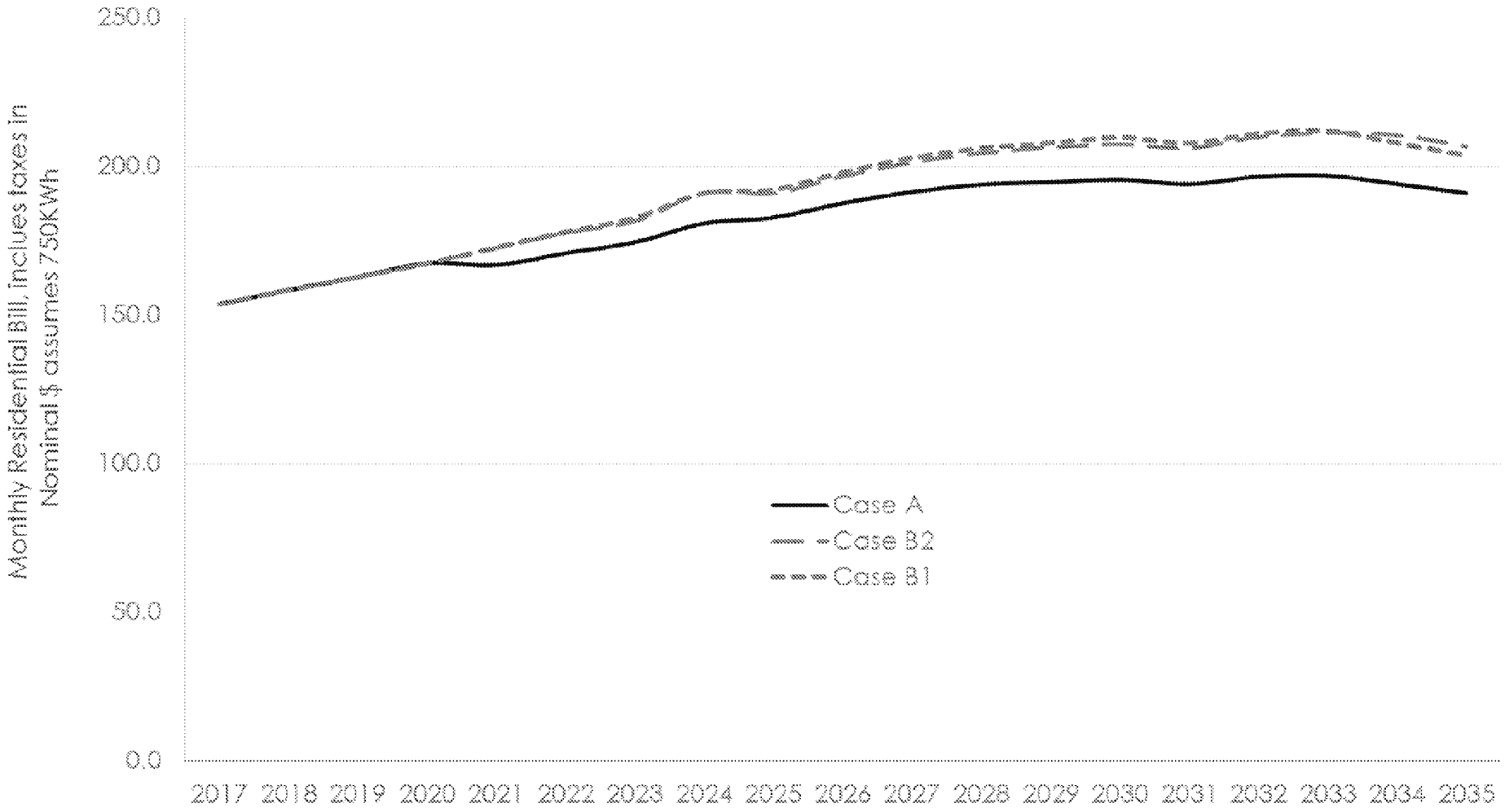
Appendix:

1. "Electricity planning outlooks as further context for LTEP 2017 development", Prepared for Discussion with Ministry of Energy, May 24, 2017

2. "Cost Control Options: Follow-up to May 24, 2017 Discussion on 2017 Long-Term Energy Plan Base Case", Prepared for Discussion with Ministry of Energy, May 31, 2017

Residential monthly bill without the Ontario Fair Hydro Plan (OFHP) or 8% rebate

Higher conservation cases result in a higher monthly residential bill, by an average of about $11/month in each year between 2021 and 2035. Although the total costs of electricity for the higher conservation Cases B1 and B2 are lower in the later part of the outlook compared to Case A, the lower demand will drive the unit cost upwards and generate a higher monthly bill.



