2017/18 & 2018/19 ELECTRIC GENERAL RATE APPLICATION

Manitoba Hydro Undertaking #21 **Transcript page #2714**

Manitoba Hydro to project out figure 7 of AMC/MH-II-23 to represent the population of Manitoba.

Manitoba Hydro Undertaking #22 **Transcript page #2717**

Using the LICO-125 6 percent threshold, Manitoba Hydro respond how one (1) out of how many Manitoba households will be energy poor in eight (8) years.

Manitoba Hydro Undertaking #23 **Transcript page #2725**

Manitoba Hydro to provide a simulation depicting the percentage of LICO-125 customers spending 6 percent or more of their income on energy increase if rates increase by 4.4 percent each year from '18/'19 to '33/'34.

Response:

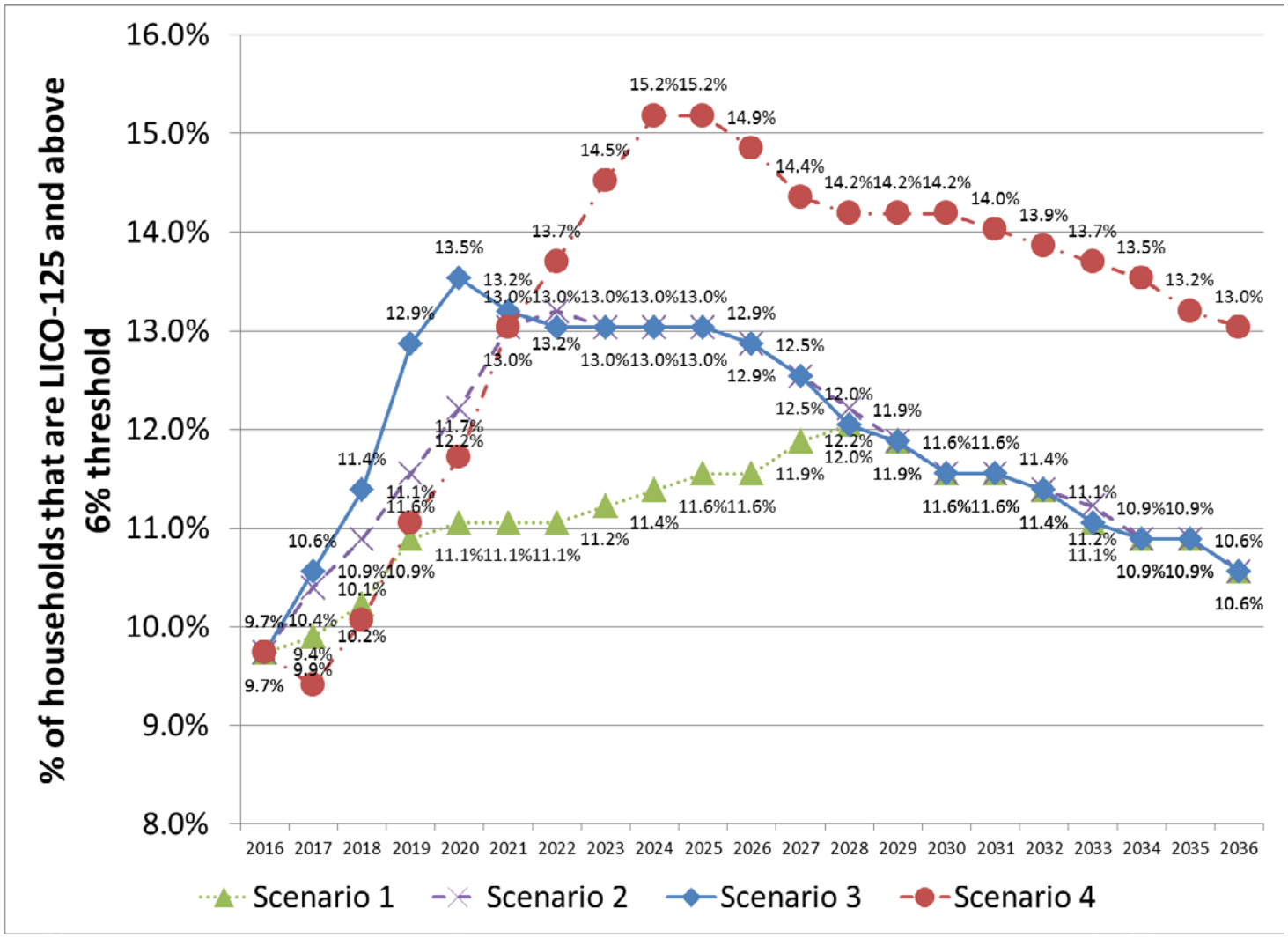

Figure 1: Impact of Manitoba Hydro rate increases on proportion of Manitoba households that are energy poor (i.e., LICO-125 and above the 6% energy poverty threshold), 2016–36, inclusive
Source: PRA calculations based on survey of Manitoba Hydro customers

This is the same graph already provided to Manitoba Hydro (i.e., Figure 7 in AMC/MH-II-23). Note, however, that I have changed the axis label and the caption to emphasize that these values indicate the percentage of **ALL** Manitoba households that are energy poor (i.e., that are LICO-125 and above the 6% threshold), not just LICO-125 households. Also note that Scenario 4 is here defined as 3.36% nominal electricity rate increase mid-way through 2017, followed by 6 years of 7.9% increases (i.e., beginning partway through year 2018 and continuing until partway through 2024), followed by an increase of 4.54% in year 2024 which persists into part of 2025.

