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18-10-7

HEYDAY

HEYDAY CAFÉ
AB398 PROPOSED REGULATIONS CASE STUDY: SMALL BUSINESS RESTAURANT

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Current Situation

- In 2017, California's Assembly Bill 398 was passed, re-authorizing the continuation of the cap-and-trade program. AB 398 has two provisions to help contain costs of California's climate change programs:
  - California Air Resources Board (CARB) must establish a price ceiling on cap-and-trade allowance prices; and
  - CARB must set two intermediary containment prices (speed bump prices) at which allowances would be available for sale.

  CARB is currently in the process of considering new regulations to operationalize those provisions of AB 398.
- Western States Petroleum Association retained National Economic Research Associates (NERA) to develop a proprietary economic model to assess the impact of proposed greenhouse gas policies on the California economy. NERA undertook a study using their proprietary N_{ew}ERA modeling system to estimate the economic impacts of different ranges of values for these prices, with 6 scenarios in total, which are detailed in Appendix 2. All scenarios include a suite of the California specific complementary measures, and the cap & trade program with a 2030 target of 40% below the 1990 level GHG emissions. To illustrate the impact of these proposed new regulations, the NERA analysis was utilized to estimate the impact on Heyday Café, a small business restaurant within California's restaurant industry.
- In 2017, sales from California restaurants totaled $82.2 billion.[1] Currently there are 92,000 restaurants and bars in California. 47,000 of these establishments are classified as small business.[2] In 2018, there were 1.4 million eating-and-drinking-place jobs in California, from a total of 1.8 million restaurant and foodservice jobs, comprising 10% of total employment in the state.[1]

[1] National Restaurant Association, "California Restaurant Industry at a Glance," https://www.restaurant.org/Downloads/PDFs/State-Statistics/California.pdf

[2] California Restaurant Association, https://www.calrest.org/

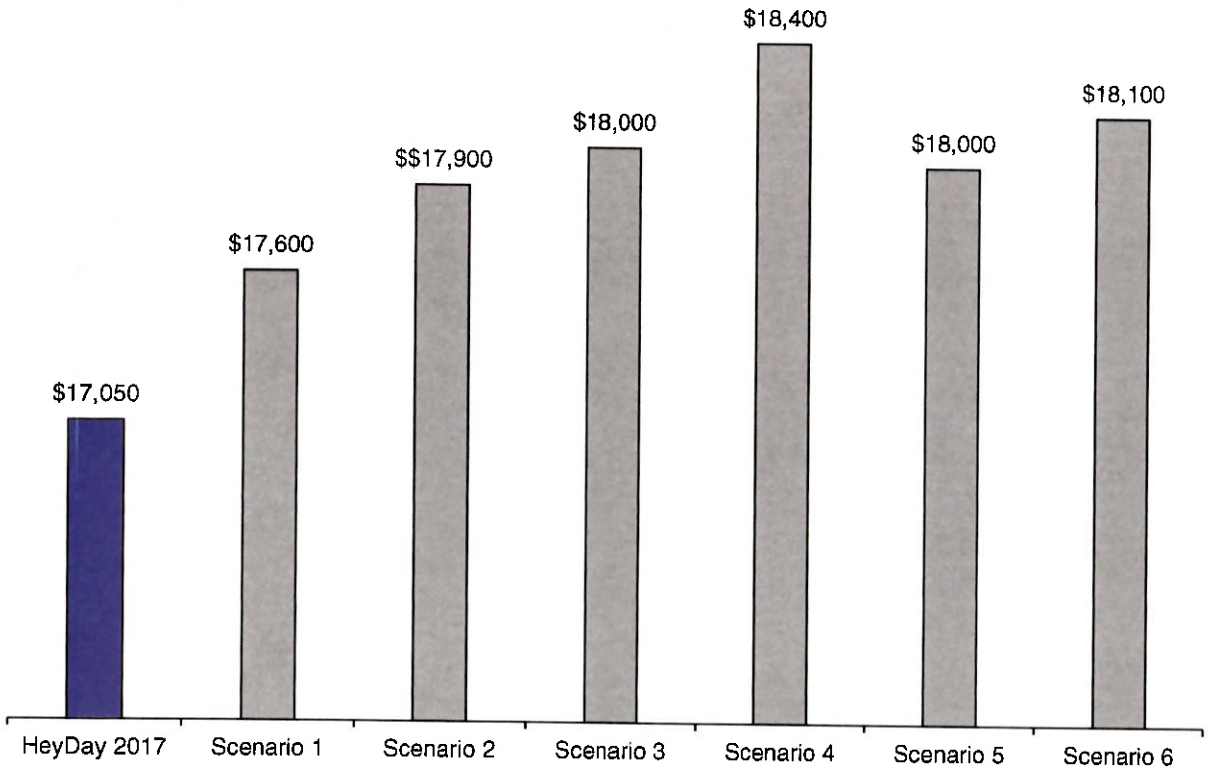
About Heyday Café

- Heyday Café is a small business café located in Placerville, California.
- Heyday Café opened in early 2007, and is a small, family operated business, consisting of a staff of only 20 employees, and can seat about 40 people, often playing host to community groups.[3]
- Heyday Café is known as a downtown favorite, a desired destination for seasonal tourists, and has a large local following.
- Heyday Café has won the Reader's Choice Award of the Mountain Democrat for Best Lunch for the past 8 years in a row.
- It is unique for the fact that its particular area of Placerville only has electricity to power equipment. This case study is atypical in that most restaurants run on a combination of both natural gas and electricity.