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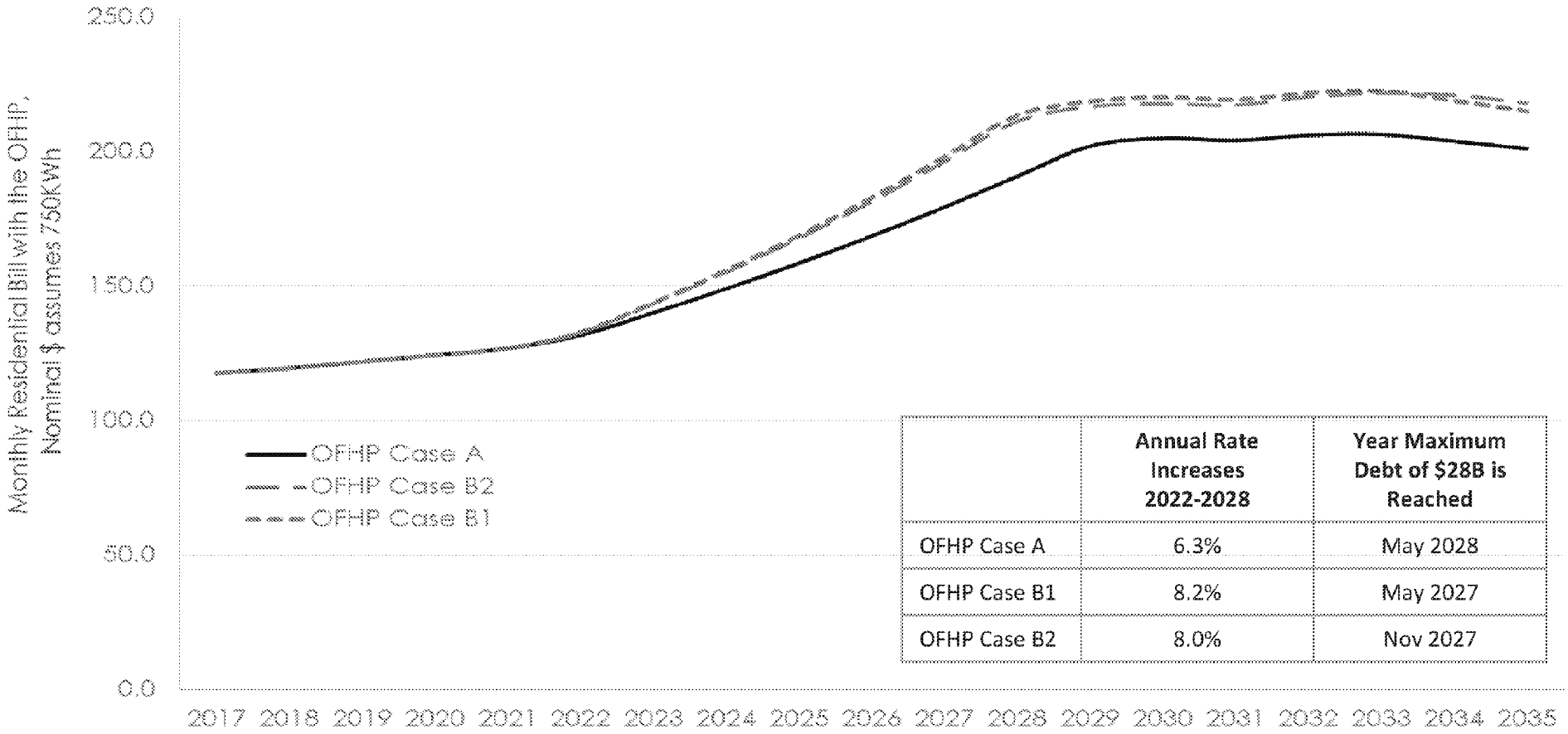
Residential monthly bill with the Ontario Fair Hydro Plan (OFHP)

Higher conservation cases result in a higher monthly residential bill, by an average of about $12/month in each year between 2021 and 2035. Between 2022 and 2028, higher conservation cases see a rate increase of 8% per year while Case A which reflects current conservation targets see a rate increase of about 6% per year. In addition, the $28 billion max debt is reached sooner in the higher conservation cases.



