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2013 California Energy Efficiency Potential and Goals Study

APPENDIX VOLUME II
Appendicies K - N - California IOU Detailed Results

Prepared for:
California Public Utilities Commission

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February 13, 2014

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sound data management

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Appendix K. Energy Efficiency Potential in the PG&E Service Territory

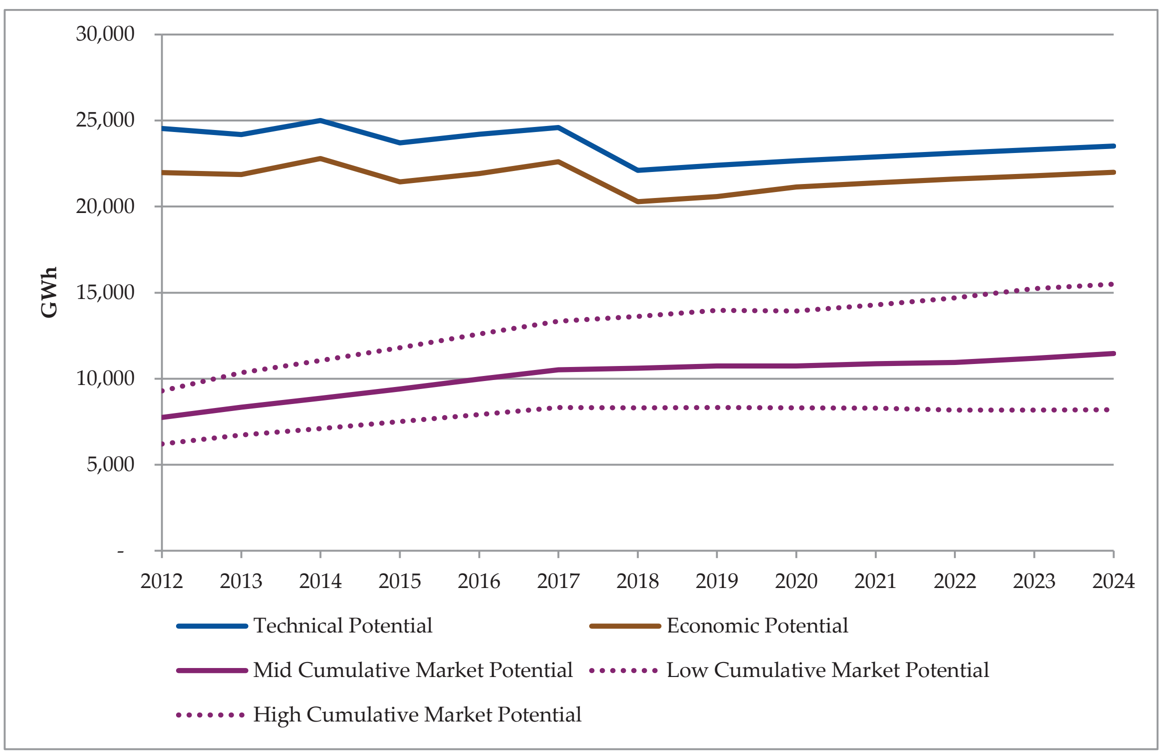
This section provides the estimates of potential energy savings for the PG&E service territory for both gas and electric measures. Results are provided at the aggregate view of all PG&E sectors as well as results for the residential, commercial, industrial, mining, street lighting, and agricultural sectors individually. Sector-specific trends at the statewide level are discussed in detail in sections 5 - 8 of the main report and the therefore discussions of utility specific sector results is limited. Comparative metrics at the PG&E level are also provided, and additional explanation to interpret graphics is available in sections 5-8.

K.1 PG&E Territory Summary of Results

K.1.1 PG&E Total Electric Energy Potential

Figure K-1 presents the technical, economic, and cumulative market electric energy savings potential in PG&E's territory from 2012 through 2024. Figure K-1 also provides a graphical view of the high and low scenarios for cumulative market potential. The high cumulative market potential is an average of about 30% higher than the mid case scenario and the low scenario is an average of about 20% lower. High and low scenarios were not adjusted for industry standard practices.

Figure K-1. PG&E Total Gross Technical, Economic, and Cumulative Market Potential for 2012-2024 (GWh)

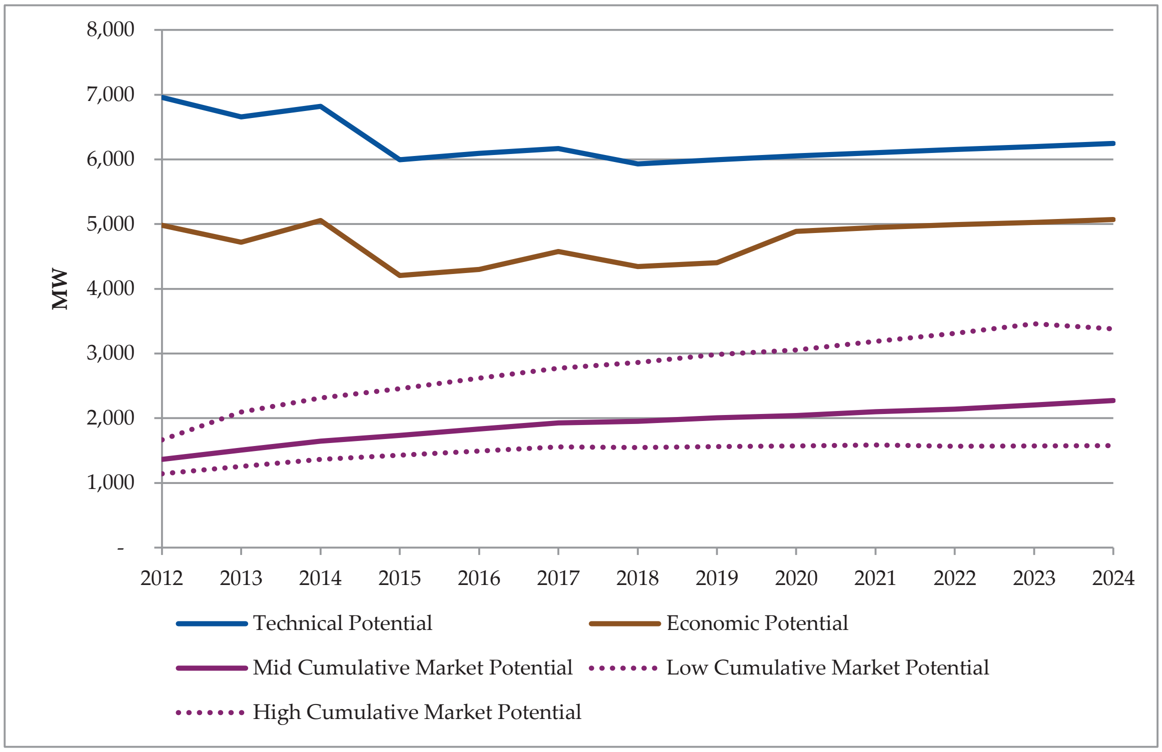


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-2 presents the technical, economic, and cumulative market electric demand savings potential for the PG&E territory over the years 2012 to 2024. The high scenario for cumulative market potential runs about 45% higher than the mid cumulative market potential while the low scenario is about 20% lower.

Figure K-2. PG&E Total Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)

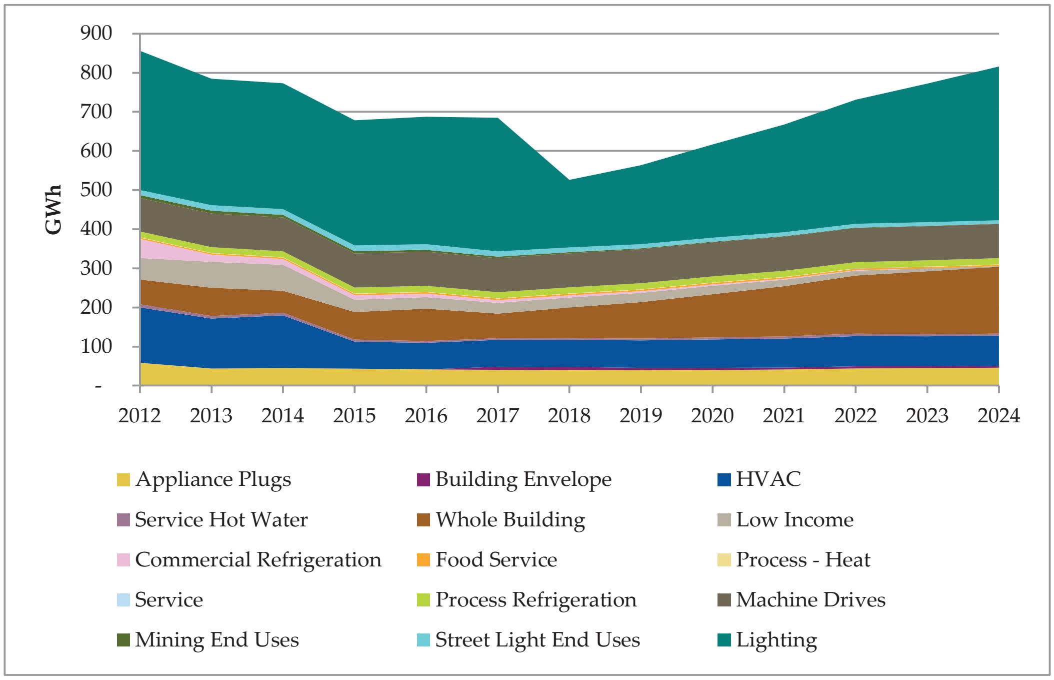


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-3 and Figure K-4 present the incremental market potential for PG&E (in GWh) for 2012 to 2024 by end use category.

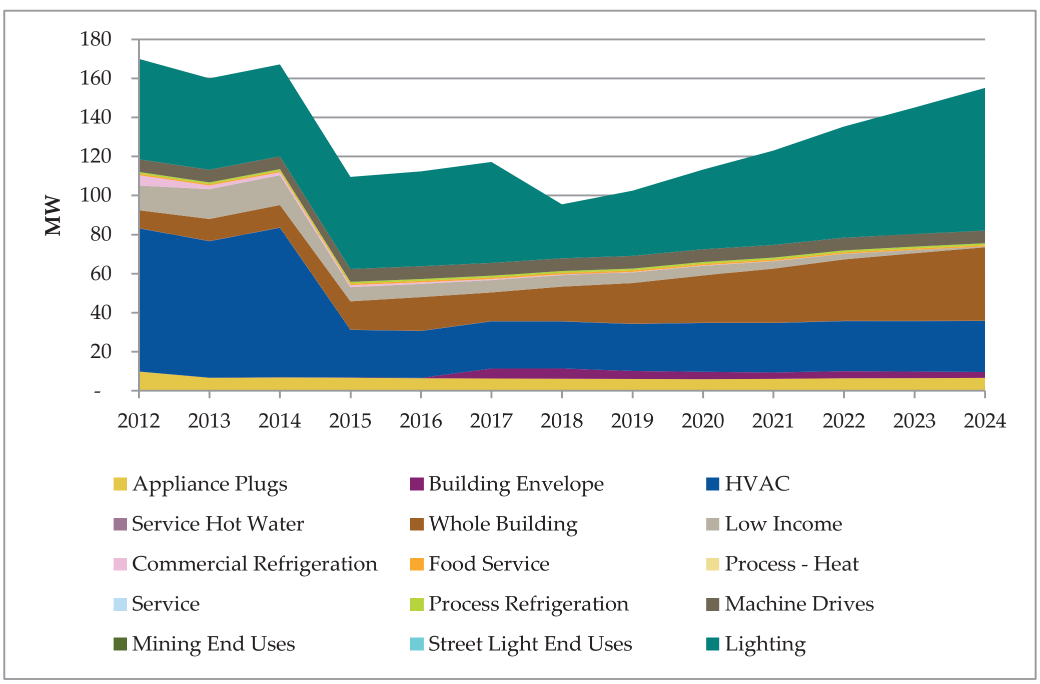
Figure K-3. PG&E Total Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-4. PG&E Total Gross Incremental Demand Energy Potential by End Use for 2012-2024 (MW)



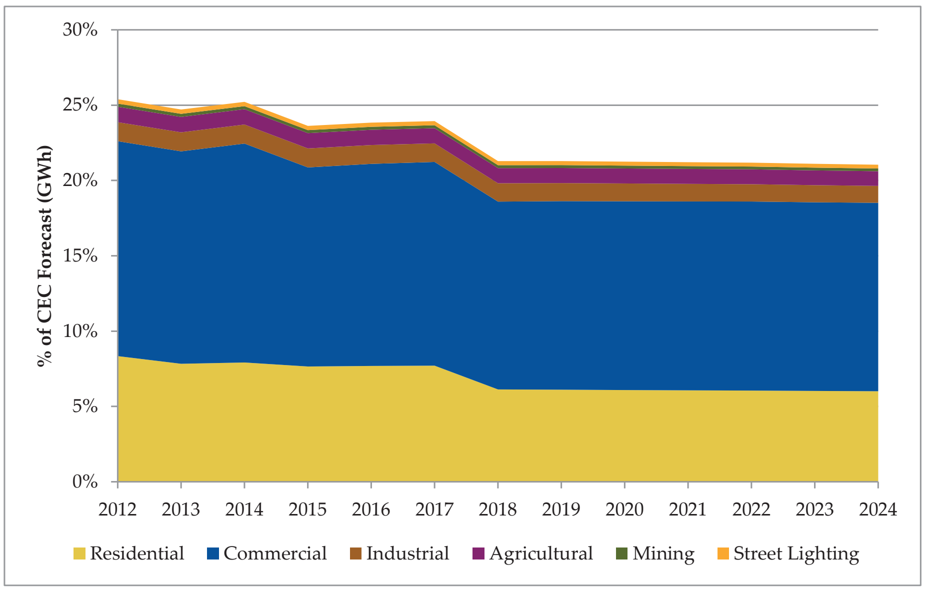
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.1.2 PG&E Electric Comparative Metrics

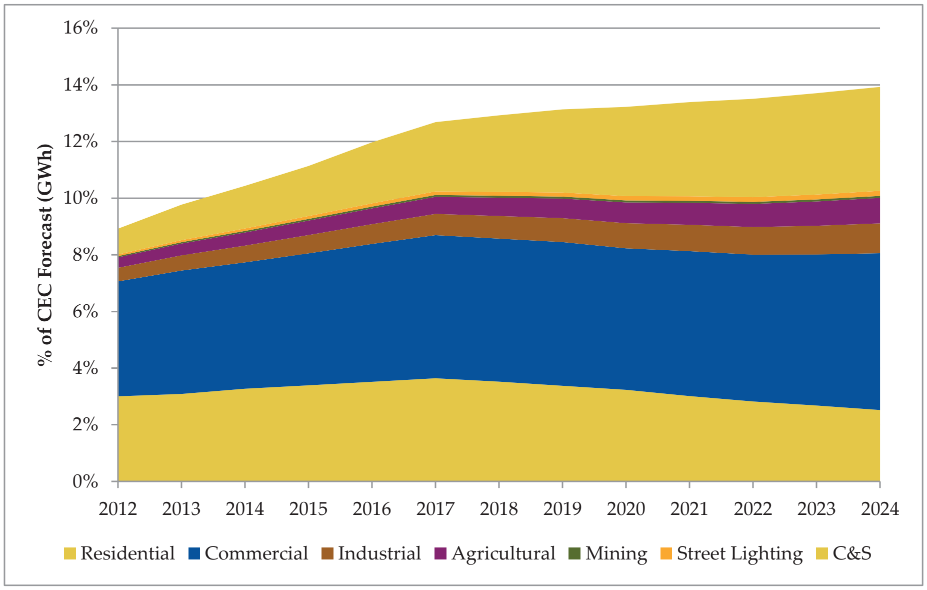
This section provides comparative metrics for the electric savings in the PG&E service territory. Figure K-5 shows PG&E's technical potential by sector as a percent of CEC forecast sales. Figure K-6 provides PG&E's cumulative market potential by sector (with the addition of C&S) as a percent of CEC forecast sales.

Figure K-5. PG&E Technical Potential by Sector as a Percentage of CEC Forecast (GWh)



Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-6. PG&E Cumulative Market Potential by Sector as a Percentage of CEC Forecast (GWh)



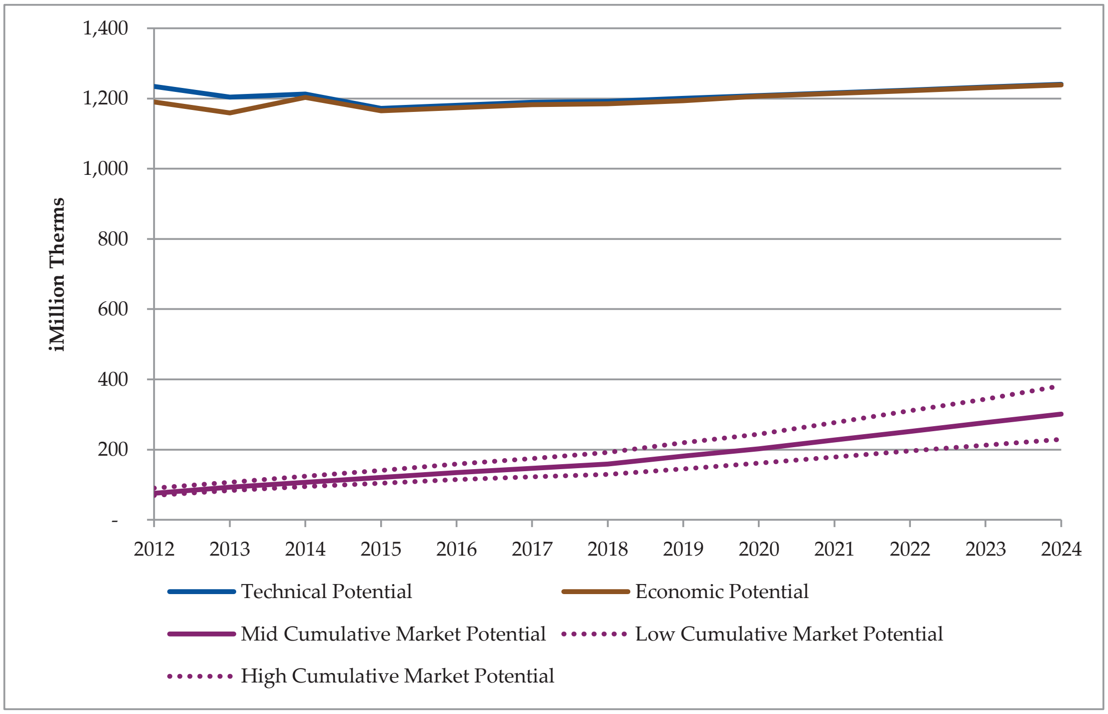
2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

K.1.3 PG&E Natural Gas Potential

Technical, economic and cumulative gas market potential for the PG&E service territory is shown in Figure K-7, which also displays the cumulative market for the high and low scenarios. These runs are 20% higher and 20% lower, respectively as compared to the mid scenario.

Figure K-7. PG&E Total Gross Technical, Economic, and Cumulative Market Potential for 2012-2024 (Mth)

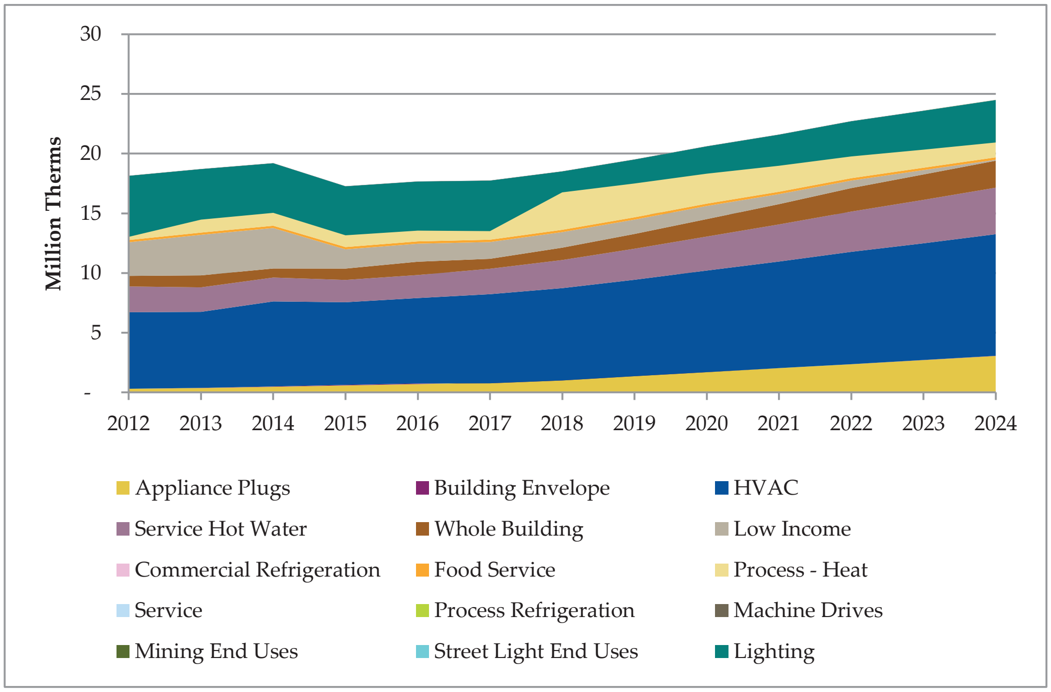


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-8 presents the incremental market gas potential for PG&E (in million therms) for 2012 to 2024. Lighting measures account for negative savings through interactive effects though positive savings from other end uses result in a net positive gas savings.

Figure K-8. PG&E Total Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



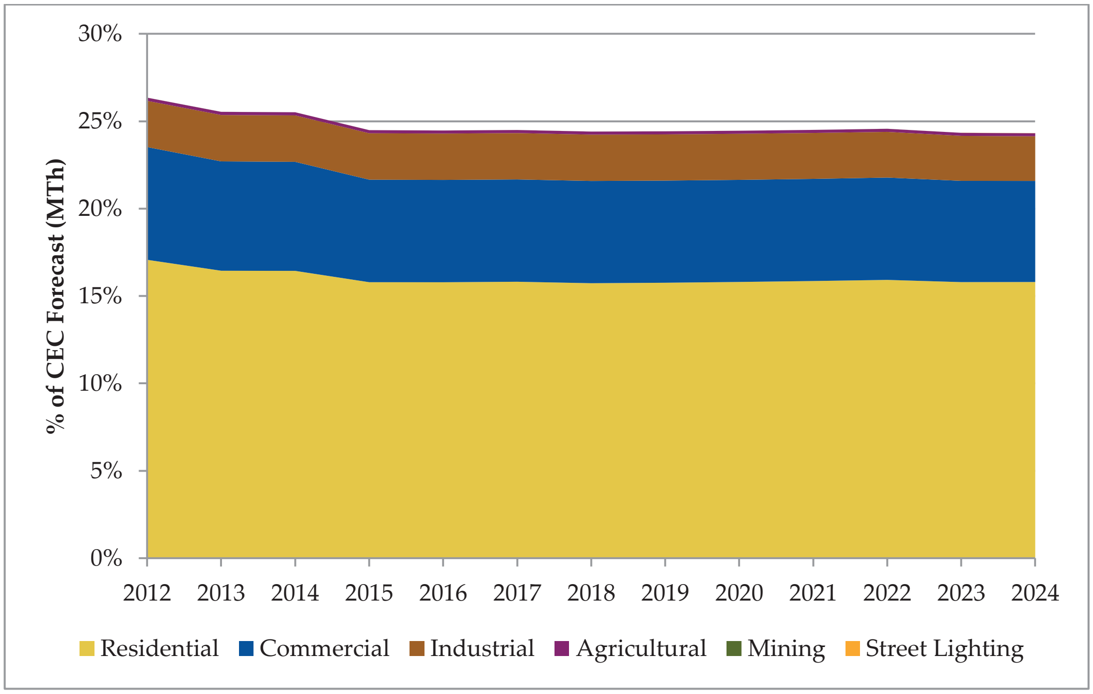
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.1.4 PG&E Gas Comparative Metrics

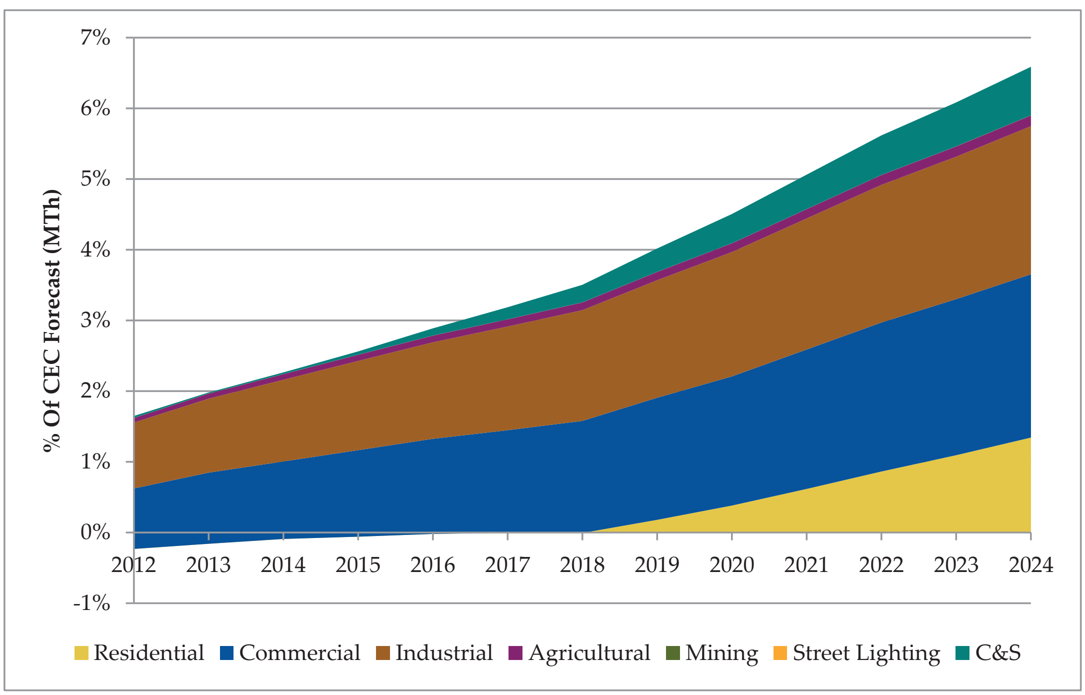
This section provides comparative metrics for the gas savings in PG&E service territory. Figure K-9 shows PG&E's technical potential by end use as a percent of CEC forecast sales. Figure K-10 provides PG&E's cumulative market potential by end use as a percent of CEC forecast sales.

Figure K-9. PG&E Technical Potential by Sector as a Percentage of CEC Forecast (Mth)



Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-10. PG&E Cumulative Market Potential by Sector as a Percentage of CEC Forecast (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

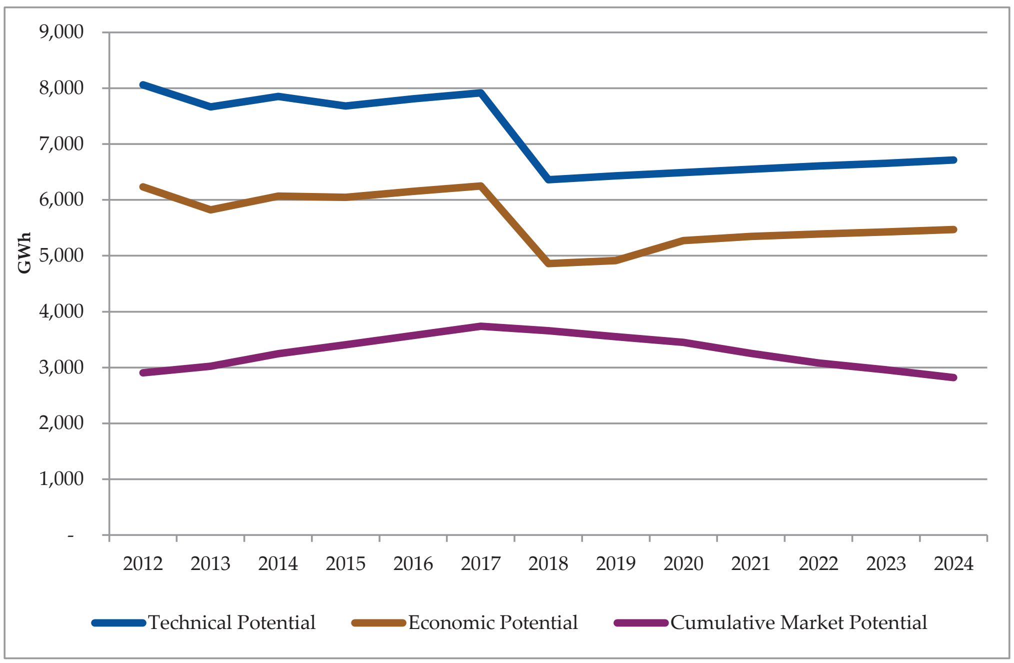
K.2 PG&E Residential Sector Results

This section outlines results for the PG&E residential sector. Residential trend lines, detailed analysis, and explanation of comparative metrics are discussed in the residential results section of the report.

K.2.1 PG&E Residential Electric Energy and Demand Potential

Residential technical, economic and cumulative market potential for energy and demand are shown in Figure K-11 and Figure K-12 respectively. Figure K-13 and Figure K-14 shows the incremental market energy potential by end use.