[3] Heyday Café, https://www.heydaycafe.com/

Proposed regulations change average annual electricity costs from $17,000 up to $18,400

Average Annual Electricity Costs (2019 – 2031) ($2017)



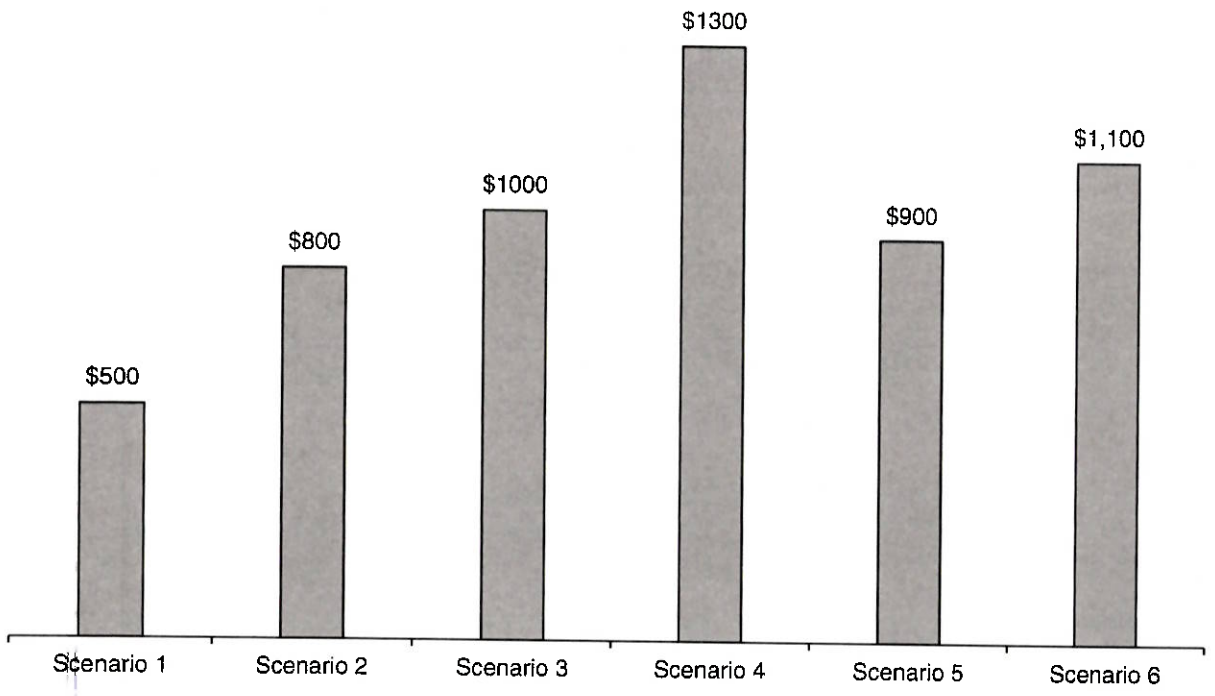
Source: Appendix C

Key Observations

- In 2017, Heyday Café used 111,600 kilowatt-hours of electricity at a cost of $17,050.
- Under the proposed regulations, Heyday Café would be expected to increase electricity costs to as much as $18,400 in average annual costs based on 2017 usage.

Proposed regulations will increase Heyday Café's average annual electricity costs by $500 to $1,300

Average Annual Electricity Cost Increases (2019 – 2031) ($2017)



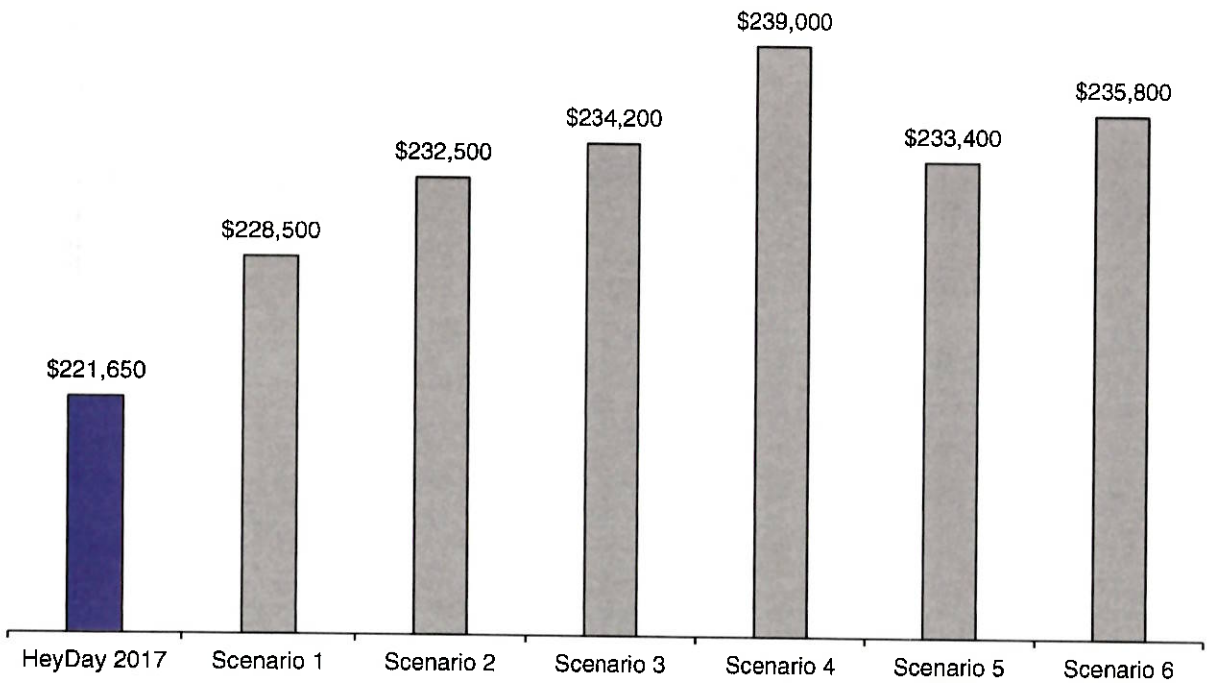
Source: Appendix C

Key Observations

- The proposed regulation changes amount to an average annual cost increase ranging between $500 to $1,300.
- These changes amount to an increase in costs of anywhere from 3% to 8%.

Proposed regulations change total electricity costs from $222K up to $239K

Cumulative Electricity Costs (2019 – 2031) ($2017)



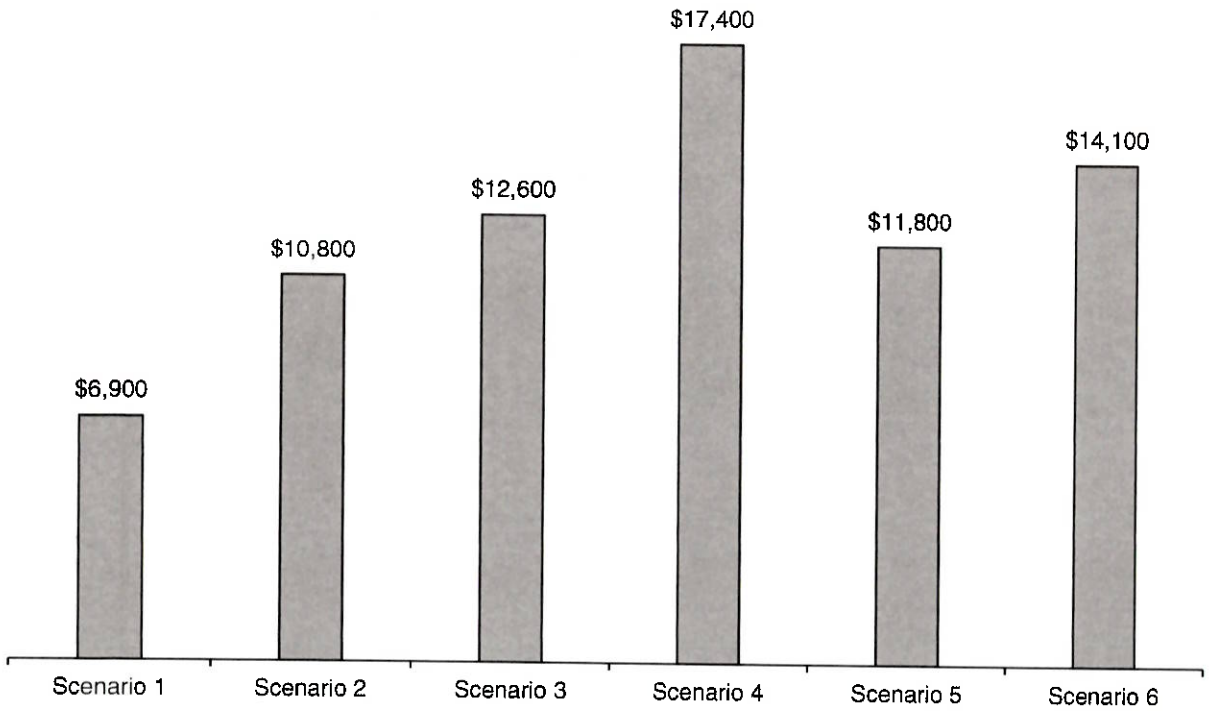
Source: Appendix C

Key Observations

- Based on 2017 usage and electricity prices, Heyday Café is expected to cumulatively expend almost $222,000 between 2019 to 2031.
- Based on the proposed regulation changes and NERA's scenario analysis, Heyday Café is projected to expend between $228,500 and $239,000.

Proposed regulations will increase total electricity costs by $6,900 to $17,400

Cumulative Electricity Cost Increases (2019 – 2031) ($2017)



Source: Appendix C

Key Observations

- Based on the NERA analysis, electricity costs are expected to increase by as much as $17,400 over the oncoming 13-year period.
- This is again an increase of anywhere between 3% and 8% over the 13 year period.

Conclusion

- NERA analyzed six scenarios to determine the economic impacts of different ranges of price ceilings and intermediary containment prices (speed bump prices) at which allowances would be available for sale under a separate analysis. This analysis was then used to determine the cost increases and impact that the provisions may have on the small restaurant business of Heyday Café.
- As a baseline, in 2017 Heyday Café paid $17,000 for their usage of electricity (111,600 kWh). With the proposed regulations taking effect, for 2019 to 2031, Heyday Café's costs are expected to increase to as much as $18,400 a year, amounting an average annual increase of $1,300 or 8%.
- With the proposed regulation changes taking effect, Heyday Café's cumulative total costs are projected to reach as high as $239,000 over the 13 year analysis period, amounting to a cumulative cost increase of $17,400.

Appendix

Appendix A: N_{EW}ERA Model
Appendix B: NERA Economic Scenarios
Appendix C: Annual Electricity Costs for Scenarios 1-6
Appendix D: Methodological Notes

Appendix A: N_{ew}ERA Model[4]

- NERA developed the N_{ew}ERA model to forecast the impact of policy, regulatory, and economic factors on the energy sectors and the economy.
- When evaluating policies that have significant impacts on the entire economy, this model specification captures the effects as they ripple through all sectors of the economy and associated feedback effects.
- The N_{ew}ERA model combines a macroeconomic model with all sectors of the economy with a detailed electric sector model that represents electricity production.
- This combination allows for a complete understanding of the economic impacts of different policies on all sectors of the economy.
- The macroeconomic model incorporates all production sectors except electricity and final demand of the economy. Policy consequences are transmitted throughout the economy as sectors respond until the economy reaches equilibrium.
- NERA's N_{ew}ERA modeling system is an integrated energy and economic model that includes a bottom-up representation of the electricity sector, including all of the unit-level details that are required to accurately evaluate changes in the electric sector.
- N_{ew}ERA integrates the electricity sector model with a macroeconomic model that includes all other sectors of the economy (except for the electricity production) using a top-down representation.
- The model produces integrated forecasts for future years.
- The integrated modeling approach also provides consistent price responses since all sectors of the economy are modeled.

[4]*Source: NERA Economic Consulting, "Study: Economic Impacts of a Proposed 65 ppb National Ambient Air Quality Standard for Ozone on the State of Texas, Appendix A. The NEWERA MODEL," (http://www.nera.com/content/dam/nera/publications/2015/NERA_Ozone_Econ_Impacts_for_TCEQ_0815.pdf)*

Appendix B: NERA Economic Scenarios[5]

Scenarios 1 – 4			
Scenario	Price Ceiling (2021$/MT CO2)	Speed Bump Price 1	Speed Bump Price 2
Scenario 1	$39	$25	$32
Scenario 2	$67	$35	$51
Scenario 3	$92	$43	$68
Scenario 4	$166	$69	$116

- For scenarios 1 to 4, the speed bump prices were set at 1/3 and 2/3 of the difference between the floor and ceiling prices, with 1/3 of the containment reserve allowances accrued through 2020 made available at each of these prices. Remaining Allowance Price Containment Reserves (APCR) are assumed available for purchase at the ceiling price.
- The scenarios employ an economy wide cap and trade program, and allow for fixed percentages of offsets that vary by year. They employ a 50% renewable portfolio standard (RPS) target, doubling of energy efficiency in commercial buildings by 2030, low carbon fuel standard (LCFC), and a zero-emission vehicle (ZEV) requirement.

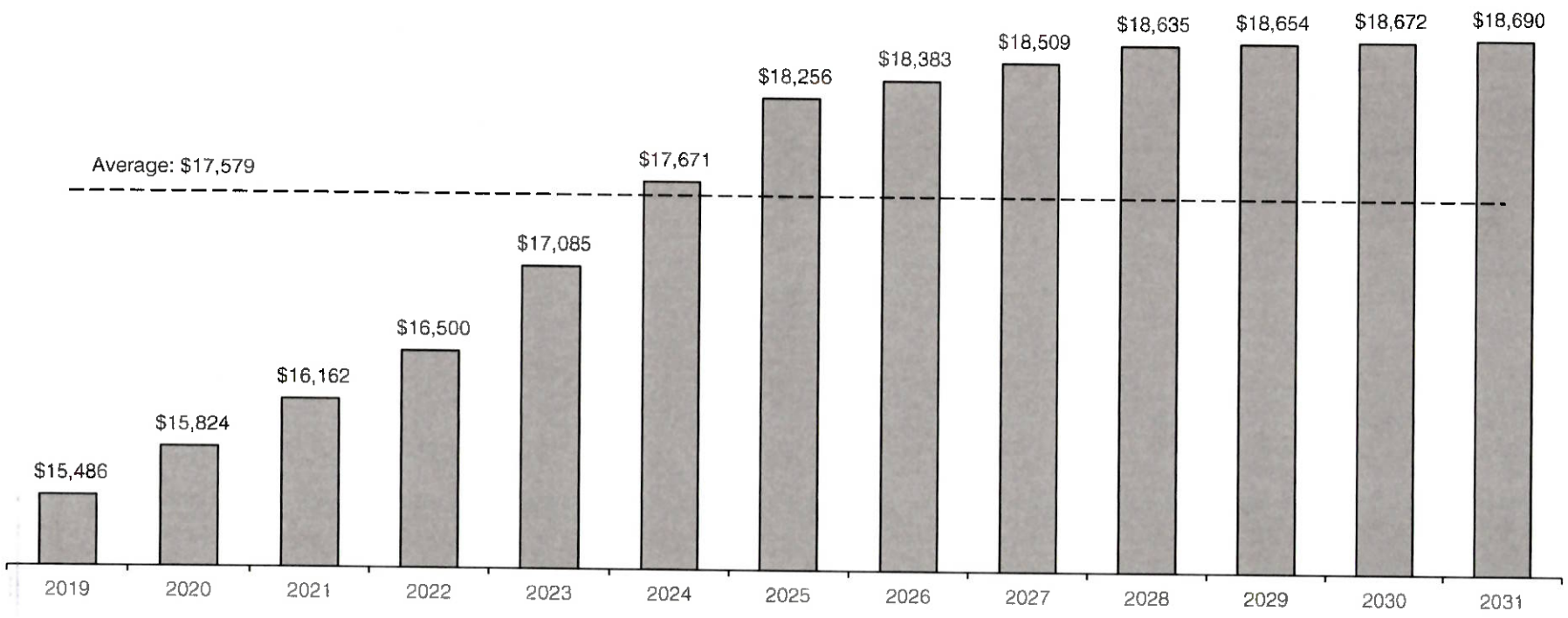
Scenarios 5 – 6					
Scenario	Price Ceiling (2021$/MT CO2)	Price Ceiling (2021)	Price Ceiling (2030)	Speed Bump 1 and 2 (2021)	Speed Bump 1 and 2 (2030)
Scenario 5	$65 rising at 5%	$65	$101	$41, $53	$64, $83
Scenario 6	$65 rising at 1%	$35	$71	$41, $53	$45, $58

- Scenario 5 and 6 take into account the proposed amendment to the California cap on GHG emissions and market-based compliance mechanisms regulation released in September 2018.
- The fifth scenario reflects proposed ceiling, speed bump prices, and distribution of pre-2021 reserve allowances in 2021. The proposed floor price and ceiling prices start at $17.8 and $65, respectively, in 2021 and both rise at 5% in real terms. The speed bump prices were set at ½ and ¾ of the difference between the floor and ceiling prices, with 1/3 of the APPCR allowances accrued through 2020 being made available at each of these prices. The remaining APCR allowances are assumed available or purchase the ceiling price. The ceiling price tier also includes 39 million previously unsold allowances
- The sixth scenario assumes a 1% real rise in floor and ceiling prices, while all other assumptions remain the same as the fifth scenario.

[5]*Source: NERA Economic Consulting, "Study: AB 398 – Allowance Ceiling Prices and Speed Bumps"*

Appendix C: Annual Electricity Costs for Scenario 1 (Page 1 of 6)

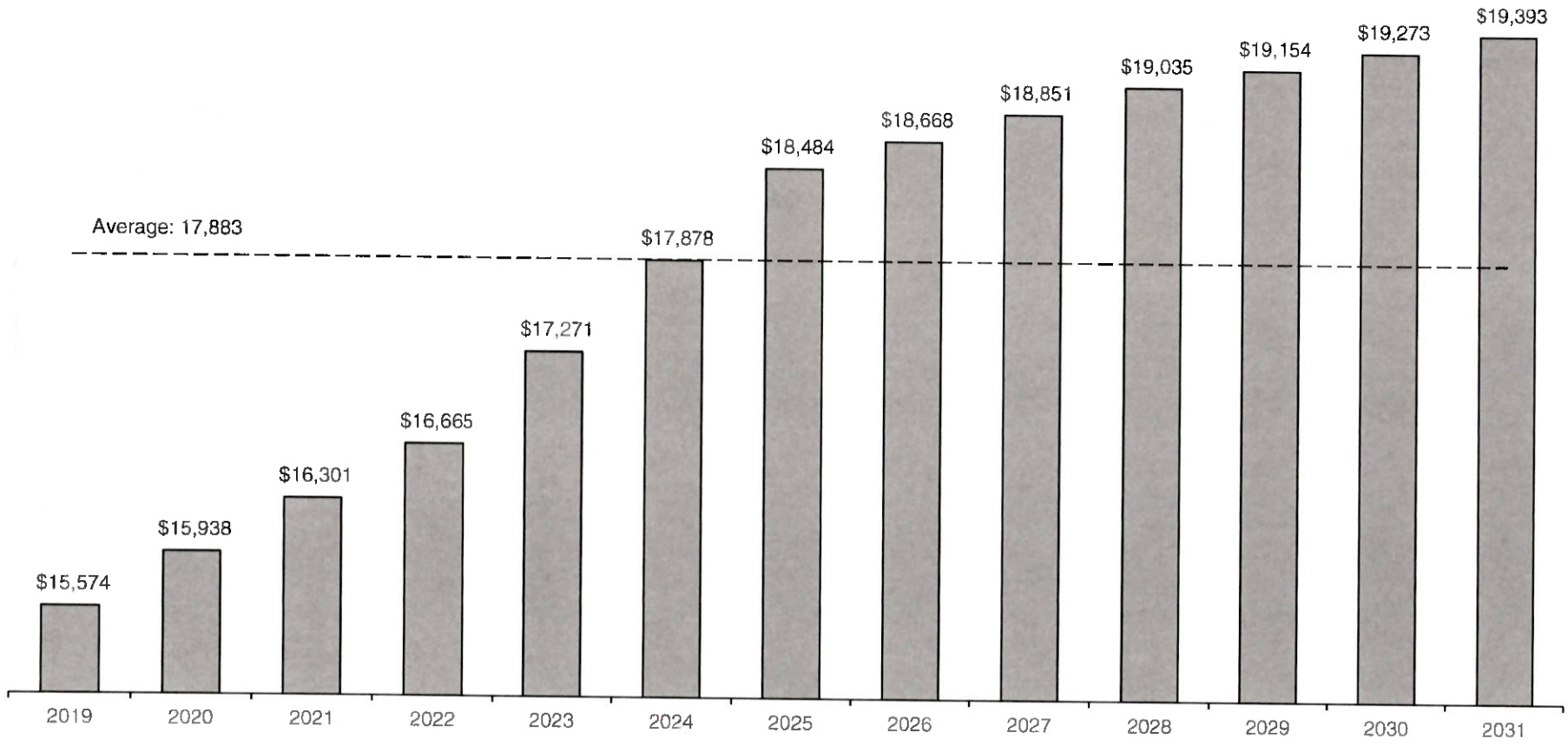
Annual Electricity Costs (2019 - 2031): Scenario 1 ($2017)



Source: Appendix D: Methodological Notes

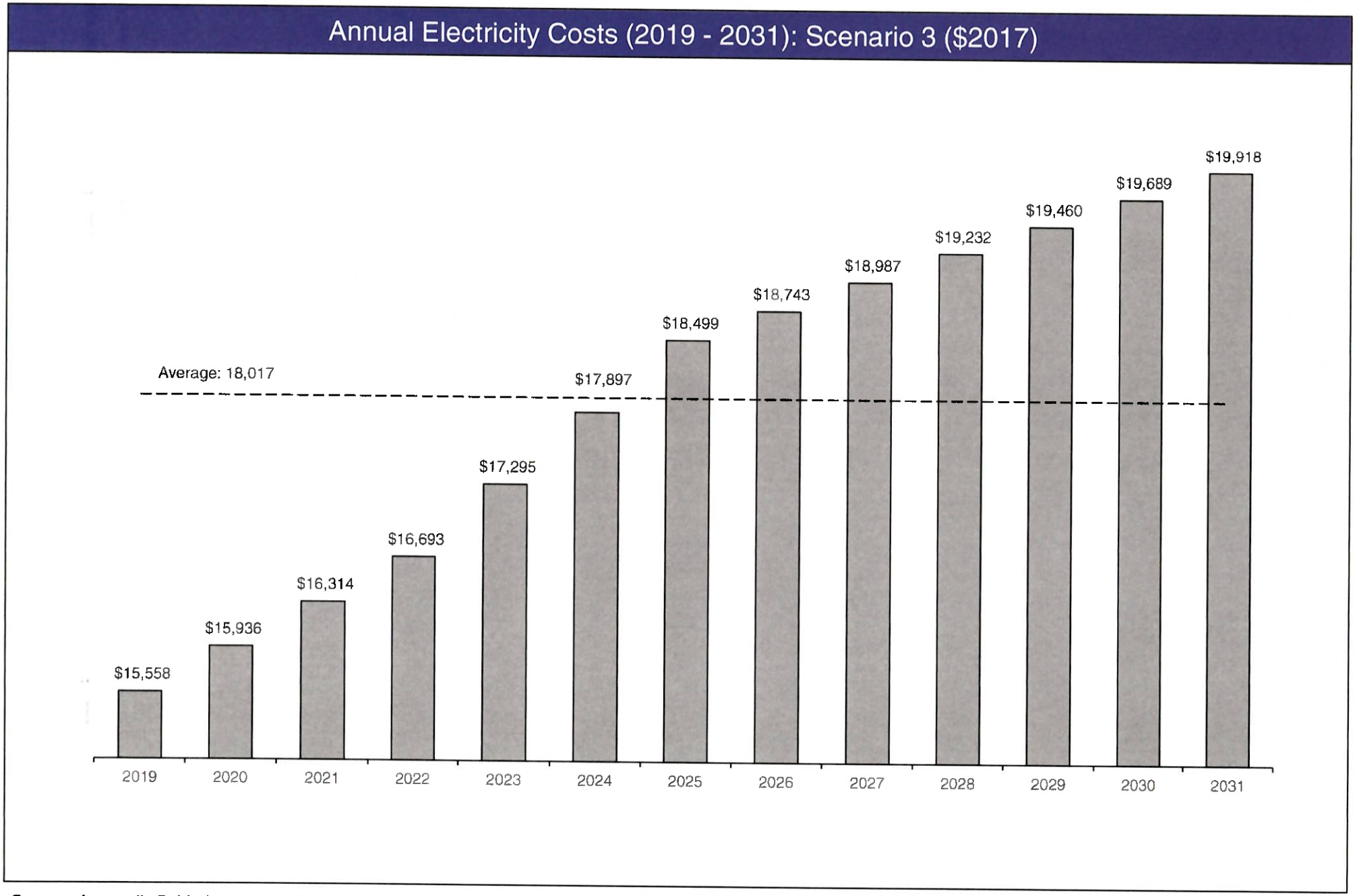
Appendix C: Annual Electricity Costs for Scenario 2 (Page 2 of 6)

Annual Electricity Costs (2019 - 2031): Scenario 2 ($2017)



Source: Appendix D: Methodological Notes

Appendix C: Annual Electricity Costs for Scenario 3 (Page 3 of 6)



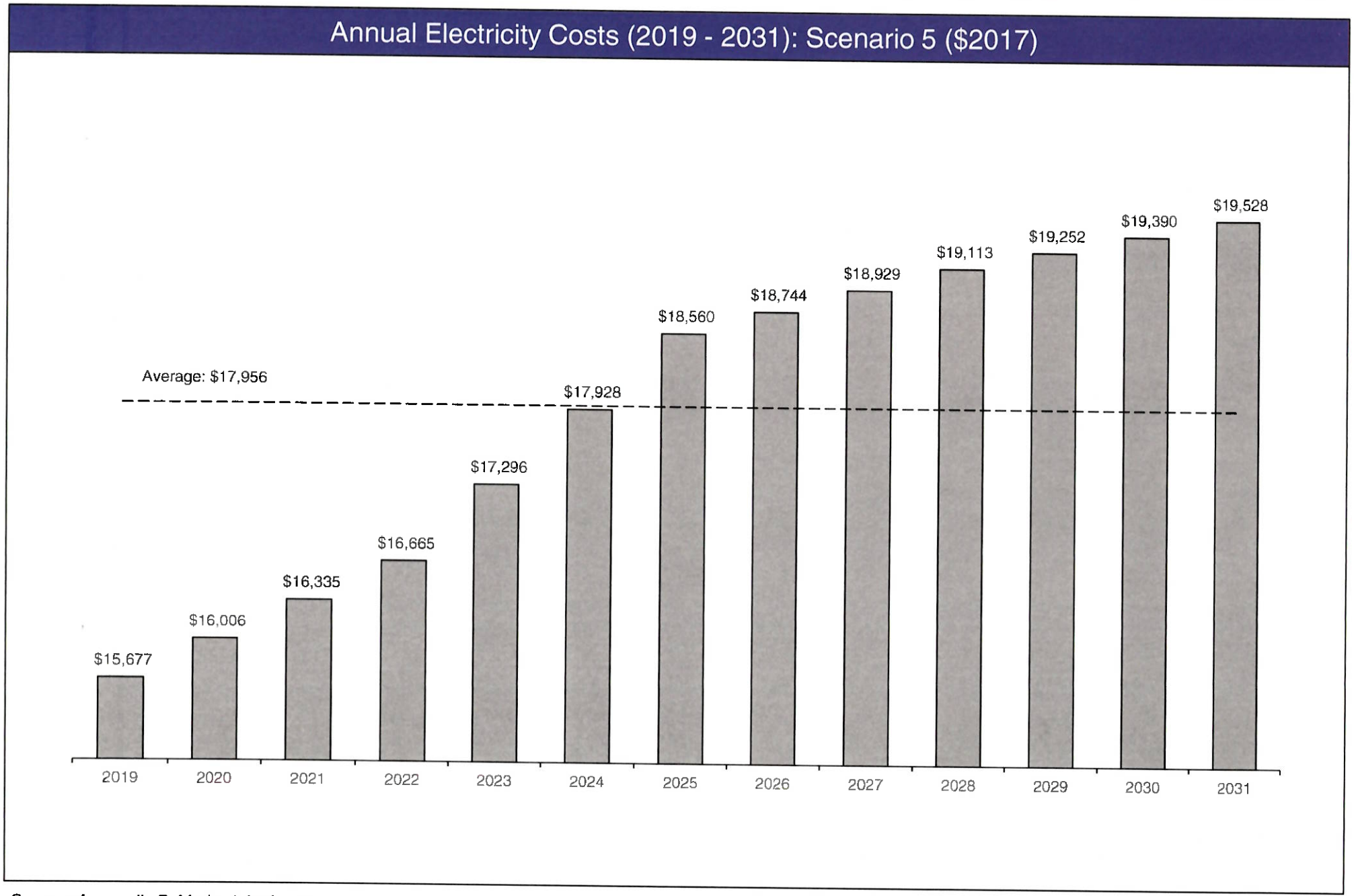
Source: Appendix D: Methodological Notes

Appendix C: Annual Electricity Costs for Scenario 4 (Page 4 of 6)

Annual Electricity Costs (2019 - 2031): Scenario 4 ($2017)

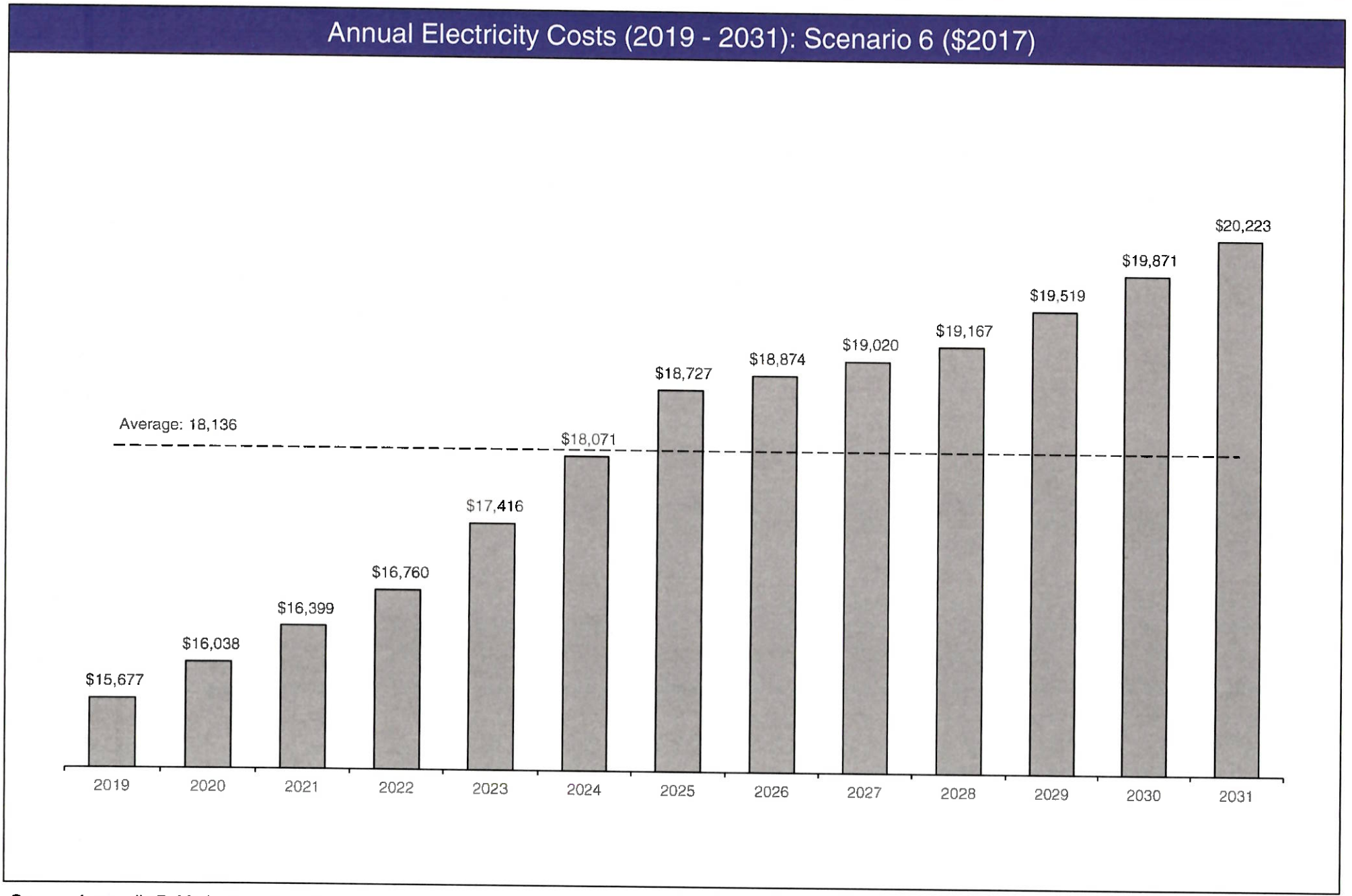
Source: Appendix D: Methodological Notes

Appendix C: Annual Electricity Costs for Scenario 5 (Page 5 of 6)



Source: Appendix D: Methodological Notes

Appendix C: Annual Electricity Costs for Scenario 6 (Page 6 of 6)



Source: Appendix D: Methodological Notes

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- A baseline per kilowatt-hour electricity utilization cost was obtained from Heyday Café based on their 2017 electricity usage. The kilowatt-hour price estimates were converted to price per mmBTU by factoring by 1 kWh/.00341214 MMBtu[6].
- To estimate electricity costs under the different regulation scenarios, Heyday Café's 2017 electricity usage was factored by the NERA delivered prices of $/MMBtu for Commercial/Services electricity. All costs were converted into 2017 dollars, utilizing the CPI[7].

[6] APS Physics, "Energy Units," https://www.aps.org/policy/reports/popa-reports/energy/units.cfm.

[7] California Department of Finance, "Inflation," http://www.dof.ca.gov/Forecasting/Economics/Indicators/Inflation.