	Annual Rate Increases 2022-2028	Year Maximum Debt of $28B is Reached
OFHP Case A	6.3%	May 2028
OFHP Case B1	8.2%	May 2027
OFHP Case B2	8.0%	Nov 2027

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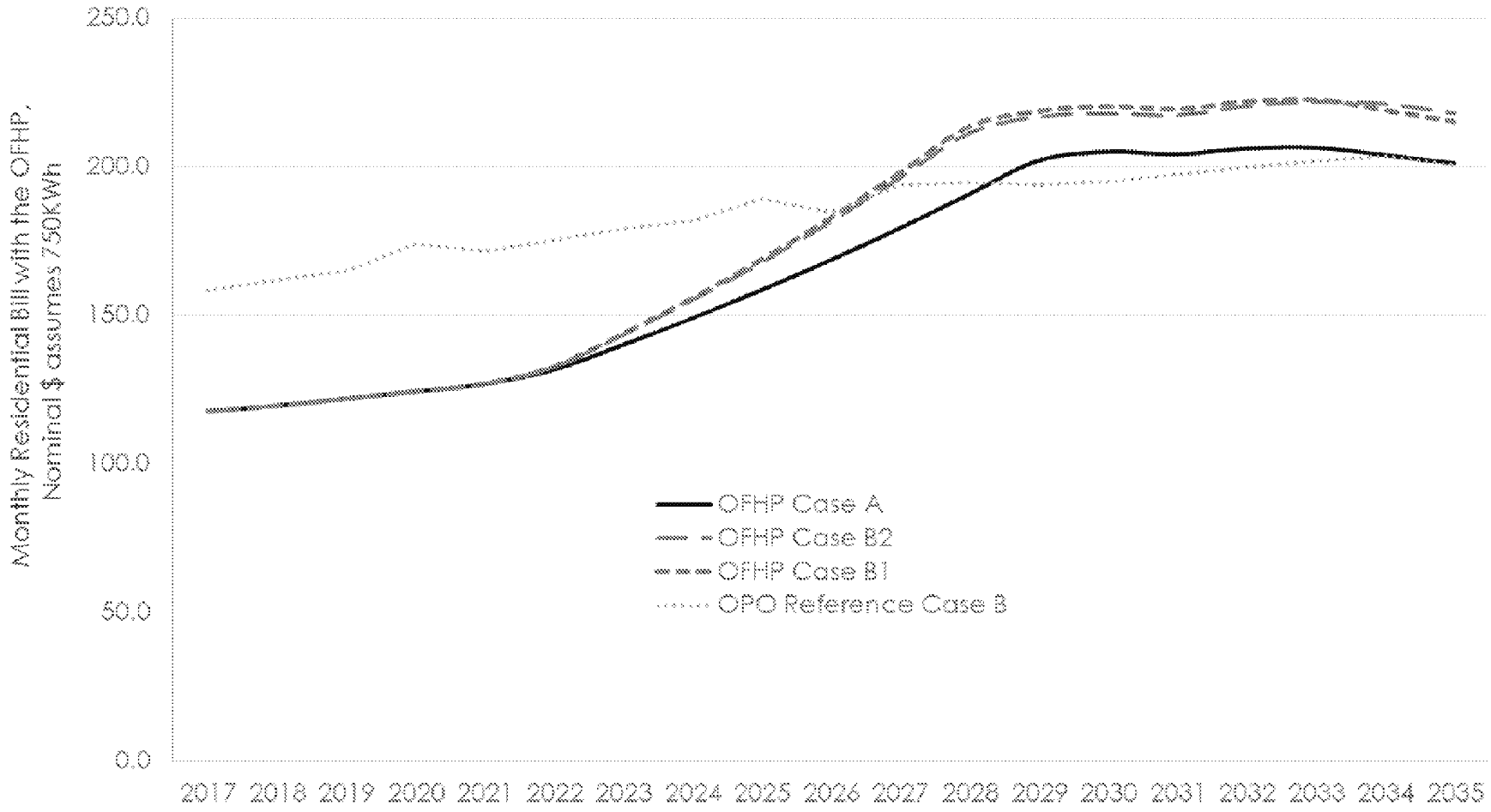
Average Residential Bills Outlooks: 31 TWh Conservation case and 46 TWh Conservation cases with the OFHP relative to the 2016 OPO Outlook B, indicates the OFHP monthly bills will exceed the OPO forecast after 2028 when repayment of the $28 Billion debt is required



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Cost Control Options: Follow-up to May 24, 2017 Discussion on 2017 Long-Term Energy Plan Base Case

Prepared for Discussion with Ministry of Energy

Planning, Legal, Indigenous Relations and Regulatory Affairs

May 31, 2017

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Summary: The current projection for residential electricity bills is generally, but not always, lower than in the 2013 LTEP. Cost control measures could reduce residential bills to below 2013 LTEP projections.

- Base case with OFHP but without further cost control measures: currently projected residential bills are lower than in the 2013 LTEP for most years, except in 2029 and 2030, where they are higher by roughly $1/Month and $4/Month, respectively

- In conjunction with the OFHP, replacing the Thunder Bay and Atikokan generating stations at a more competitive cost and also funding conservation through the GGRA starting in 2018 would result in lower residential monthly bills than projected in the 2013 LTEP in all years over the planning period

- Cost control measures as identified in Cases 3 to 5 could reduce residential bills by up to $5 per month compared to the 2013 LTEP by 2032. This difference is interpreted as within the range of modelling approximation.

- The cost control options considered here generally fall into four categories:
  a. Reducing investment and operating costs (i.e. buying less and/or buying-operating at a lower cost)
  b. Deferring ratepayer costs (i.e. OFHP)
  c. Shifting ratepayer costs (i.e. GGRA)
  d. Reallocating costs among ratepayer classes (i.e. revisiting ICI eligibility)

- Of the five scenarios considered, most fall into the "deferring" and "shifting" categories outline above: this is a function of Ontario's current state of electricity resource commitment. Options that fall into category "a" include not proceeding with FIT5 and Microfit2017 and replacing Thunder Bay and Atikokan at a lower cost. Limiting the scope of ICI eligibility might not only reallocate costs, but also reduce total costs.

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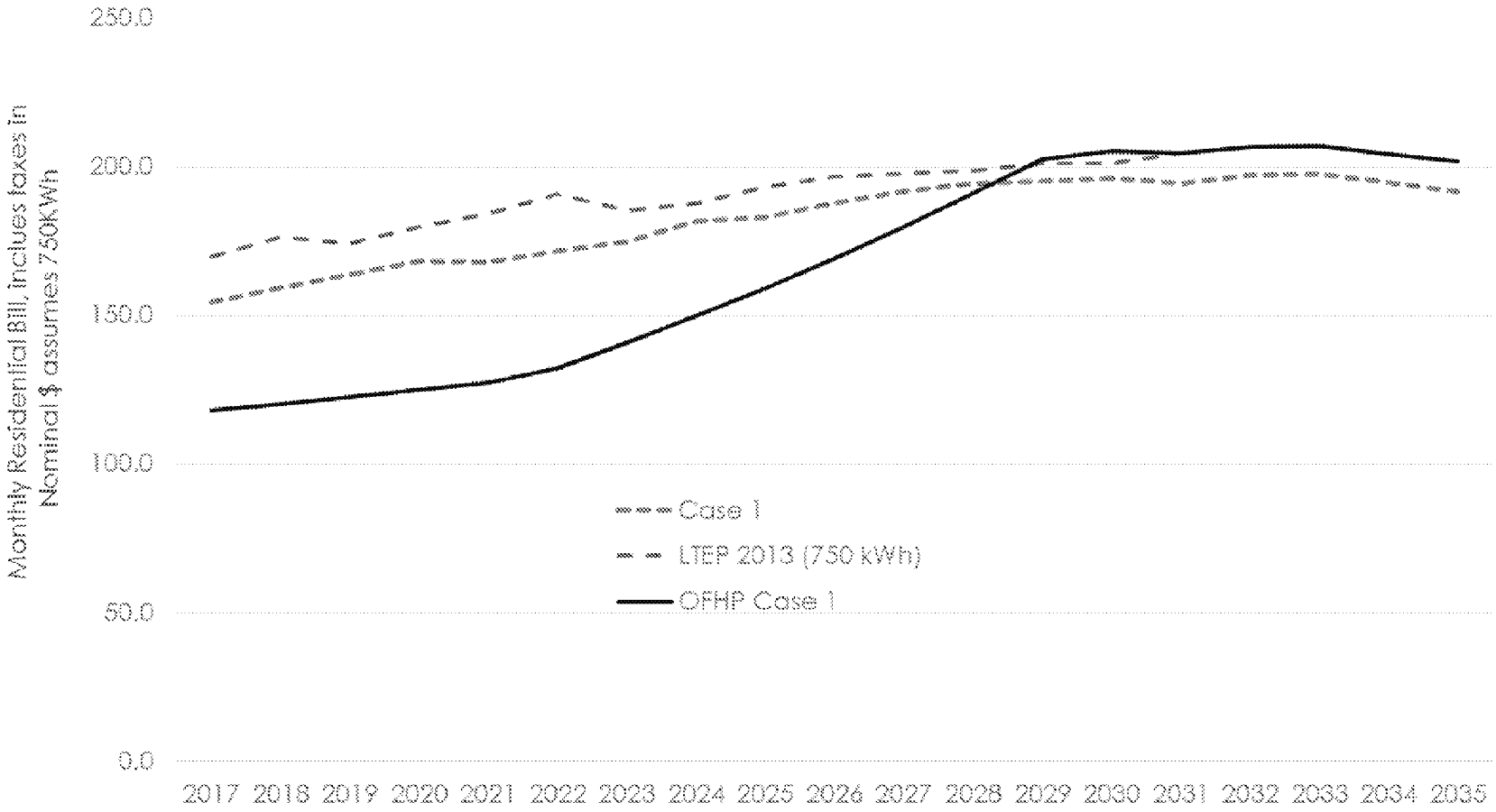
Case 1: The base case monthly residential bill projection with OFHP is generally lower than in the 2013 LTEP, with the exception of the years 2029 and 2030. The annual escalation is 6.3% per year between 2022 and 2028. The basecase monthly residential bill projection without OFHP is lower than the 2013 LTEP projection in all years.



* Basecase trajectory with OFHP is comparable to the original Ministry of Energy projection of the OFHP used for Cabinet briefing. See Appendix for illustration.

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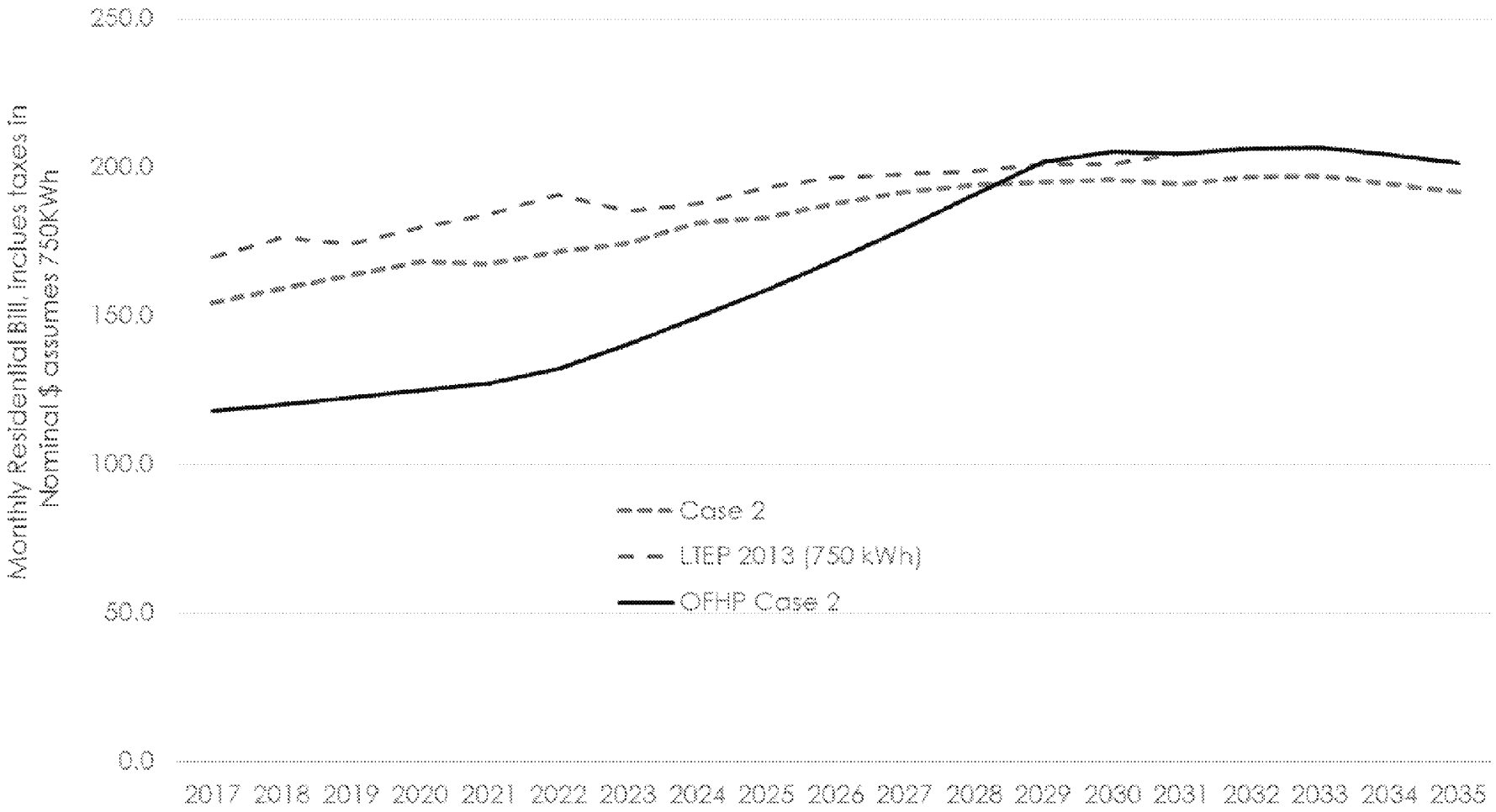
Case 2: In conjunction with the OFHP, replacing the Thunder Bay and Atikokan generating stations at a more competitive cost would result in lower residential monthly bills than projected in the 2013 LTEP for almost the entire planning period, with the exception of the years 2029 and 2030



* Cumulative savings of over $900 Million would be achieved with a more market competitive cost for contract expiry of Thunder Bay and Atikokan. Details available in Appendix.

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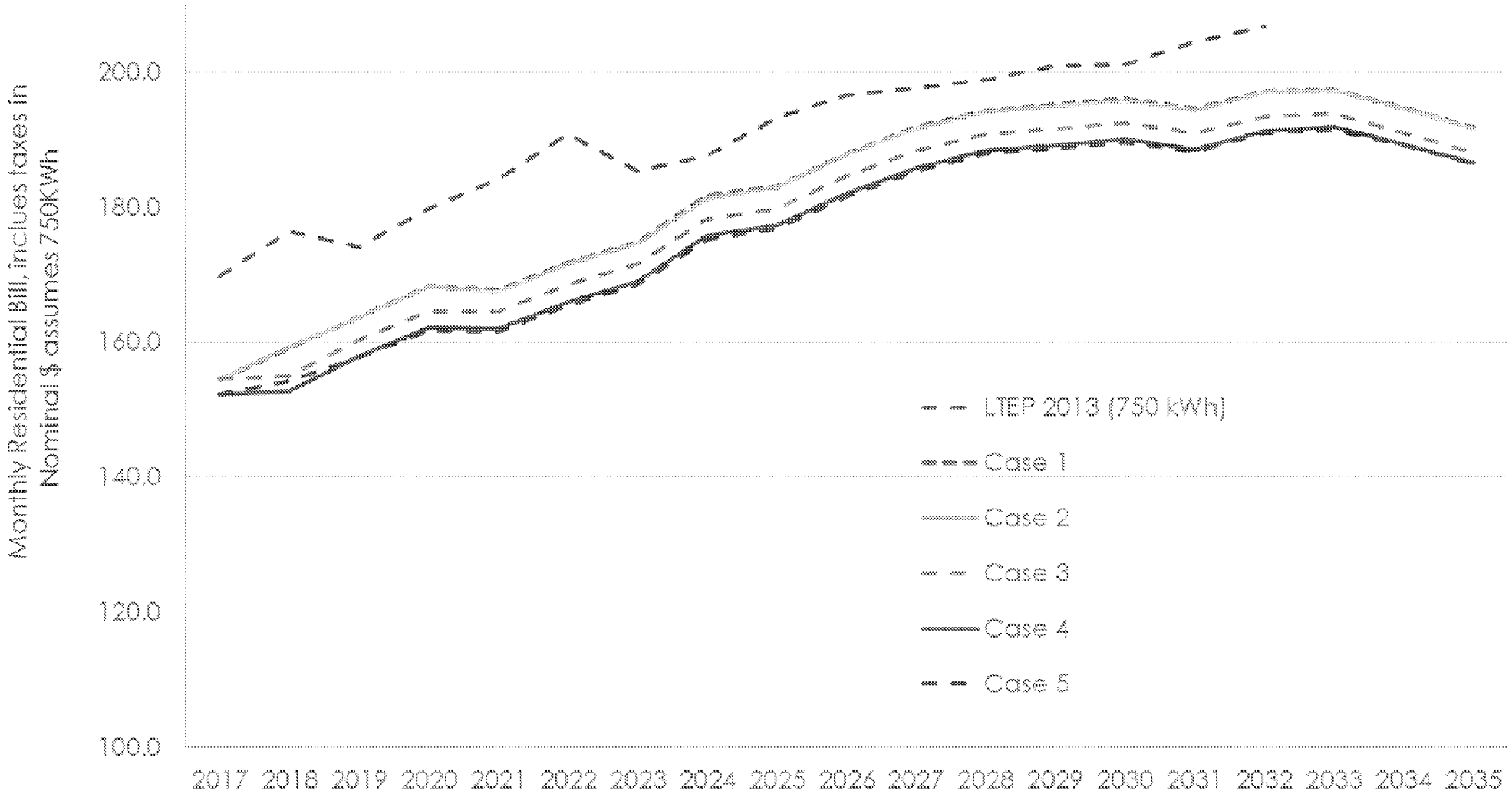
Overview of all Cases without OFHP: residential bills under all cases would remain below 2013 LTEP projections in all years, prior to accounting for the OFHP