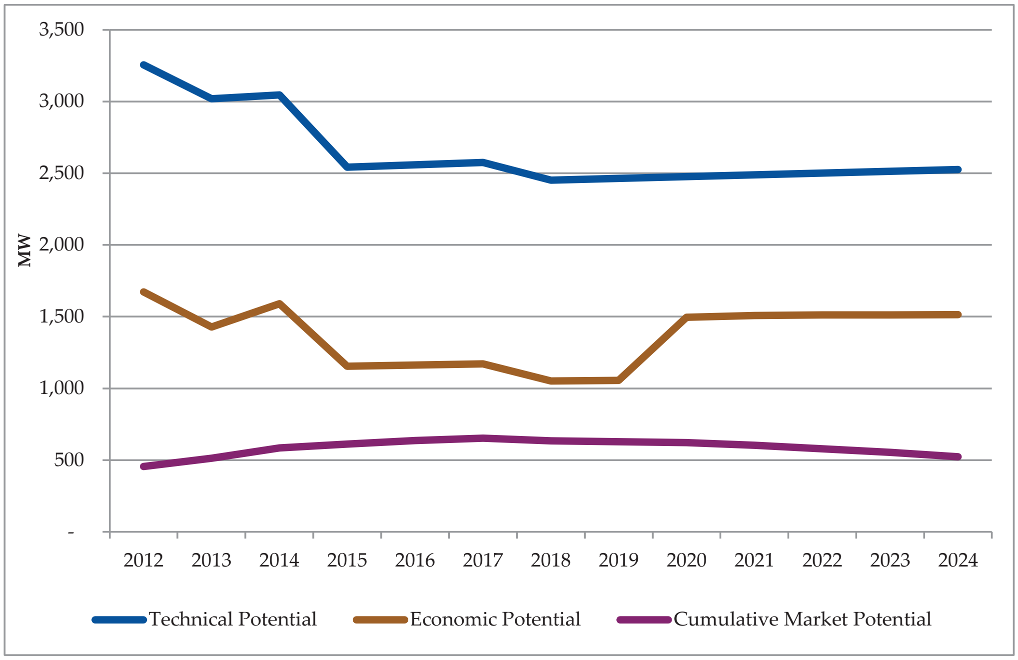
Figure K-11. PG&E Residential Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

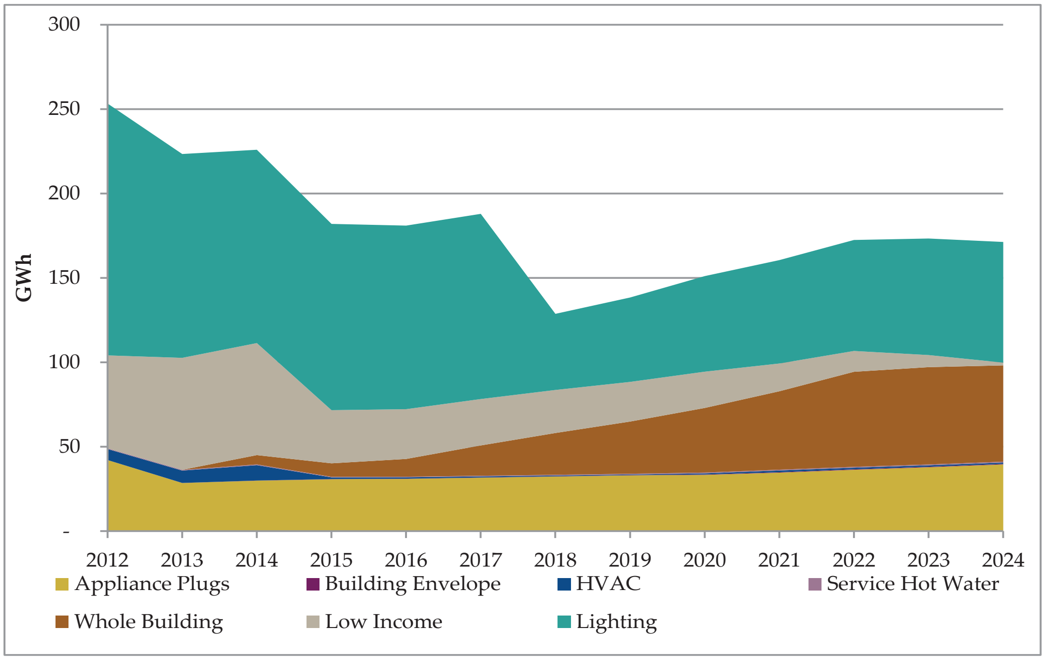
Figure K-12. PG&E Residential Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

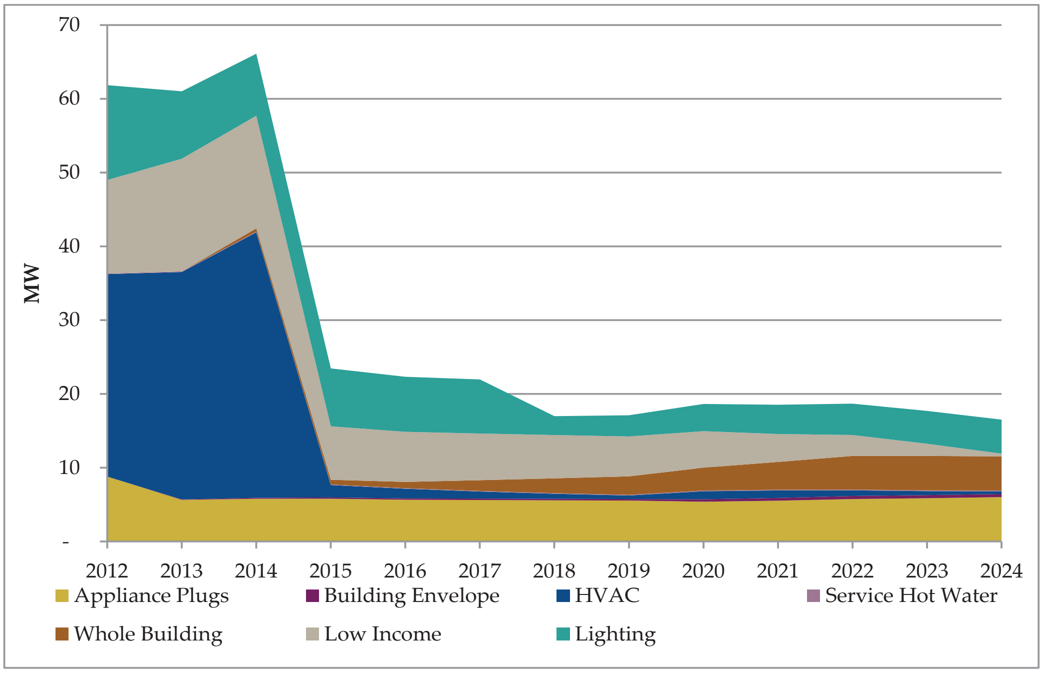
Figure K-13. PG&E Residential Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-14. PG&E Residential Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



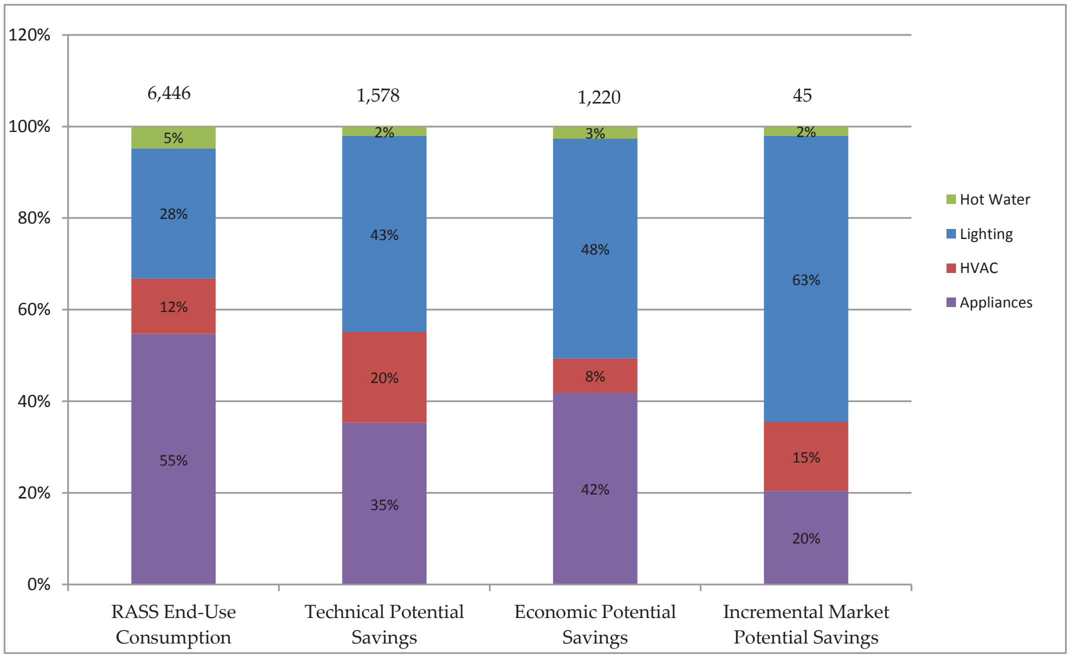
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.2.2 PG&E Residential Electric Comparative Metrics

The PG&E specific comparative metrics for the residential electric sector are shown below. Further details on these metrics are provided in the residential section of the report.

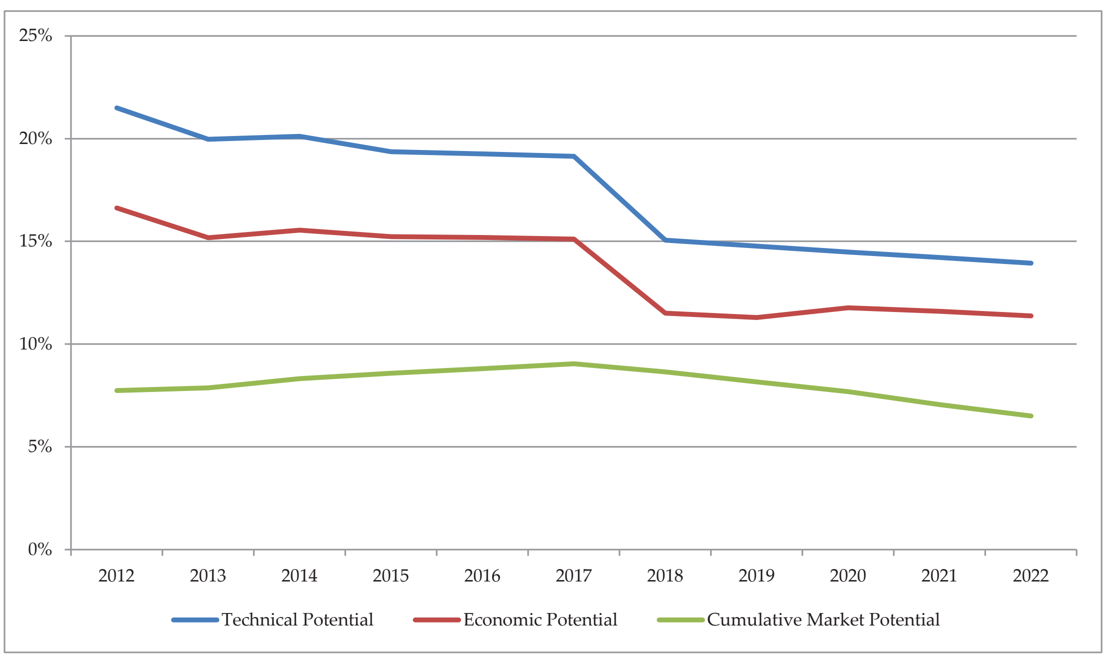
Figure K-15. PG&E Breakdown of RASS Consumption and 2014 Savings Potential Embedded in End Use Consumption*



*Number at the top of each bar is the total consumption or savings potential in kWh/home

Source: PG model release February 2014 & RASS 2009

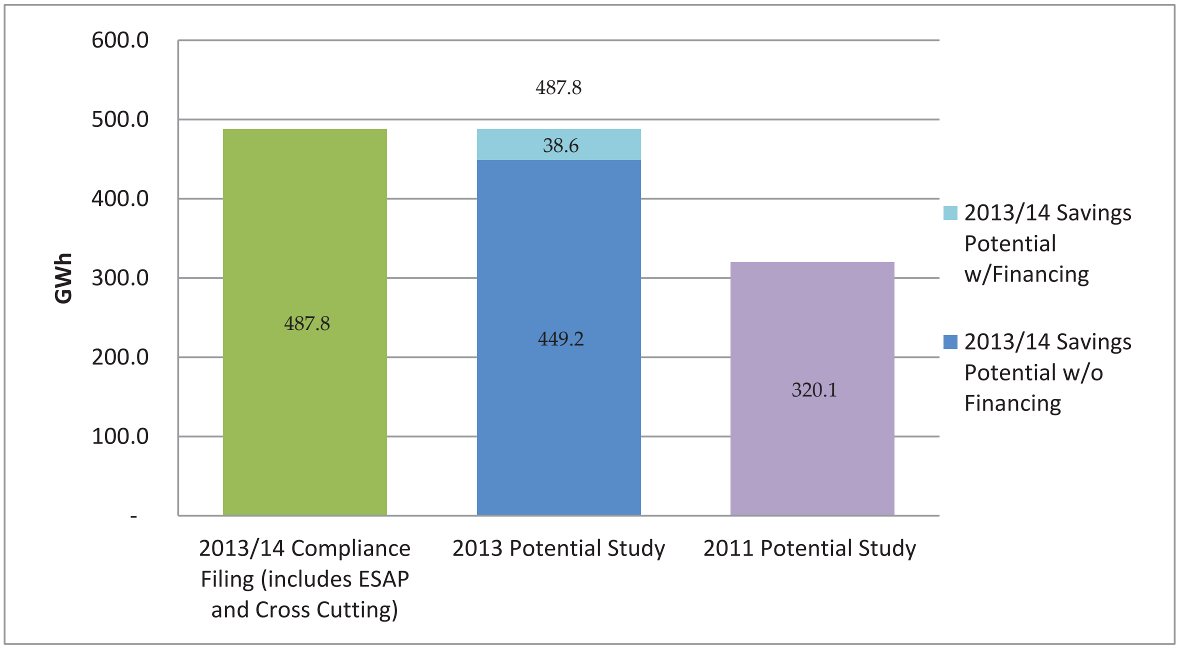
Figure K-16. PG&E Residential Savings Potential as a Percent of CEC Residential Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-17. PG&E Comparison of Residential Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)

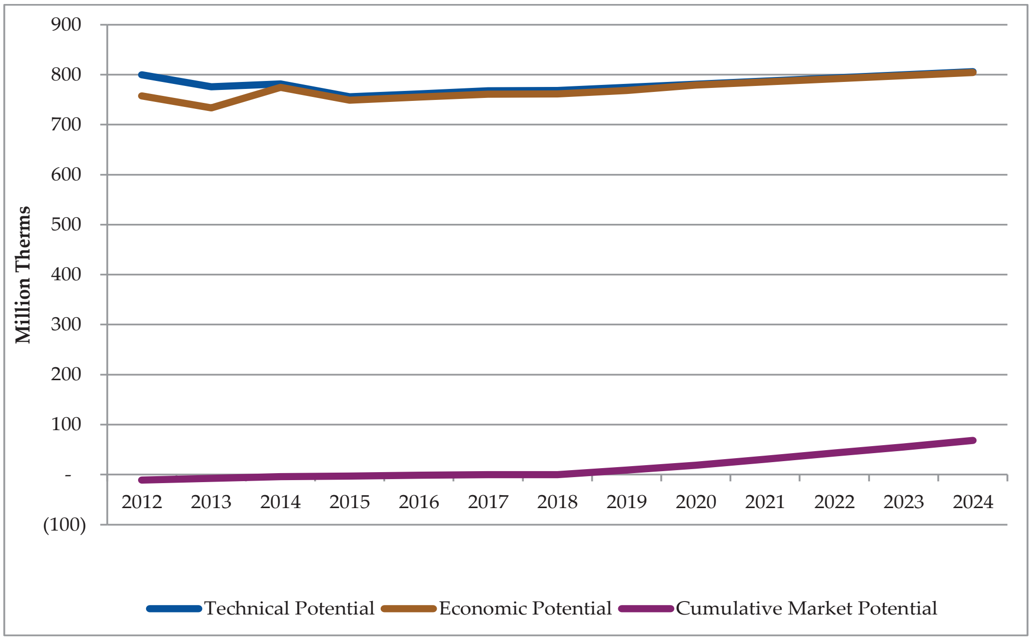


Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

K.2.3 PG&E Residential Gas Energy Potential

Figure K-18 displays the technical, economic and cumulative gas market potential for the residential sector. Interactive effects between gas and electric measures explain the negative savings in the beginning. Figure K-19 shows the incremental market gas potential by end use.

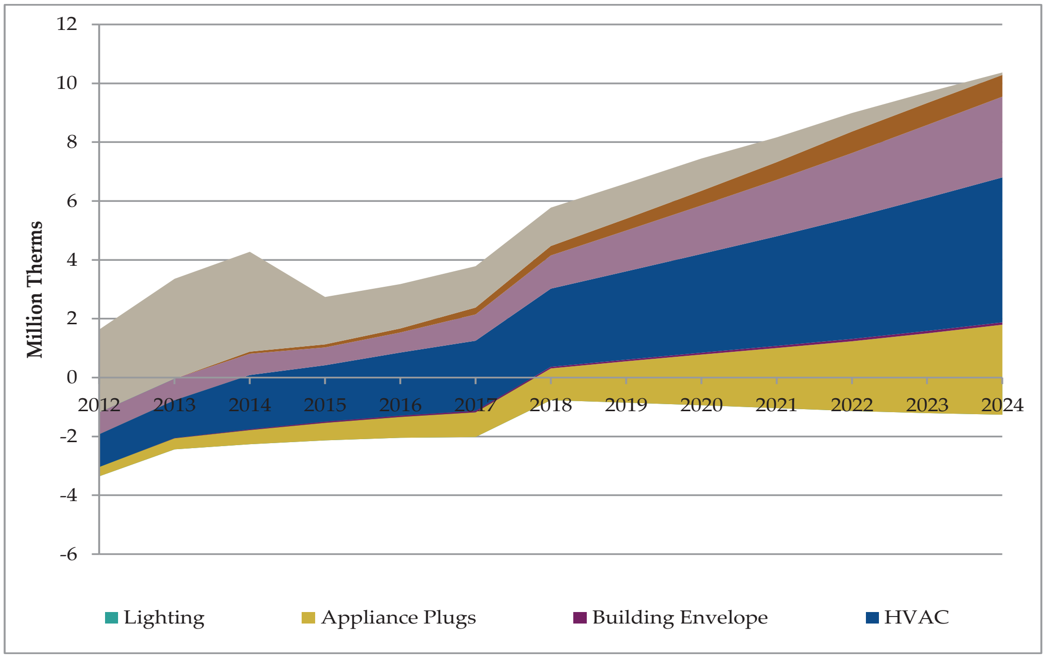
Figure K-18. PG&E Residential Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-19. PG&E Residential Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



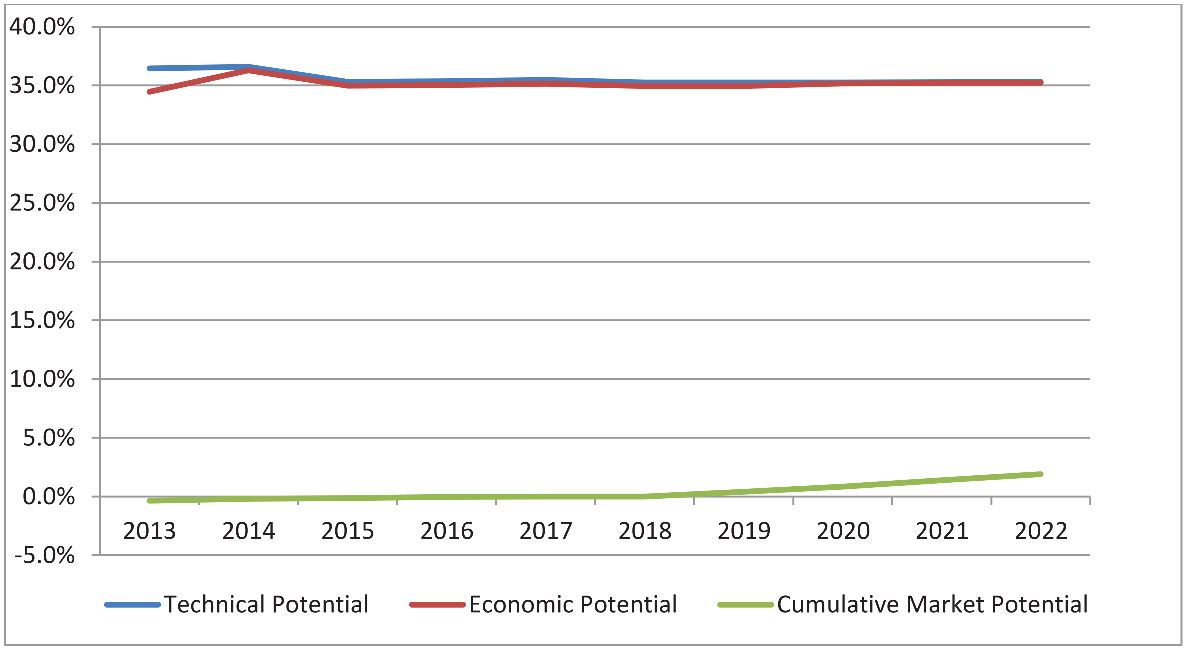
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.2.4 PG&E Residential Gas Comparative Metrics

The PG&E specific comparative metrics for the residential gas sector are shown below. Further details on these metrics are provided in the residential section of the report.

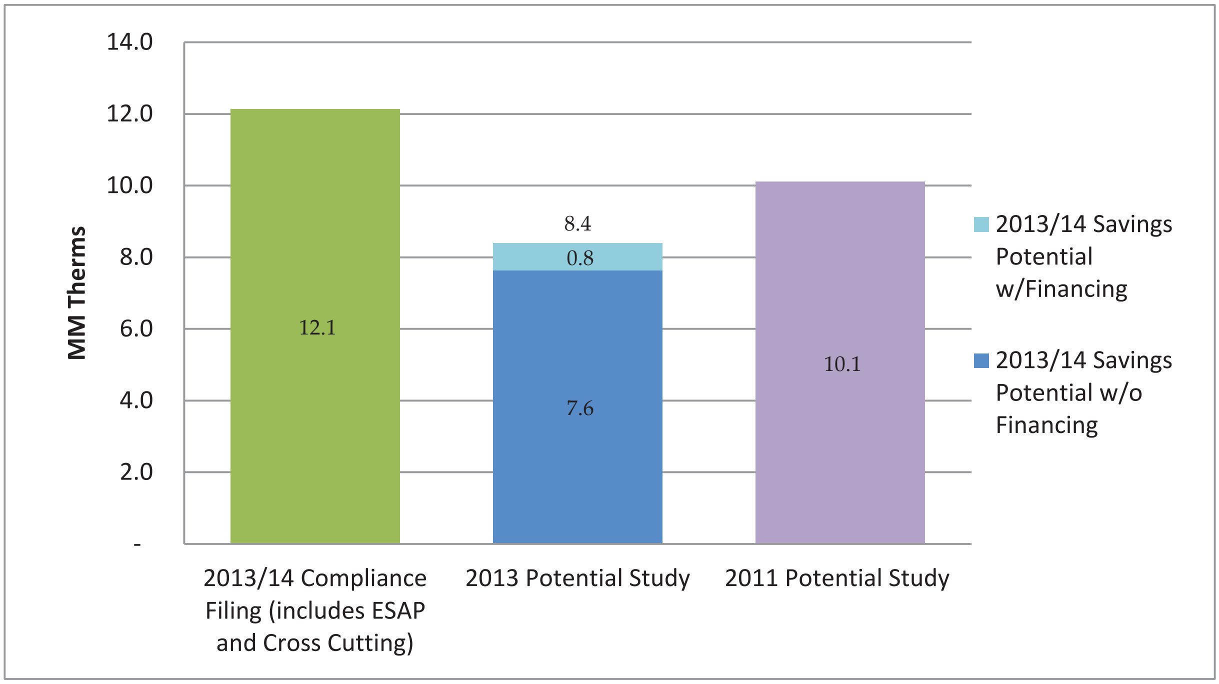
Figure K-20. PG&E Residential Gas Savings Potential as a Percent of CEC Residential Gas Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-21. PG&E Comparison of Residential Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

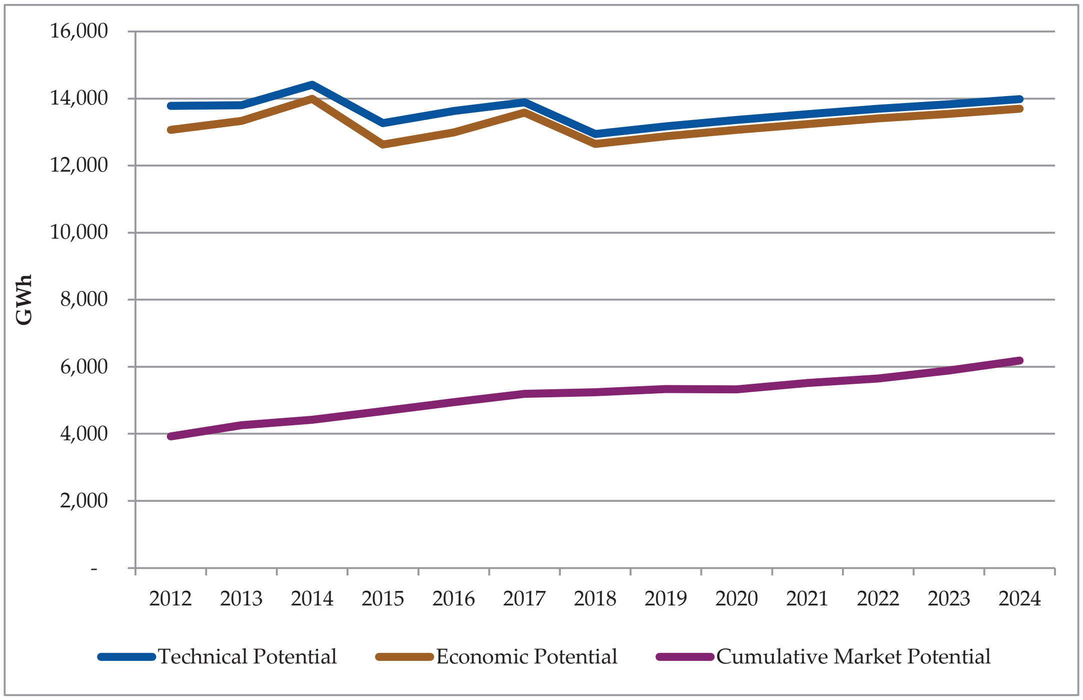
K.3 PG&E Commercial Sector Results

This section outlines results for the PG&E commercial sector. Commercial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the commercial results section of the report.

K.3.1 PG&E Commercial Electric Energy Potential

Commercial technical, economic and cumulative market potential for energy and demand are shown in Figure K-22 and Figure K-23 respectively.
Figure K-24 and Figure K-25 show the incremental market energy potential by end use.

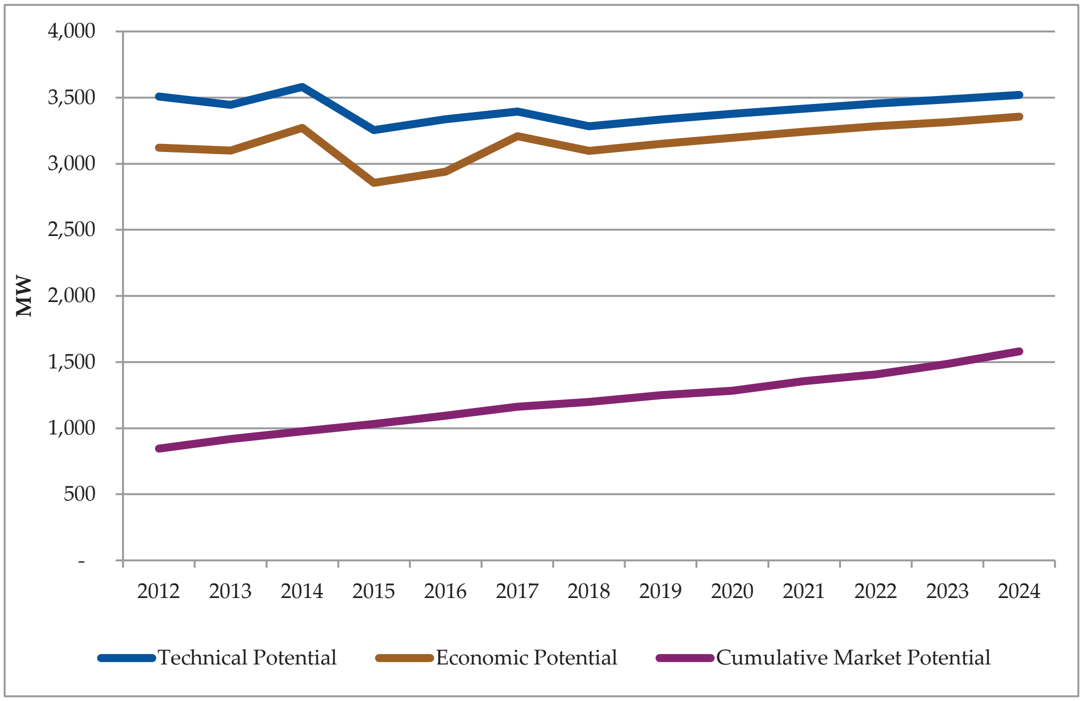
Figure K-22. PG&E Commercial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

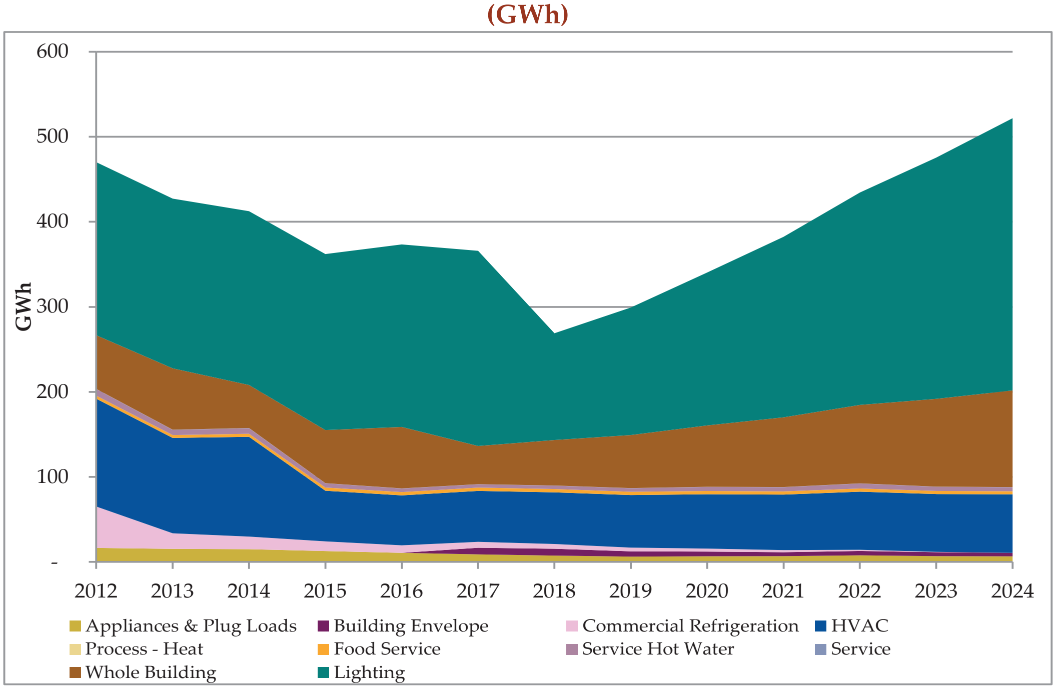
Figure K-23. PG&E Commercial Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

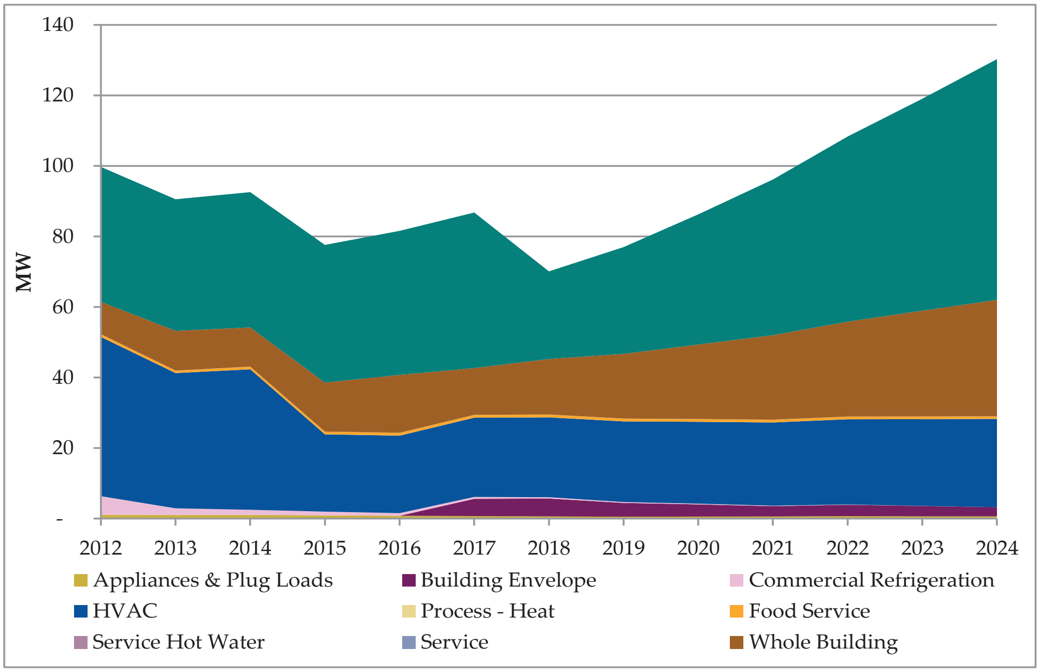
Figure K-24. PG&E Commercial Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-25. PG&E Commercial Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



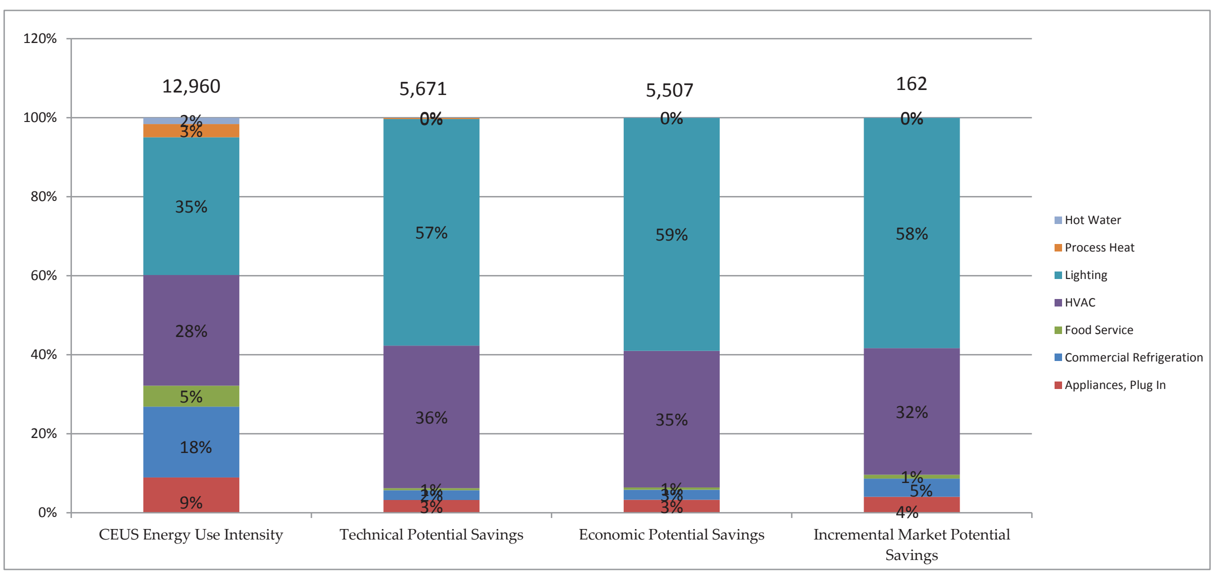
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.3.2 PG&E Commercial Electric Comparative Metrics

The PG&E specific comparative metrics for the commercial electric sector are shown below. Further details on these metrics are provided in the commercial section of the report.

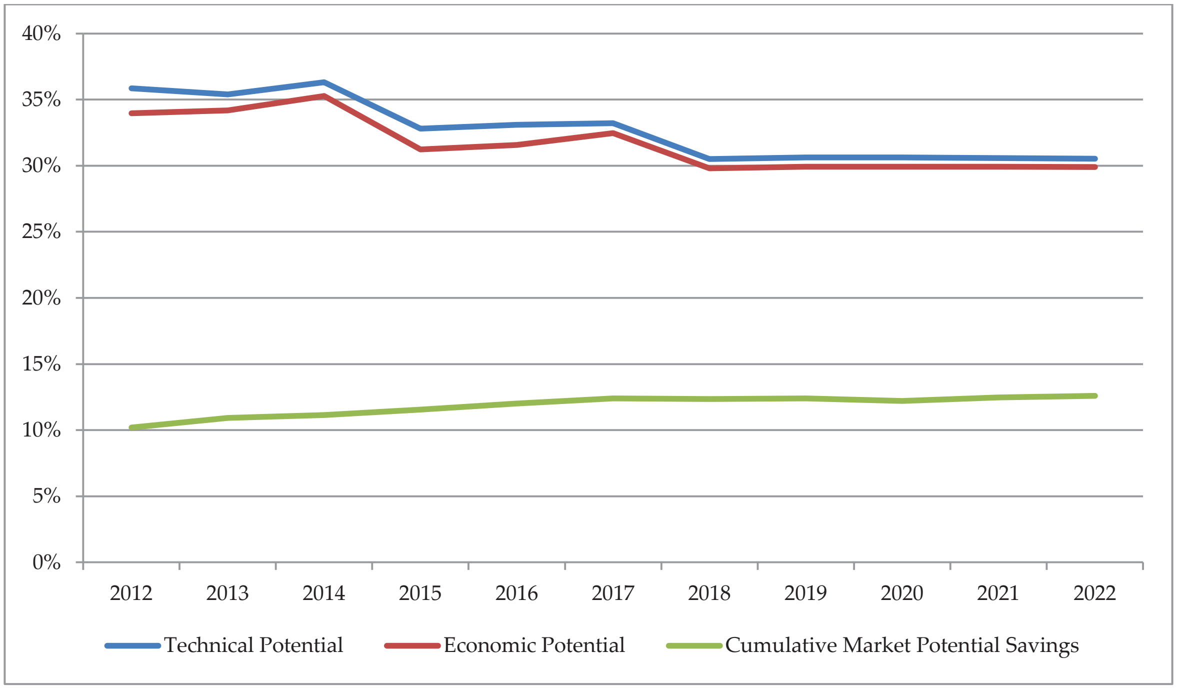
Figure K-26. PG&E Breakdown of Commercial EUIs and 2014 Savings Potential by End Use*



*Number at the top of each bar is the EUI or savings potential per 1000 sq. ft.

Source: PG model release February 2014 & CEUS 2006

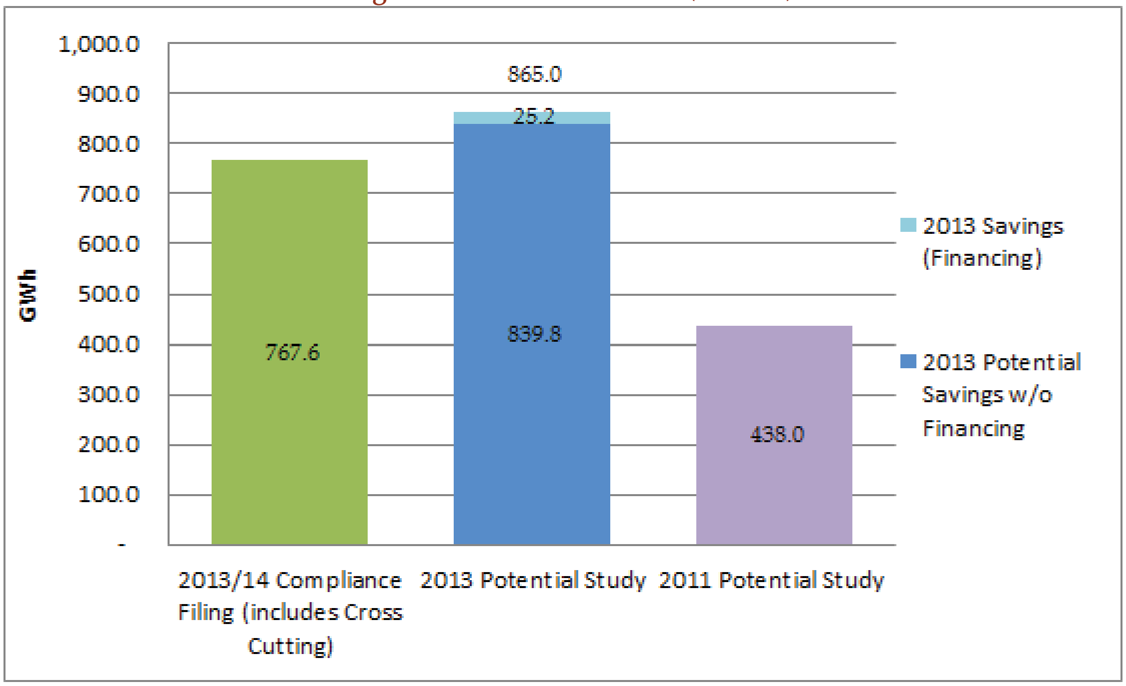
Figure K-27. PG&E Commercial Savings Potential as a Percent of CEC Commercial Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-28. PG&E Comparison of Commercial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

K.3.3 PG&E Commercial Gas Energy Potential

Figure K-29 displays the technical, economic and cumulative gas market potential for the commercial sector. Figure K-30 shows the incremental market gas potential by end use.

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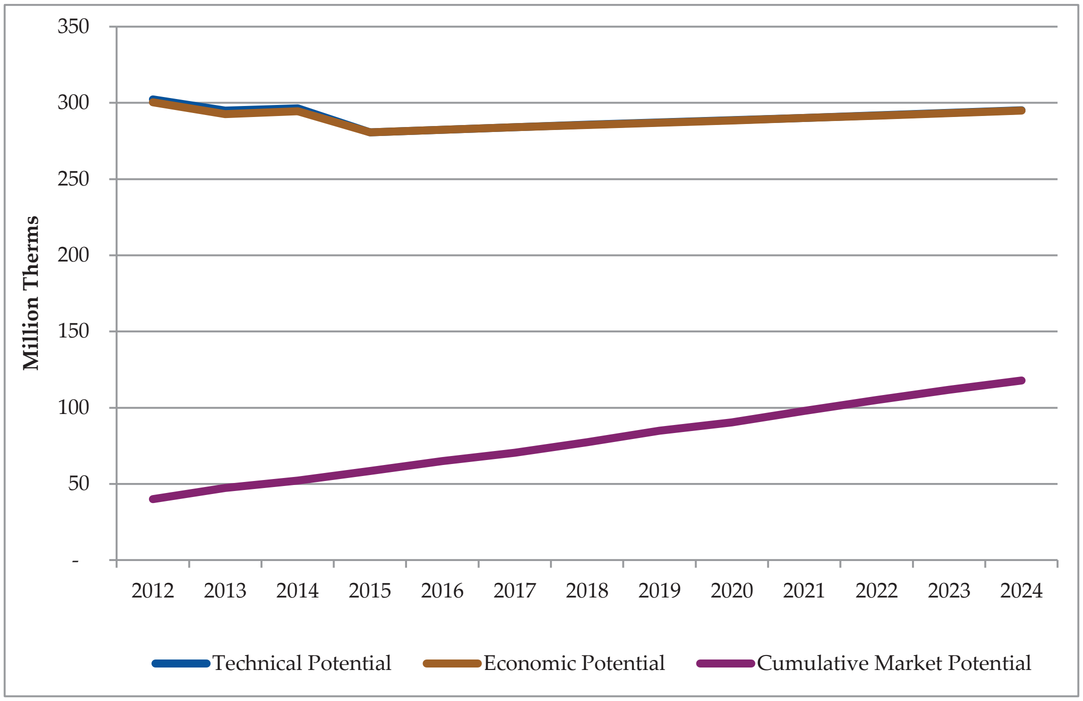
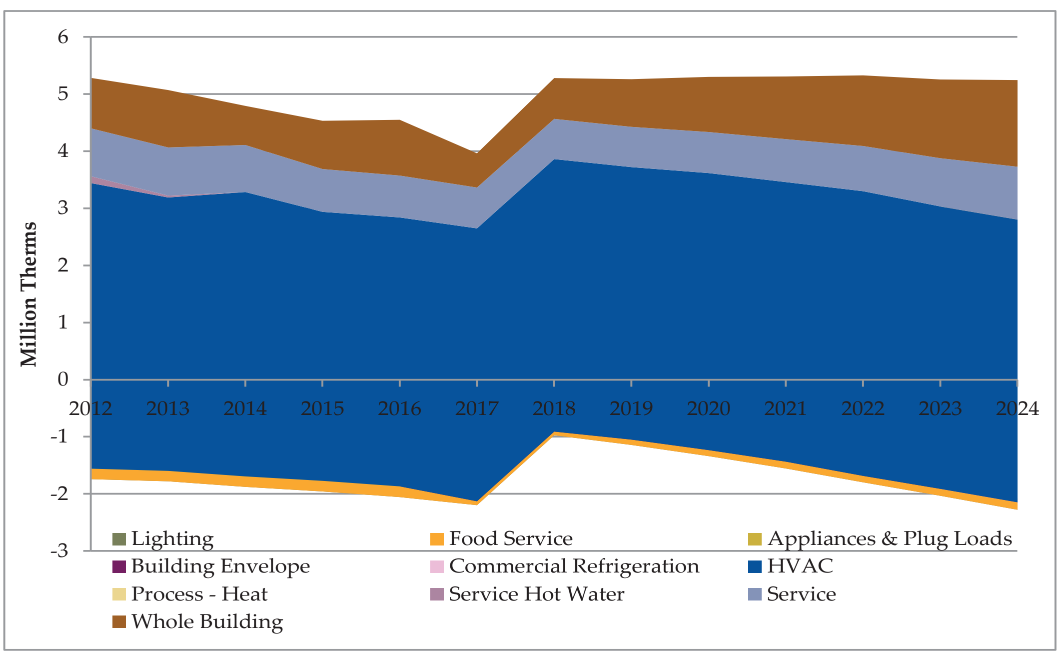
Figure K-29. PG&E Commercial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-30. PG&E Commercial Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



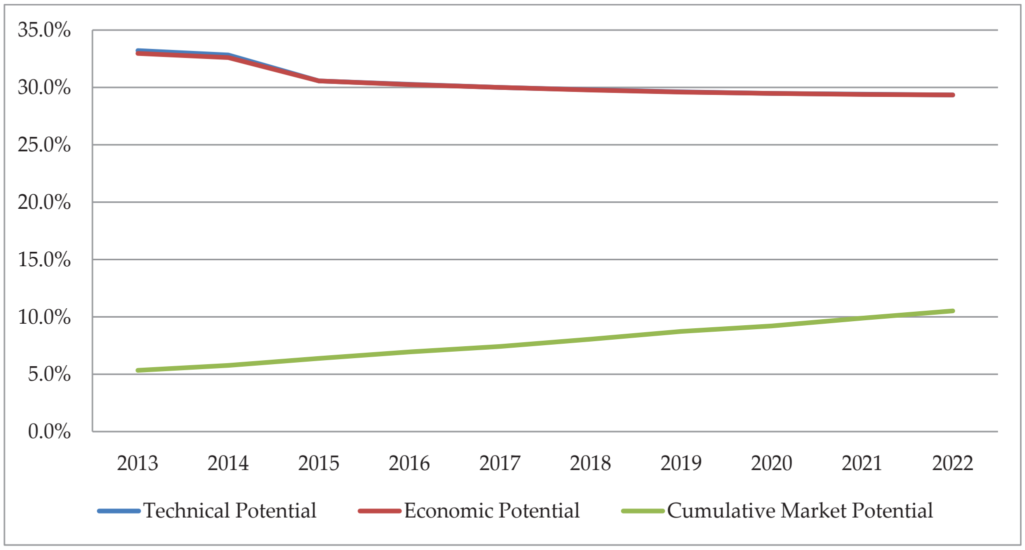
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.3.4 PG&E Commercial Gas Comparative Metrics

The PG&E specific comparative metrics for the commercial gas sector are shown below. Further details on these metrics are provided in the commercial section of the report.

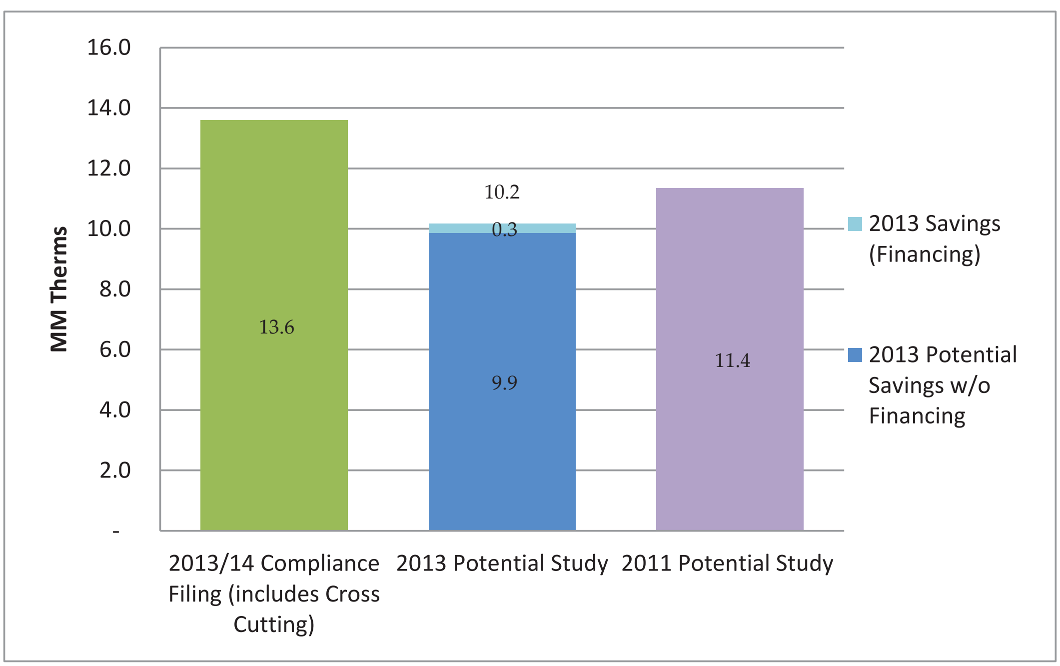
Figure K-31. PG&E Commercial Gas Savings Potential as a Percent of CEC Commercial Gas Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-32. PG&E Comparison of Commercial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

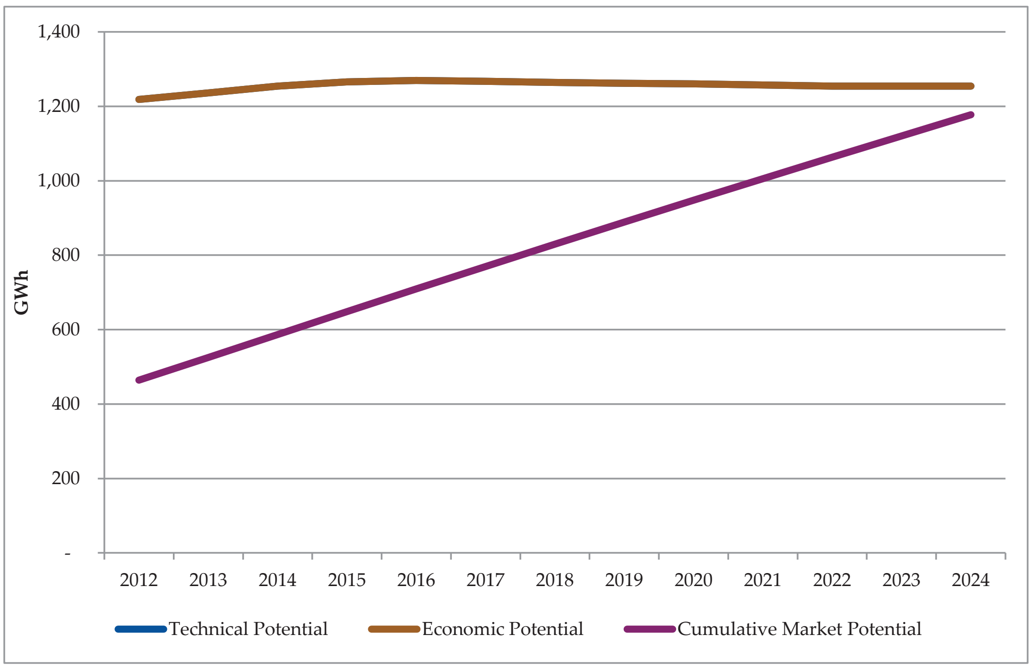
K.4 PG&E Industrial Sector Results

This section outlines results for the PG&E industrial sector. Industrial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the industrial results section of the report.

K.4.1 PG&E Industrial Electric Energy Potential

Industrial technical, economic and cumulative market potentials for energy and demand are shown in Figure K-33 and Figure K-34. Figure K-35 and Figure K-36 show the incremental market energy and demand potential by end-use.

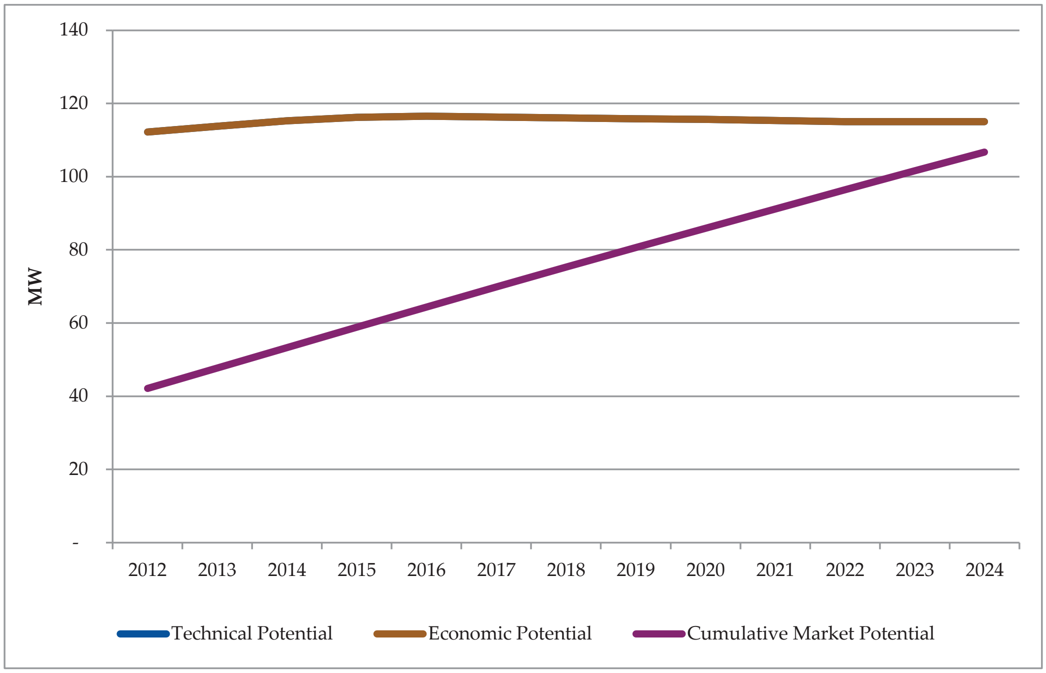
Figure K-33. PG&E Industrial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

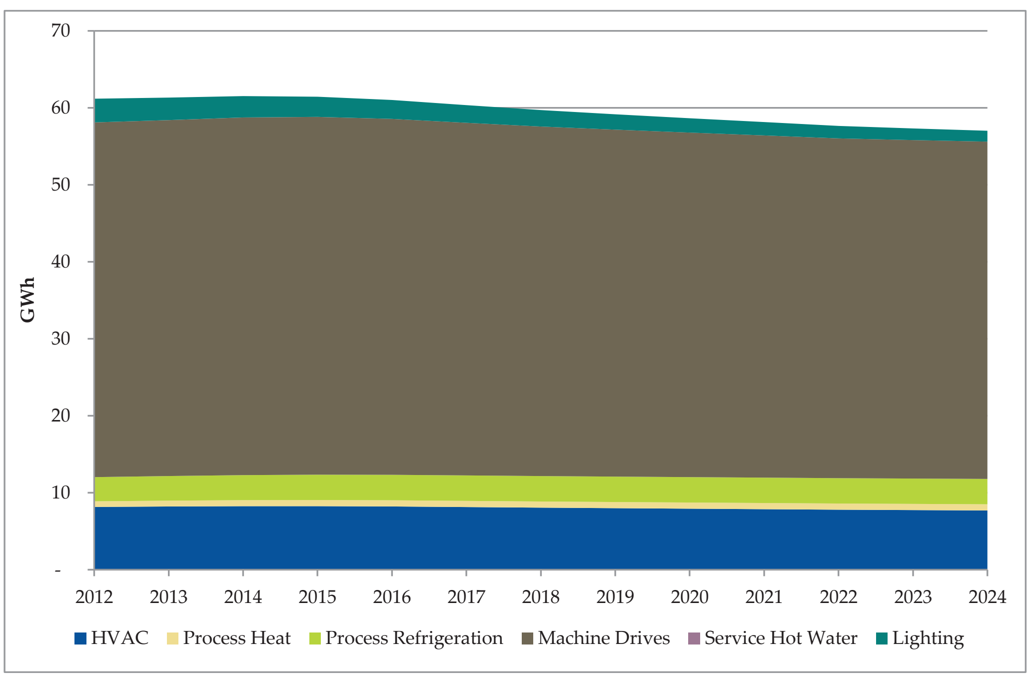
Figure K-34. PG&E Industrial Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

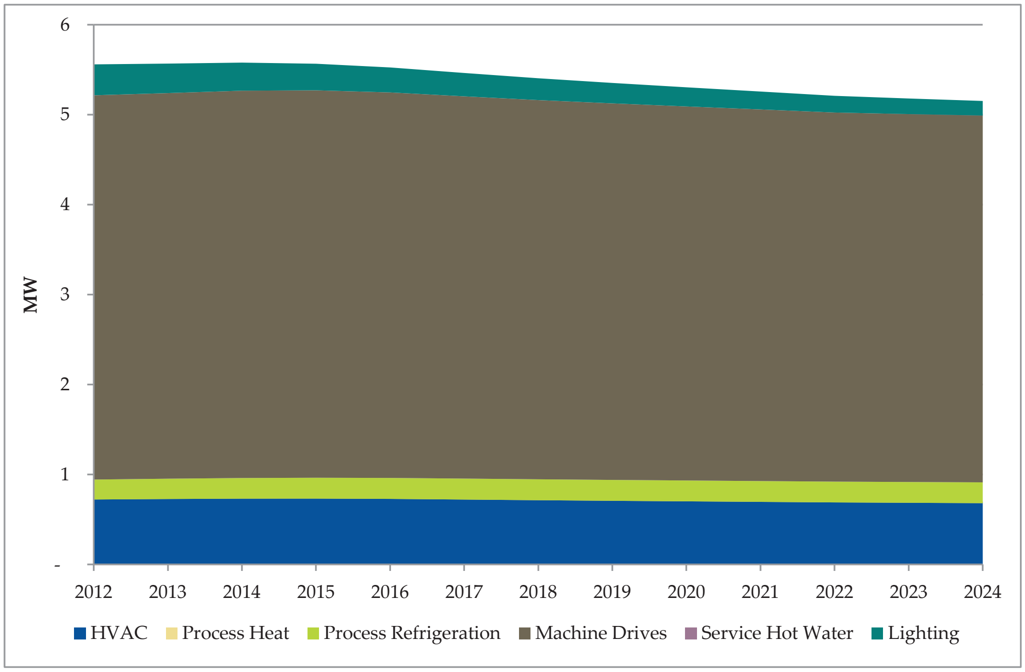
Figure K-35. PG&E Industrial Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-36. PG&E Industrial Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)

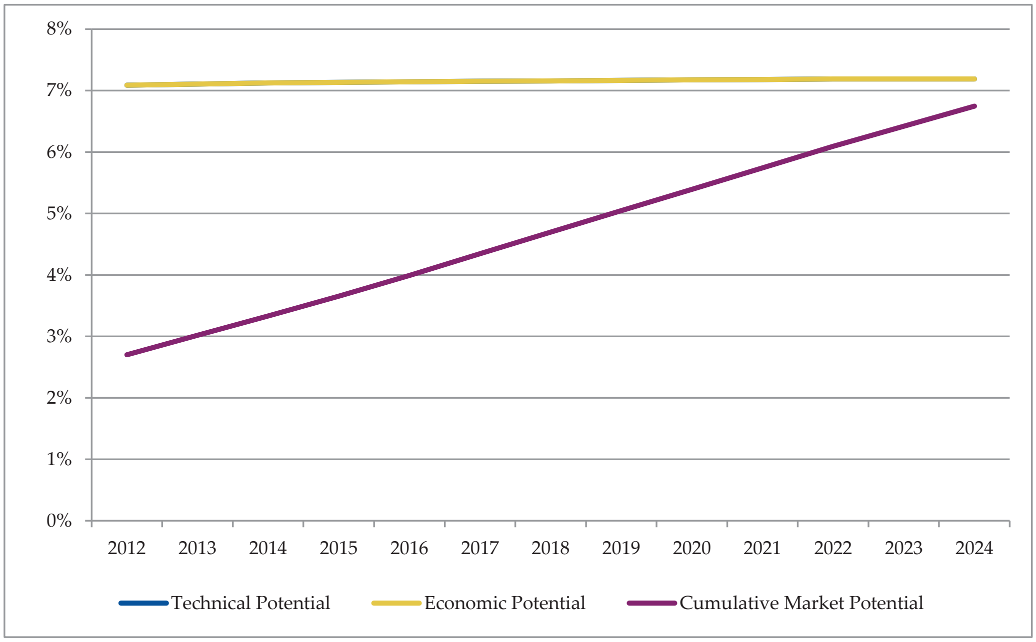


2013 Incremental results exclude C&S savings and behavioral savings.
Source: PG model release February 2014

K.4.2 PG&E Industrial Electric Comparative Metrics

The PG&E specific comparative metrics for the industrial electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

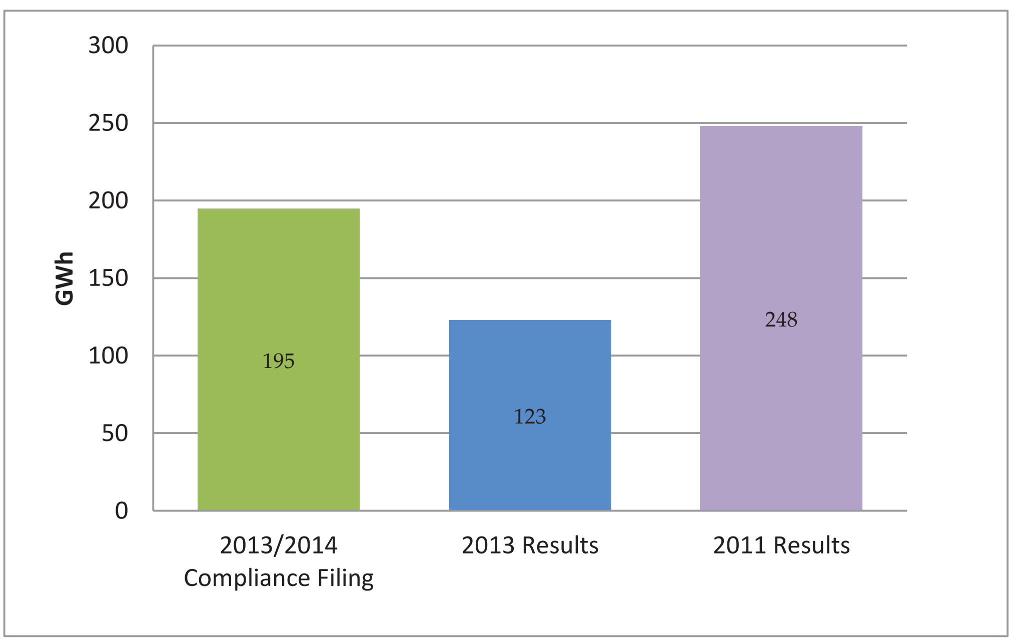
Figure K-37. PG&E Industrial Electric Savings Potential as a Percent of CEC Industrial Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-38. PG&E Comparison of Industrial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)

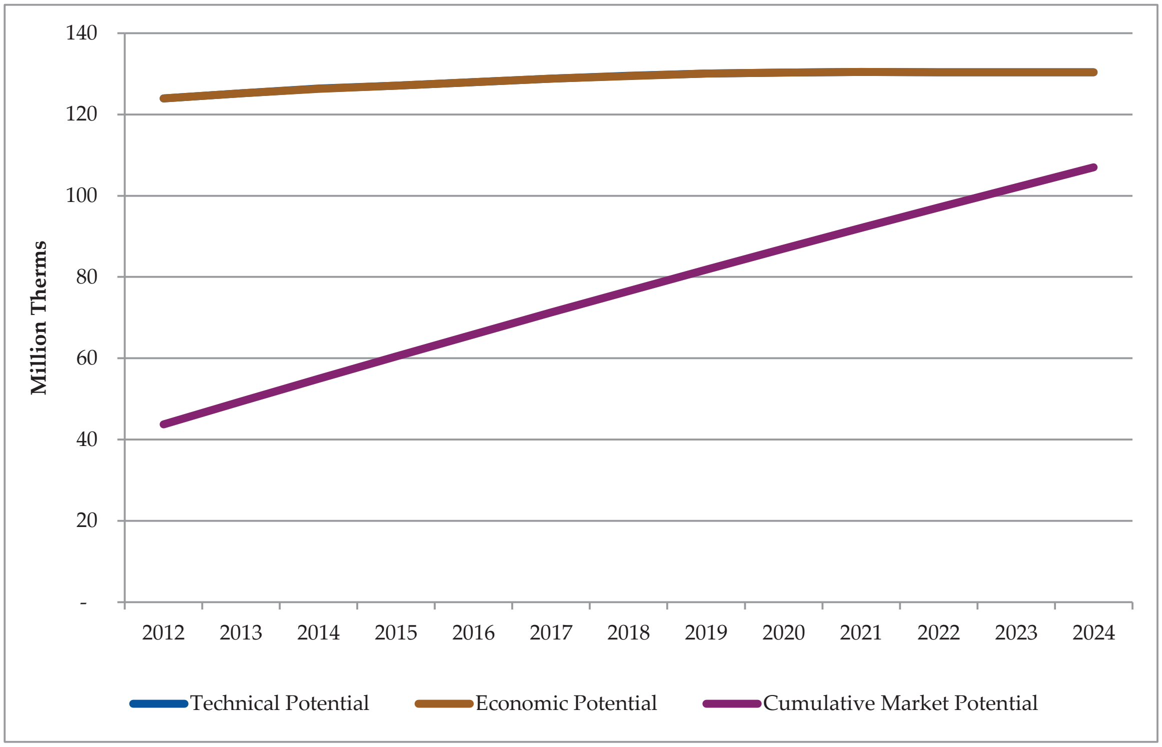


Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

K.4.3 PG&E Industrial Gas Energy Potential

Figure K-39 displays the technical, economic and cumulative gas market potential for the Industrial sector. Figure K-40 shows the incremental market gas potential by end use.