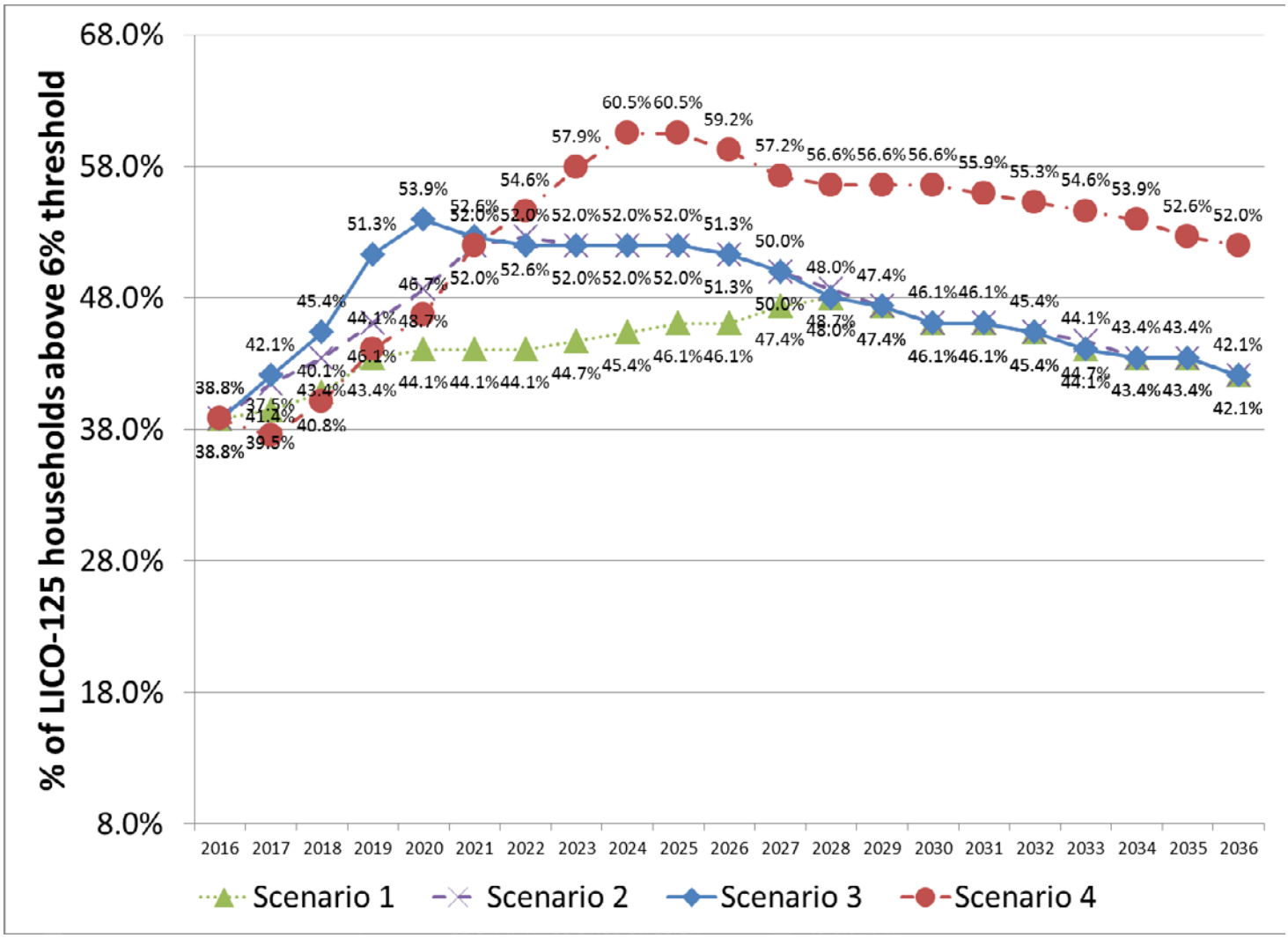

Figure 2: Impact of Manitoba Hydro rate increases on proportion of LICO-125 households that are energy poor (i.e., above the 6% energy poverty threshold), 2016–36, inclusive
Source: PRA calculations based on survey of Manitoba Hydro customers

This figure is based on the same simulation results presented in Figure 1; the difference is that the denominator here consists **ONLY** of LICO-125 households. Consequently, the values are considerably higher, although there are otherwise few differences in the results.