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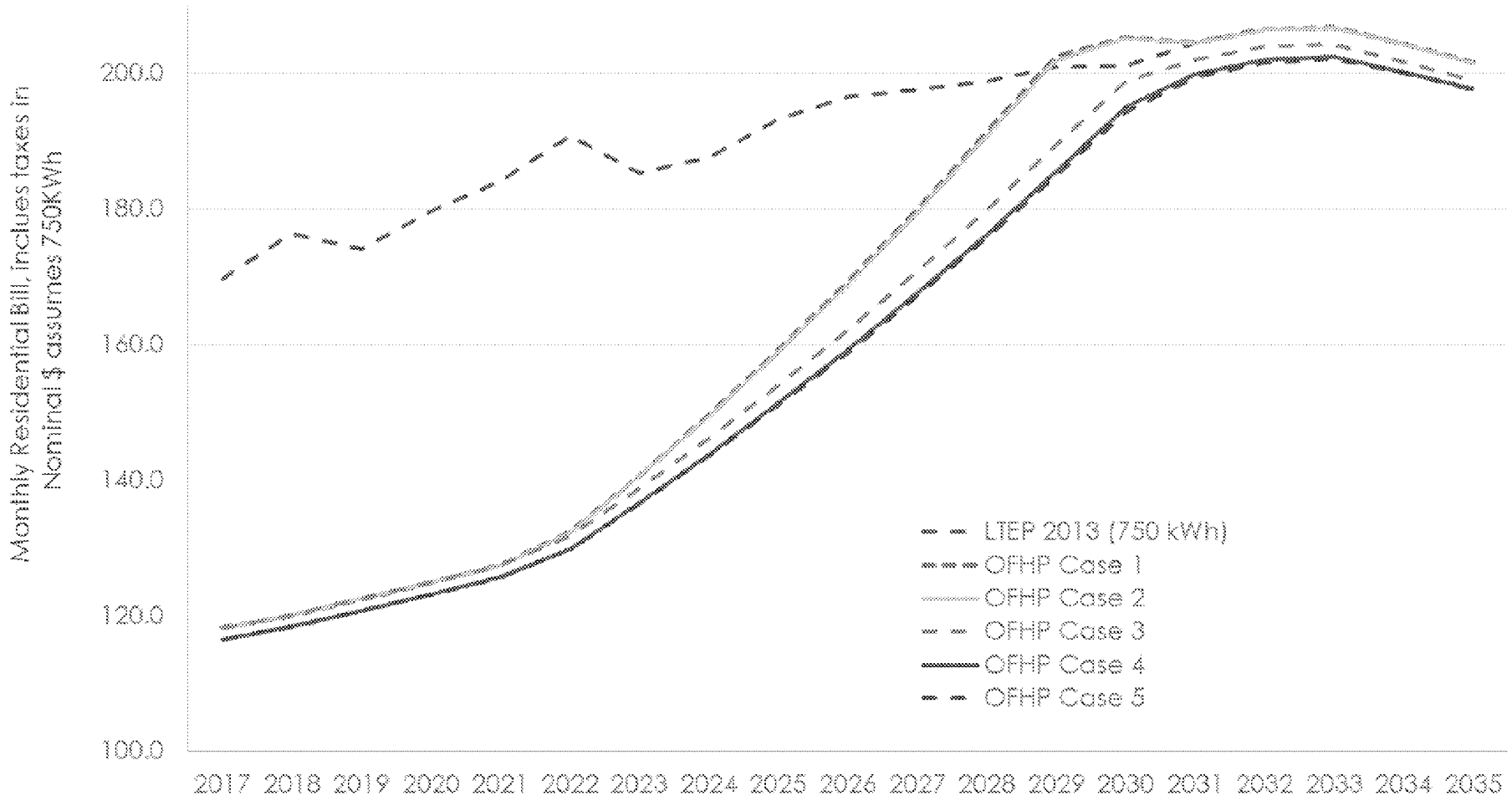
Overview of all cases with OFHP: After accounting for the OFHP, bills would be notably lower relative to 2013 LTEP projections over the next decade or so, then would return to bills consistent with the 2013 LTEP projection. Cases 1 and 2 would exceed the 2013 LTEP projections in some years; cases 3 through 5 would remain below 2013 LTEP projections in all years, and by 2032 it will lower the bills by about $5/Mth



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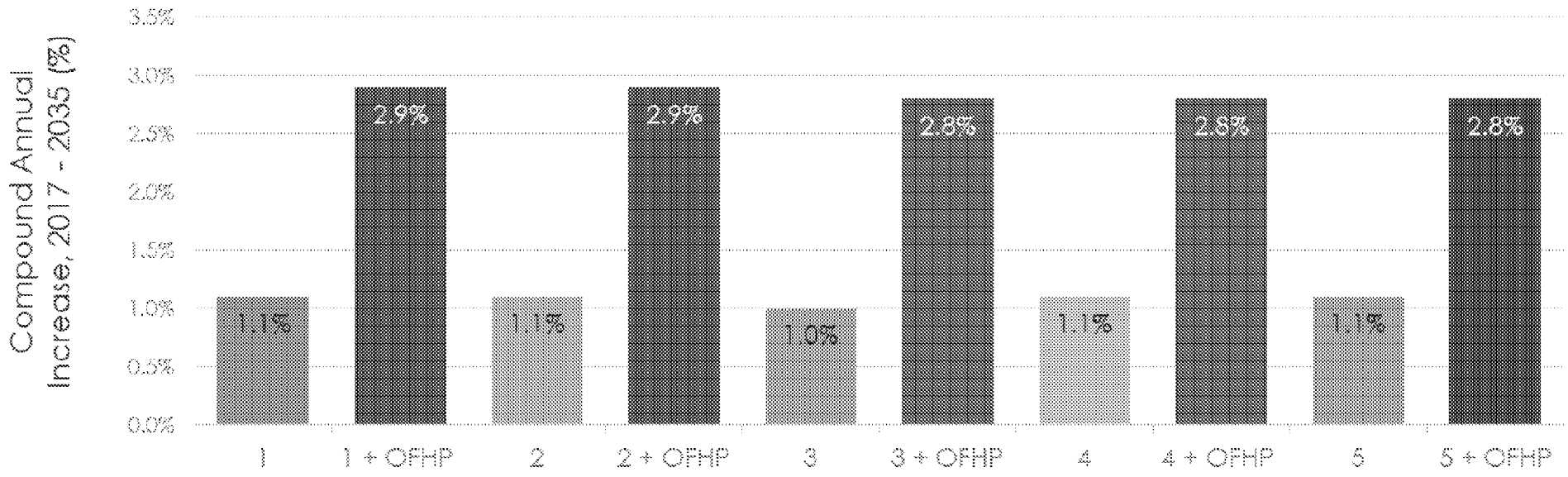
Overview of all residential cases, continued: without the OFHP, all monthly residential bills projections would increase at less than the rate of inflation. For all projections with the OFHP, compound annual residential rate increases would exceed inflation, since rates would start from a lower level.



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Year-over-year rate increases over the planning horizon given different OFHP forecasts: Depending on the Case examined, lower costs result in a lower year-over-year increase in residential monthly bills after 2022. Lower cost forecasts also reach max debt later in the planning period and have lower total financing costs (interest plus debt borrowed). Once max debt is reached, monthly bills begin to stabilize with lower year-over-year increases

YoY Rate Increase for OFHP Forecast	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Ministry Cabinet Briefing Base Case		1.6%	2.0%	2.0%	2.0%	3.9%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	4.0%	1.1%	1.3%	1.2%	1.0%	0.5%	-1.1%
OFHP Case 1		1.6%	2.0%	2.0%	2.0%	3.8%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	1.4%	-0.4%	1.0%	0.2%	-1.2%	-1.3%
OFHP Case 2		1.6%	2.0%	2.0%	2.0%	3.8%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	5.9%	1.6%	-0.4%	1.0%	0.2%	-1.2%	-1.3%
OFHP Case 3		1.6%	2.0%	2.0%	2.0%	3.4%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.0%	1.6%	1.0%	0.1%	-1.2%	-1.4%
OFHP Case 4		1.6%	2.0%	2.0%	2.0%	3.3%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.1%	2.5%	1.1%	0.2%	-1.1%	-1.3%
OFHP Case 5		1.6%	2.0%	2.0%	2.0%	3.3%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.1%	2.7%	1.1%	0.3%	-1.1%	-1.2%

YoY Rate Increase for OFHP Forecast	Avg. 2023-2028	Avg. 2029-2035	Max Increase
Ministry Cabinet Briefing Base Case	6.4%	1.2%	6.4%
OFHP Case 1	6.3%	0.8%	6.3%
OFHP Case 2	6.3%	0.8%	6.3%
OFHP Case 3	5.3%	1.5%	5.3%
OFHP Case 4	5.2%	1.7%	5.2%
OFHP Case 5	5.2%	1.7%	5.2%

- For all OFHP forecasts the max year-over-year increase ranges between 5.2% to 6.3%