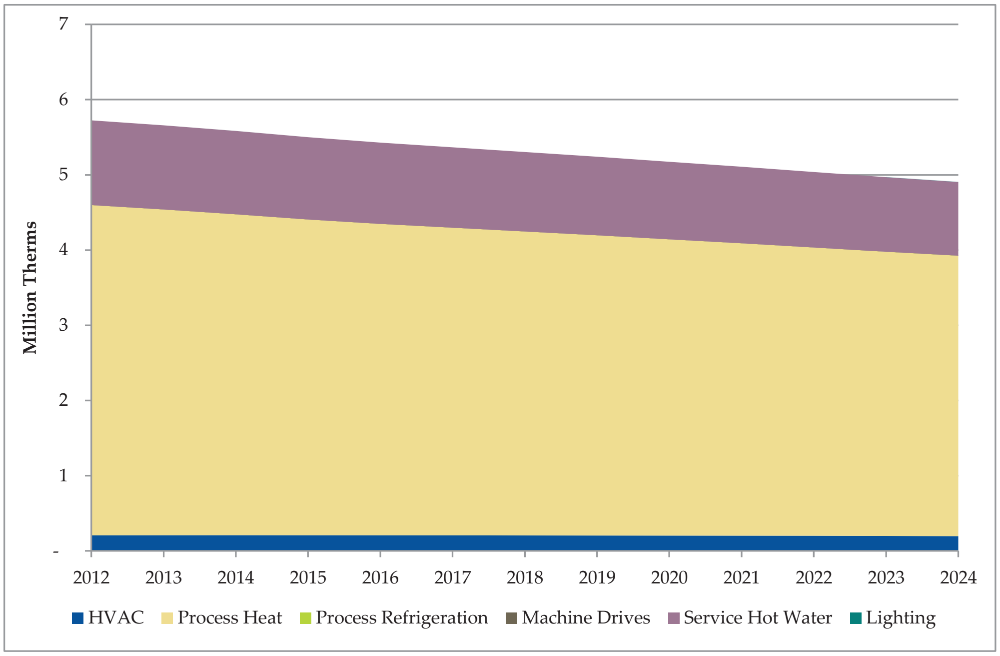
Figure K-39. PG&E Industrial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-40 PG&E Industrial Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



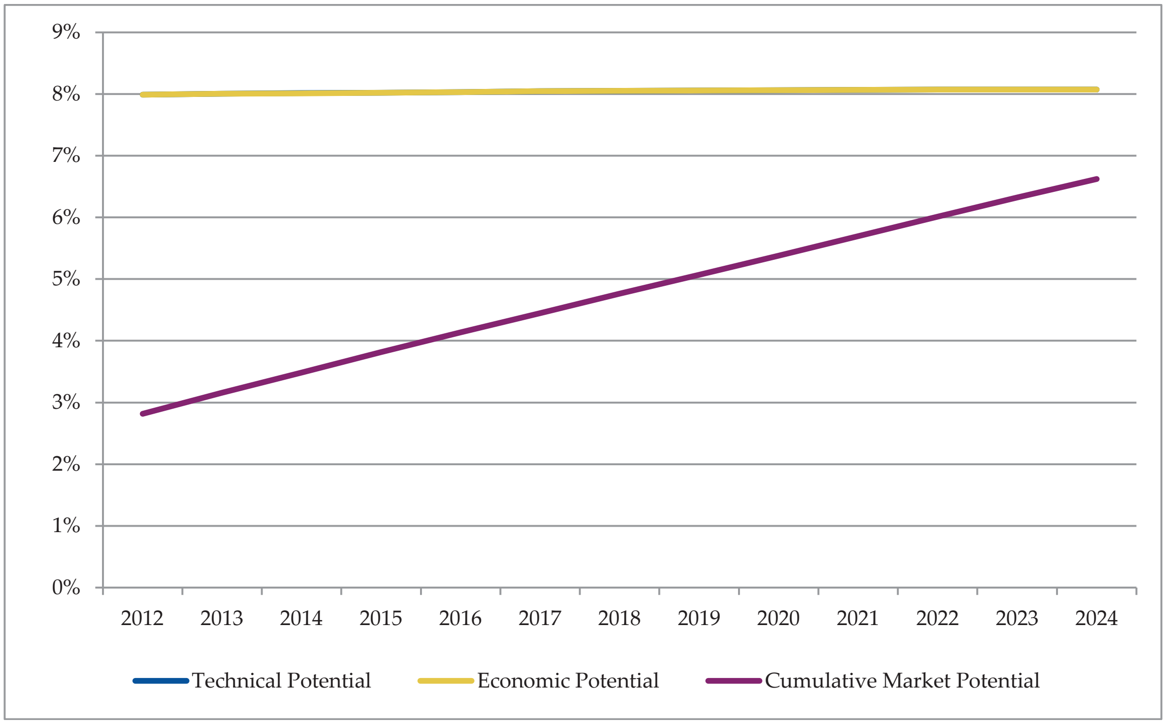
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.4.4 PG&E Industrial Gas Comparative Metrics

The PG&E specific comparative metrics for the industrial gas sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

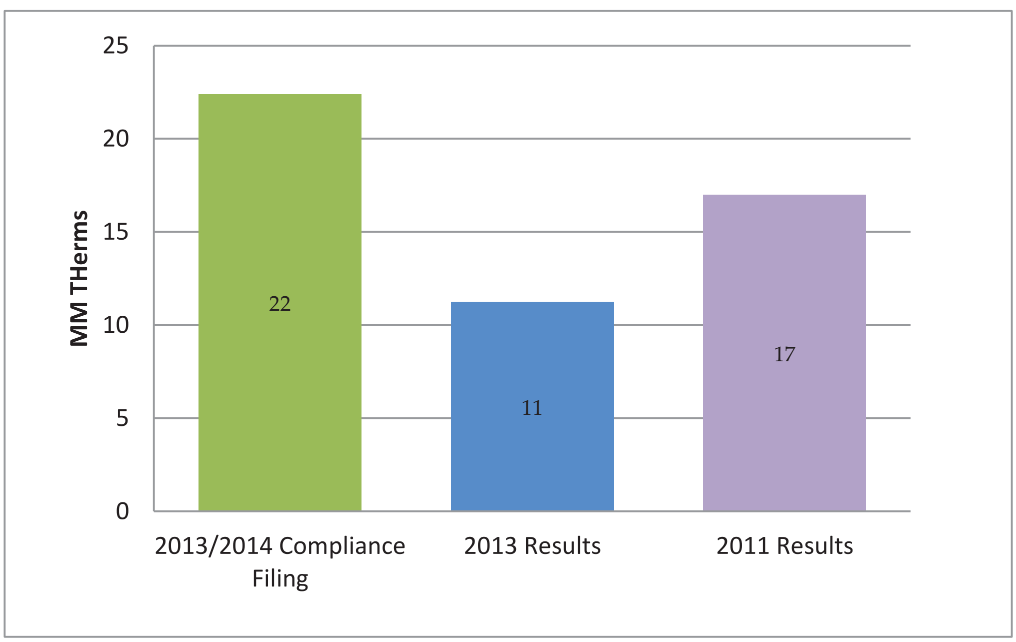
Figure K-41. PG&E Industrial Gas Savings Potential as a Percent of CEC Industrial Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-42. PG&E Comparison of Industrial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

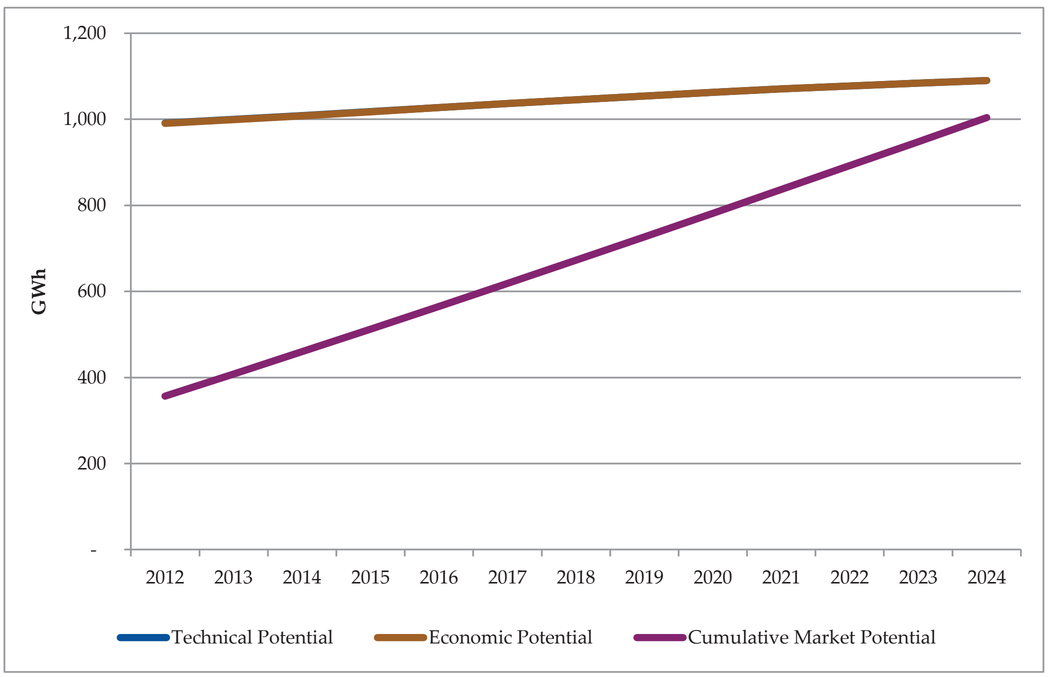
K.5 PG&E Agriculture Sector Results

This section outlines results for the PG&E agriculture sector. Agriculture trend lines, detailed analysis, and explanation of comparative metrics are discussed in the agriculture results section of the report.

K.5.1 PG&E Agriculture Electric Energy Potential

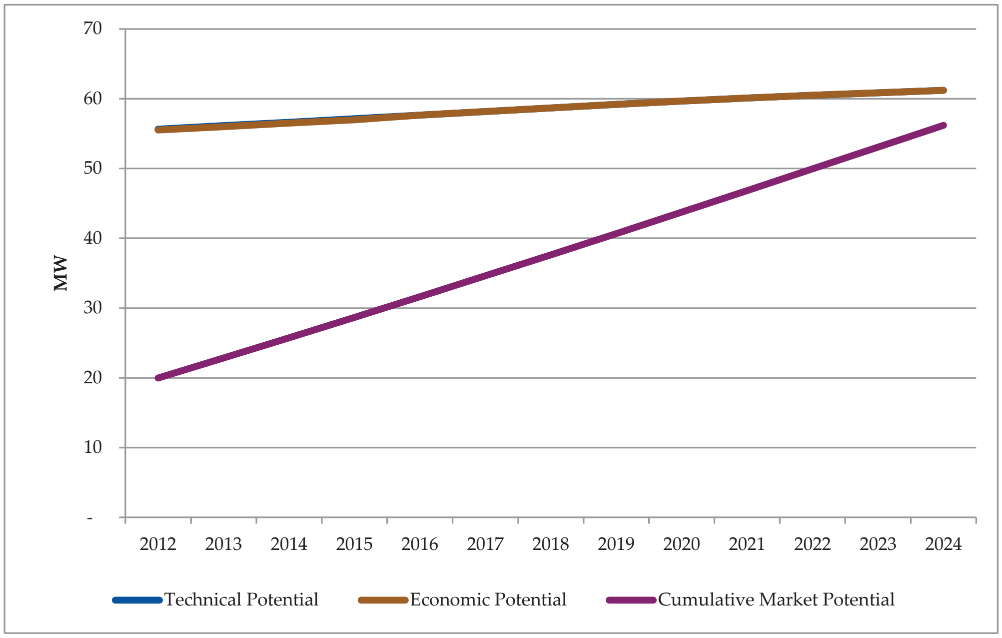
Agriculture technical, economic and cumulative market potential trends for energy and demand are shown in Figure K-43 and Figure K-44 respectively. Figure K-45 and Figure K-46 shows the incremental market energy and demand potential by end use.

Figure K-43. PG&E Agriculture Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.
Source: PG model release February 2014

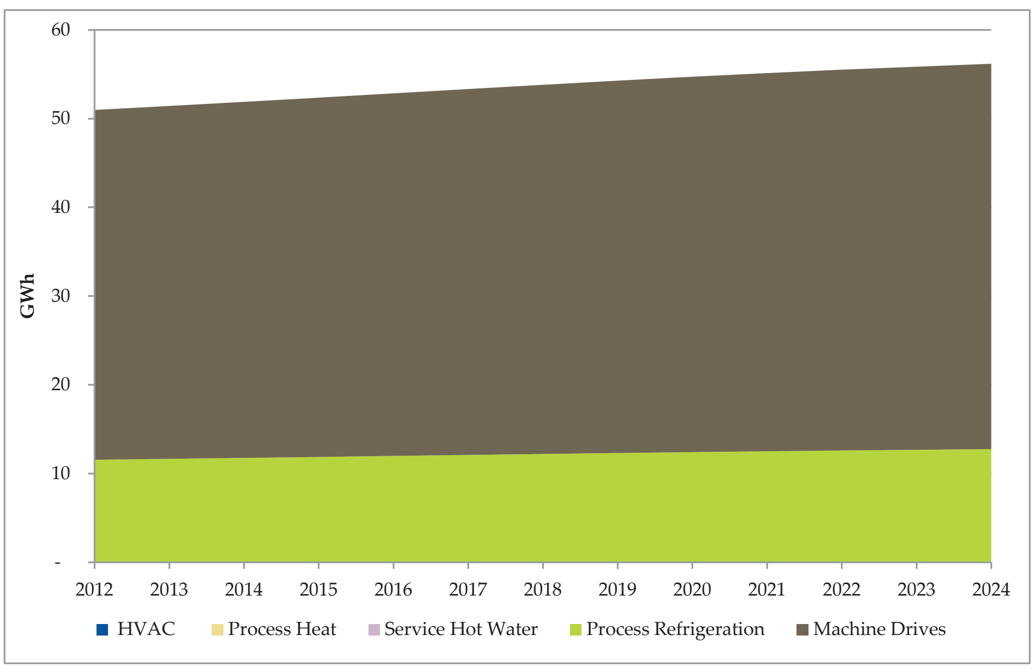
Figure K-44. PG&E Agriculture Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

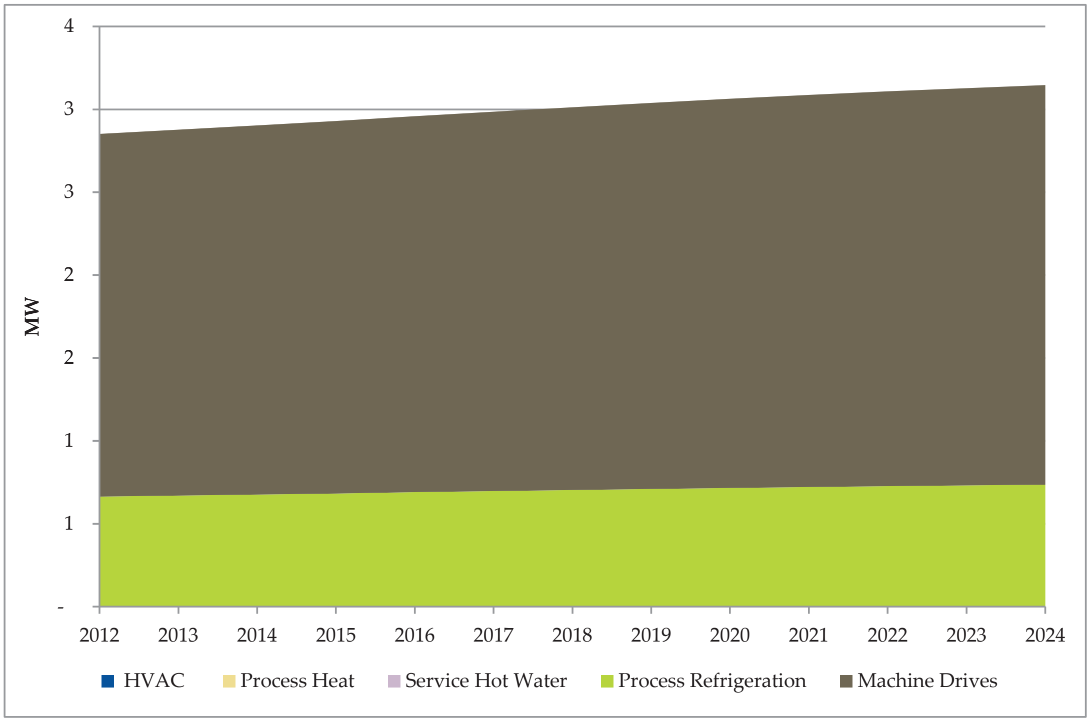
Figure K-45. PG&E Agriculture Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-46. PG&E Agriculture Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



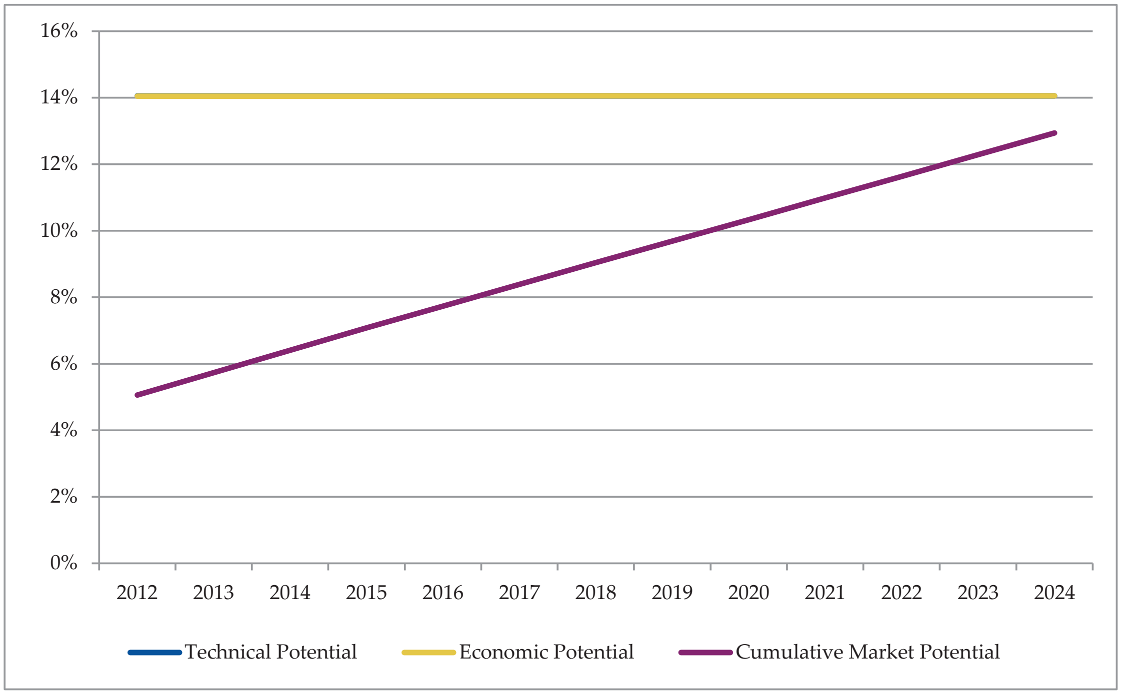
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.5.2 PG&E Agriculture Electric Comparative Metrics

The PG&E specific comparative metrics for the agriculture electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

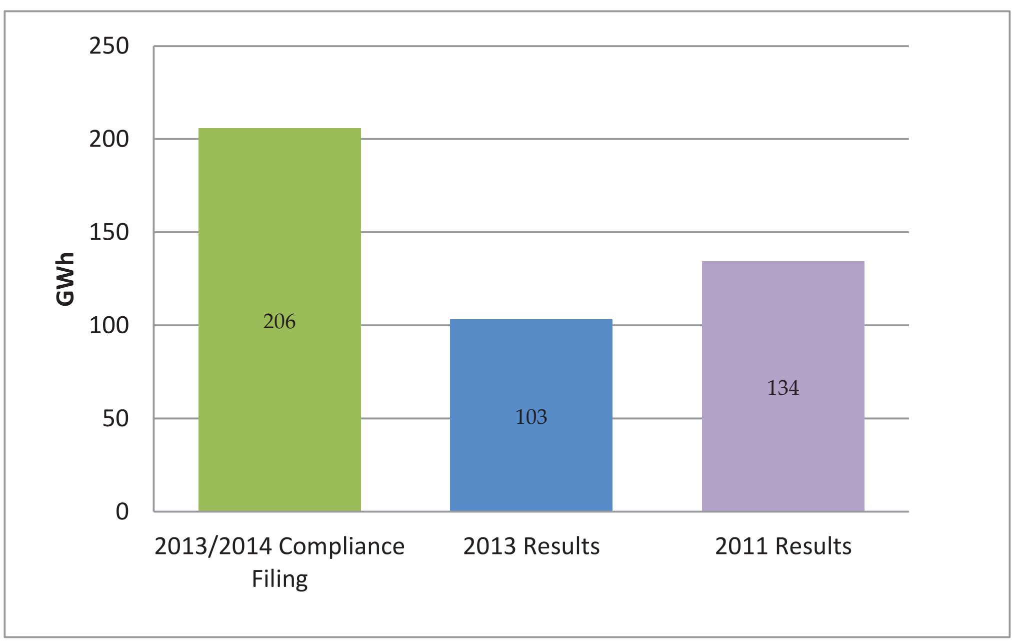
Figure K-47. PG&E Agriculture Electric Savings Potential as a Percent of CEC Agriculture Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-48. PG&E Comparison of Industrial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)

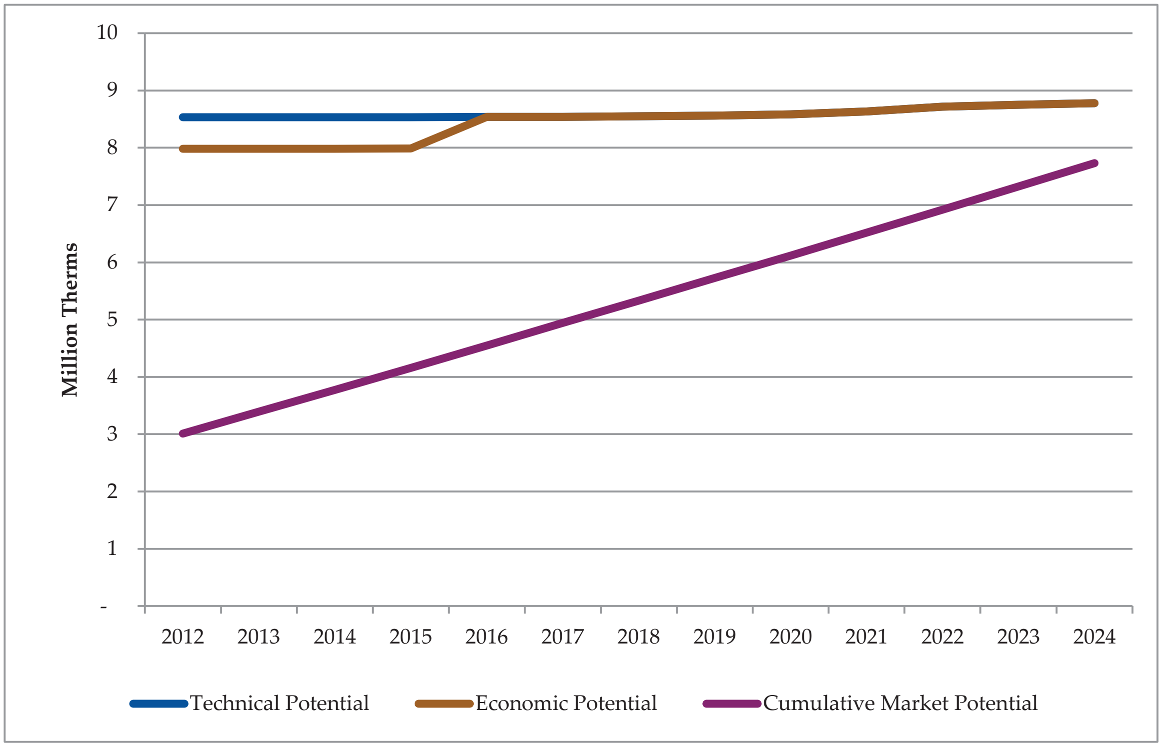


Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

K.5.3 PG&E Agriculture Gas Energy Potential

Figure K-49 displays the technical, economic and cumulative gas market potential in the Agriculture sector. The incremental gas potential for the PG&E Agriculture sector is displayed in Figure K-50.

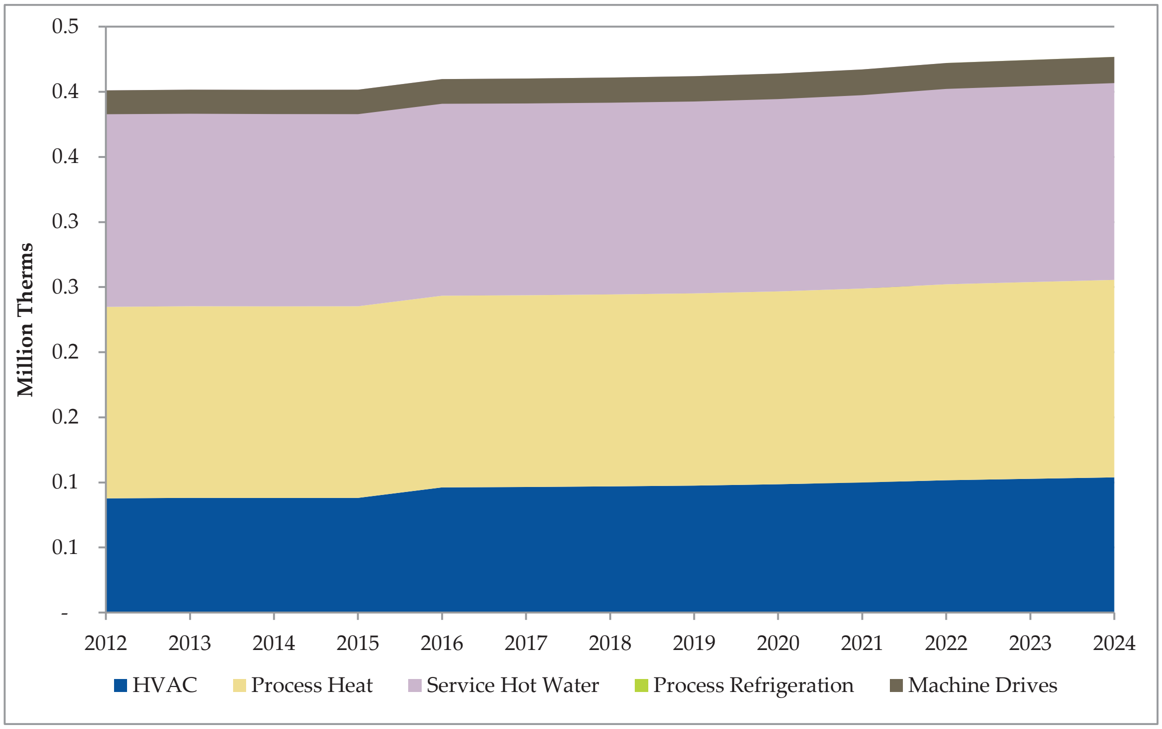
Figure K-49. PG&E Agriculture Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-50. PG&E Agriculture Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



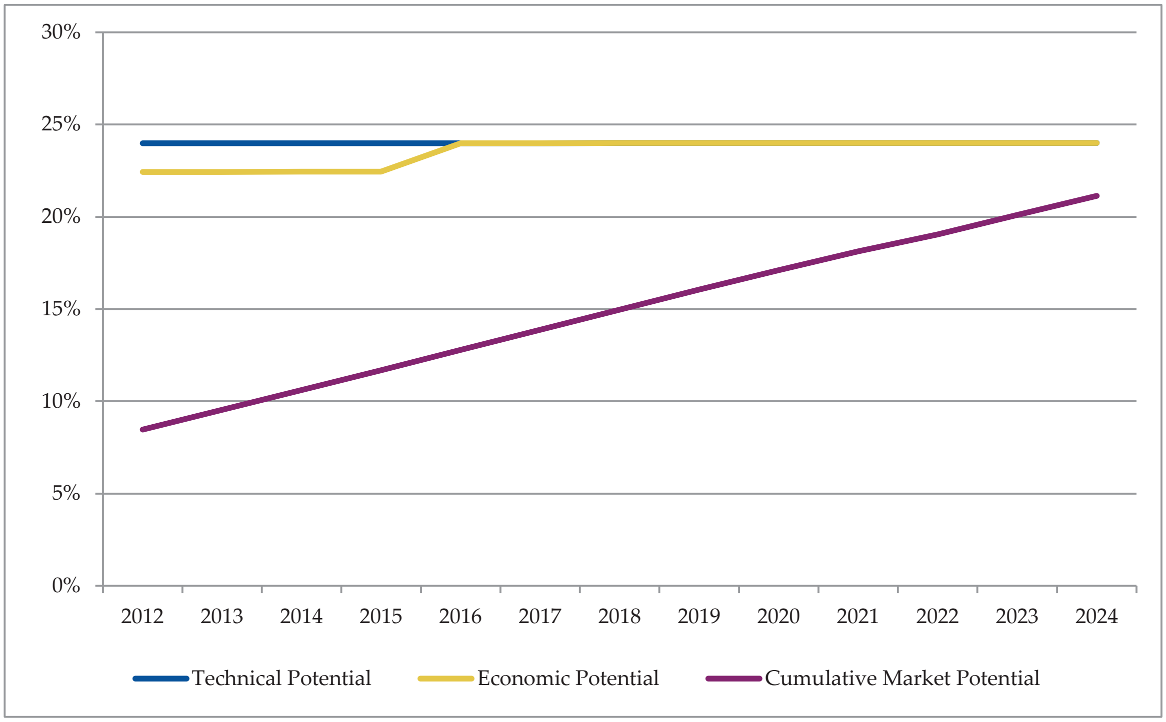
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.5.4 PG&E Agriculture Gas Comparative Metrics

The PG&E specific comparative metrics for the agriculture gas sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

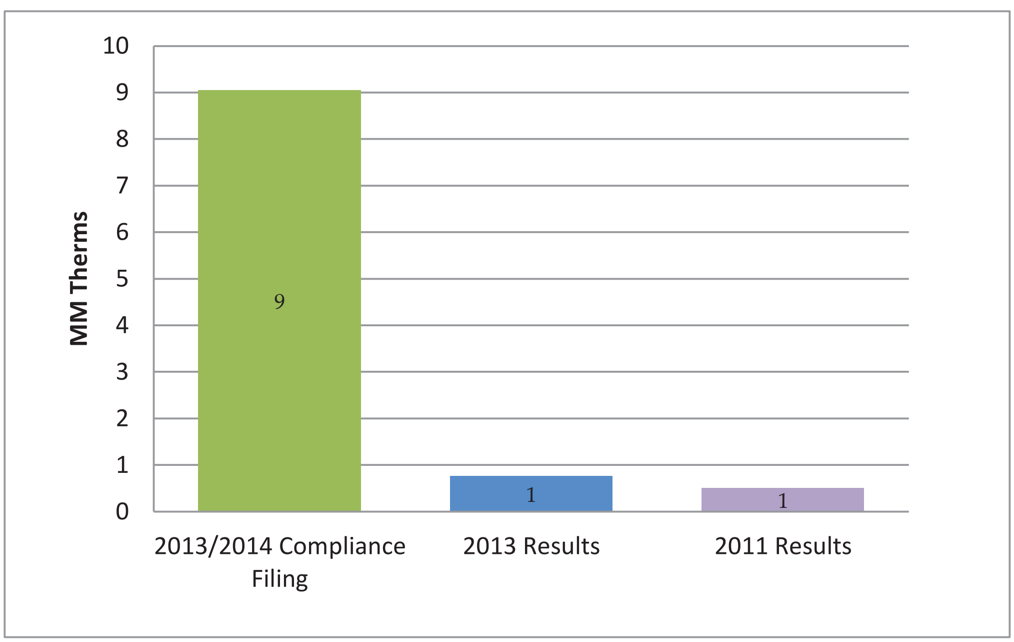
Figure K-51. PG&E Agriculture Gas Savings Potential as a Percent of CEC Agriculture Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure K-52. PG&E Comparison of Agriculture Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

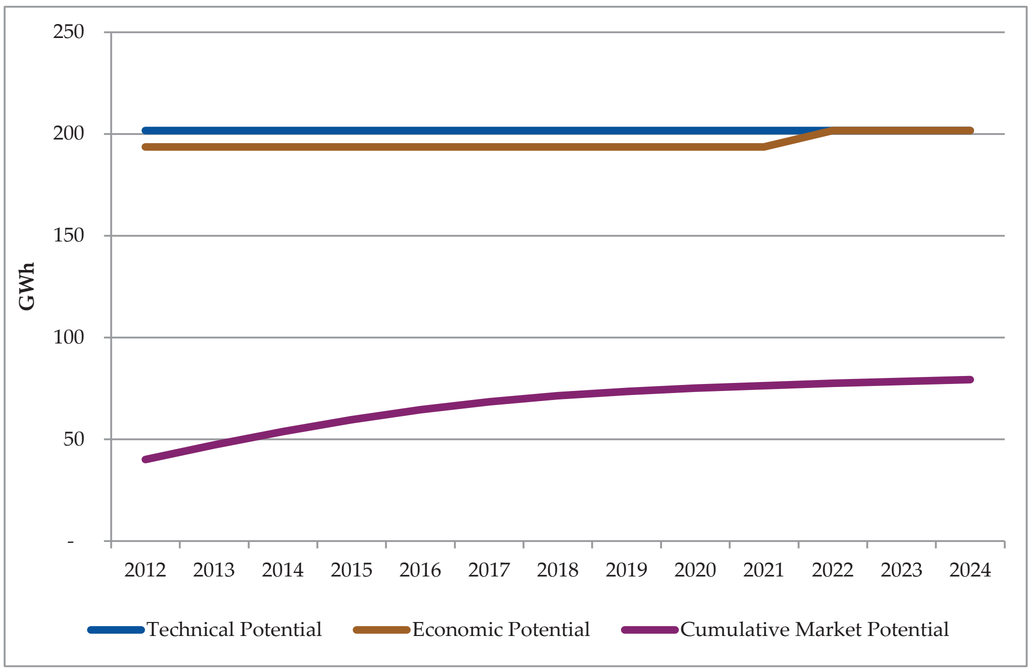
K.6 PG&E Mining Sector Results

This section outlines results for the PG&E mining sector. Mining trend lines, detailed analysis, and explanation of comparative metrics are discussed in the mining results section of the report.

K.6.1 PG&E Mining Electric Energy Potential

The technical, economic and cumulative market potential for energy and demand potential in the mining sector are shown in Figure K-53 and Figure K-54. Incremental market potential by end use for the mining sector is displayed in Figure K-55.

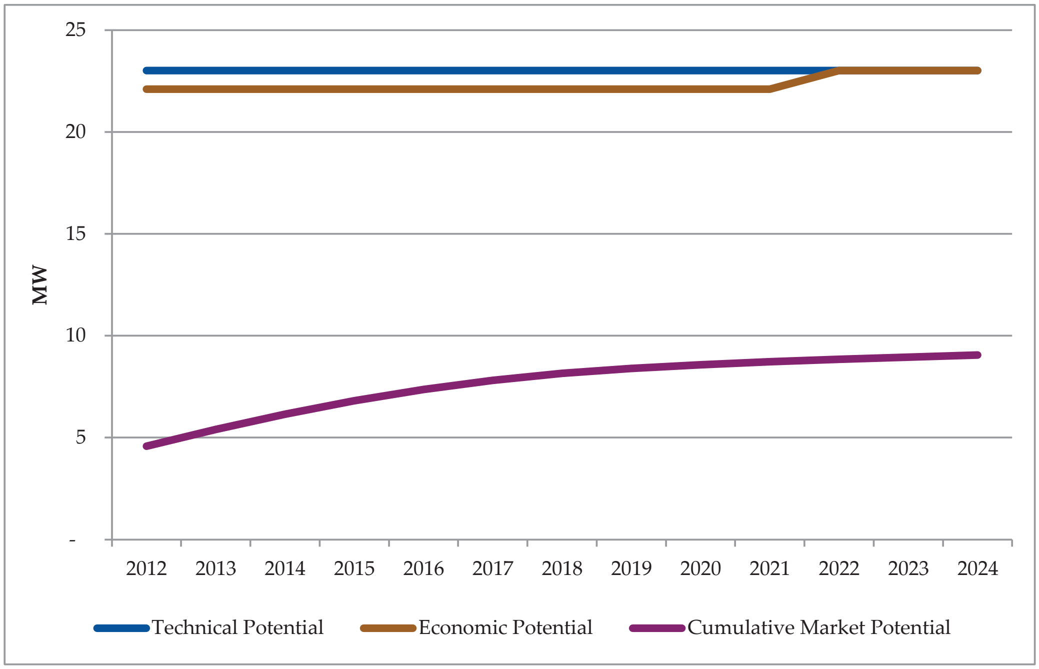
Figure K-53. PG&E Mining Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

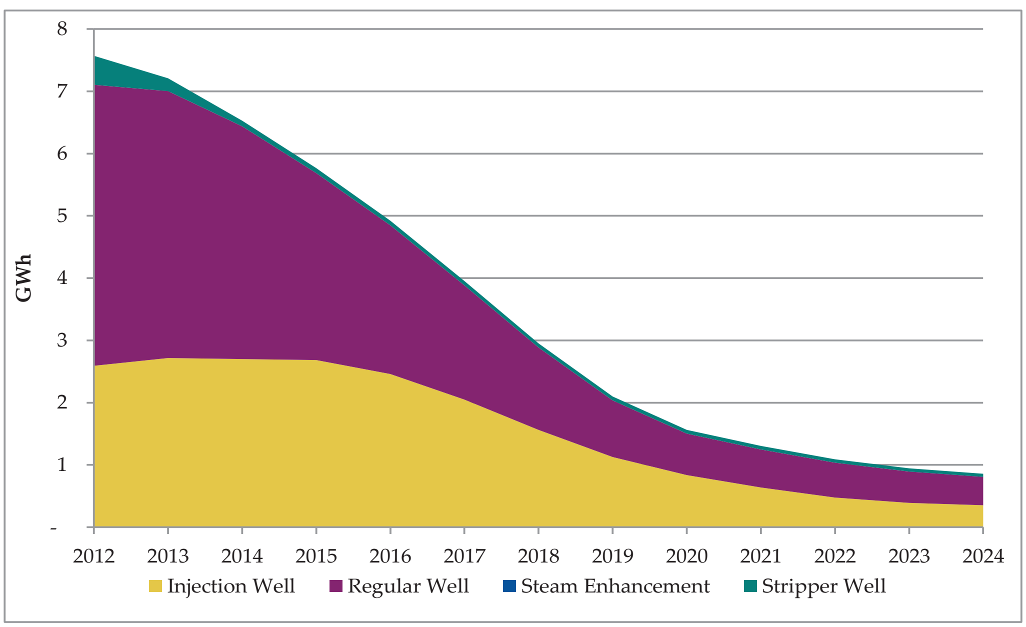
Figure K-54. PG&E Mining Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-55. PG&E Mining Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



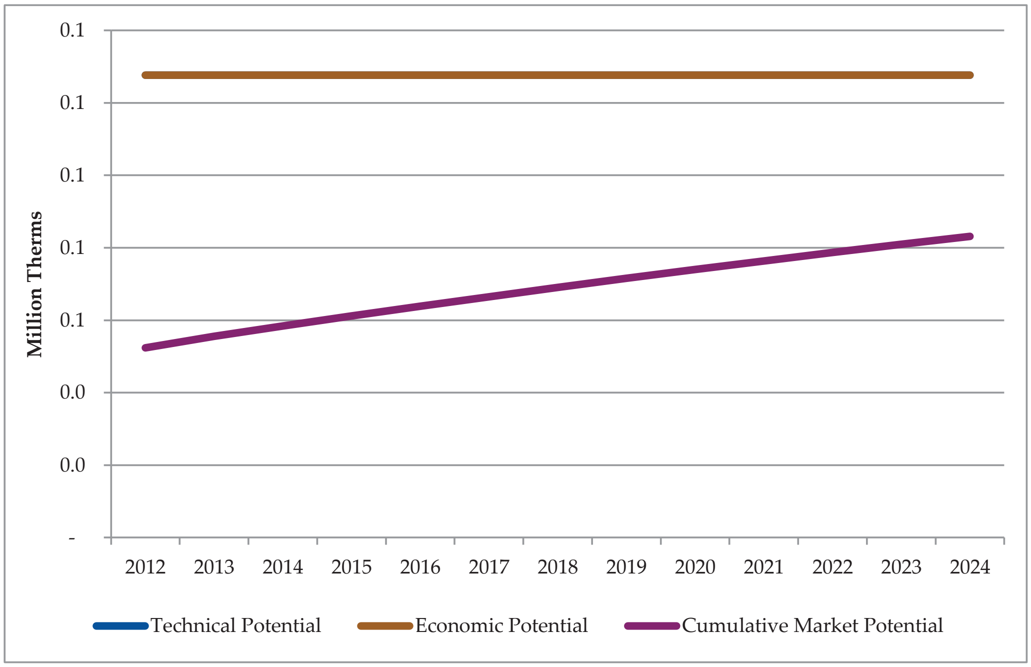
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.6.2 PG&E Mining Gas Energy Potential

Figure K-56 displays the technical, economic and cumulative gas market potential for the Mining sector. The incremental market potential trend line is displayed in Figure K-57.

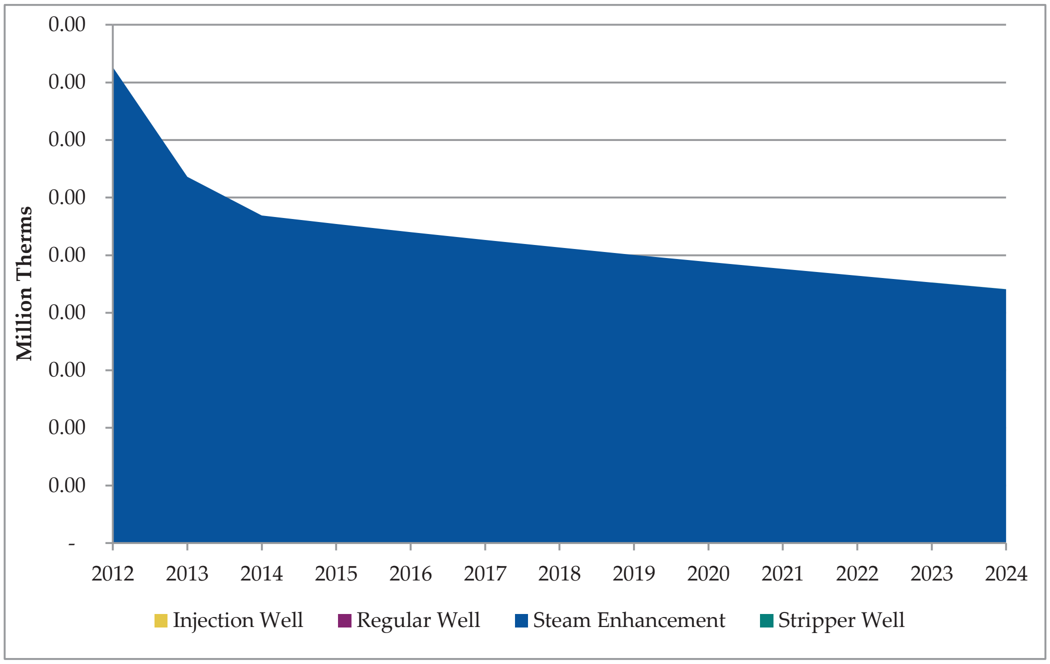
Figure K-56. PG&E Mining Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-57. PG&E Mining Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



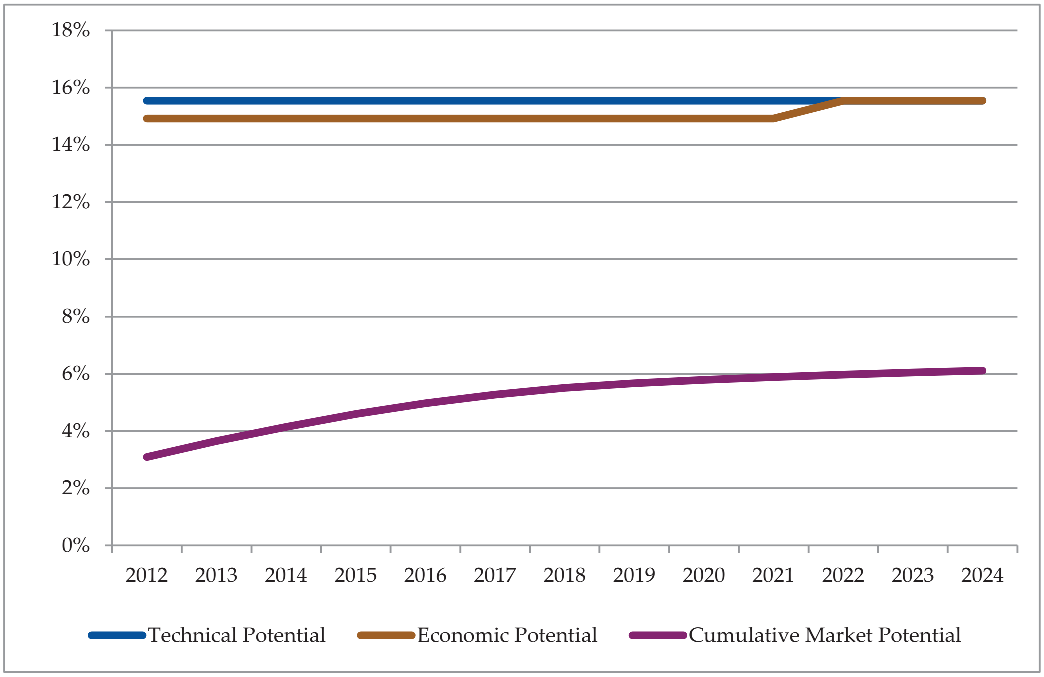
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.6.3 PG&E Mining Comparative Metrics

The PG&E specific comparative metrics for the mining electric and gas sectors are shown below. Further details on these metrics are provided in the AIMS section of the report.

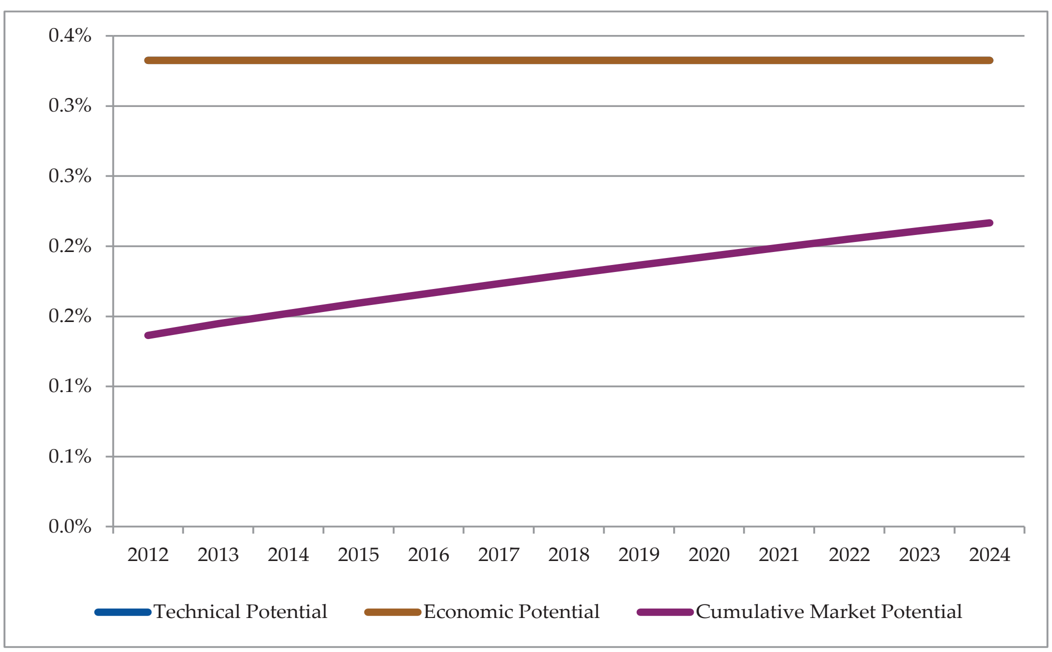
Figure K-58. PG&E Mining Electric Savings Potential as a Percent of ECDMS 2006 Consumption data (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & ECDMS 2006

Figure K-59. PG&E Mining Gas Savings Potential as a Percent of ECDMS 2006 Consumption data (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.7 PG&E Street Lights Sector Results

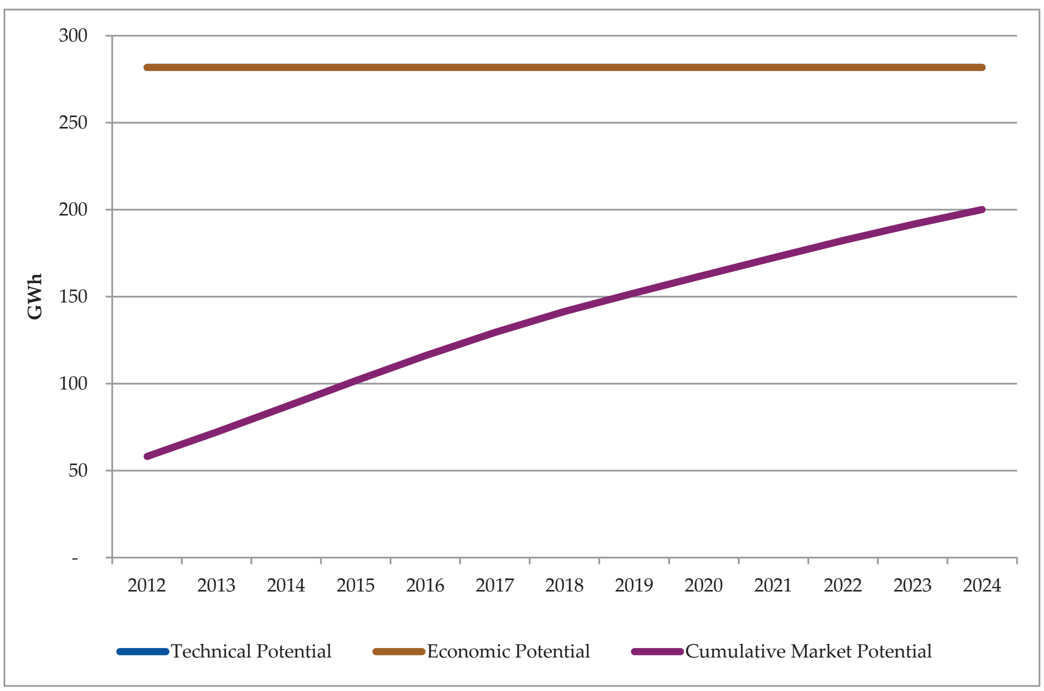
This section outlines results for the PG&E street lights sector. Street lighting trend lines, detailed analysis, and explanation of comparative metrics are discussed in the street lighting results section of the report.

Note to the reader: This section reflects the potential associated street lighting lamps owned both by the customer and the utility. The values presented here should be derated by 26 percent to reflect only the customer-owned lamps that are considered within the goal setting and planning process that excludes IOU-owned lamps. Details on this derating can be found in Appendix A through J.

K.7.1 PG&E Street Lights Electric Energy Potential

The technical, economic and cumulative market potentials for the street lighting sector are shown in Figure K-60 for energy. There is no gas or demand savings associated with the street lighting sector, as these operate at non-peak hours. Figure K-61 shows the incremental market energy potential by end use.

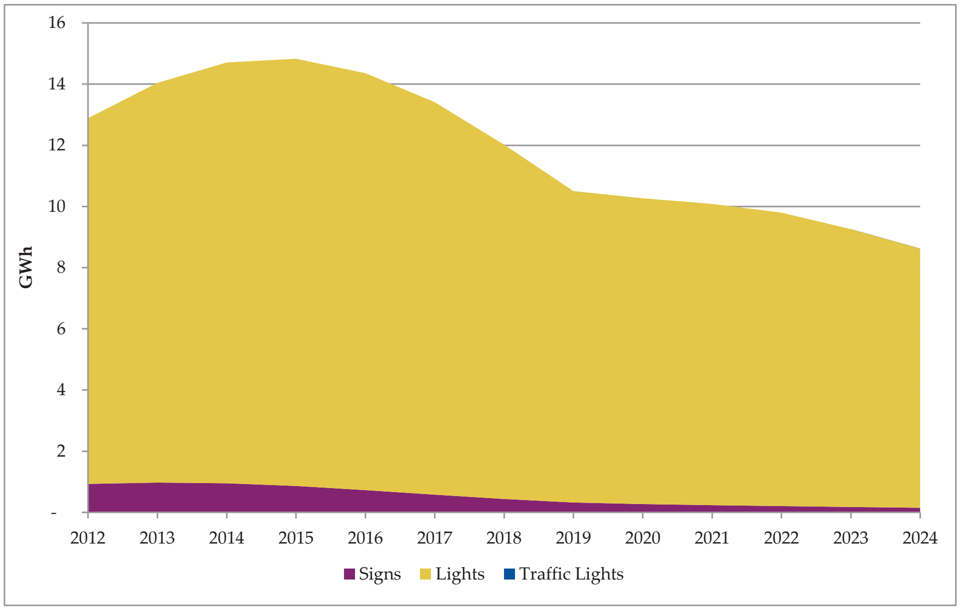
Figure K-60. PG&E Street Lights Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure K-61. PG&E Street Lights Gross Incremental Market Potential by End Use for 2012-2024 (GWh)



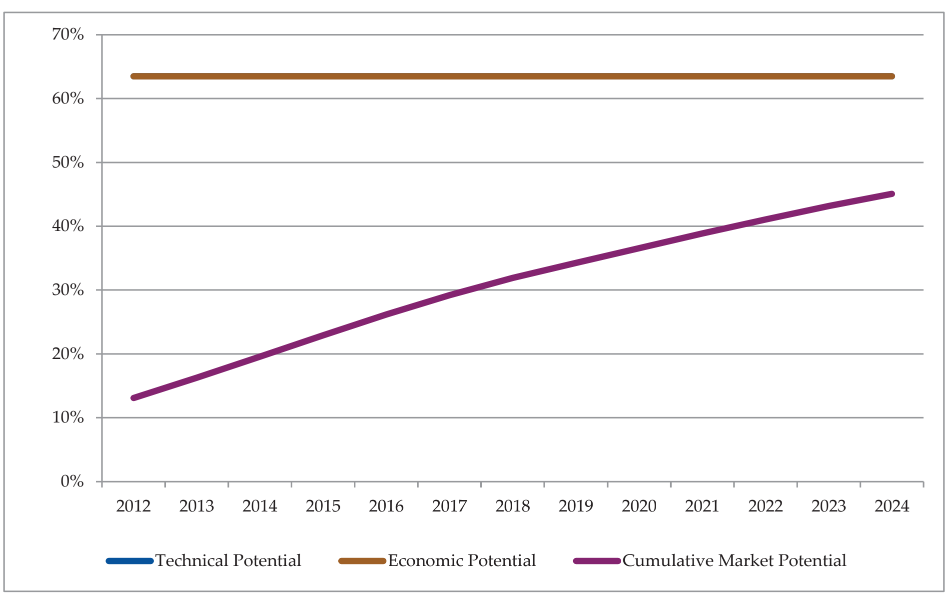
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

K.7.2 PG&E Street Lights Comparative Metrics

The PG&E specific comparative metrics for the street lights electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

Figure K-62. PG&E Street Lights Electric Savings Potential as a Percent of ECDMS 2006 Consumption data (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & ECDMS 2006

Appendix L. Energy Efficiency Potential in the SCE Service Territory

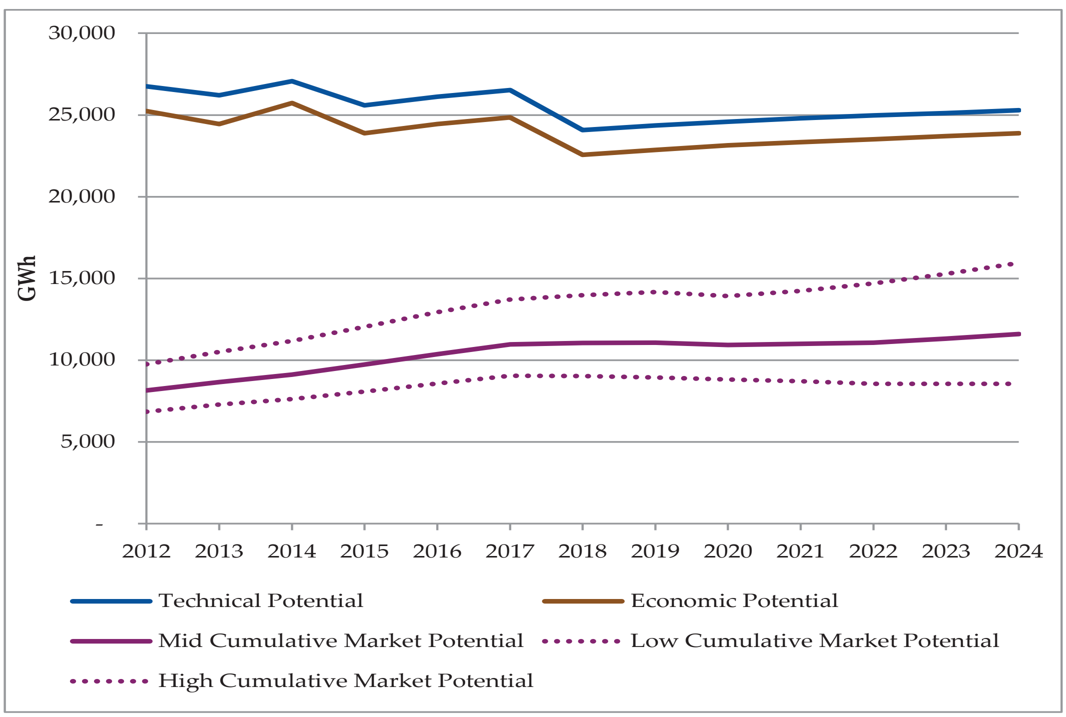
This section provides the estimates of potential energy savings for the SCE service territory for electric measures. Results are provided at the aggregate view of all SCE sectors as well as results for the residential, commercial, industrial, mining, street lighting, and agricultural sectors individually. Sector-specific trends at the statewide level are discussed in detail in sections 5 - 8 of the main report and the therefore discussions of utility specific sector results is limited. Comparative metrics at the SCE level are also provided, and additional explanation to interpret graphics is available in sections 5-8.

L.1 SCE Territory Summary of Results

L.1.1 SCE Total Electric Energy Potential

Figure L-1 presents the technical, economic, and cumulative market electric energy savings potential in SCE's territory from 2012 through 2024. Figure L-1 also provides a graphical view of the high and low scenarios for cumulative market potential. The high cumulative market potential is an average of about 25% higher than the mid case scenario and the low scenario is an average of about 20% lower. High and low scenarios were not adjusted for industry standard practices.

Figure L-1. SCE Total Gross Technical, Economic, and Cumulative Market Potential for 2012-2024 (GWh)

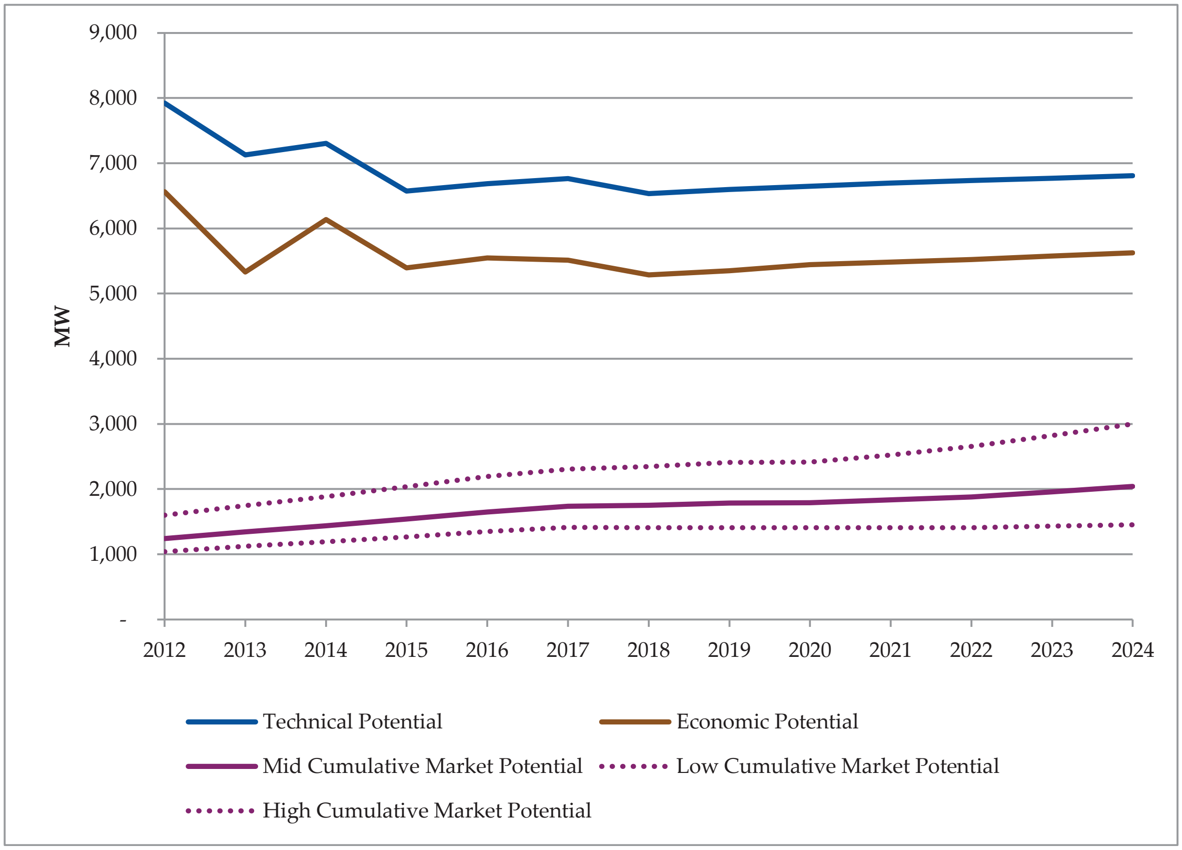


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-2 presents the technical, economic, and cumulative market electric demand savings potential for the SCE territory over the years 2012 to 2024. The high scenario for cumulative market potential runs about 35% higher than the mid cumulative market potential while the low scenario is about 20% lower.

Figure L-2. SCE Total Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)

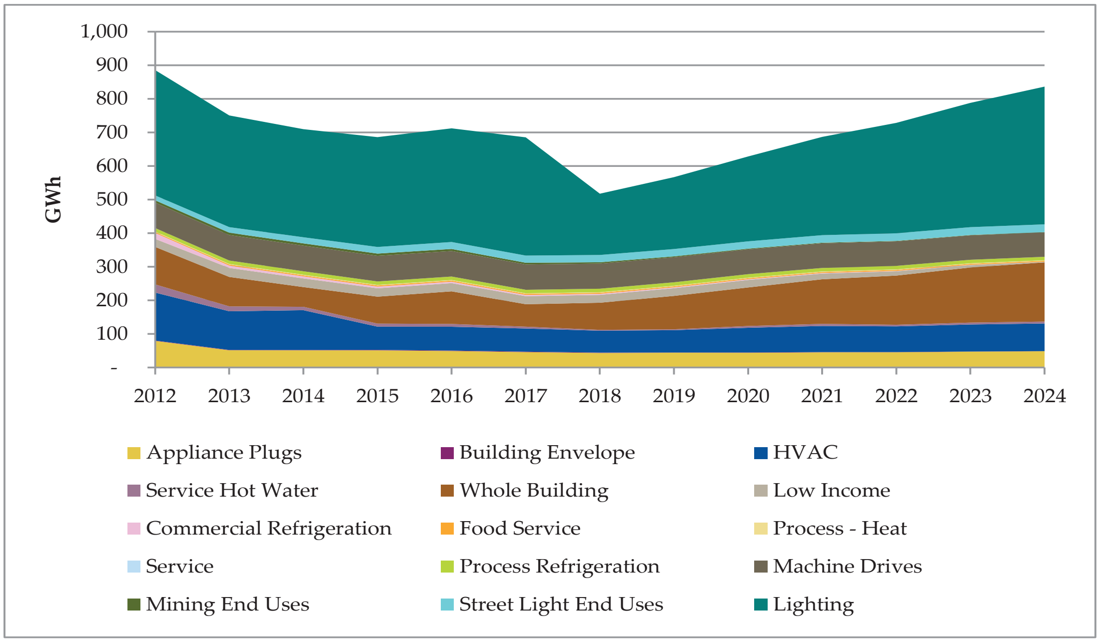


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-3 and Figure L-4 present the incremental market potential for SCE (in GWh) for 2012 to 2024 by end use category.

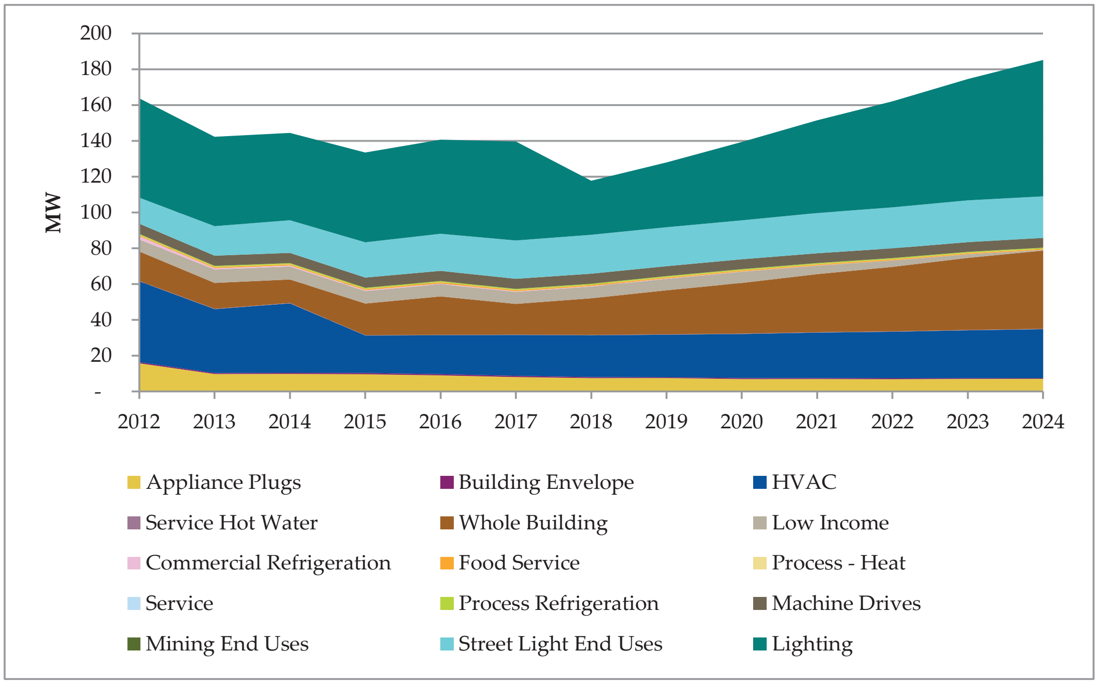
Figure L-3. SCE Total Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-4. SCE Total Gross Incremental Demand Energy Potential by End Use for 2012-2024 (MW)



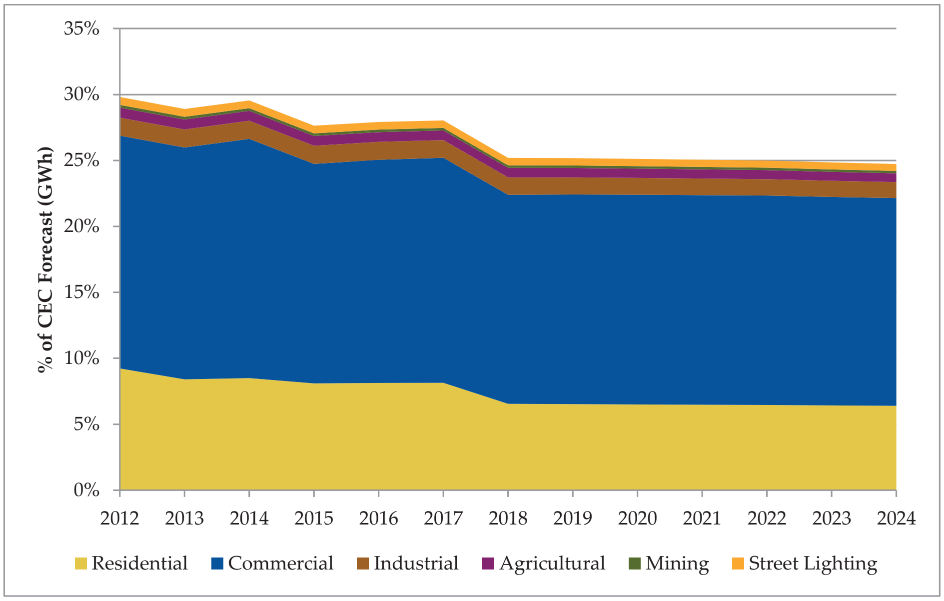
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

L.1.2 SCE Electric Comparative Metrics

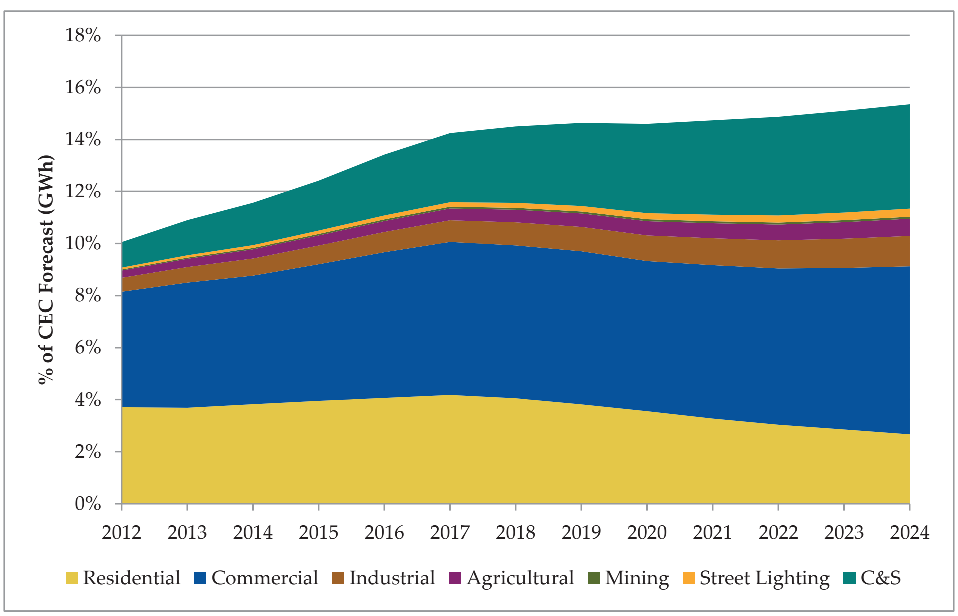
This section provides comparative metrics for the electric savings in the SCE service territory. Figure L-5 shows SCE's technical potential by sector as a percent of CEC forecast sales. Figure L-6 provides SCE's cumulative market potential by sector (with the addition of C&S) as a percent of CEC forecast sales.

Figure L-5. SCE Technical Potential by Sector as a Percentage of CEC Forecast (GWh)



Source: PG model release February 2014 & 2012 CEC IEPR

Figure L-6. SCE Cumulative Market Potential by Sector as a Percentage of CEC Forecast (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

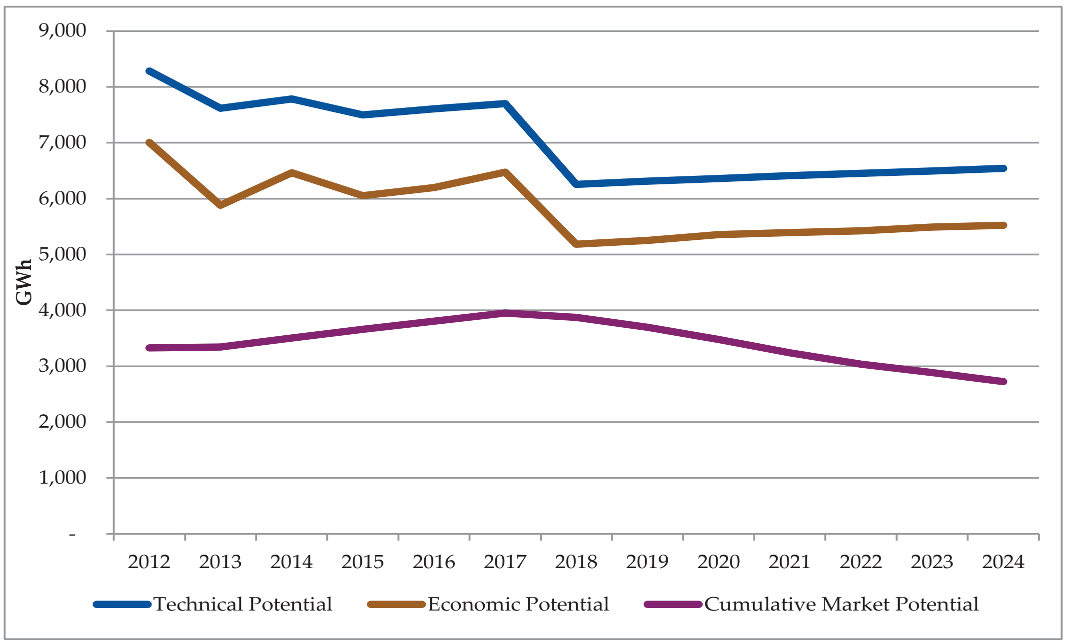
L.2 SCE Residential Sector Results

This section outlines results for the SCE residential sector. Residential trend lines, detailed analysis, and explanation of comparative metrics are discussed in the residential results section of the report.

L.2.1 SCE Residential Electric Energy and Demand Potential

Residential technical, economic and cumulative market potential for energy and demand are shown in Figure L-7 and Figure L-8 respectively. Figure L-9 and Figure L-10 show the incremental market energy potential by end use.

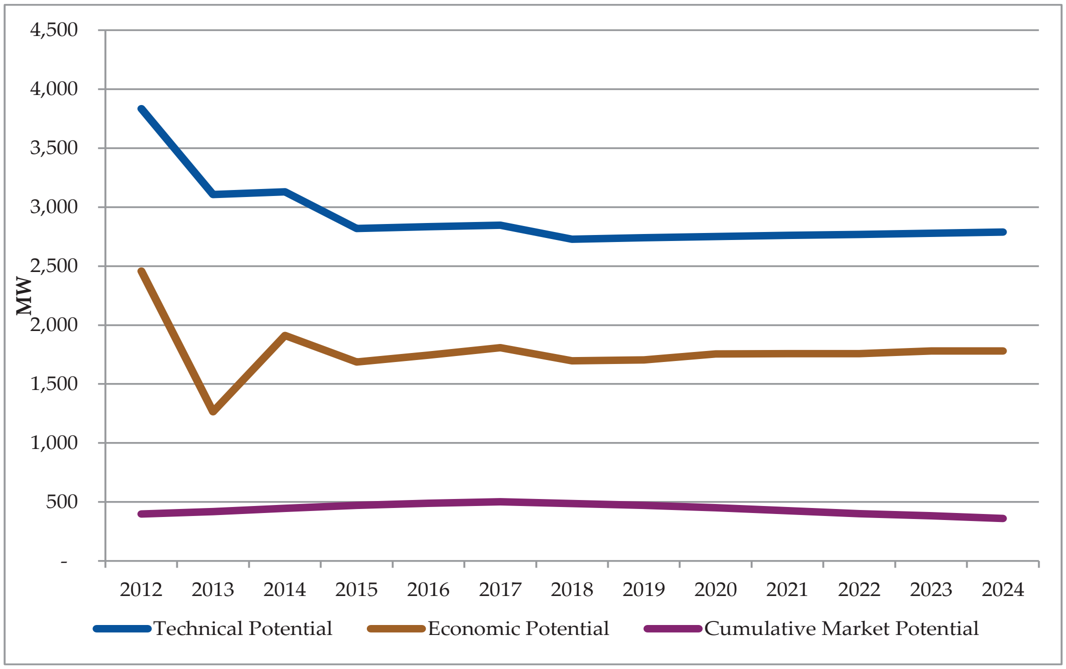
Figure L-7. SCE Residential Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

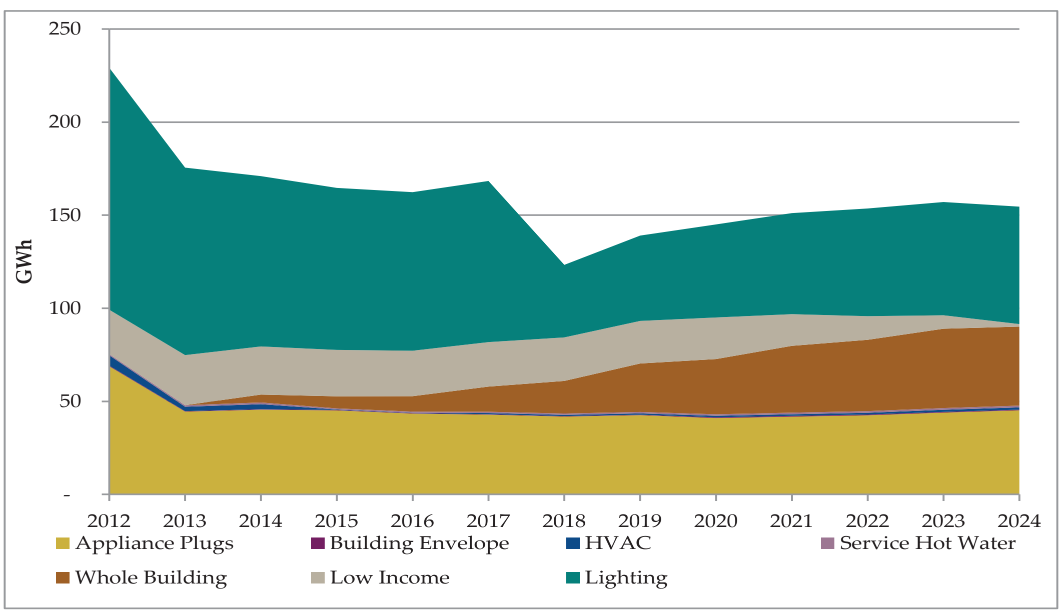
Figure L-8. SCE Residential Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

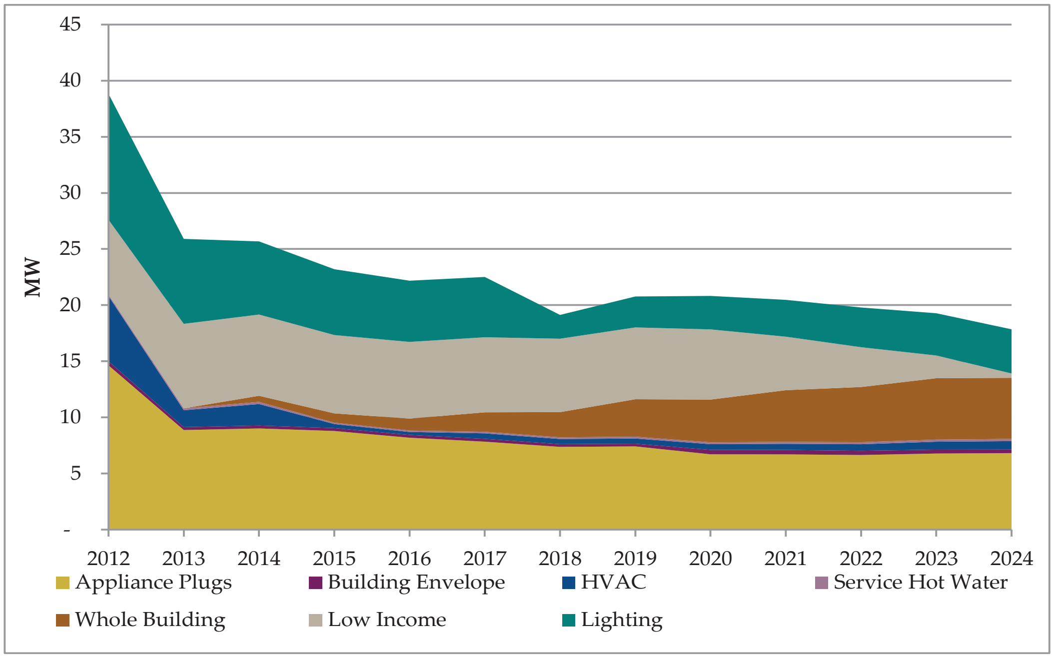
Figure L-9. SCE Residential Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-10. SCE Residential Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



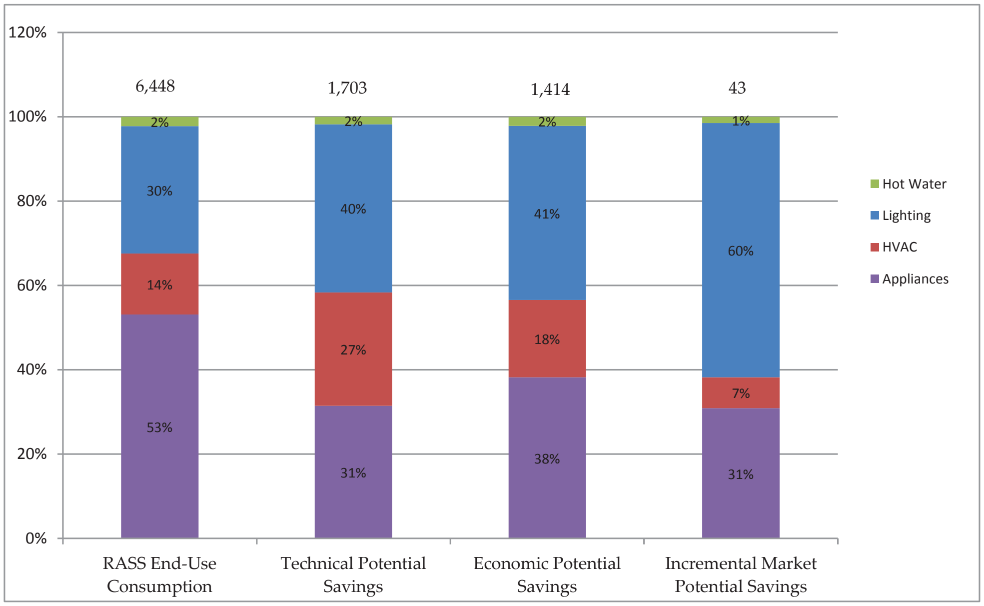
2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

L.2.2 SCE Residential Electric Comparative Metrics

The SCE specific comparative metrics for the residential electric sector are shown below. Further details on these metrics are provided in the residential section of the report.

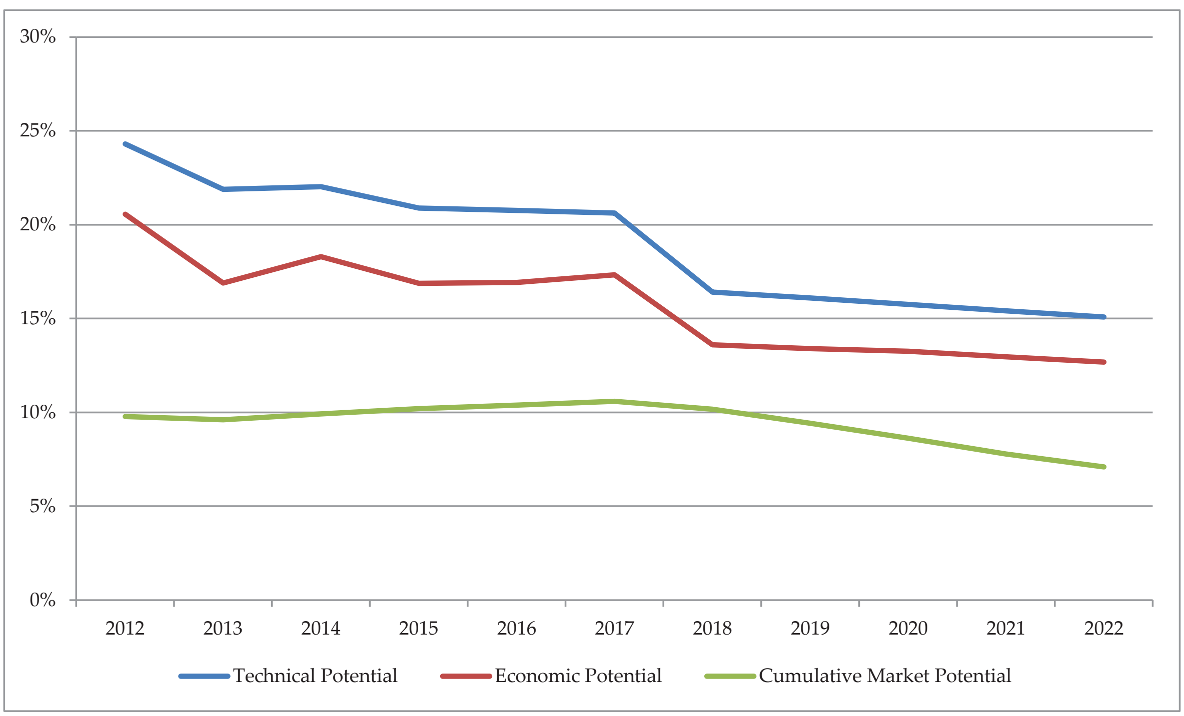
Figure L-11. SCE Breakdown of RASS Consumption and 2014 Savings Potential Embedded in End Use Consumption*



*Number at the top of each bar is the total consumption or savings potential in kWh/home

Source: PG model release February 2014 & RASS 2009

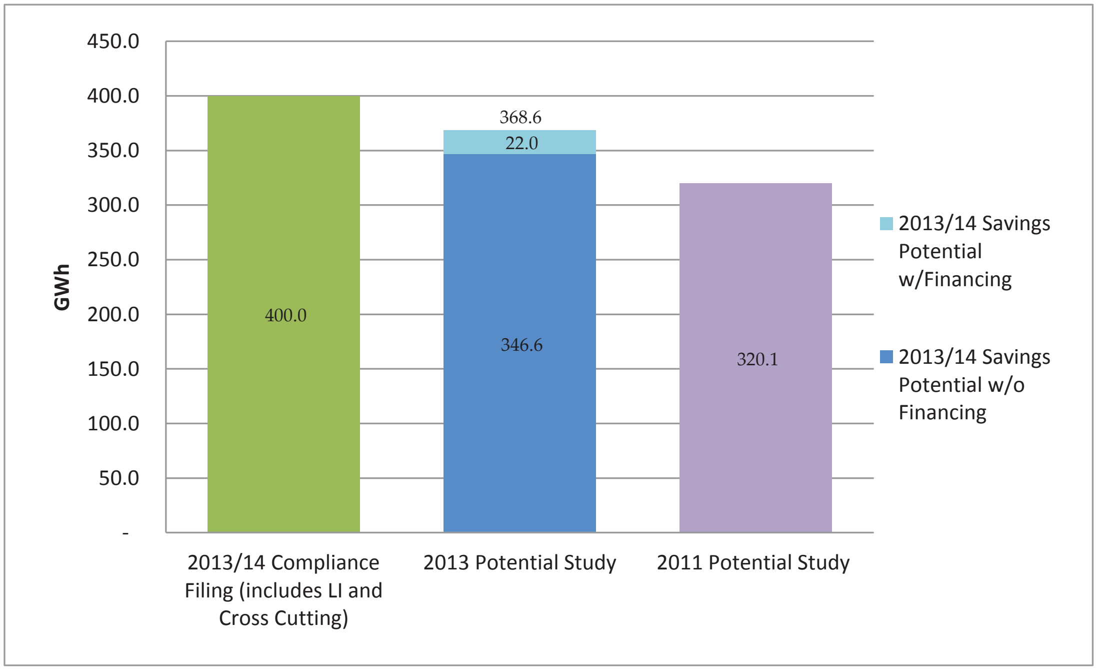
Figure L-12. SCE Residential Savings Potential as a Percent of CEC Residential Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure L-13. SCE Comparison of Residential Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

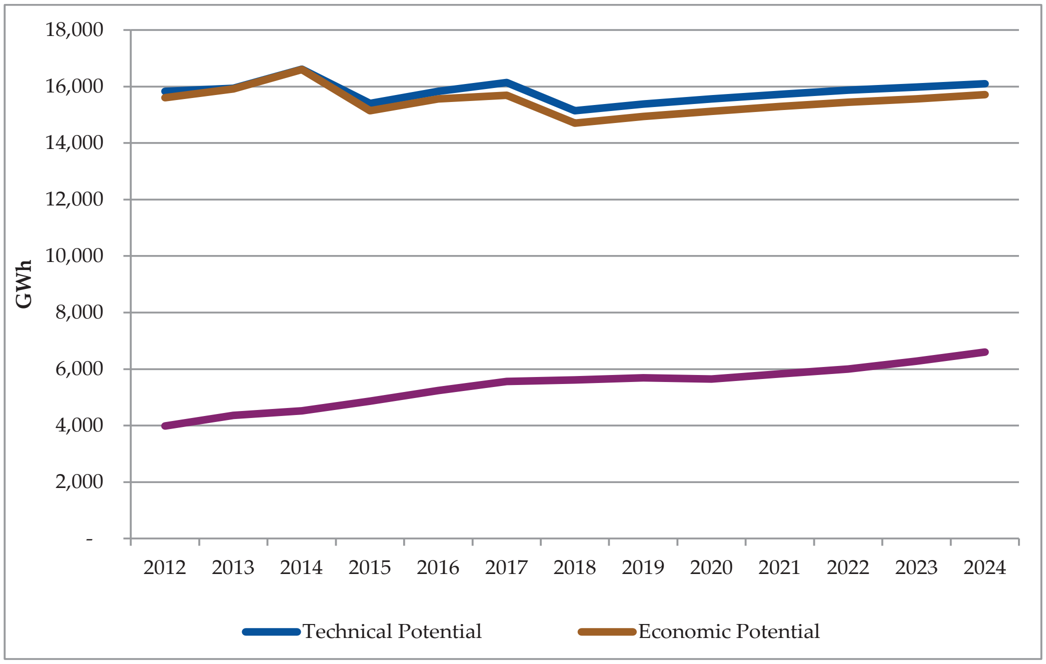
L.3 SCE Commercial Sector Results

This section outlines results for the SCE commercial sector. Commercial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the commercial results section of the report.

L.3.1 SCE Commercial Electric Energy Potential

Commercial technical, economic and cumulative market potential for energy and demand are shown in Figure L-14 and Figure L-15 respectively. Figure L-16 and Figure L-17 show the incremental market energy potential by end use.

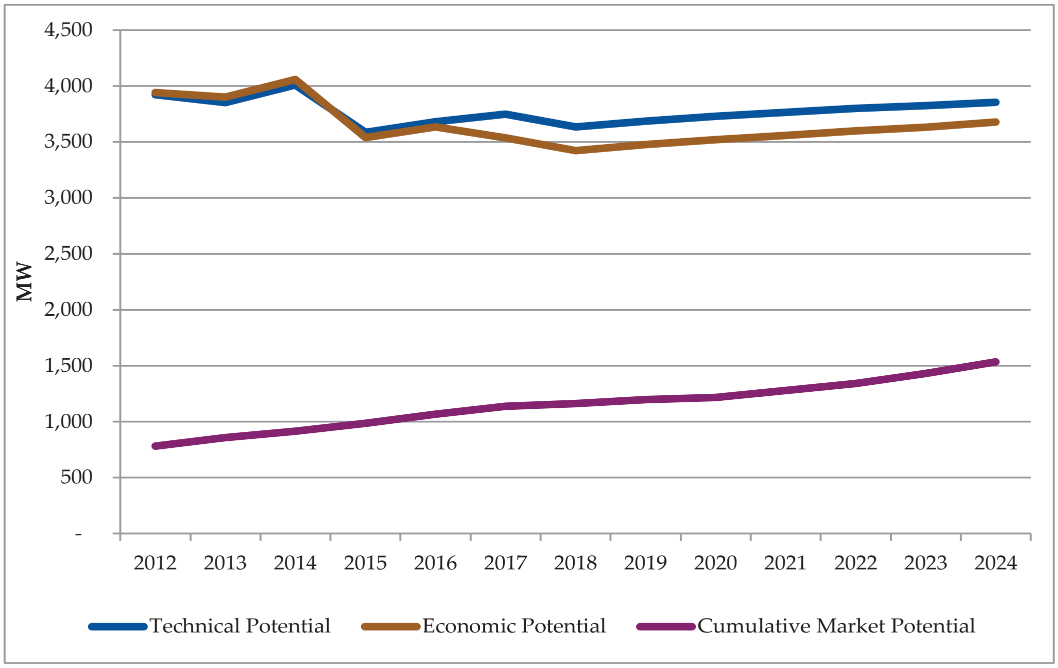
Figure L-14. SCE Commercial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

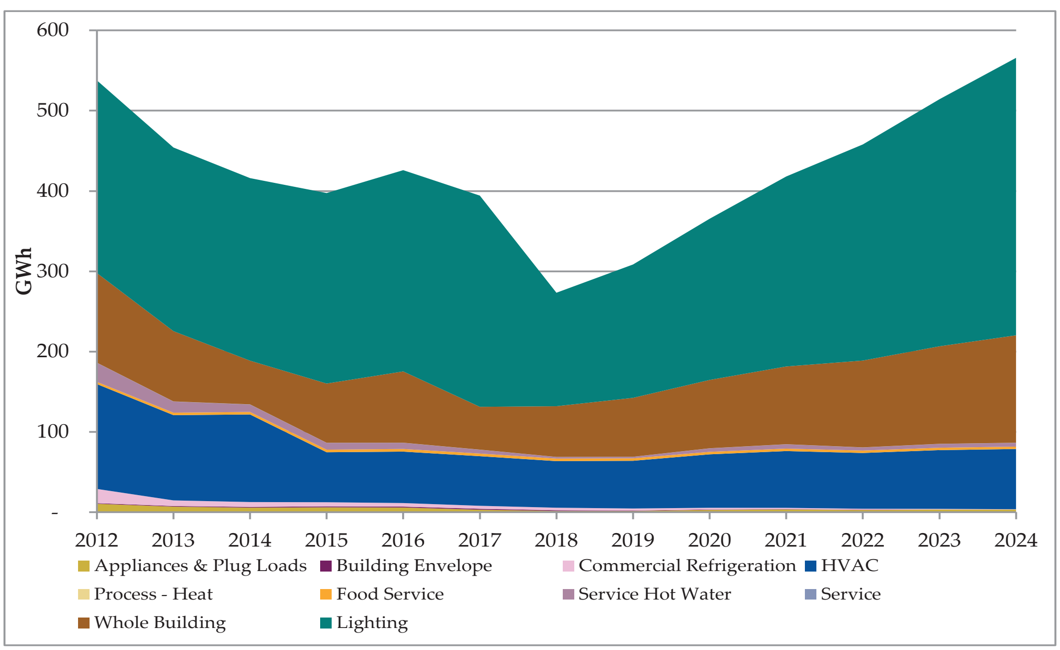
Figure L-15. SCE Commercial Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

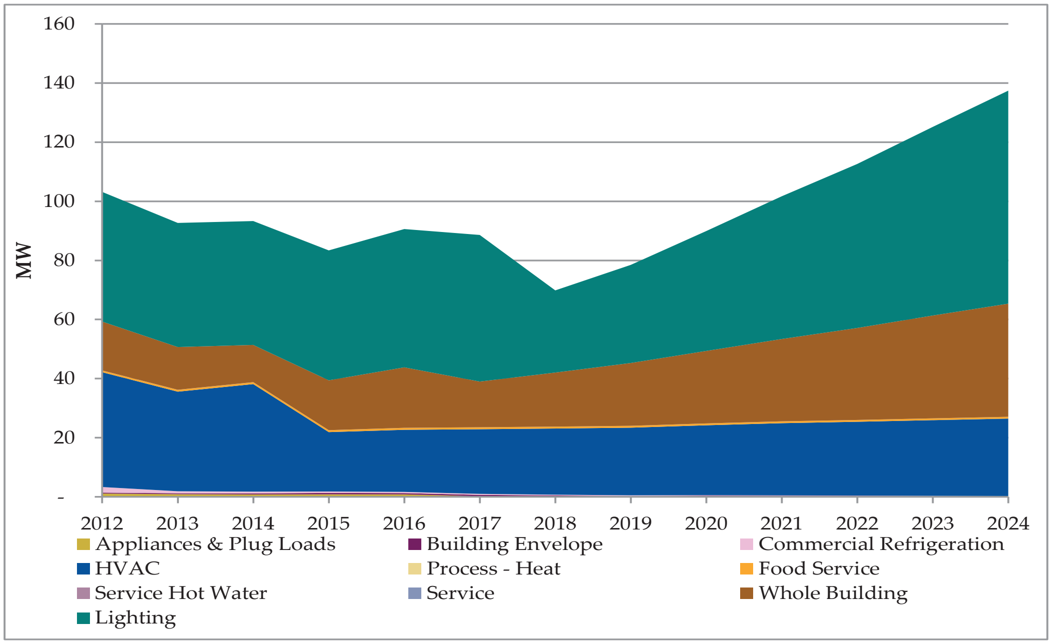
Figure L-16. SCE Commercial Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-17. SCE Commercial Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



2013 Incremental results exclude C&S savings and behavioral savings.

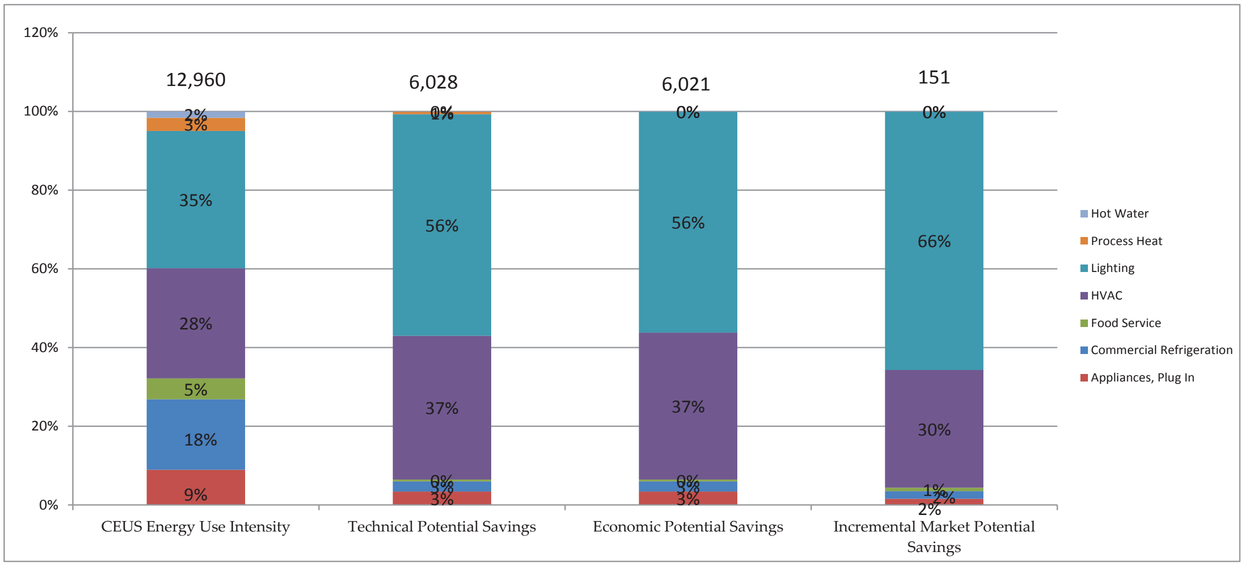
Source: PG model release February 2014

L.3.2 SCE Commercial Electric Comparative Metrics

The SCE specific comparative metrics for the commercial electric sector are shown below. Further details on these metrics are provided in the commercial section of the report.

NAVIGANT

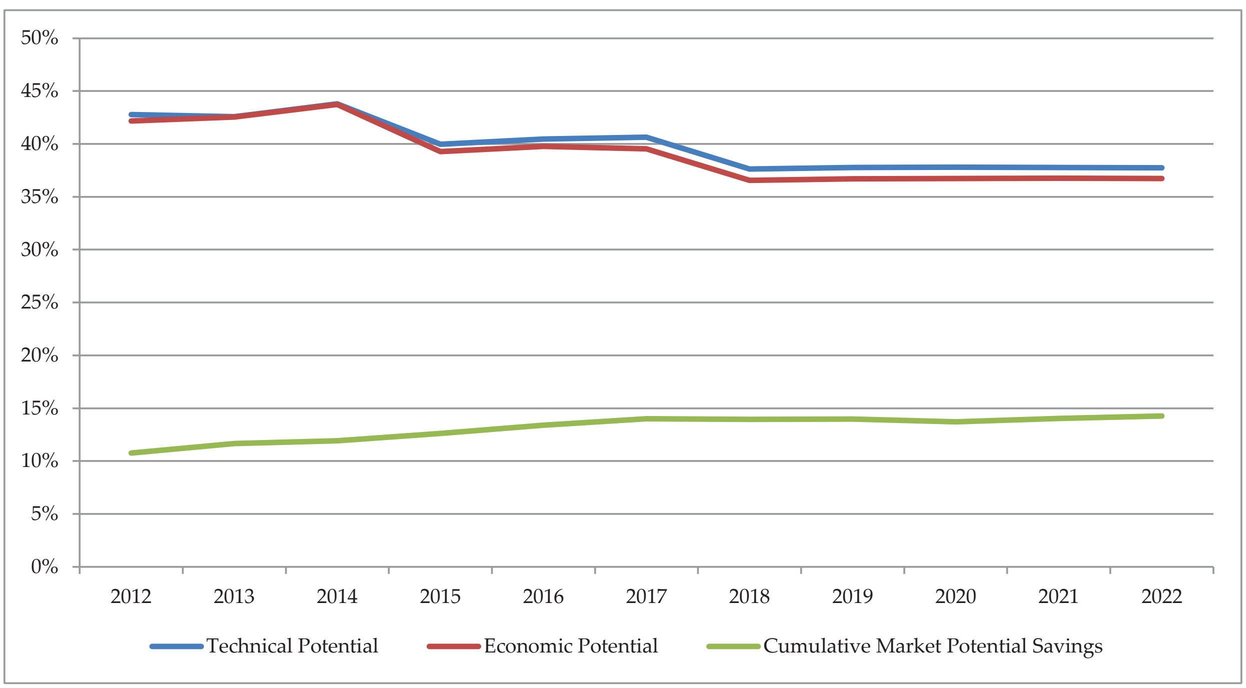
Figure L-18. SCE Breakdown of Commercial EUIs and 2014 Savings Potential by End Use*



*Number at the top of each bar is the EUI or savings potential per 1000 sq. ft.

Source: PG model release February 2014 & CEUS 2006

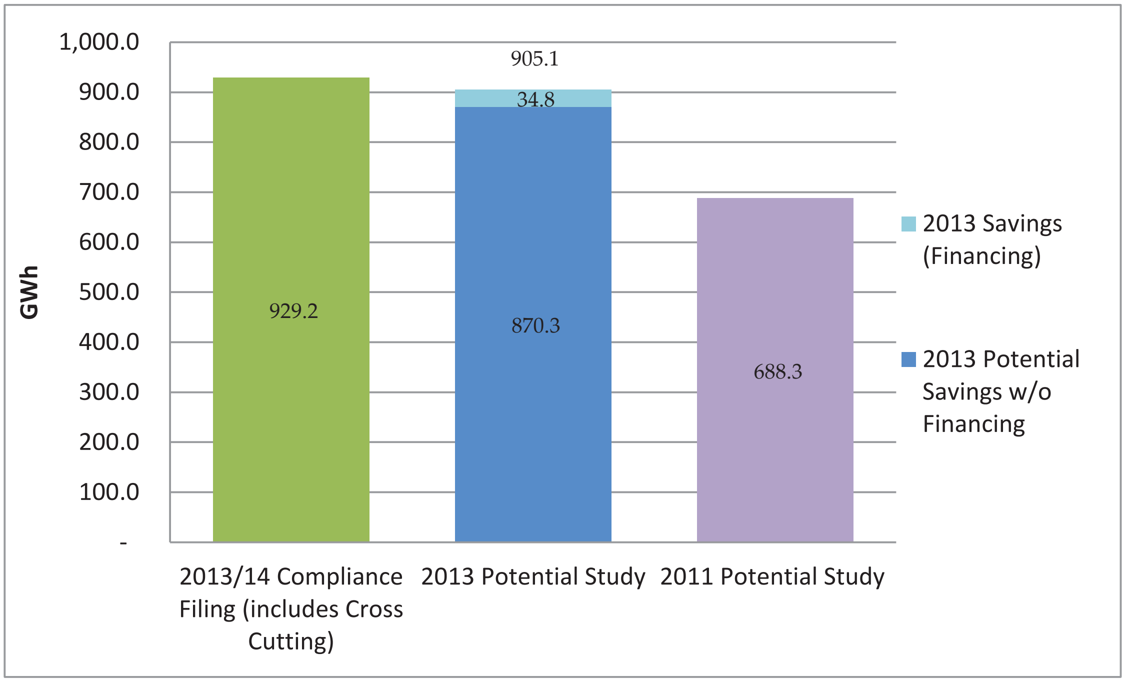
Figure L-19. SCE Commercial Savings Potential as a Percent of CEC Commercial Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure L-20. SCE Comparison of Commercial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

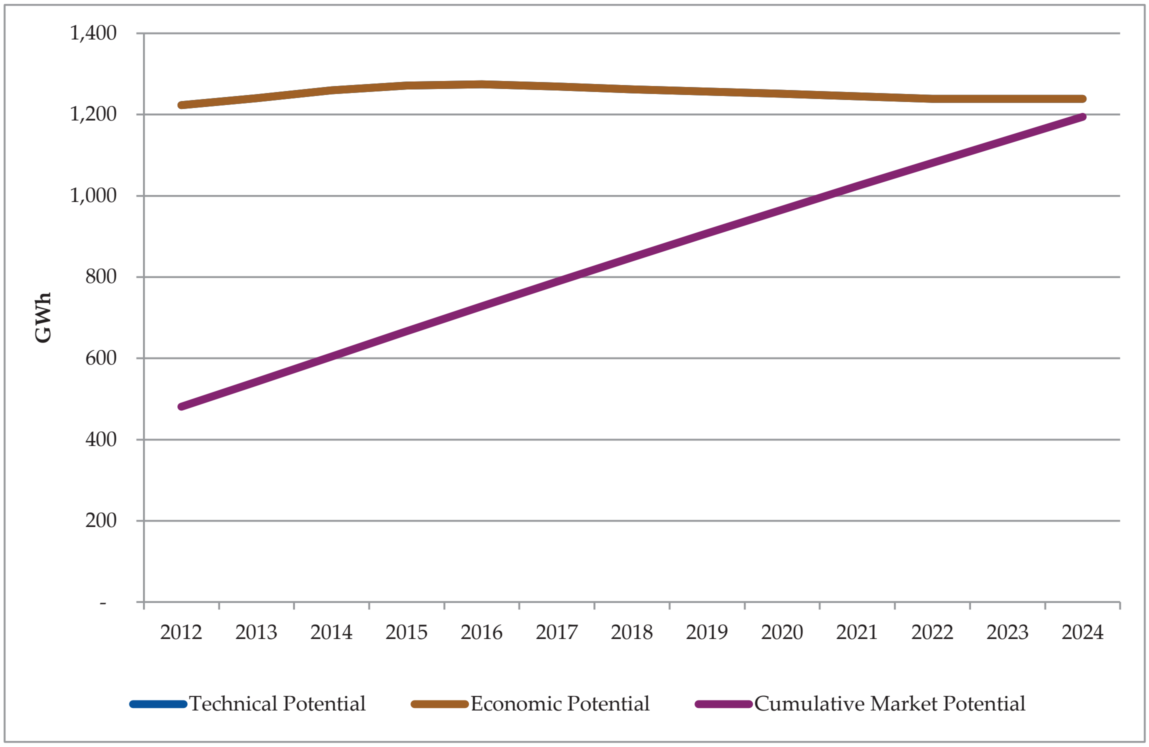
L.4 SCE Industrial Sector Results

This section outlines results for the SCE industrial sector. Industrial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the industrial results section of the report.

L.4.1 SCE Industrial Electric Energy Potential

Industrial technical, economic and cumulative market potentials for energy and demand are shown in Figure L-21 and Figure L-22. Figure L-23 and Figure L-24 show the incremental market energy and demand potential by end use.

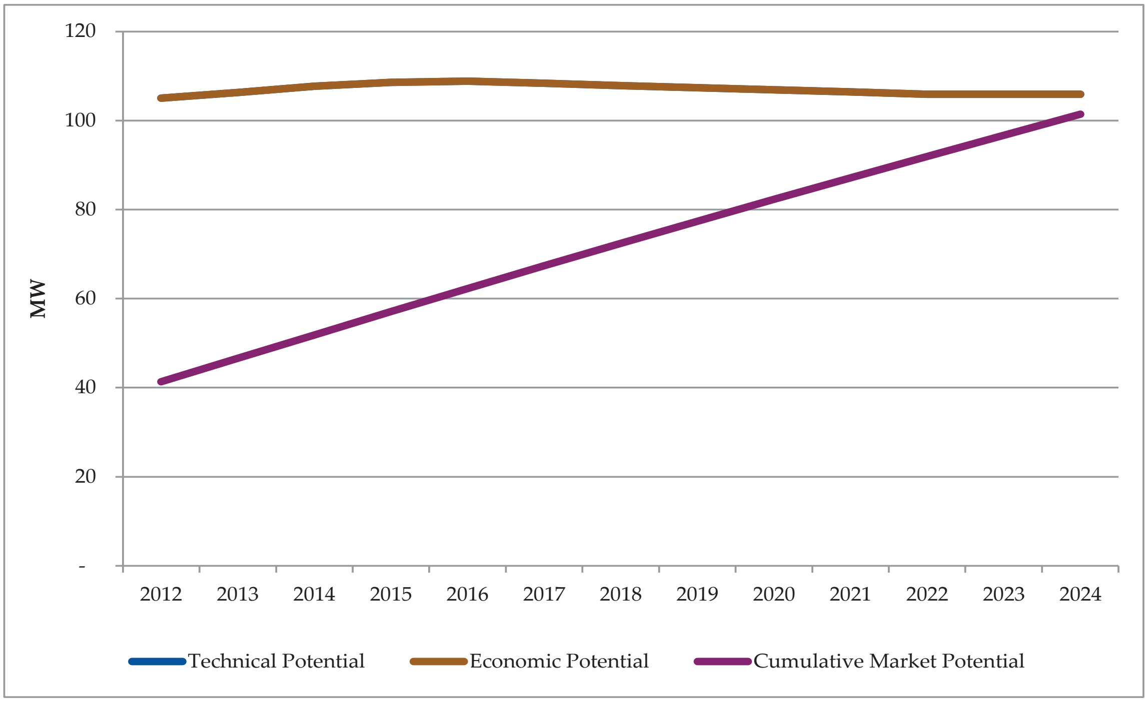
Figure L-21. SCE Industrial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

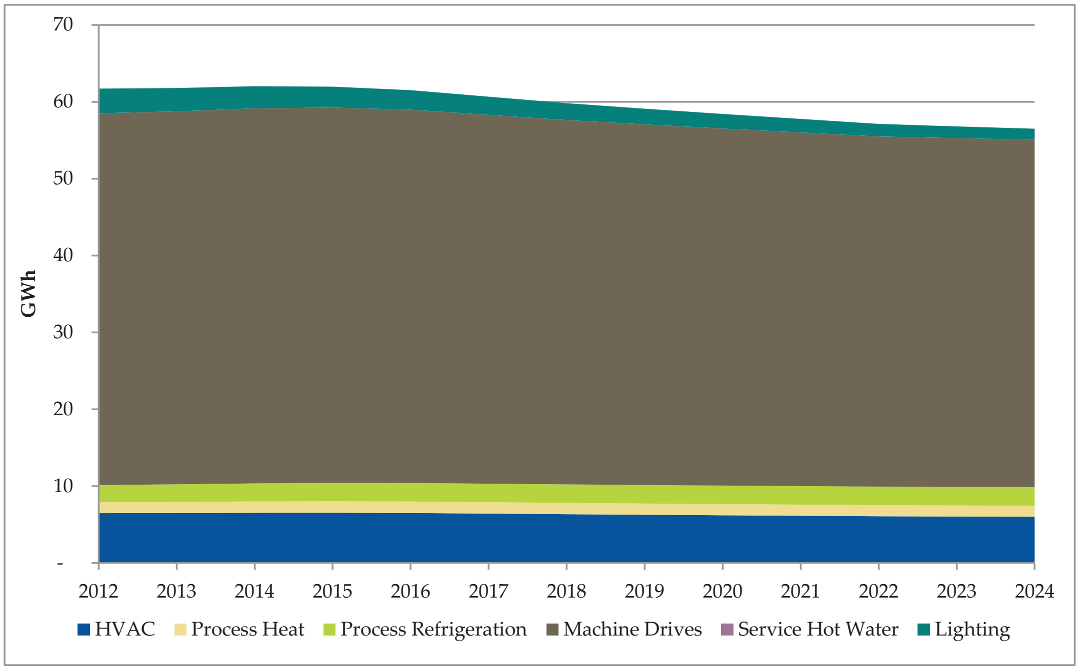
Figure L-22. SCE Industrial Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

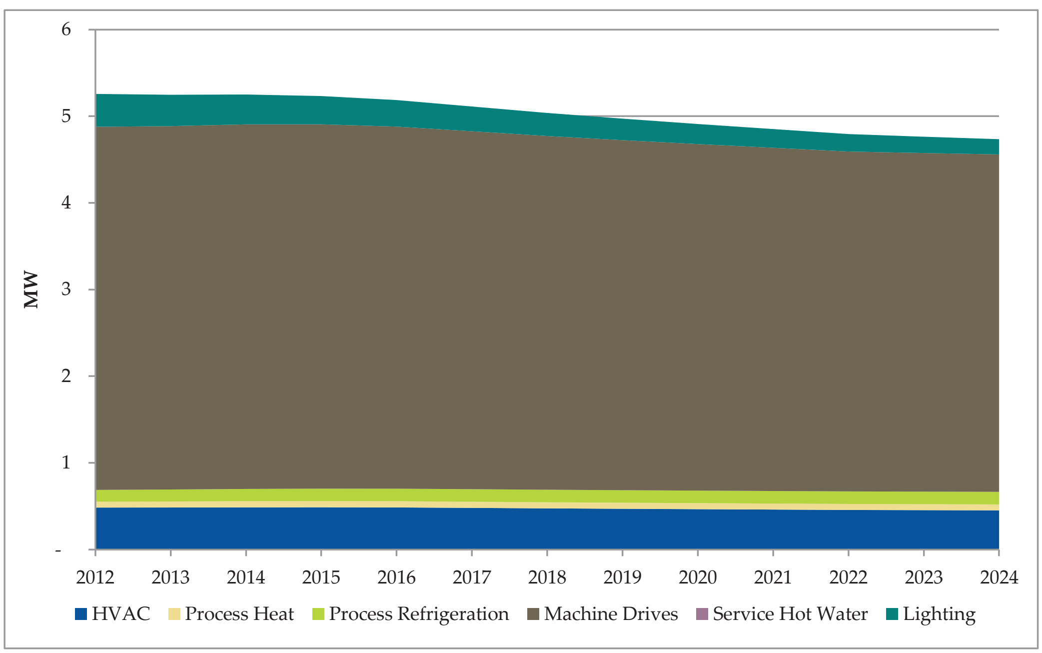
Figure L-23. SCE Industrial Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-24. SCE Industrial Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



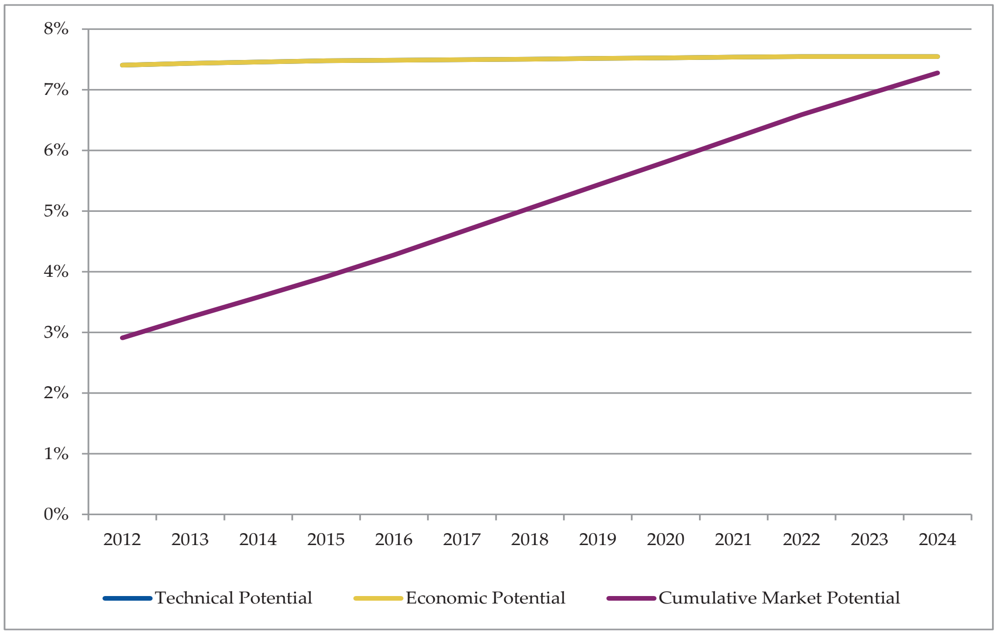
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

L.4.2 SCE Industrial Electric Comparative Metrics

The SCE specific comparative metrics for the industrial electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

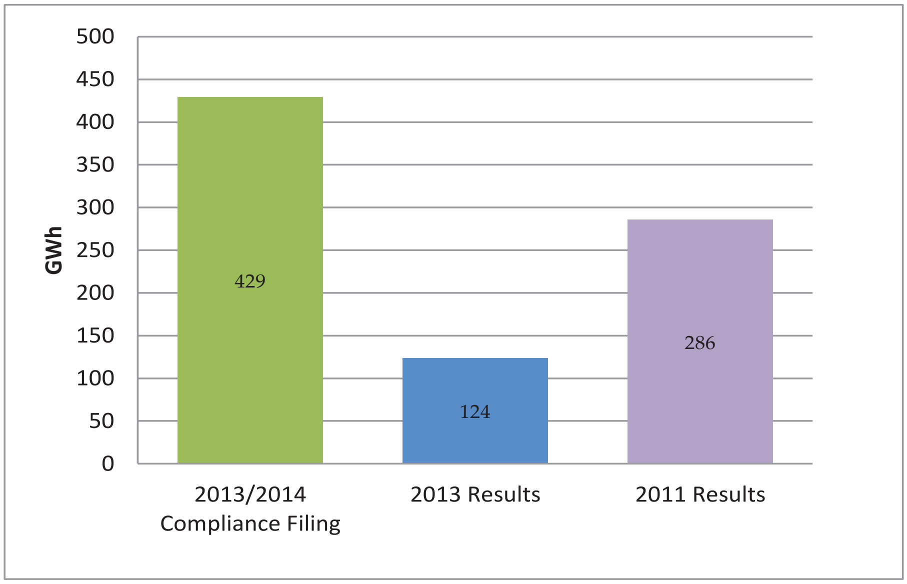
Figure L-25. SCE Industrial Electric Savings Potential as a Percent of CEC Industrial Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure L-26. SCE Comparison of Industrial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

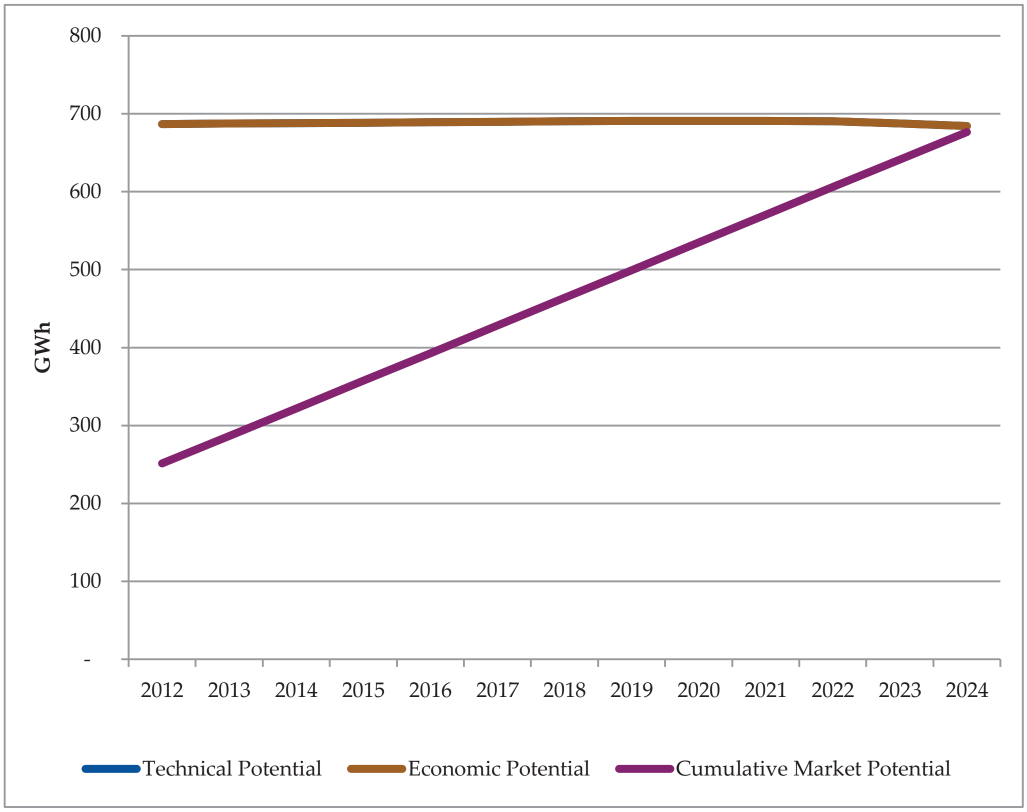
L.5 SCE Agriculture Sector Results

This section outlines results for the SCE agriculture sector. Agriculture trend lines, detailed analysis, and explanation of comparative metrics are discussed in the agriculture results section of the report.

L.5.1 SCE Agriculture Electric Energy Potential

Agriculture technical, economic and cumulative market potential trends for energy and demand are shown in Figure L-27 and Figure L-28 respectively. Figure L-29 and
Figure L-30 show the incremental market energy and demand potential by end use.

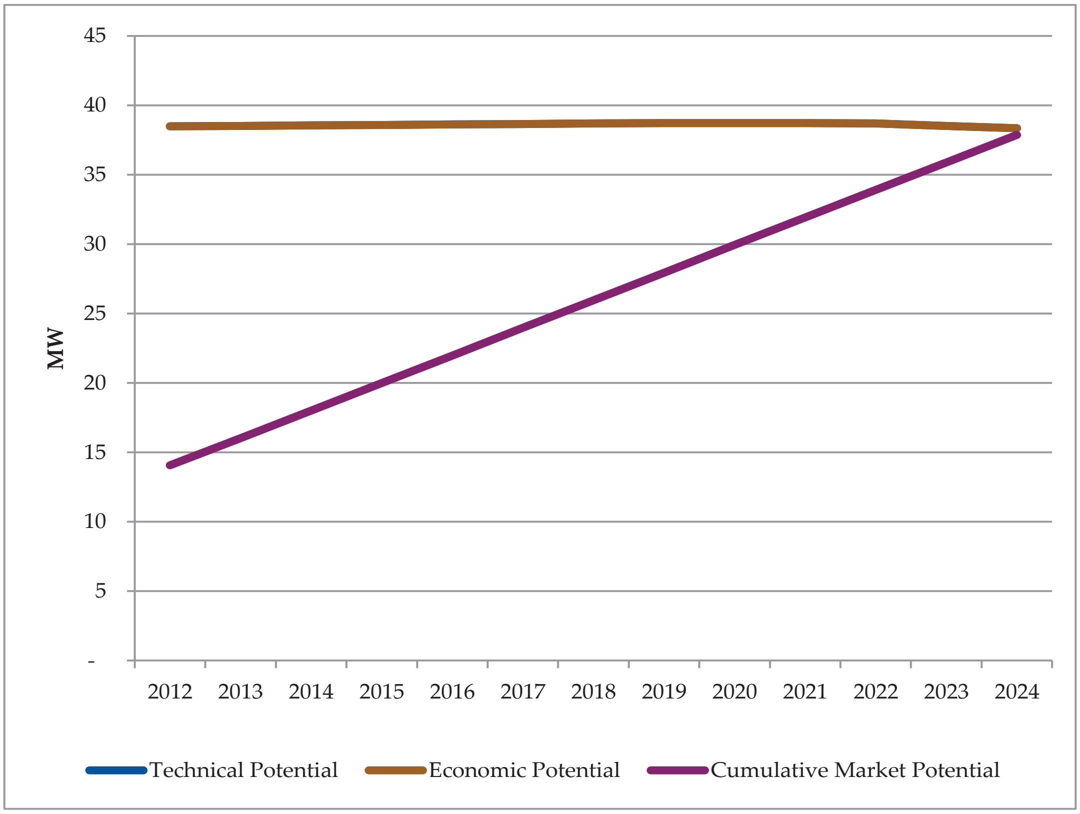
Figure L-27. SCE Agriculture Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

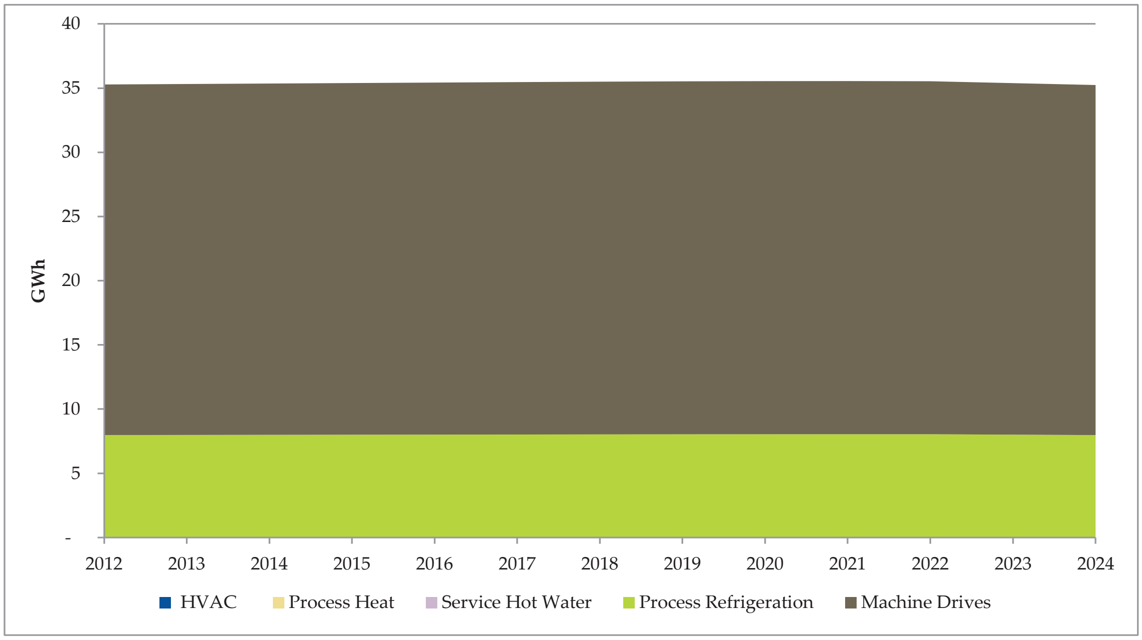
Figure L-28. SCE Agriculture Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

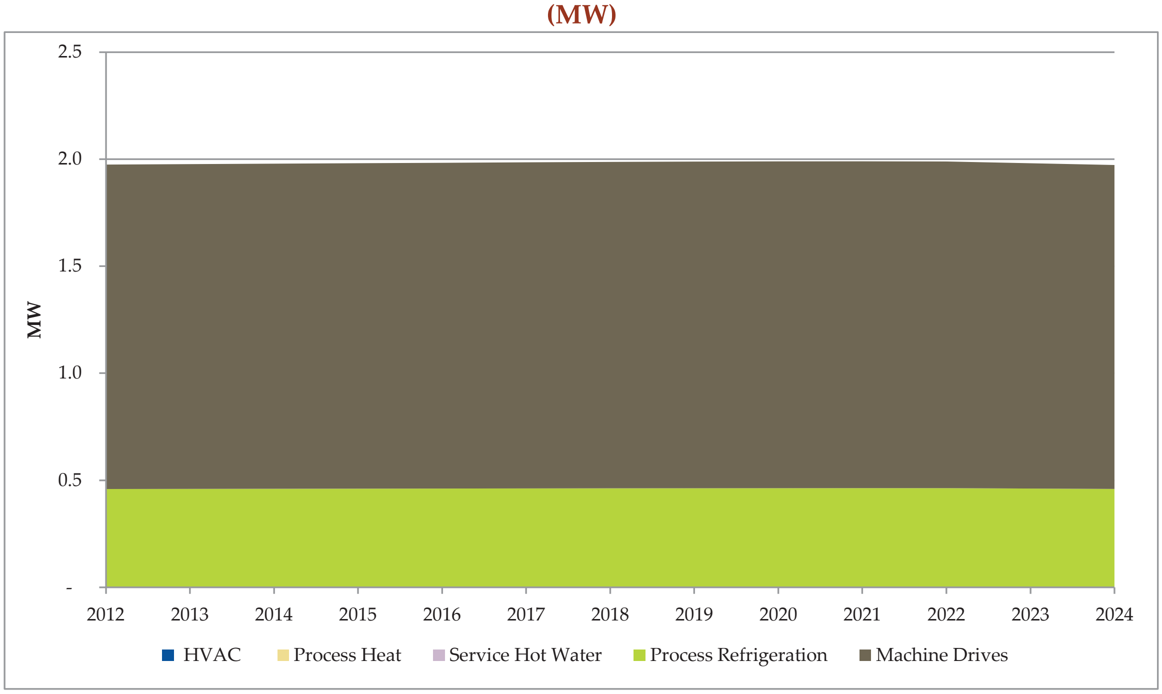
Figure L-29. SCE Agriculture Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-30. SCE Agriculture Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



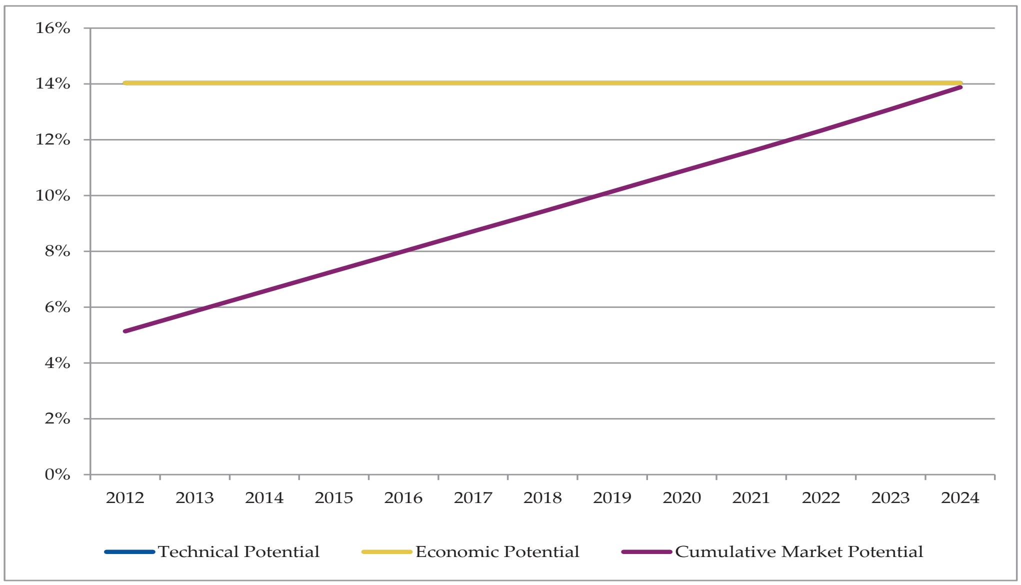
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

L.5.2 SCE Agriculture Electric Comparative Metrics

The SCE specific comparative metrics for the agriculture electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

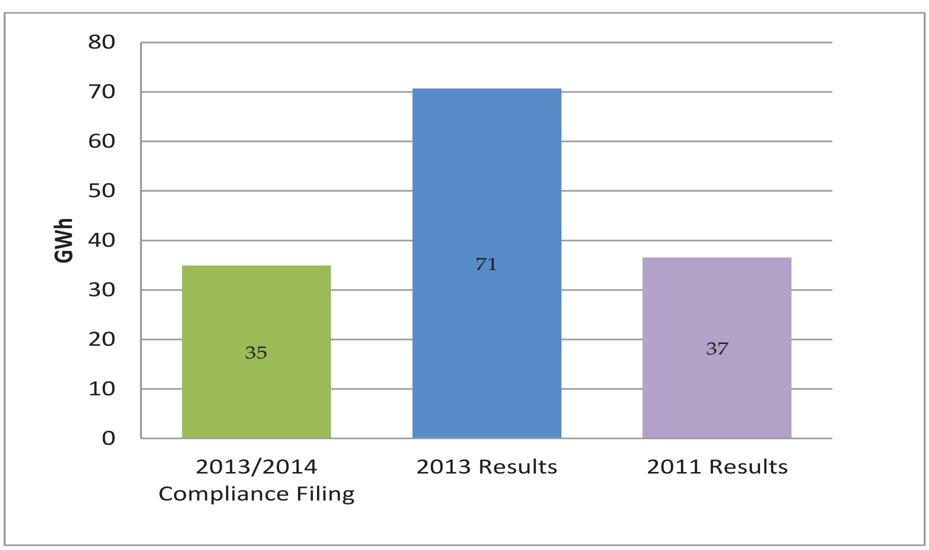
Figure L-31. SCE Agriculture Electric Savings Potential as a Percent of CEC Agriculture Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure L-32. SCE Comparison of Agriculture Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

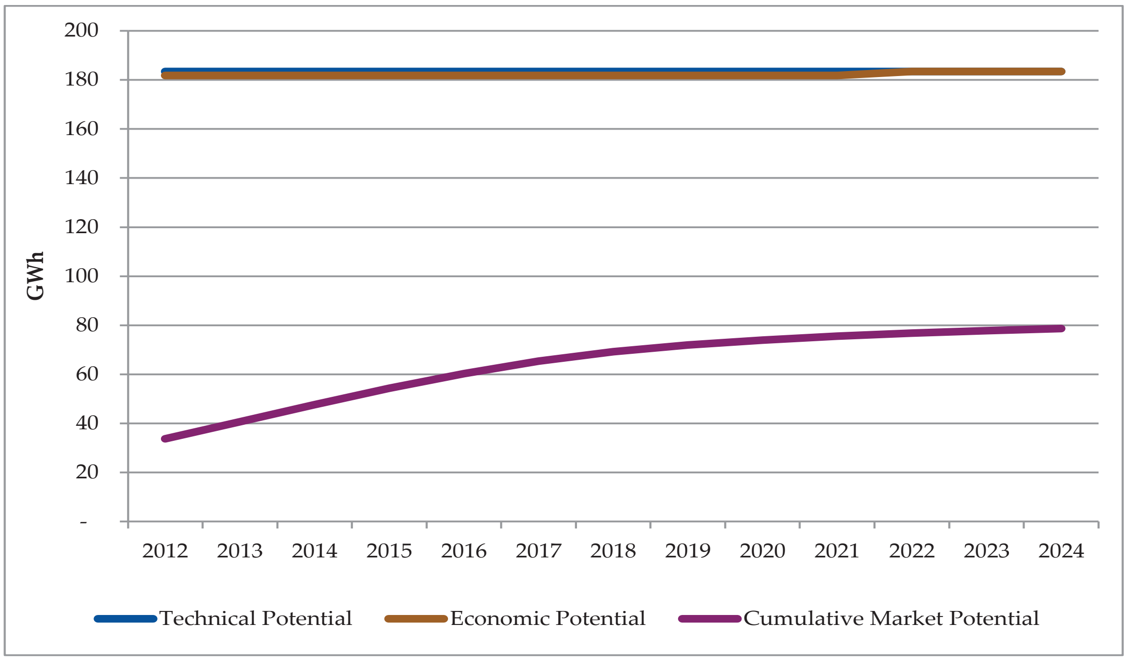
L.6 *SCE Mining Sector Results*

This section outlines results for the SCE mining sector. Mining trend lines, detailed analysis, and explanation of comparative metrics are discussed in the mining results section of the report.

L.6.1 SCE Mining Electric Energy Potential

The technical, economic and cumulative market potential for energy and demand potential in the mining sector are shown in Figure L-33 and Figure L-34. Incremental market potential by end use for the mining sector is displayed in Figure L-35.

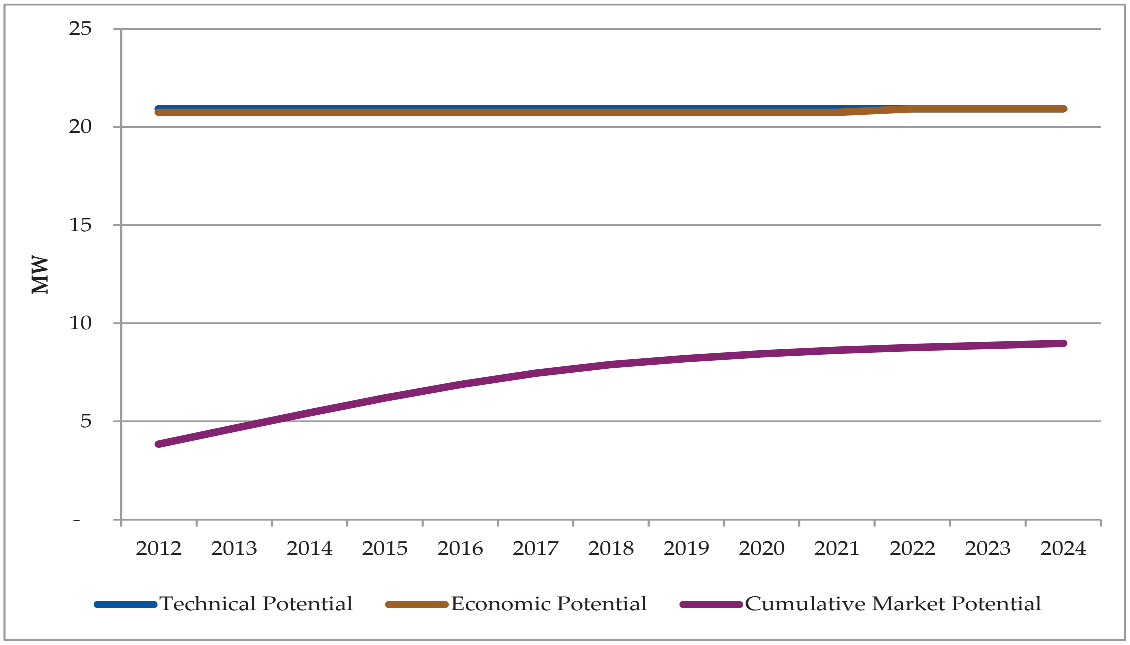
Figure L-33. SCE Mining Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

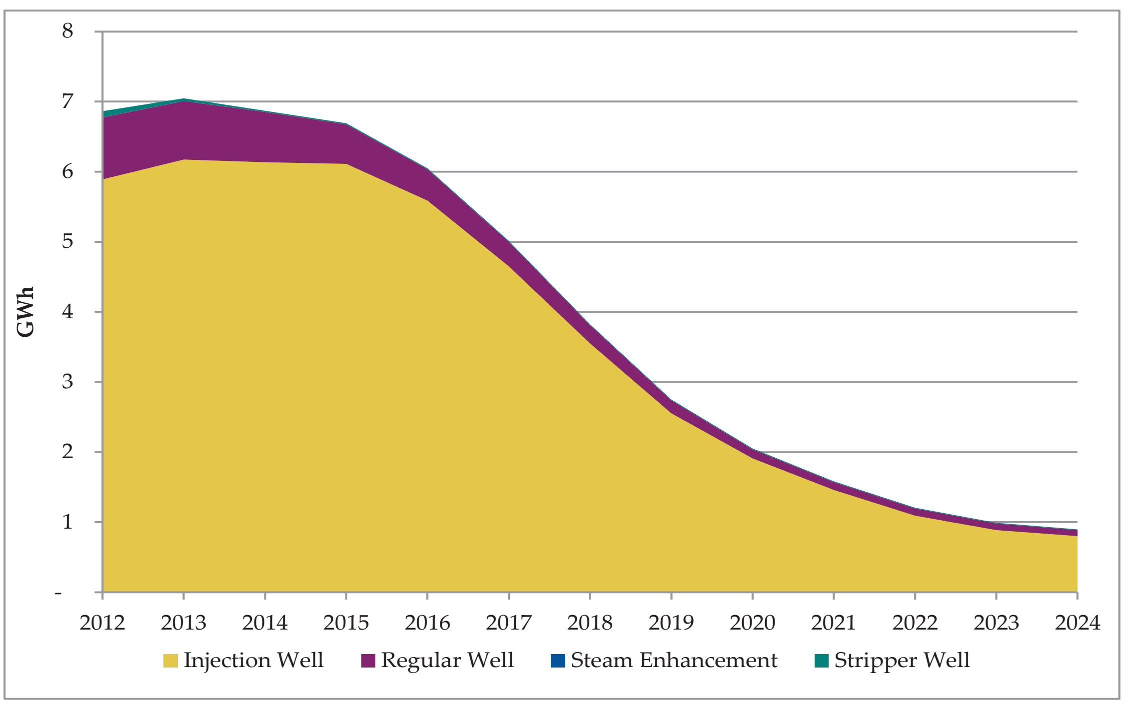
Figure L-34. SCE Mining Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-35. SCE Mining Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



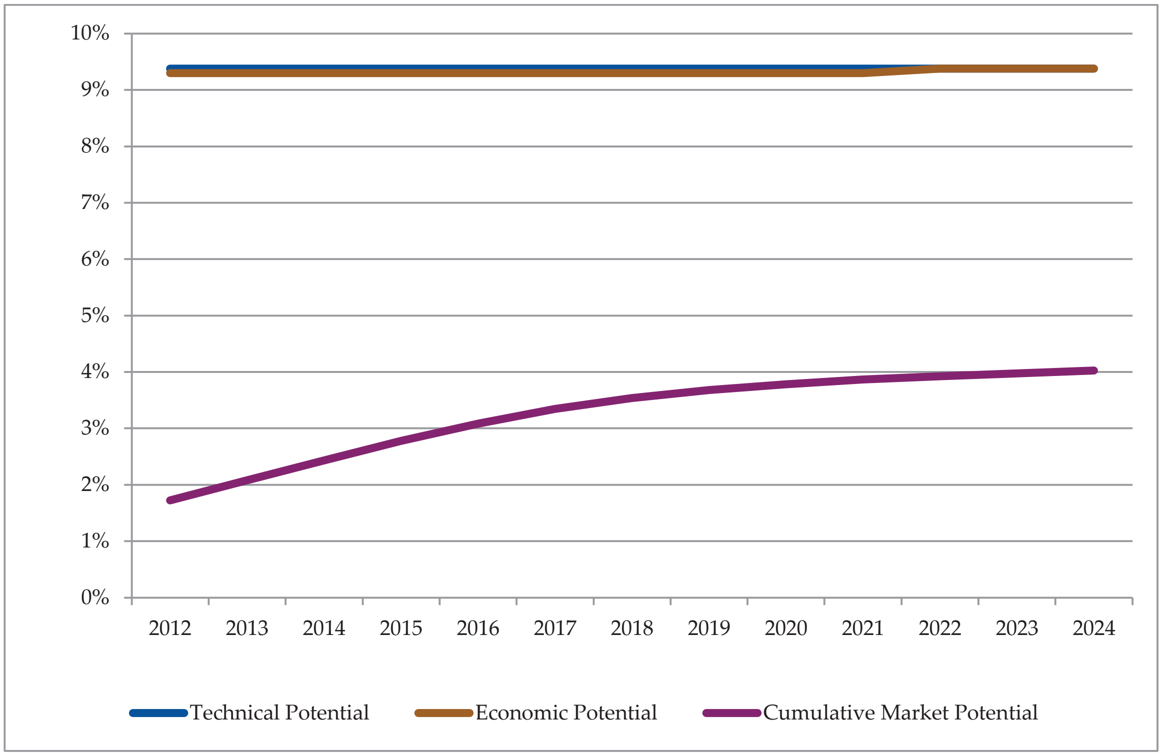
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

L.6.2 SCE Mining Comparative Metrics

The SCE specific comparative metrics for the mining electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

Figure L-36. SCE Mining Electric Savings Potential as a Percent of ECDMS 2006 Consumption data (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & ECDMS 2006

L.7 SCE Street Lights Sector Results

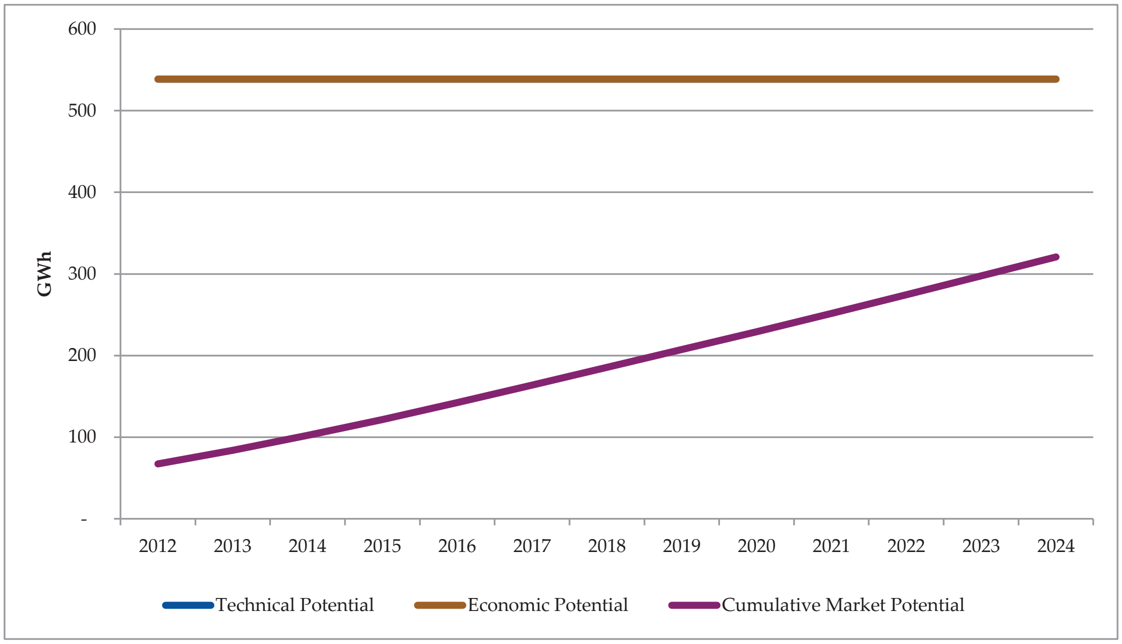
This section outlines results for the SCE street lights sector. Street lighting trend lines, detailed analysis, and explanation of comparative metrics are discussed in the street lighting results section of the report.

<u>Note to the reader:</u> **This section reflects the potential associated street lighting lamps owned both by the customer and the utility. The values presented here should be derated by 82 percent to reflect only the customer-owned lamps that are considered within the goal setting and planning process that excludes IOU-owned lamps. Details on this derating can be found in Appendix A through J.**

L.7.1 SCE Street Lights Electric Energy Potential

The technical, economic and cumulative market potentials for the street lighting sector are shown in Figure L-37 for energy. There is no gas or demand savings associated with the street lighting sector, as these operate at non-peak hours. Figure L-38 shows the incremental market energy potential by end use.

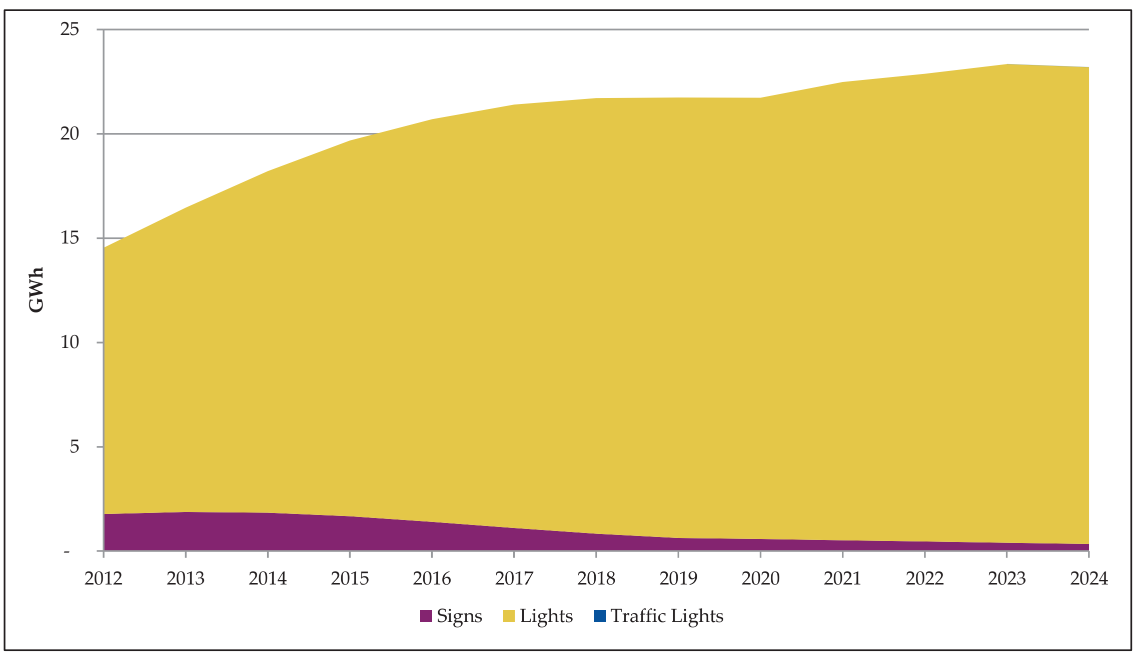
Figure L-37. SCE Street Lights Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure L-38. SCE Street Lights Gross Incremental Market Potential by End Use for 2012-2024 (GWh)



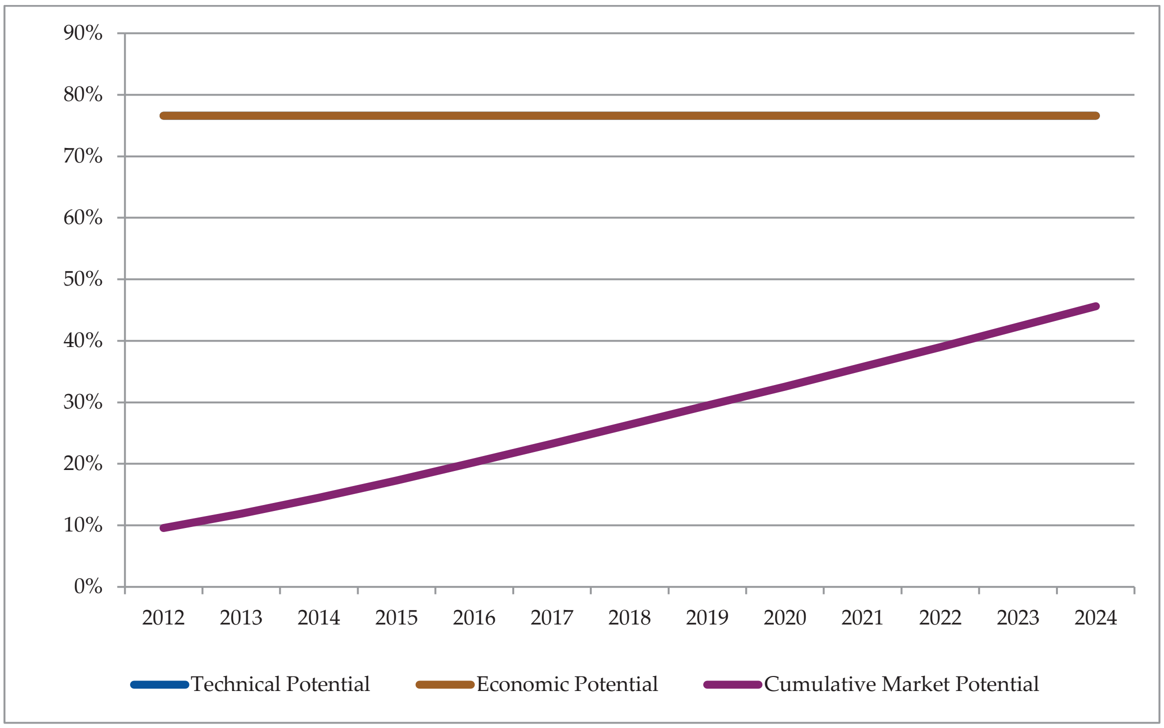
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

L.7.2 SCE Street Lights Comparative Metrics

The SCE specific comparative metrics for the street lights sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

Figure L-39. SCE Street Lights Electric Savings Potential as a Percent of ECDMS 2006 Consumption data (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & ECDMS 2006

Appendix M. Energy Efficiency Potential in the SCG Service Territory

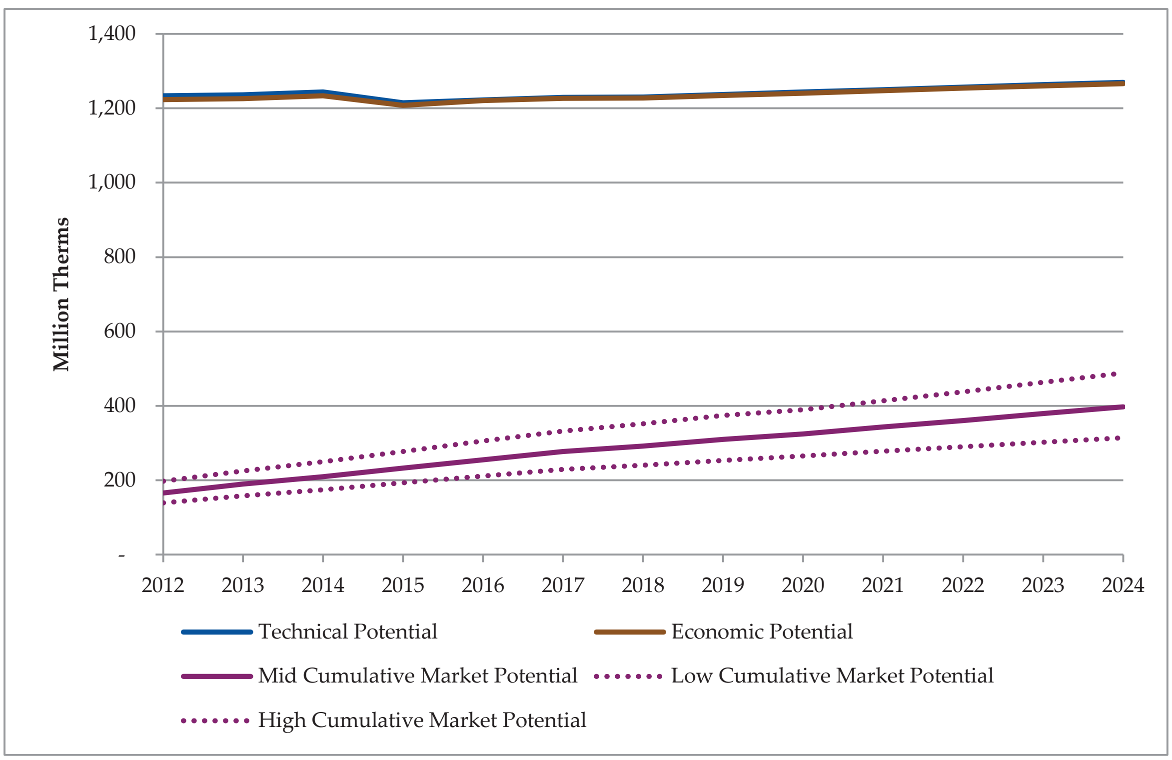
This section provides the estimates of potential energy savings for the SCG service territory for gas measures. Results are provided at the aggregate view of all SCG sectors as well as results for the residential, commercial, industrial, mining, and agricultural sectors individually. Sector-specific trends at the statewide level are discussed in detail in sections 5 - 8 of the main report and the therefore discussions of utility specific sector results is limited. Comparative metrics at the SCG level are also provided, and additional explanation to interpret graphics is available in sections 5-8.

M.1 SCG Territory Summary of Results

M.1.1 SCG Natural Gas Potential

Technical, economic and cumulative gas market potential for the SCG service territory is shown in Figure M-1, which also displays the cumulative market for the high and low scenarios. These runs are about 20% higher or lower as compared to the mid scenario. High and low scenarios were not adjusted for industry standard practices.

Figure M-1. SCG Total Gross Technical, