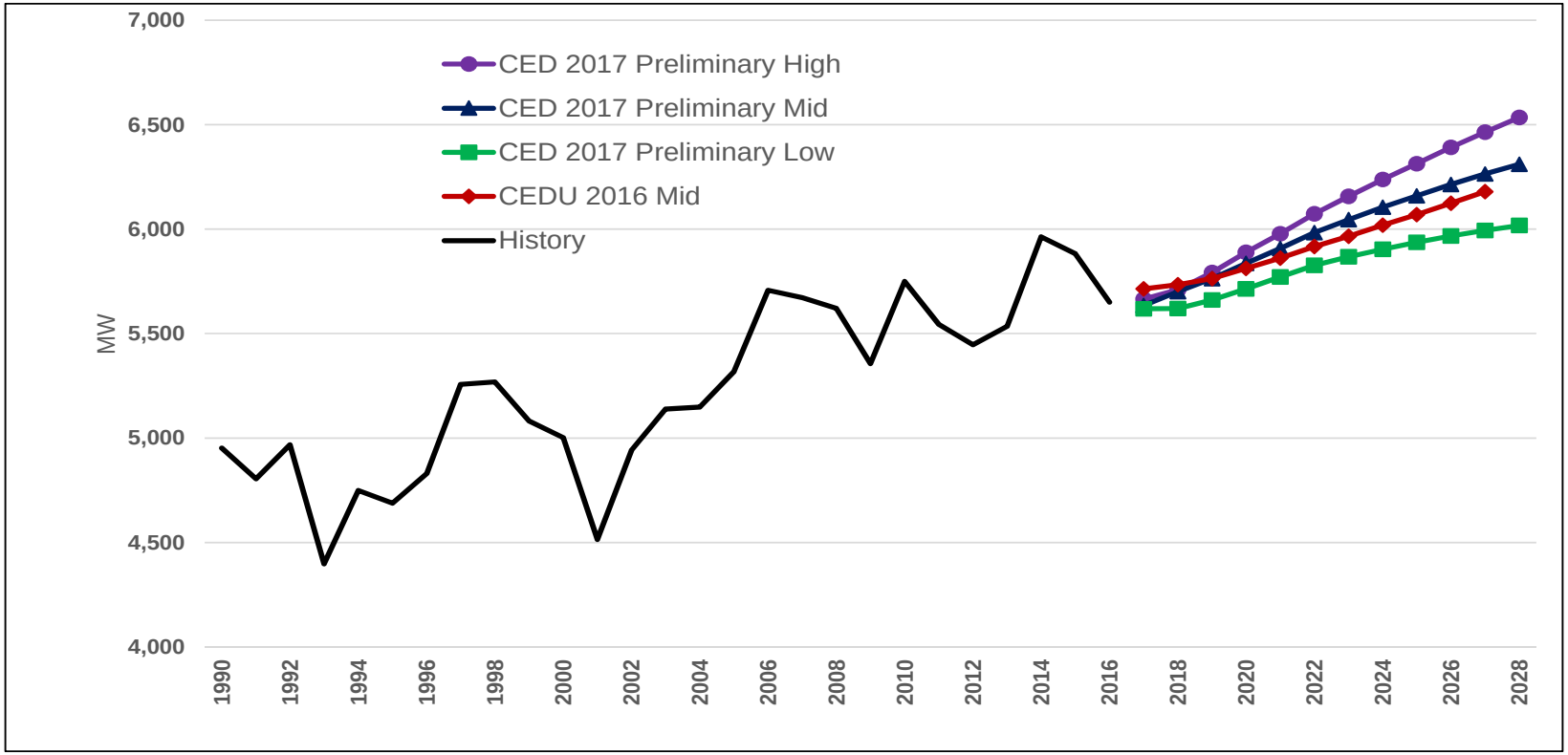
LADWP: Consumption

Average growth 2016-2027 of 1.55%, 1.23%, and 0.91% vs. 1.02% in *CEDU 2016* mid



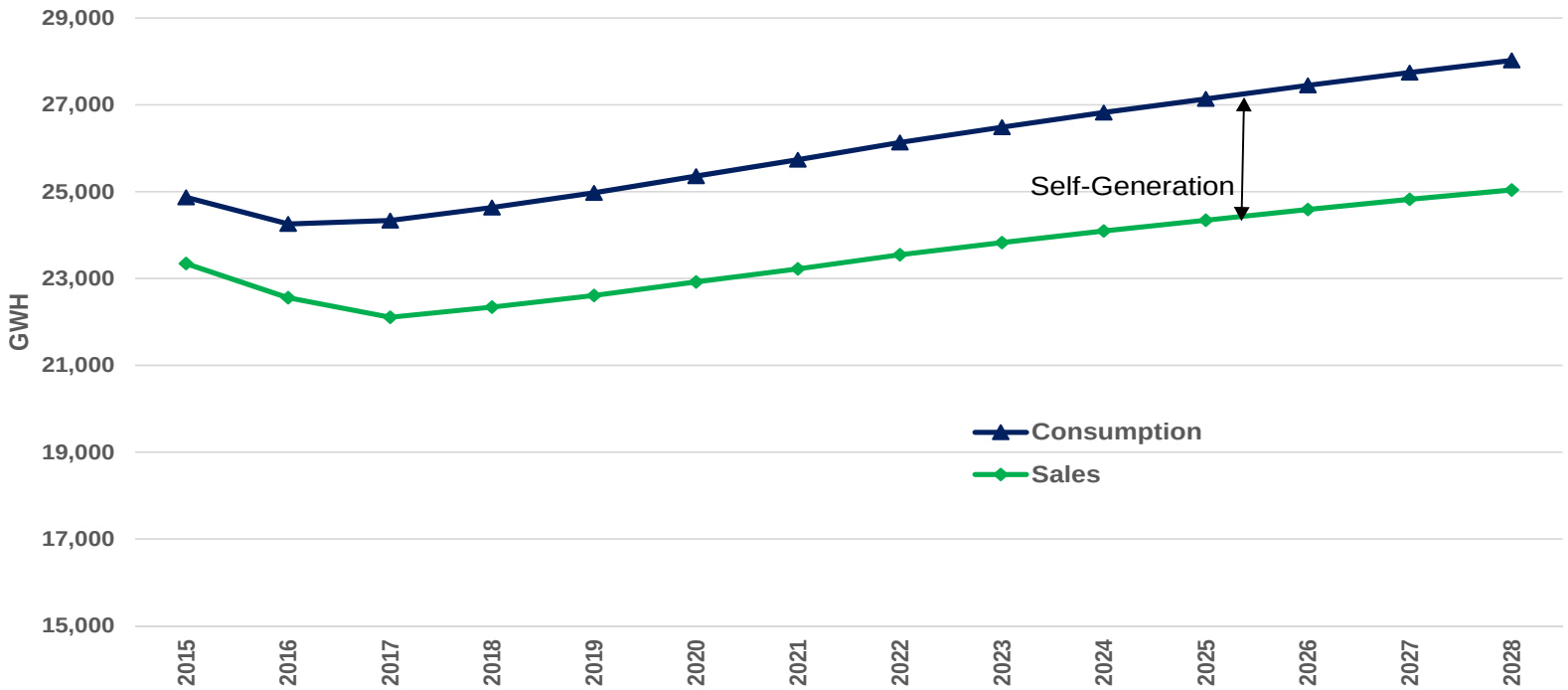
LADWP: Peak End-Use Load

Average growth 2016-2027 of 1.23%, 0.94%, and 0.54% vs. 0.82% in *CEDU 2016* mid



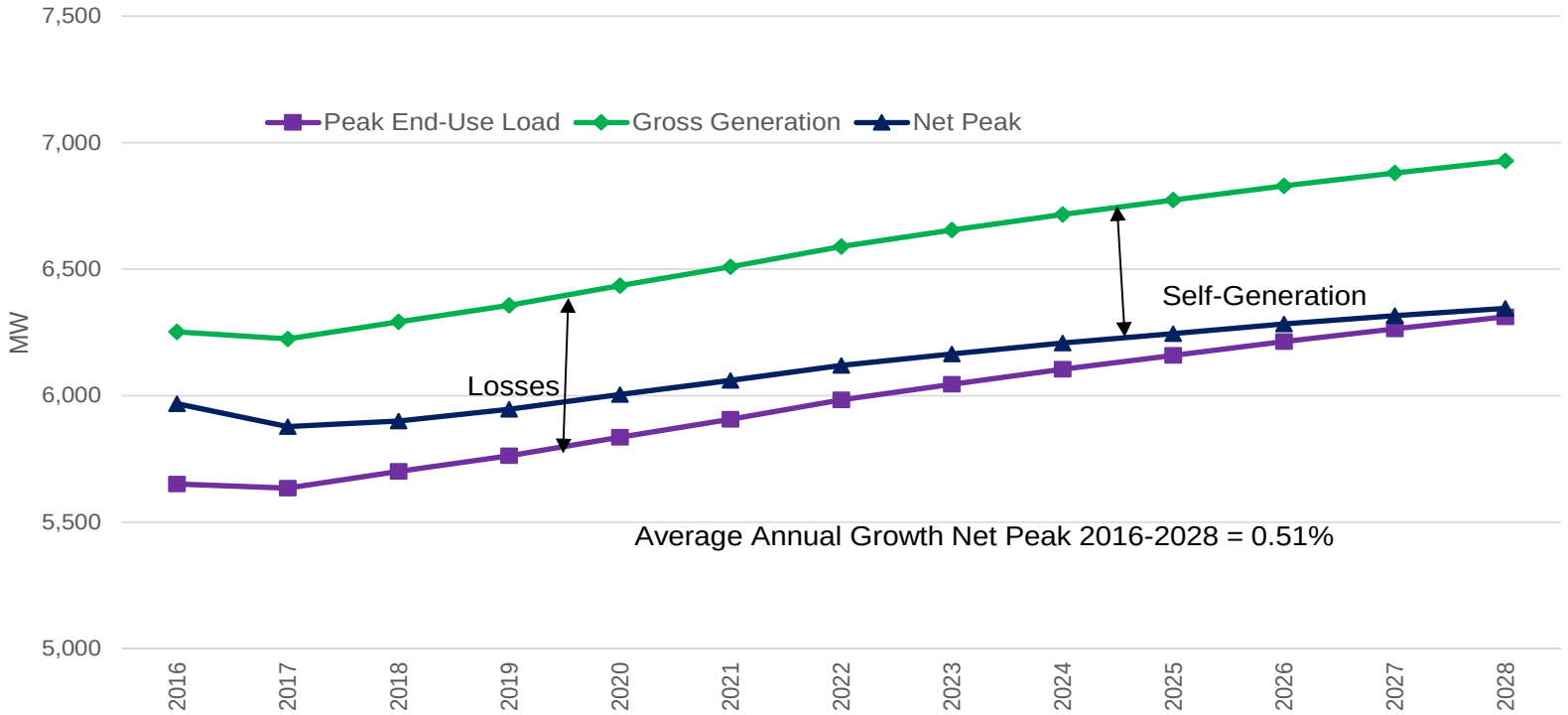
LADWP: Consumption to Sales (Mid)

~3,000 gWh of total self-generation in 2028, of which 1,100 is PV



LADWP: End Use Load to Net Peak (Mid)

~600 MW of total self-generation in 2028, of which 275 is PV



LADWP Highlights (Output)

- In mid case, residential consumption grows at 1.79% per year, 2016-2028, commercial by 1.15%, industrial by -0.12%
- Fueled by relatively strong commercial consumption growth and relatively high EV penetration, LADWP consumption grows faster than state average 2016-2028 in mid case
- Residential EUL peak grows slower than residential consumption, so total EUL peak grows slower than total consumption

Comparison of Mid Case With LADWP Forecast Submitted for IEPR

- LADWP projects slightly more EV consumption and lower PV
- Aside from EVs and PV, no significant differences
- LADWP in the midst of developing new forecast

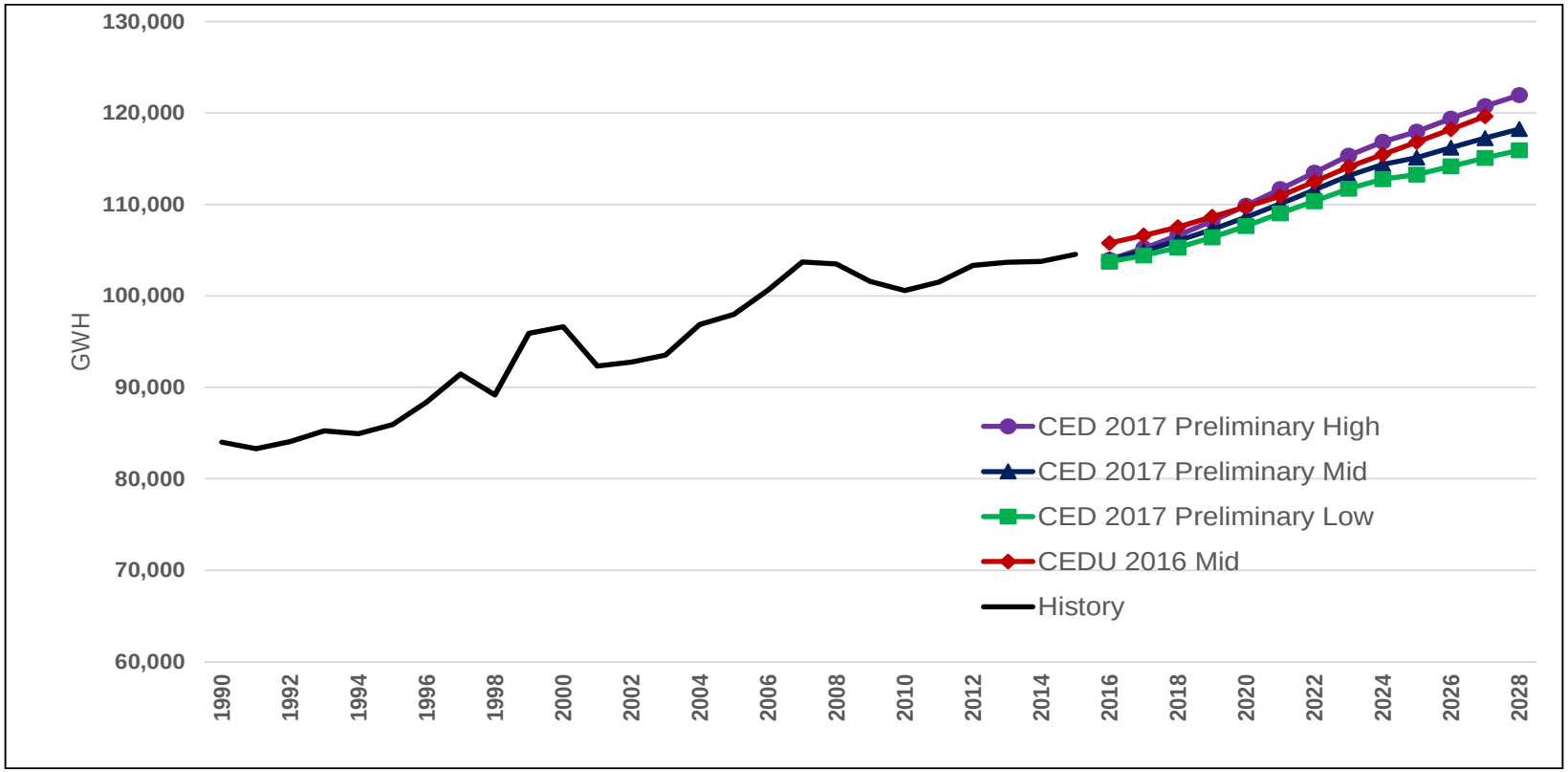
PG&E

PG&E Highlights (Inputs)

- Population growth of 0.96% per year 2016-2028, from 13.8 million to 15.4 million; growth in number of households of 1.05 percent per year in mid case
- Per capita income growth of 2.0% per year in mid case
- 638,000 light-duty EVs on the road in 2028 in the mid case, of which 398,000 are BEV; EV consumption of 2,400 gWh in 2028
- BTM PV installed capacity of 7,750 MW in 2028 in mid case
- LMDR of 206 MW in 2028

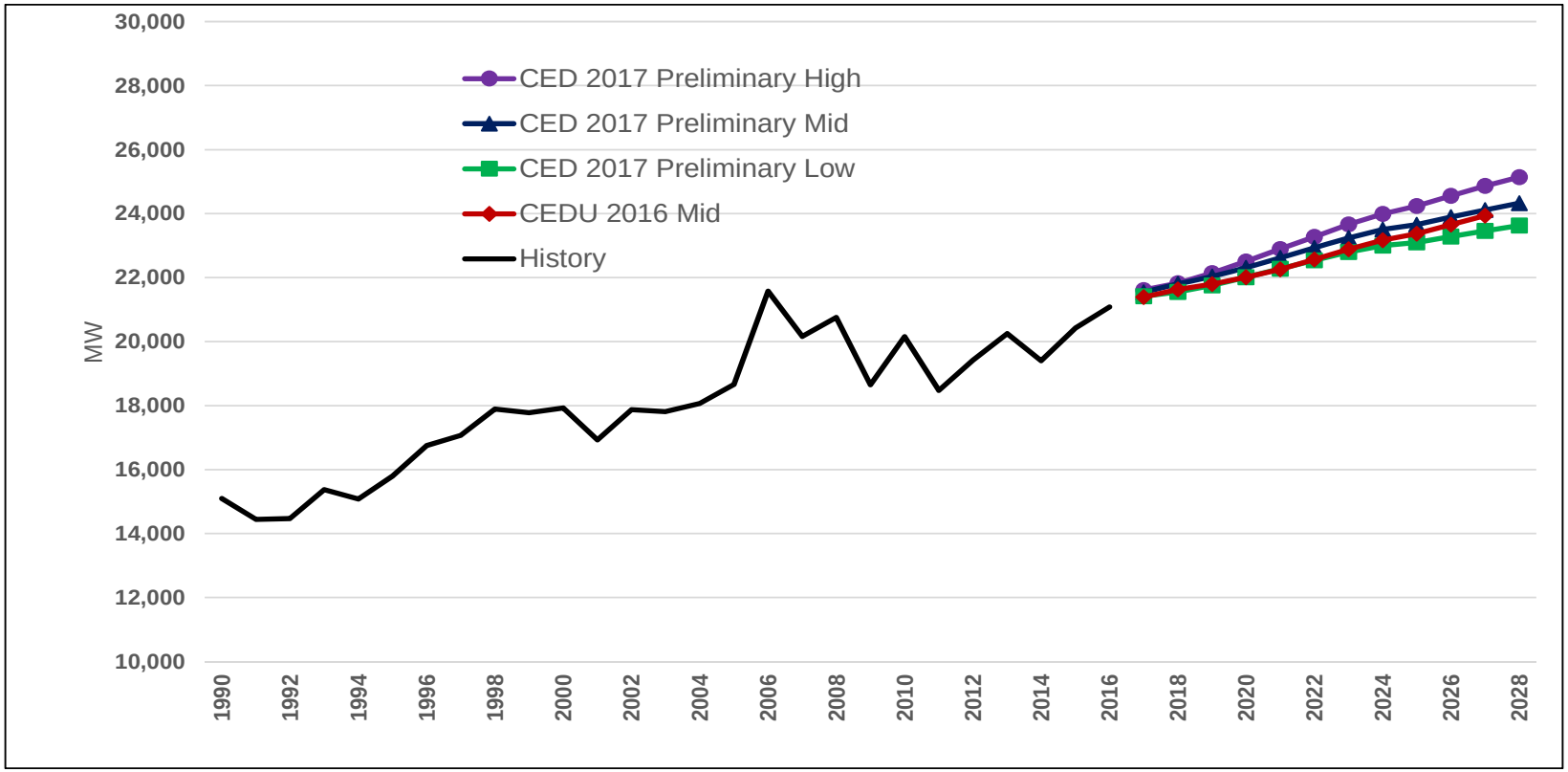
PG&E: Consumption

Average growth 2016-2027 of 1.37%, 1.11%, and 0.95% vs. 1.13% in *CEDU 2016* mid



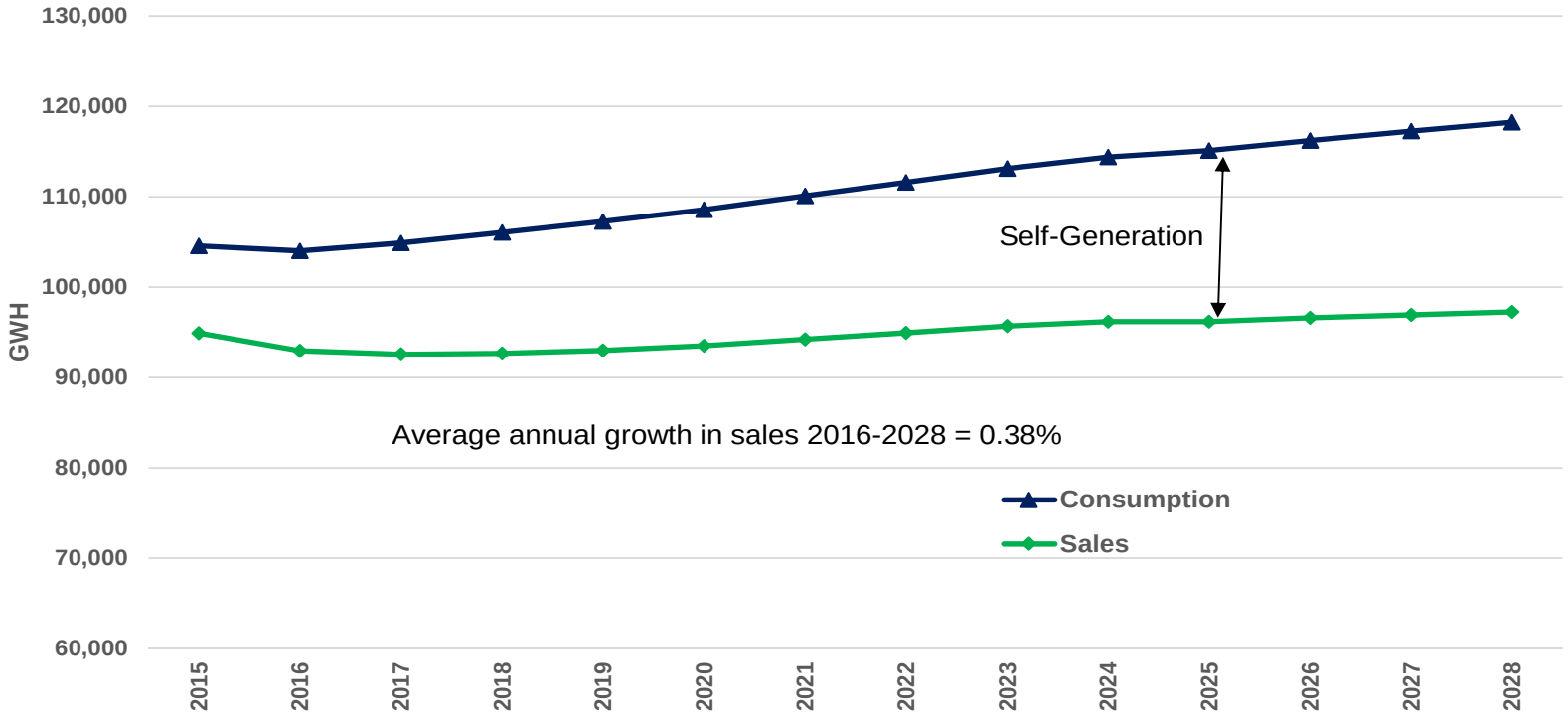
PG&E: Peak End-Use Load

Average growth 2016-2027 of 1.53%, 1.23%, and 0.98% vs. 1.17% in *CEDU 2016* mid



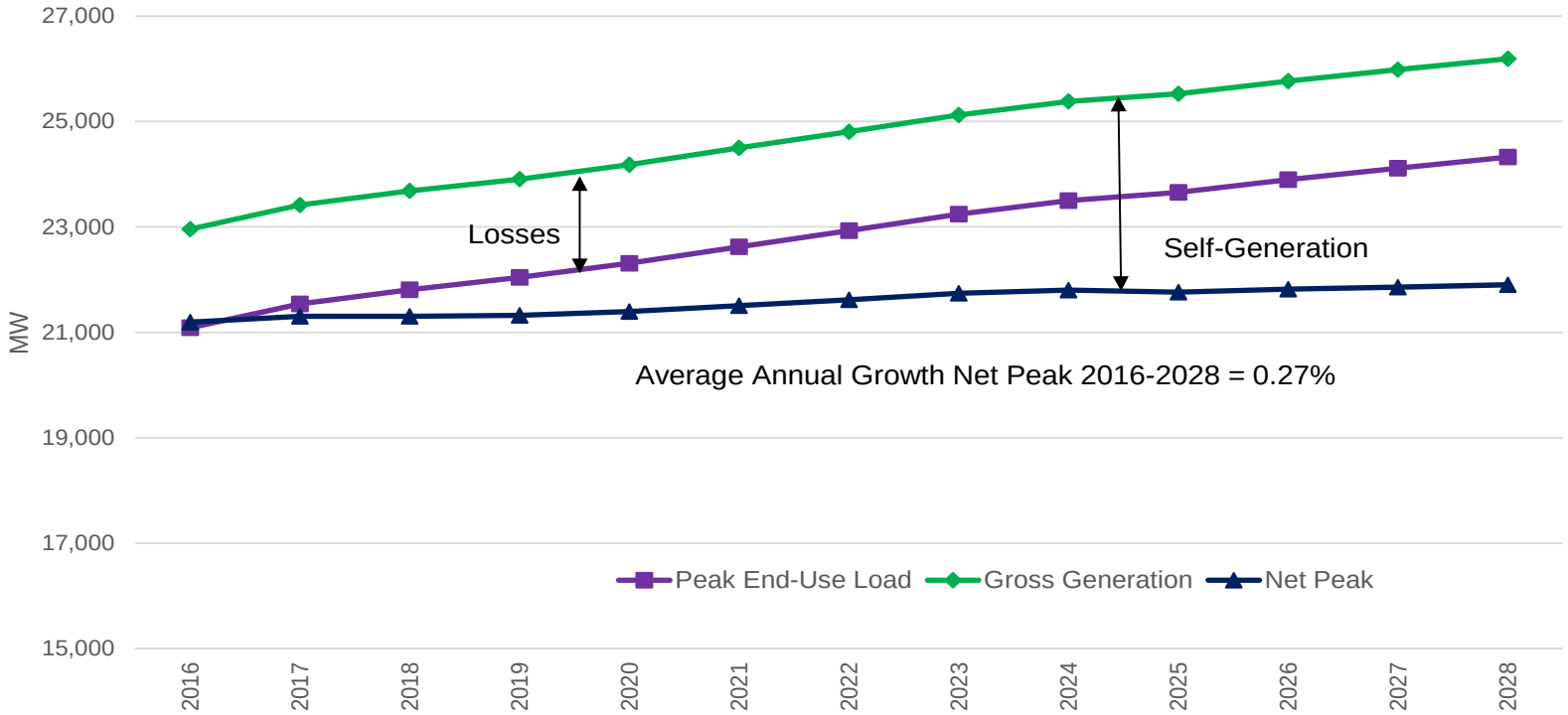
PG&E: Consumption to Sales (Mid)

~21,000 GWh of total self-generation in 2028, of which 12,900 is PV



PG&E: End Use Load to Net Peak (Mid)

~4300 MW of total self-generation in 2028, of which 2,600 is PV



PG&E Highlights (Output)

- In mid case, residential consumption grows at 1.95% per year, 2016-2028, commercial by 1.08%, industrial by -0.34
- Fueled by relatively strong residential growth, PG&E consumption grows faster than state average 2016-2028
- EUL peak grows faster than consumption because of residential EUL growth

Comparison of Mid Case With PG&E Forecast Submitted for IEPR

- PG&E has higher EV and PV forecasts
- Aside from EVs and PV, PG&E has higher sales forecast
  - Faster industrial growth
  - Faster agricultural growth
  - Difference in efficiency accounting
- Peak forecasts not directly comparable since PG&E accounts for peak shift

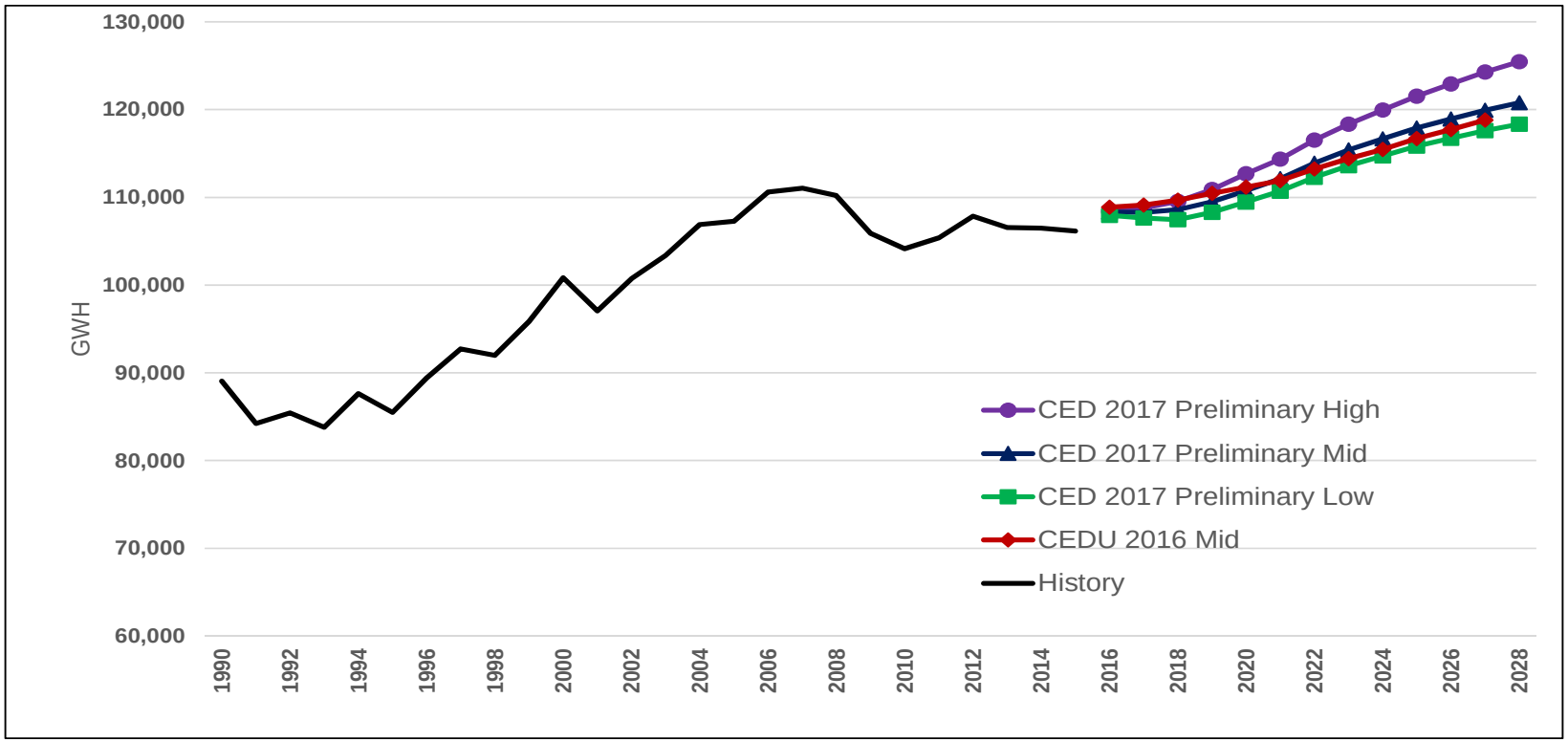
SCE

SCE Highlights (Inputs)

- Population growth of 0.70% per year 2016-2028, from 14.9 million to 16.2 million; growth in number of households of 0.91 percent per year in mid case
- Per capita income growth of 1.86% per year in mid case
- 552,000 light-duty EVs on the road in 2028 in the mid case, of which 283,000 are BEV; EV consumption of 2,050 gWh in 2028
- BTM PV installed capacity of 6,300 MW in 2028 in mid case
- LMDR of 96 MW in 2028

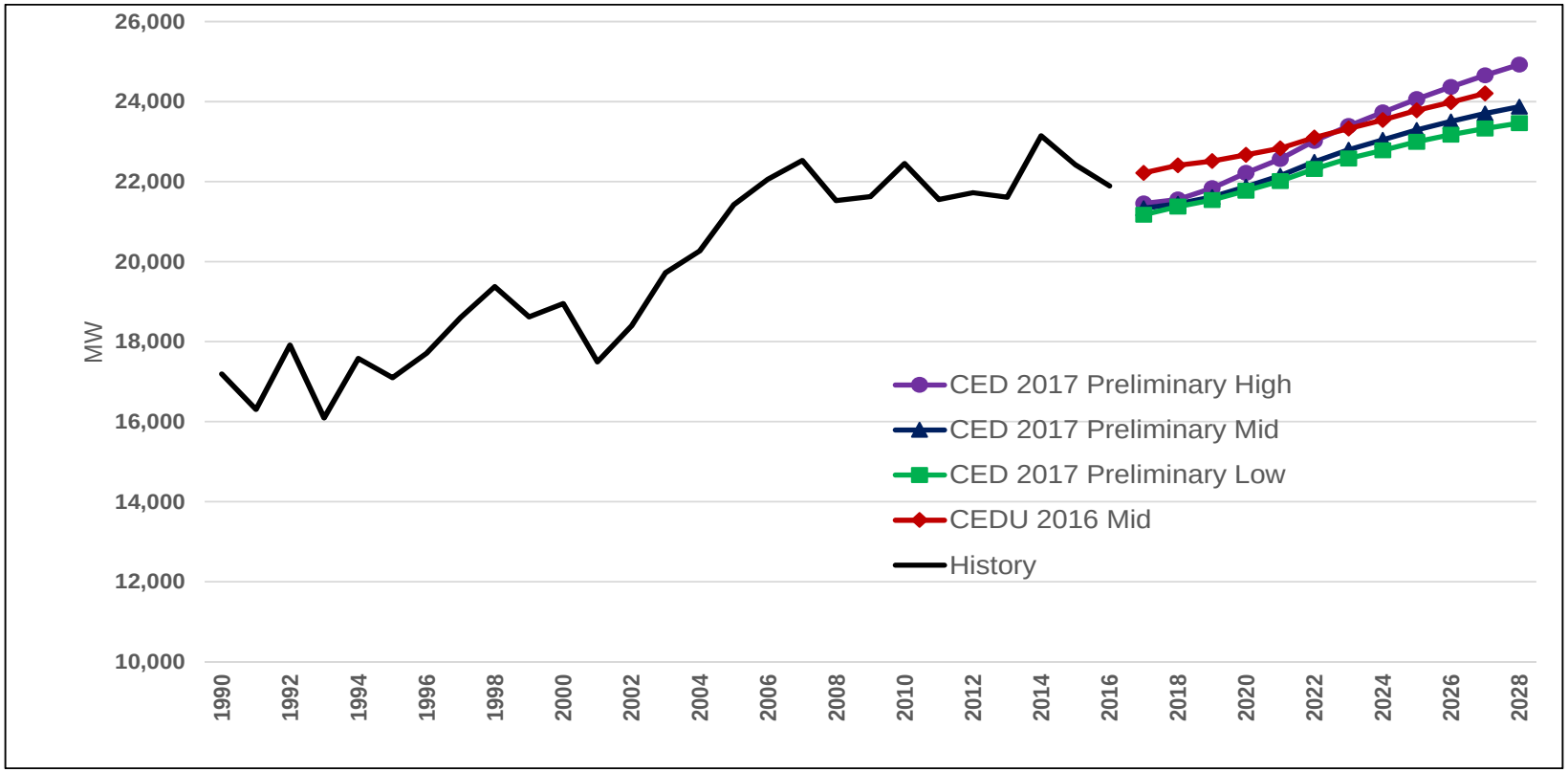
SCE: Consumption

Average growth 2016-2027 of 1.25%, 0.93%, and 0.78% vs. 0.80% in *CEDU 2016* mid



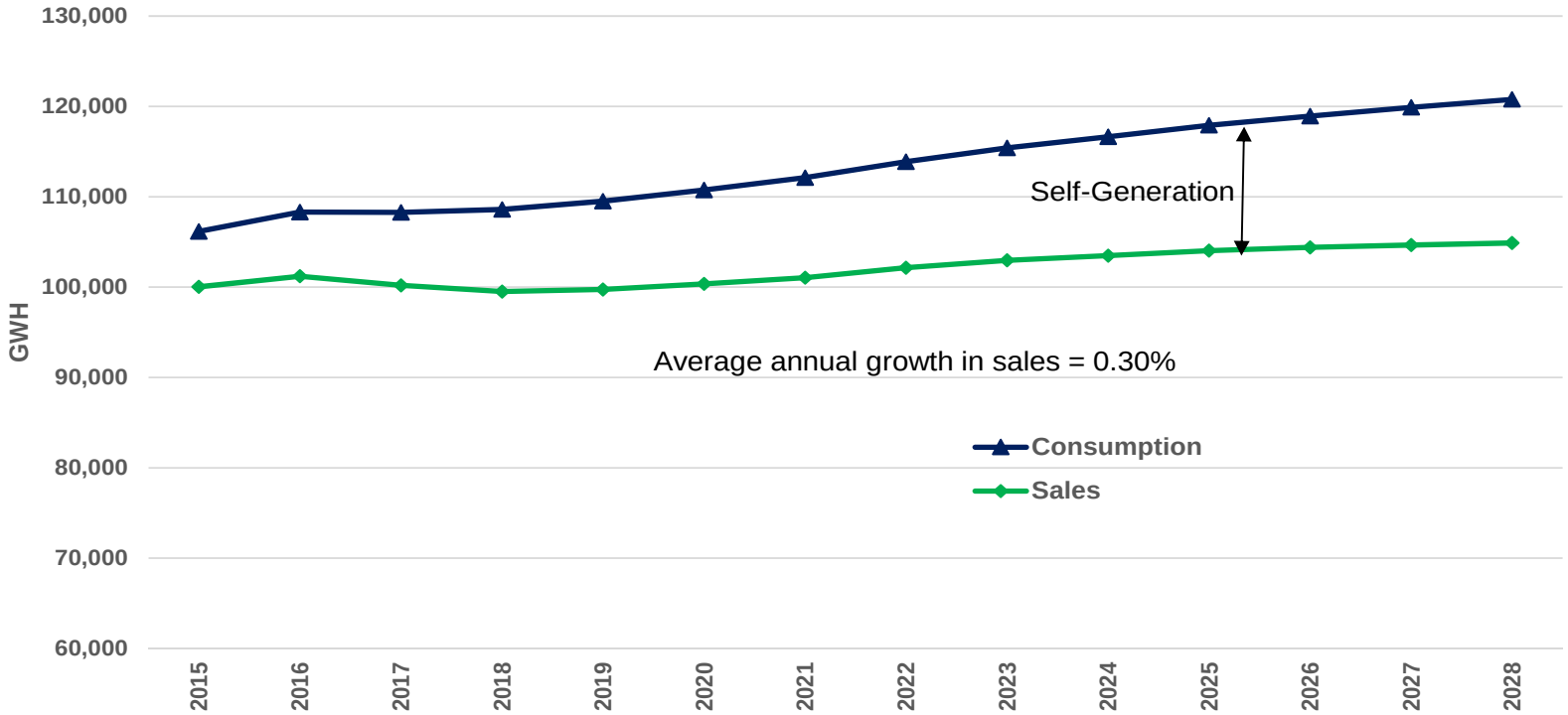
SCE: Peak End-Use Load

Average growth 2016-2027 of 1.09%, 0.72%, and 0.58% vs. 0.90% in *CEDU 2016* mid



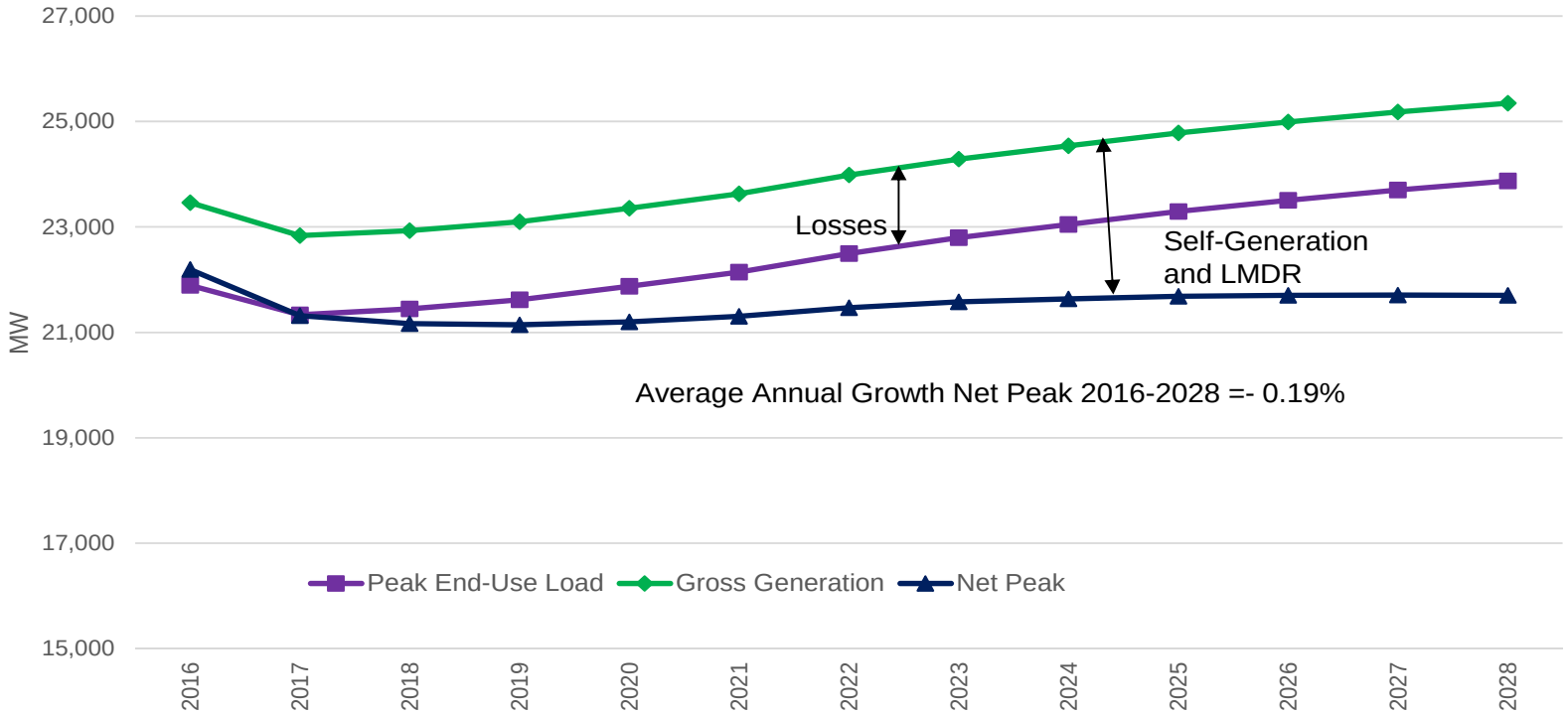
SCE: Consumption to Sales (Mid)

~15,900 gWh of total self-generation in 2028, of which 10,800 is PV



SCE: End Use Load to Net Peak (Mid)

~3,600 MW of total self-generation in 2028, of which 2,300 is PV



SCE Highlights (Output)

- In mid case, residential consumption grows at 2.06% per year, 2016-2028, commercial by 0.52%, industrial by 0.31%
- With less growth in commercial, SCE consumption grows slower than state average 2016-2028 in mid case
- EUL peak grows faster than consumption because of drop from 2016-2017 and residential EUL growth

Comparison of Mid Case With PG&E Forecast Submitted for IEPR

- SCE has higher EV and PV forecasts
- Aside from EVs and PV, sales forecasts are similar
- Peak forecasts not directly comparable since SCE accounts for peak shift

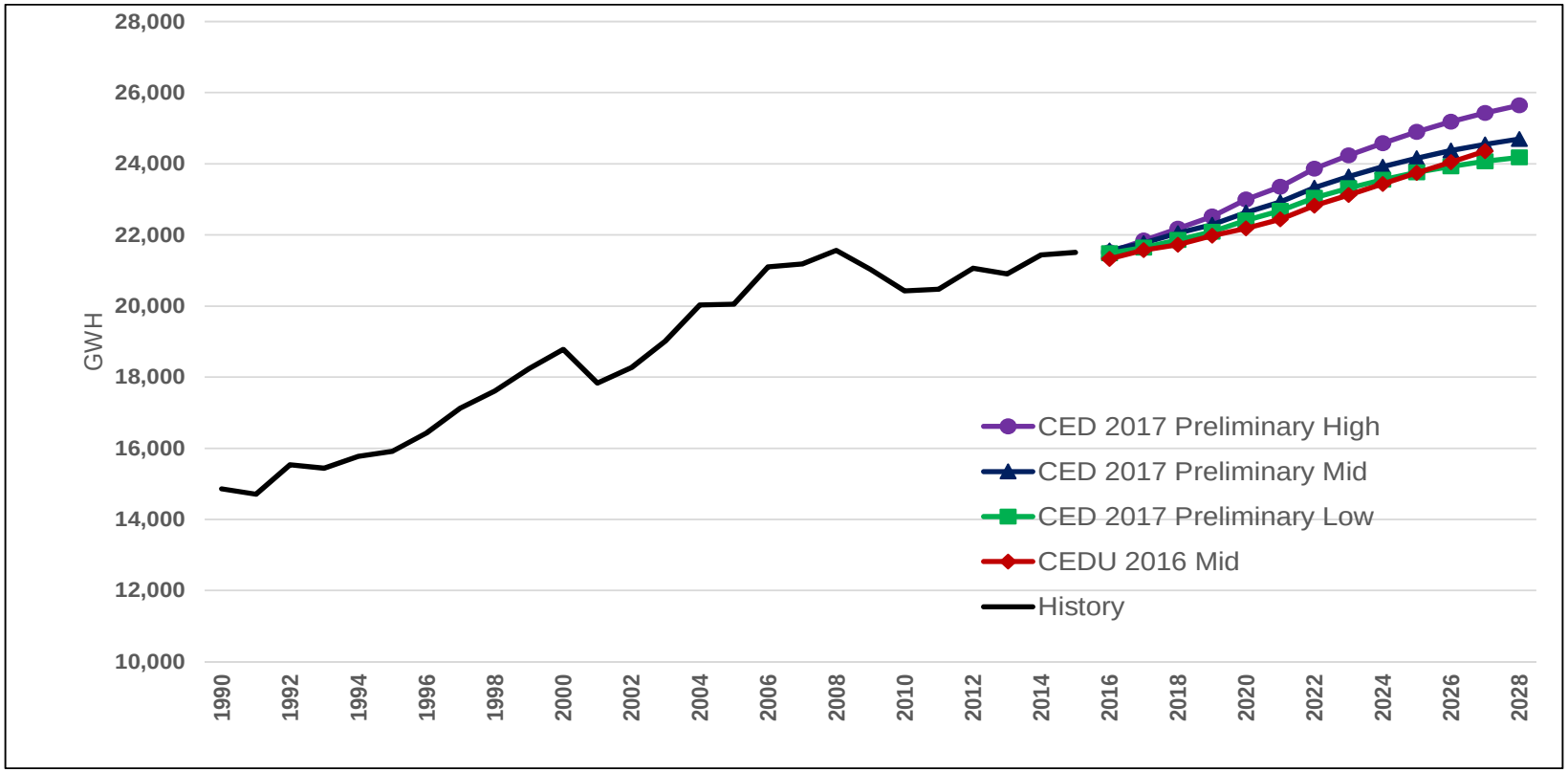
SDG&E

SDG&E Highlights (Inputs)

- Population growth of 0.75% per year 2016-2028, from 3.6 million to 3.95 million; growth in number of households of 0.83 percent per year in mid case
- Per capita income growth of 1.75% per year in mid case
- 134,000 light-duty EVs on the road in 2028 in the mid case, of which 83,000 are BEV; EV consumption of 350 gWh in 2028
- BTM PV installed capacity of 1,900 MW in 2028 in mid case
- LMDR of 27 MW in 2028

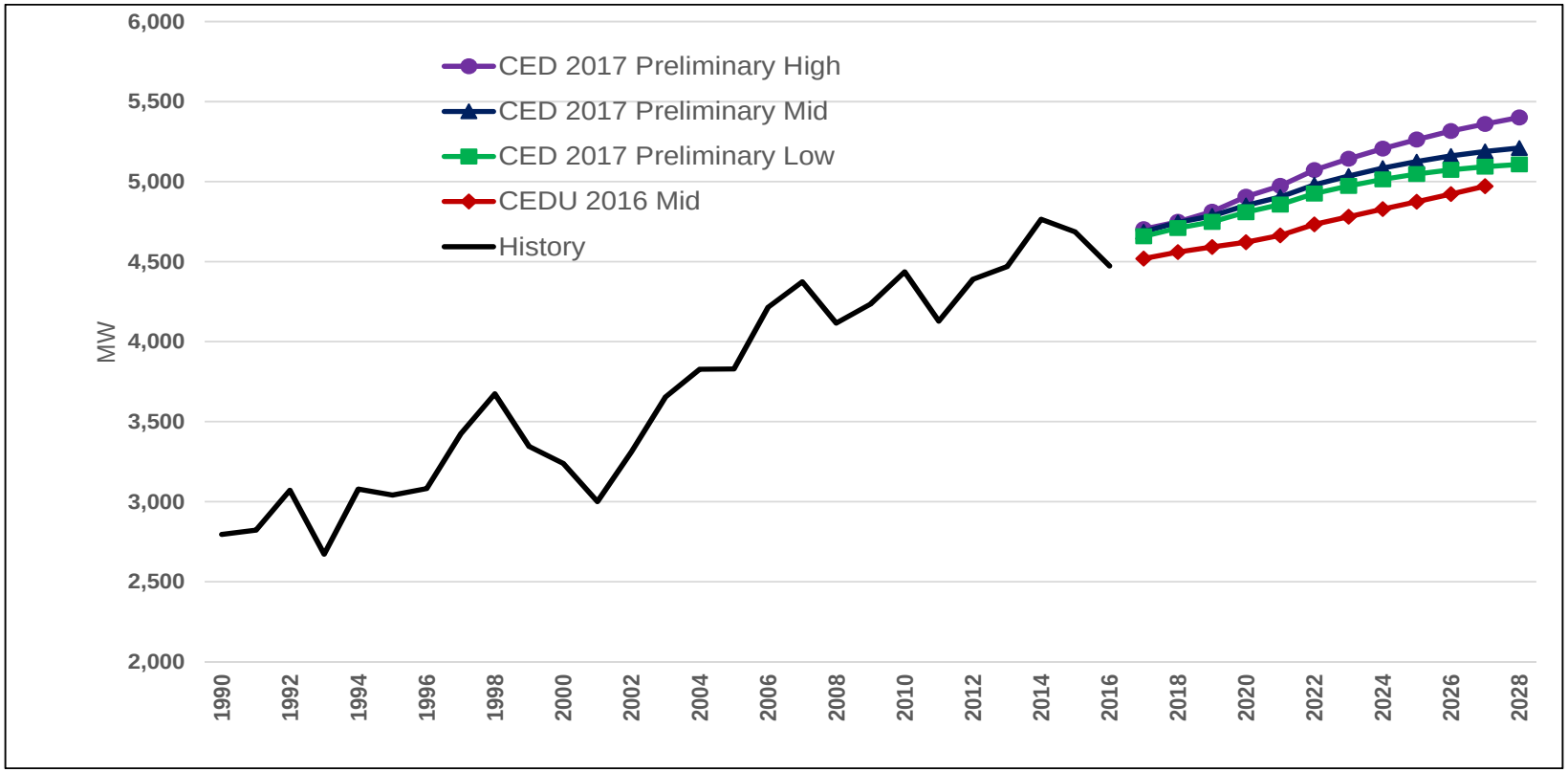
SDG&E: Consumption

Average growth 2016-2027 of 1.53%, 1.18%, and 1.04% vs. 1.21% in *CEDU 2016* mid



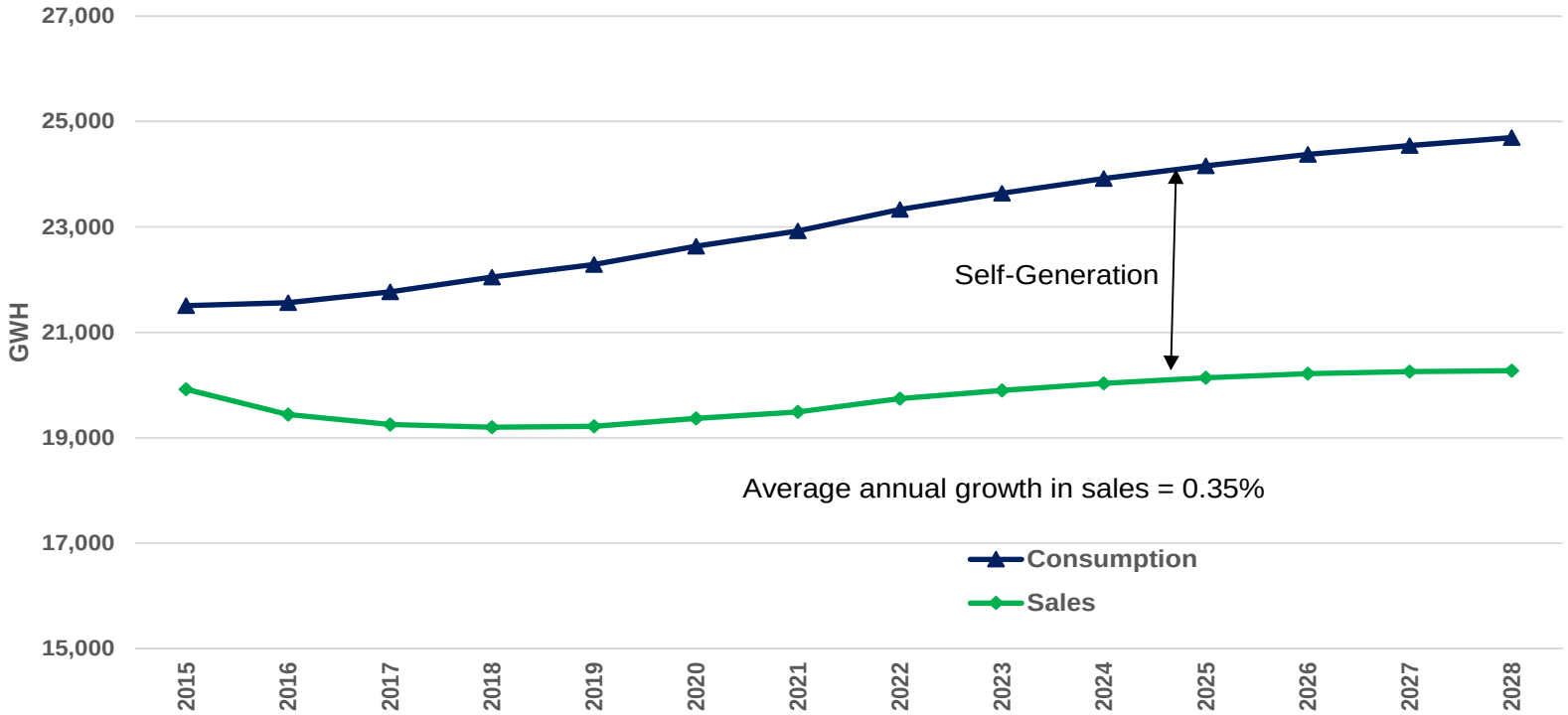
SDG&E: Peak End-Use Load

Average growth 2016-2027 of 1.66%, 1.36%, and 1.09% vs. 1.05% in *CEDU 2016* mid



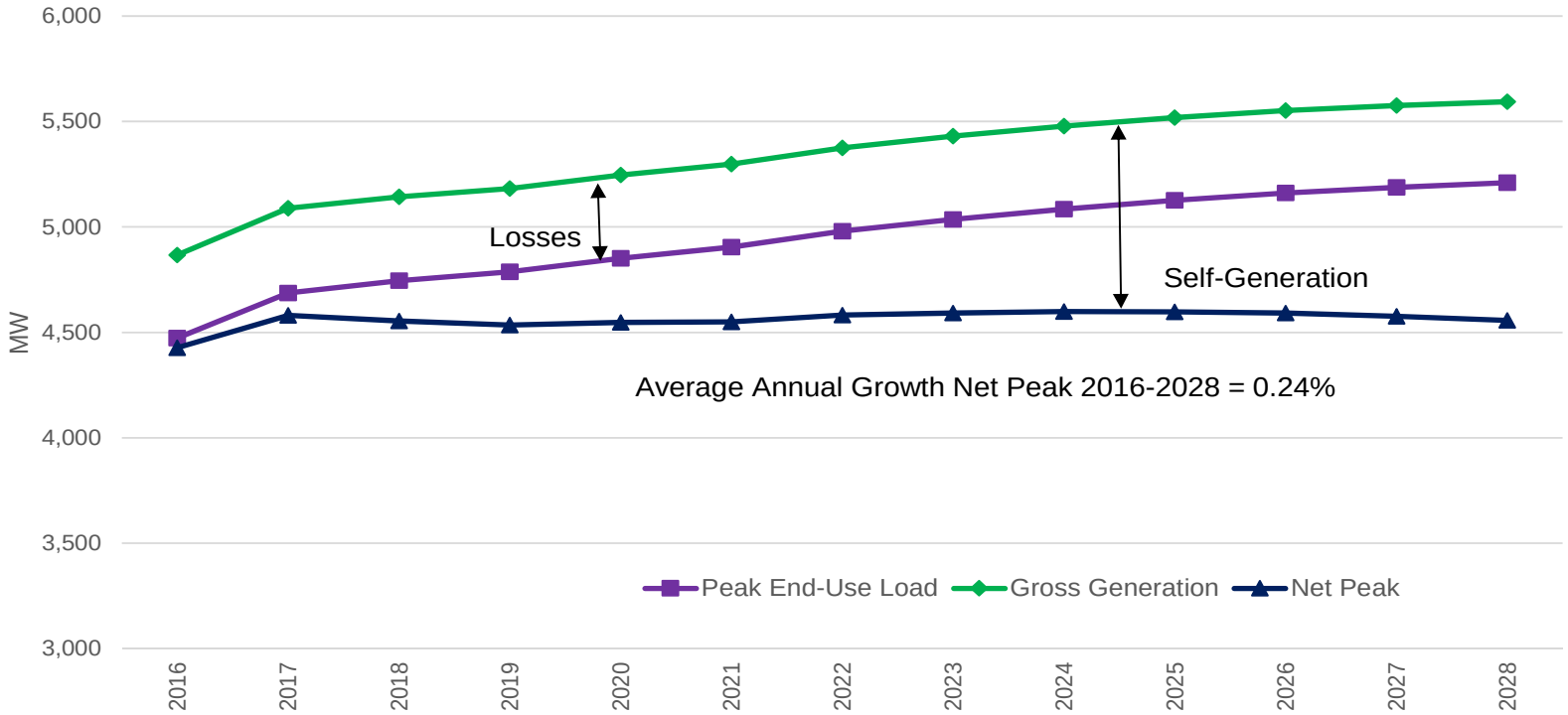
SDG&E: Consumption to Sales (Mid)

~4,400 gWh of total self-generation in 2028, of which 3,300 is PV



SDG&E: End Use Load to Net Peak (Mid)

~1,000 MW of total self-generation in 2028, of which 700 is PV



SDG&E Highlights (Output)

- In mid case, residential consumption grows at 1.72% per year, 2016-2028, commercial by 1.00%, industrial by 0.11%
- Fueled by relatively strong commercial consumption growth, SDG&E consumption grows slightly faster than state average 2016-2028 in the mid case
- Jump in EUL peak from 2016-2017 results in EUL peak growing at faster rate than consumption 2016-2028 in the mid case

Comparison of Mid Case With SDG&E Forecast Submitted for IEPR

- SDG&E has higher EV and lower PV forecasts
- Aside from EVs and PV, sales forecasts are similar
- Peak forecasts not directly comparable since SDG&E accounts for peak shift

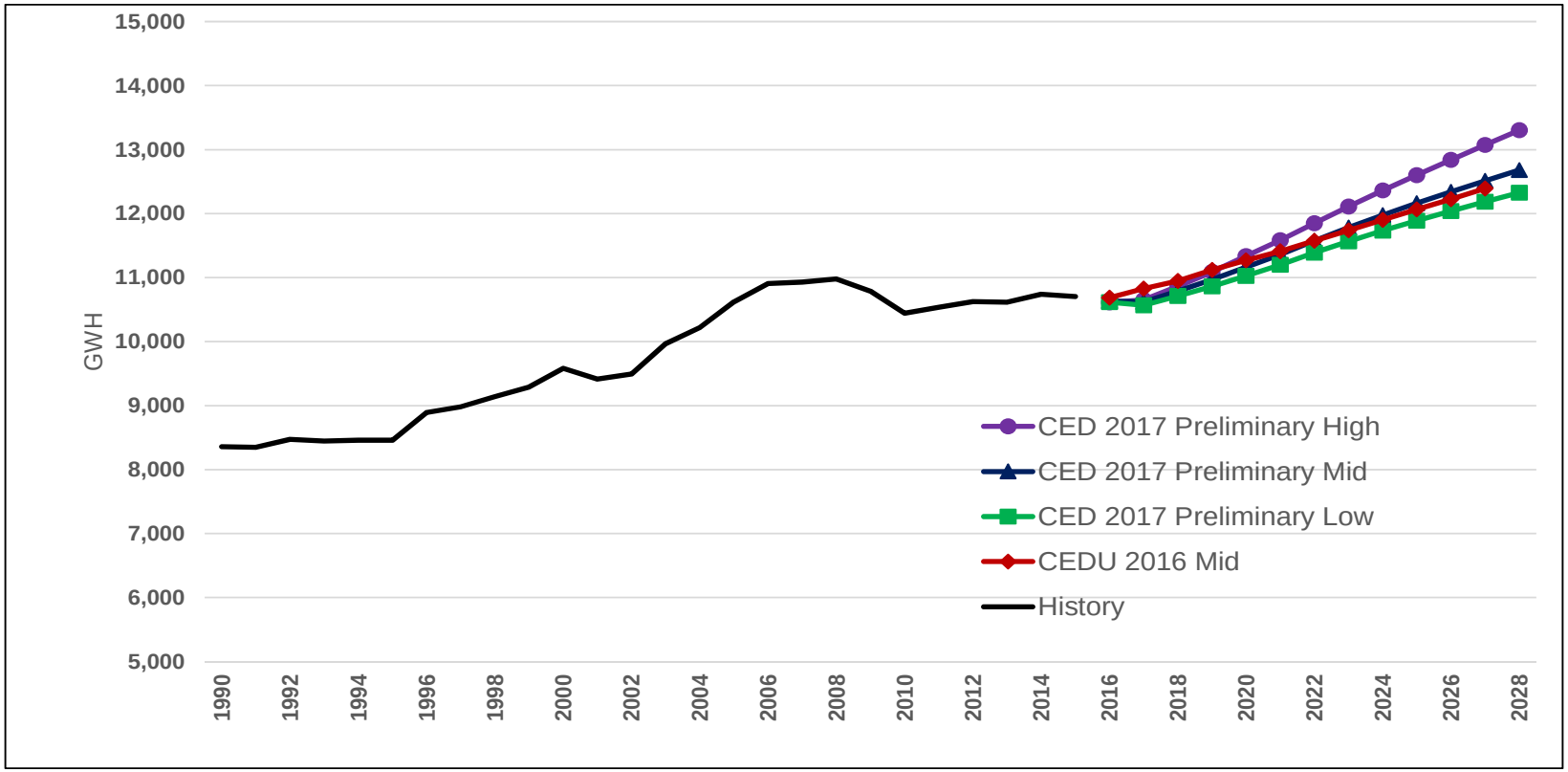
SMUD

SMUD Highlights (Inputs)

- Population growth of 1.14% per year 2016-2028, from 1.5 million to 1.72 million; growth in number of households of 1.11 percent per year in mid case
- Per capita income growth of 1.86 per year in mid case
- 38,000 light-duty EVs on the road in 2028 in the mid case, of which 23,000 are BEV; EV consumption of 150 gWh in 2028
- BTM PV installed capacity of 630 MW in 2028 in mid case

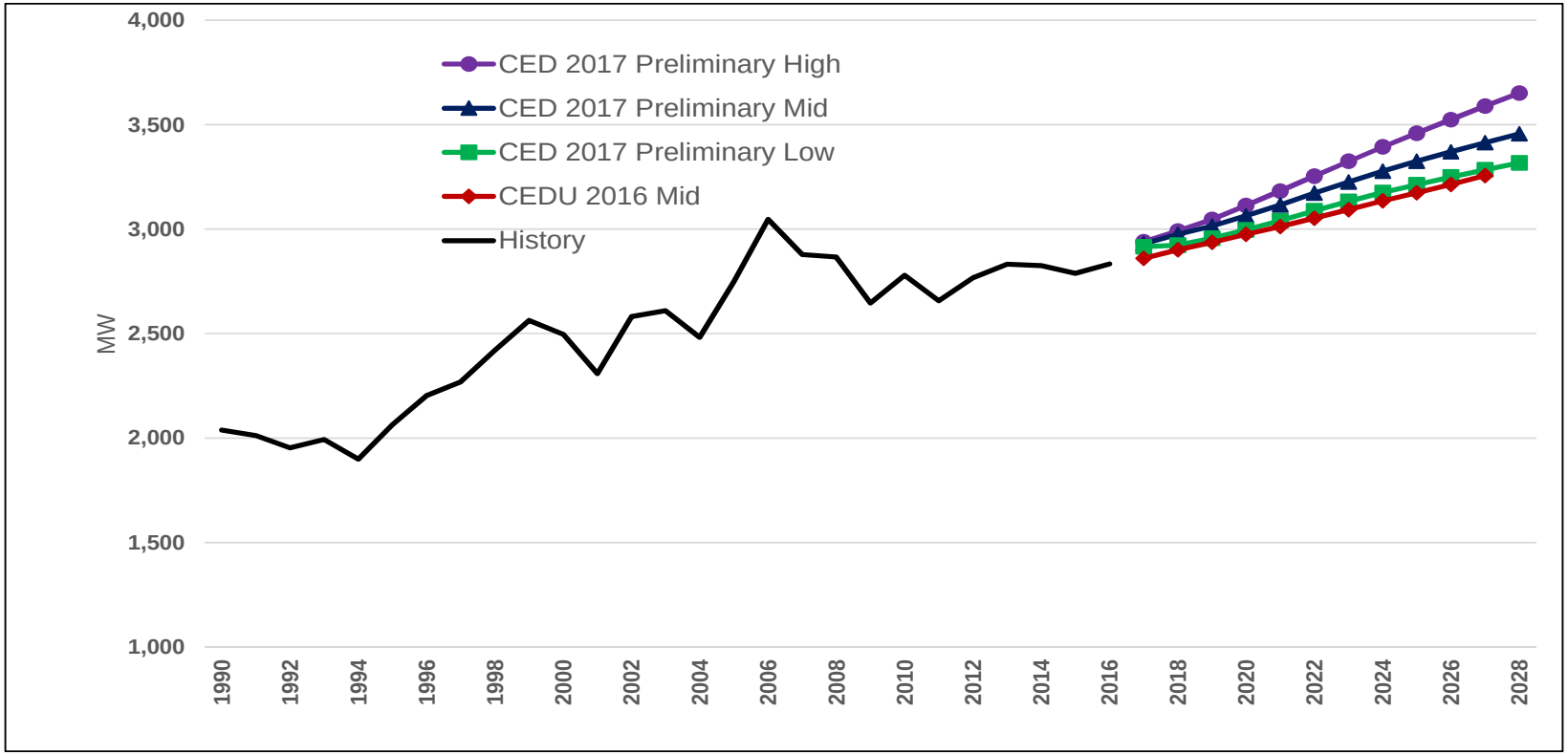
SMUD: Consumption

Average growth 2016-2027 of 1.91%, 1.49%, and 1.26% vs. 1.36% in *CEDU 2016* mid



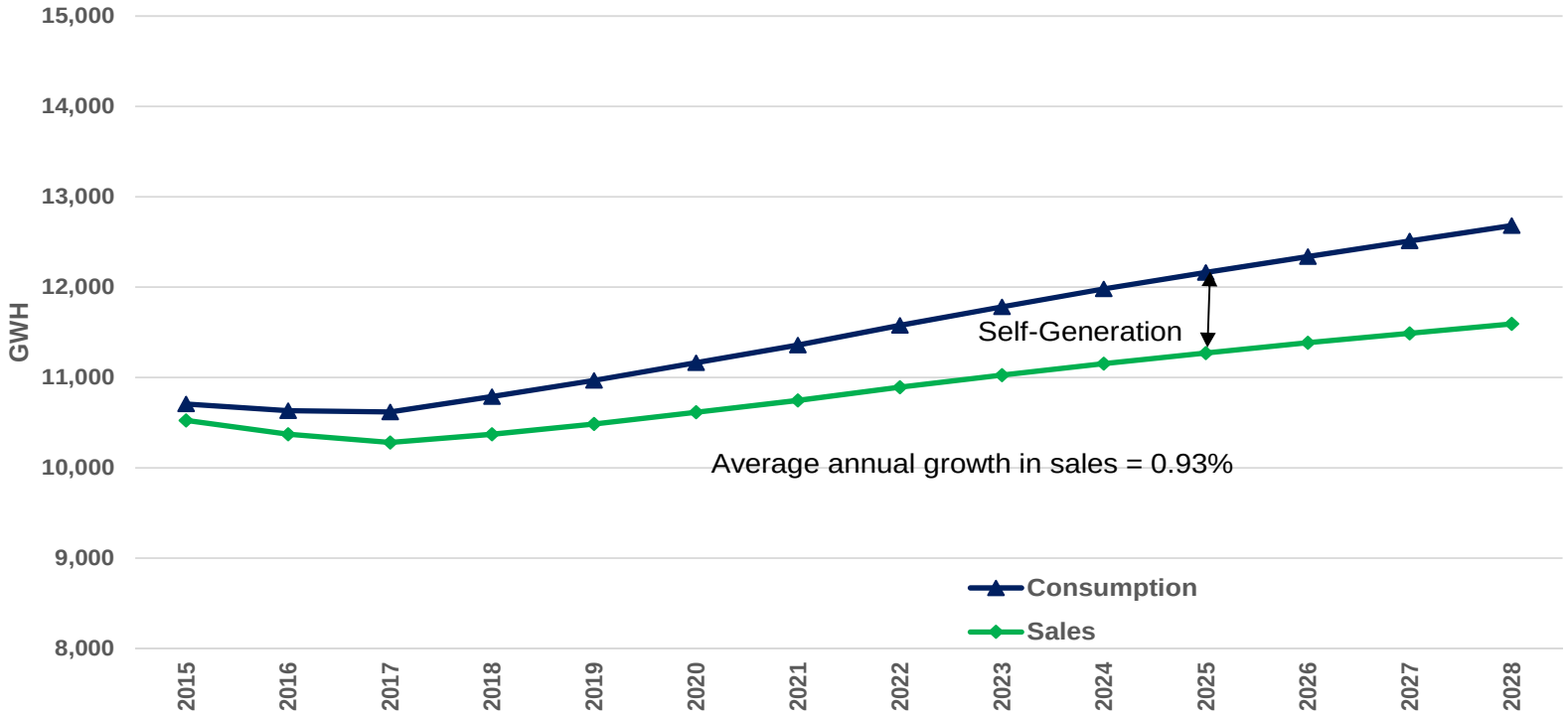
SMUD: Peak End-Use Load

Average growth 2016-2027 of 2.17%, 1.71%, and 1.35% vs. 1.30% in *CEDU 2016* mid



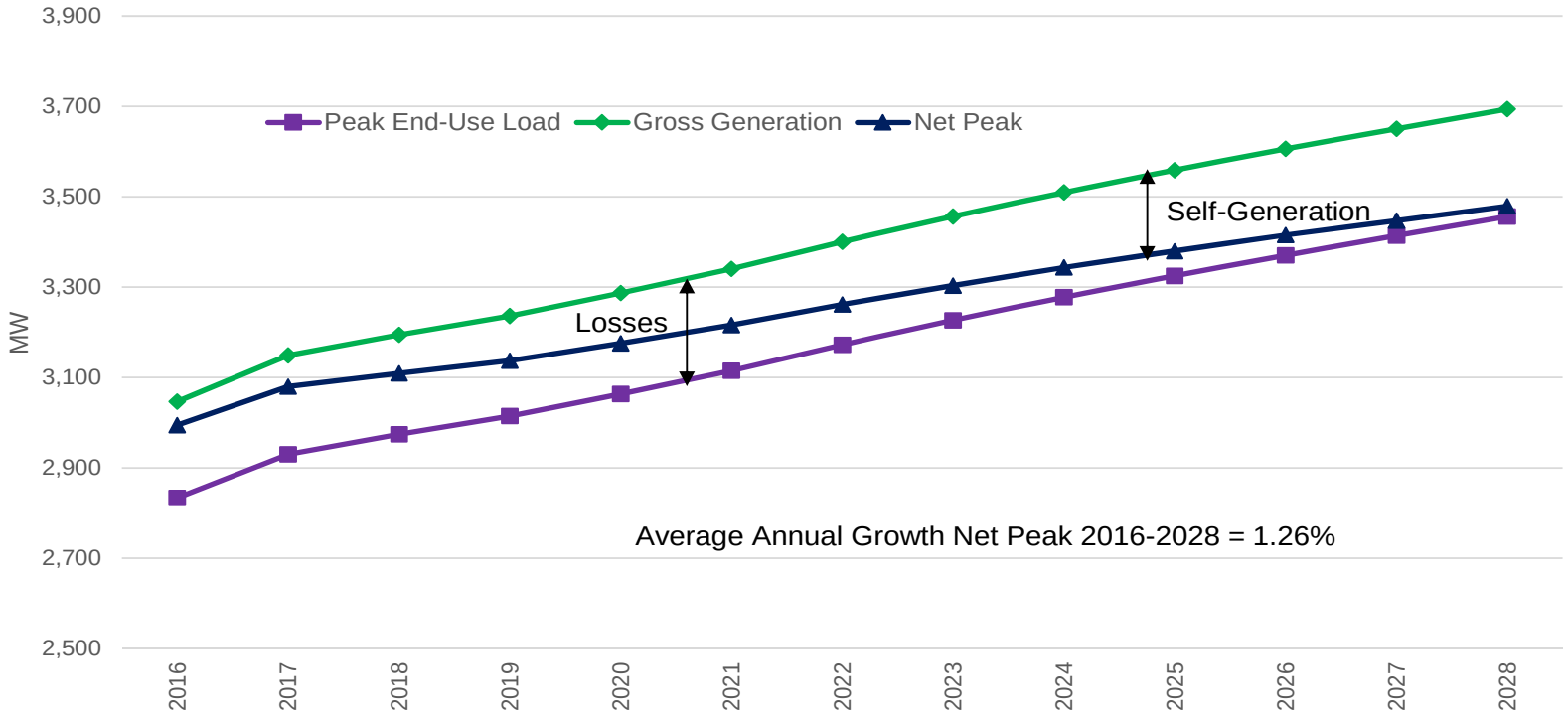
SMUD: Consumption to Sales (mid)

~1,100 gWh of total self-generation in 2028, of which 1,000 is PV



SMUD: End Use Load to Net Peak (Mid)

~215 MW of total self-generation in 2028, of which 210 is PV



SMUD Highlights (Output)

- In mid case, residential consumption grows at 1.87% per year, 2016-2028, commercial by 1.40%, industrial by 0.37%
- Fueled by relatively strong commercial and industrial consumption growth, SMUD consumption grows faster than state average 2016-2028
- Relatively small impact from PV means net peak demand grows almost as quickly as consumption

Comparison of Mid Case With SMUD Forecast Submitted for IEPR

- SMUD has higher EV and lower PV forecasts
- Aside from EVs and PV, SMUD sales and peak forecasts are lower
  - SMUD assumes slower population growth
  - Relationship between sales and peak may be changing

Questions/Comments?