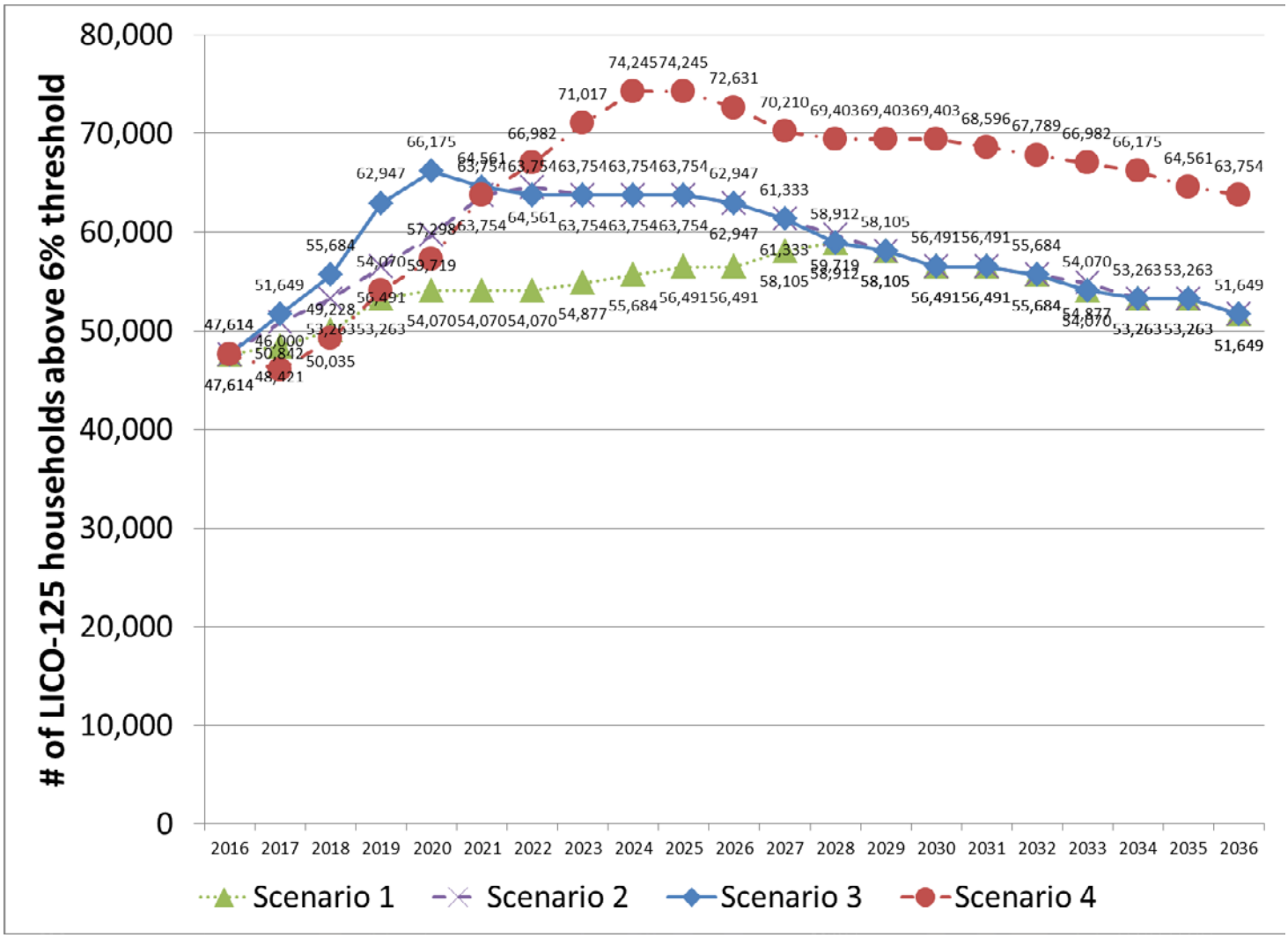

Figure 3: Impact of Manitoba Hydro rate increases on the number of Manitoba households that are energy poor (i.e., LICO-125 and above the 6% energy poverty threshold), 2016–36, inclusive
Source: PRA calculations based on survey of Manitoba Hydro customers

Figure 3 reports the projected number of energy poor households in Manitoba under various rate increase scenarios. These values are obtained by assuming that

- the number of Manitoba households remains fixed at 2016 levels (i.e., 489,050);
- the proportion of Manitoba households that are LICO-125 is the same as in our survey (25.1%), implying that 122,666 households would be classified in this way in 2016;
- and, that the prevalence of energy poverty among Manitoba LICO-125 households evolves exactly the same way as predicted for the sample included in our survey.

As shown, under these assumptions Figure 3 appears identical to Figure 2.

For 2016, it is estimated that 47,614 customers meet the criteria, of a total of 489,050 residential customers, which is approx. 9.6%.

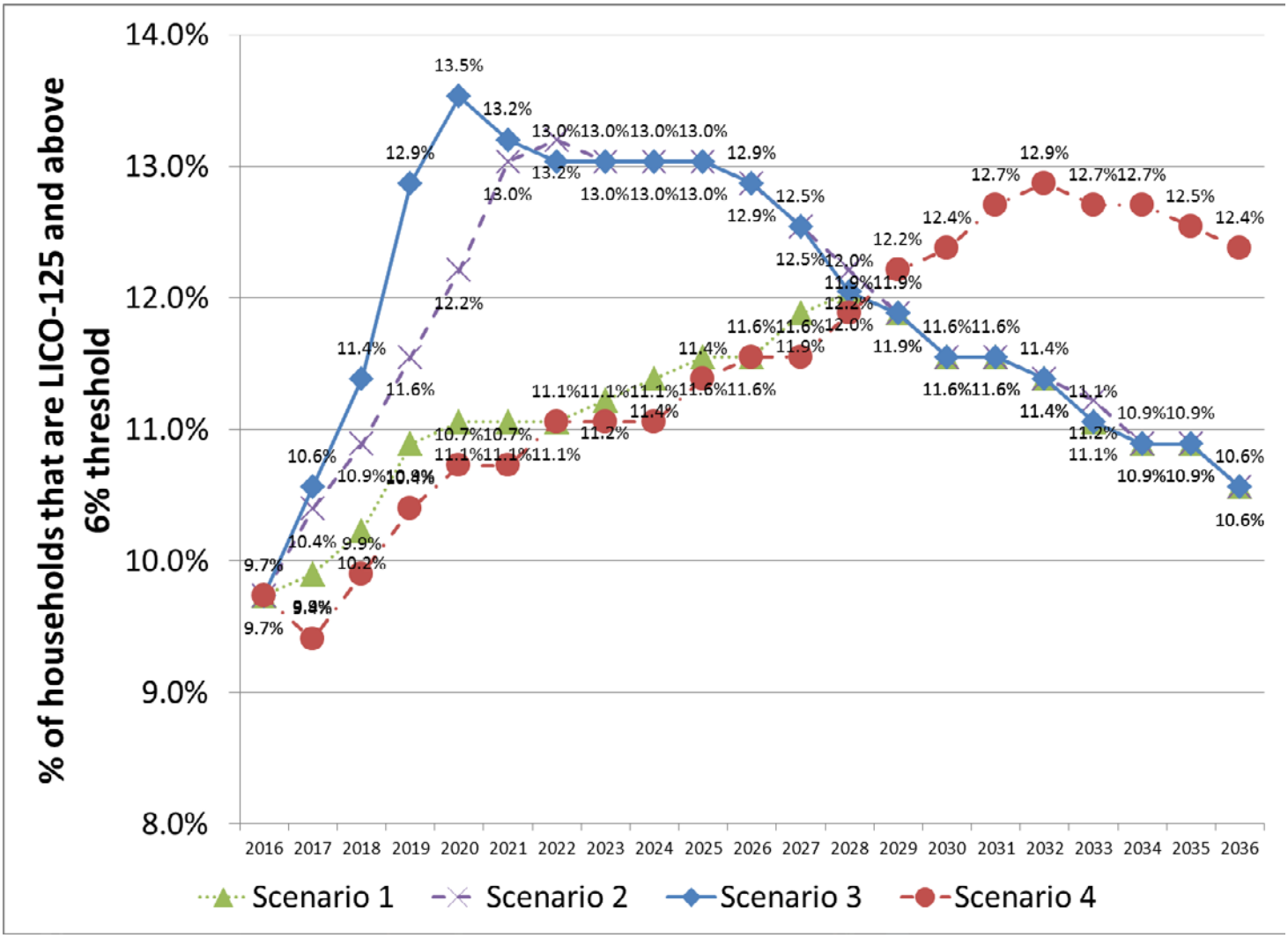

Figure 4: Impact of Manitoba Hydro rate increases on proportion of Manitoba households that are energy poor (i.e., LICO-125 and above the 6% energy poverty threshold), 2016–36, inclusive
Source: PRA calculations based on survey of Manitoba Hydro customers

Figure 4 adapts Figure 1 by modifying the characteristics of Scenario 4 (the other three scenarios are unchanged). In particular, the revised Scenario 4 assumes that the 3.36% nominal electricity rate increase occurring mid-way through 2017 is followed by 15 years of 4.14% increases (i.e., beginning partway through year 2018 and continuing until partway through 2033) after which rates increase by 2.0% until the end of the simulation.

As shown, this pattern of rate increases results in a more gradual rise in energy poverty than observed in the second and third scenarios (i.e., 5.95% increases for 6 years and 7.95% increases for 4 years, respectively); however, the greater duration of the increases means their impact is more persistent, in the sense that the prevalence of energy poverty continues to grow for several years after starting to decline in the other scenarios considered.

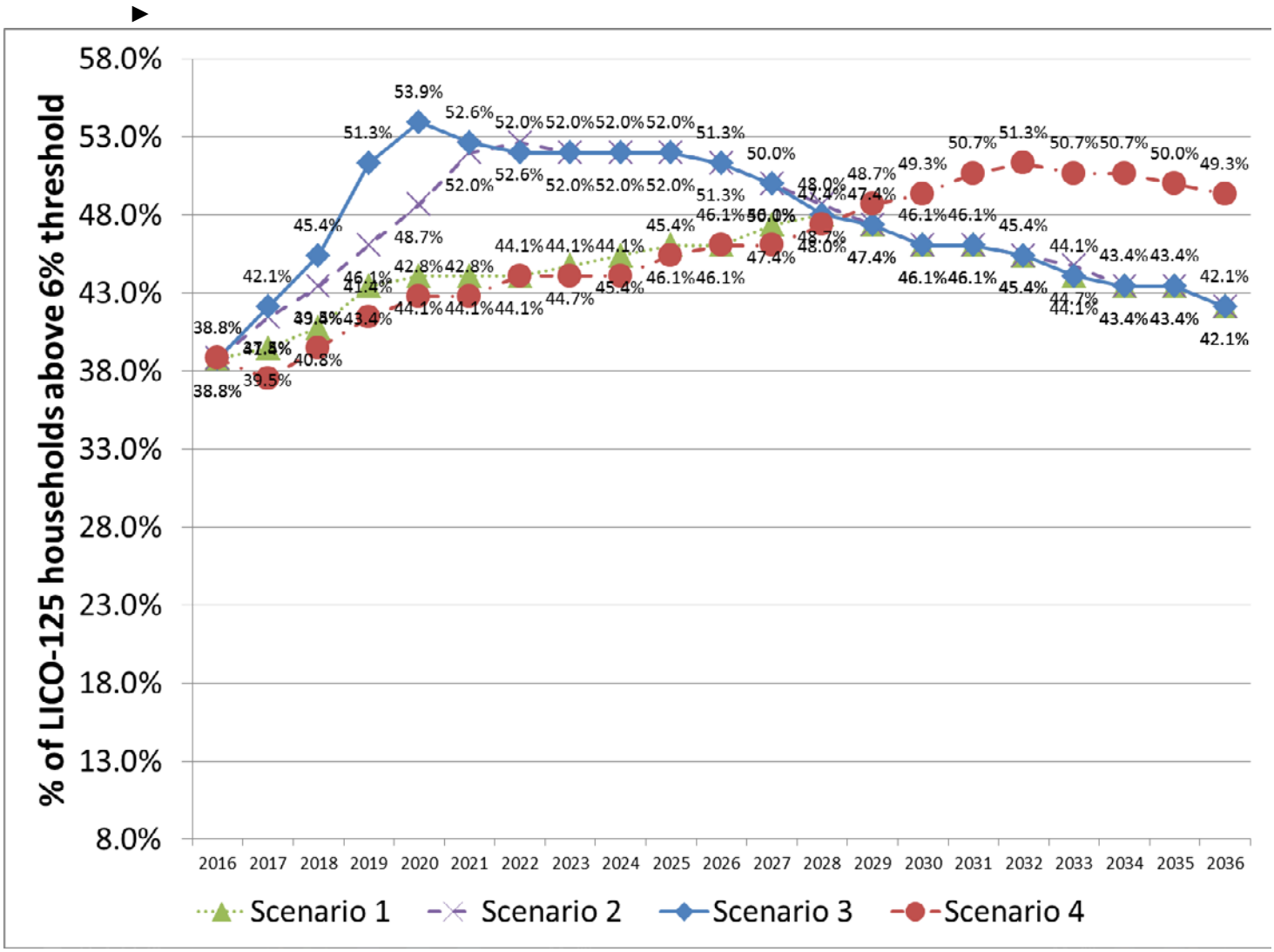

Figure 5: Impact of Manitoba Hydro rate increases on proportion of LICO-125 households that are energy poor (i.e., above the 6% energy poverty threshold), 2016–36, inclusive
Source: PRA calculations based on survey of Manitoba Hydro customers

This figure is based on the same simulation results presented in Figure 4; the difference is that the denominator here consists **ONLY** of LICO-125 households. Consequently, the values are considerably higher, although there are otherwise few differences in the results.

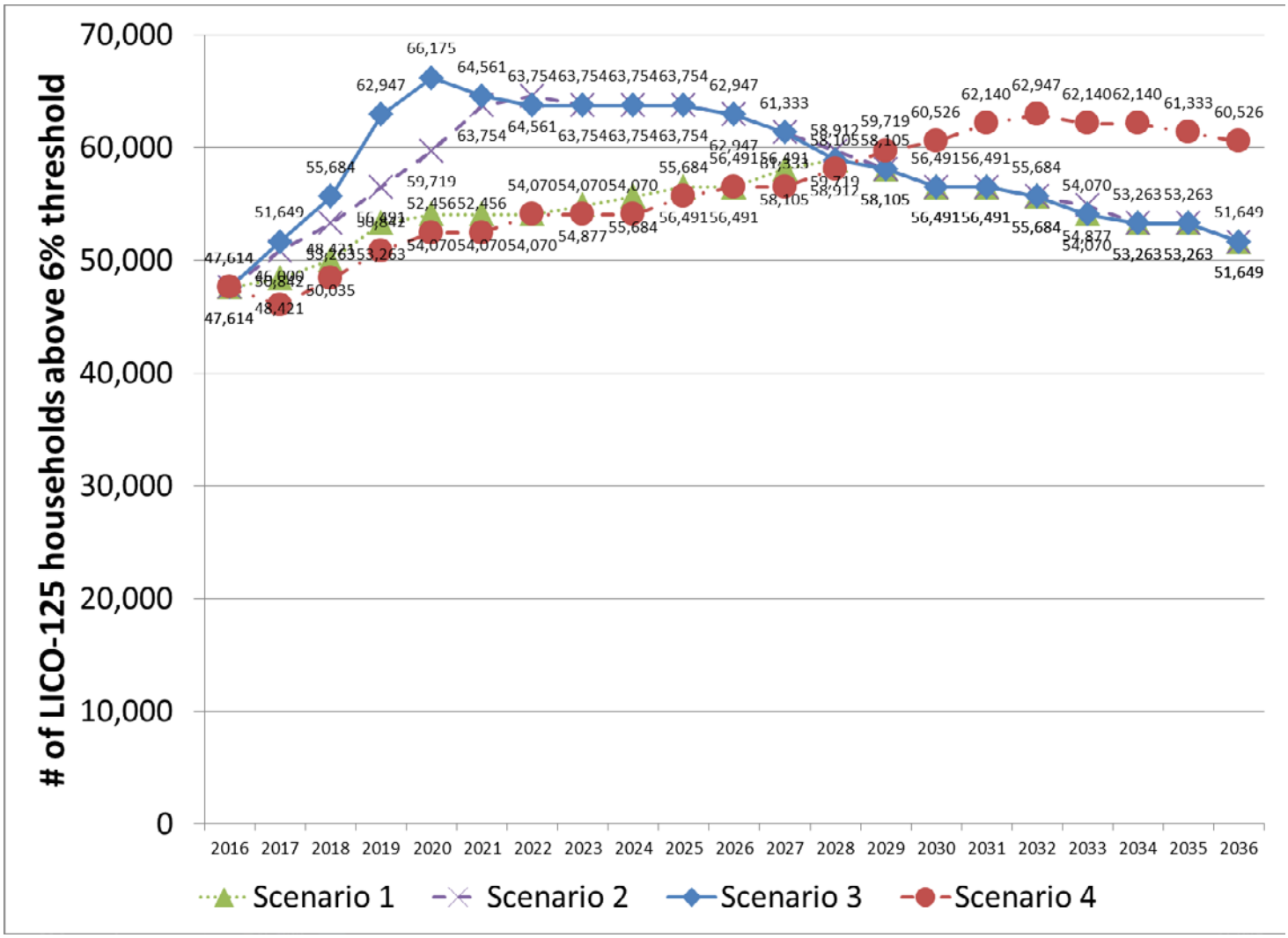

Figure 6: Impact of Manitoba Hydro rate increases on the number of Manitoba households that are energy poor (i.e., LICO-125 and above the 6% energy poverty threshold), 2016–36, inclusive
Source: PRA calculations based on survey of Manitoba Hydro customers

Figure 6 reports the projected number of energy poor households in Manitoba under various rate increase scenarios, applying assumptions equivalent to those applying to Figure 3 (excepting the pattern of rate increases underpinning Scenario 4, which are the same as those serving as the basis for the results presented in Figure 4 and Figure 5).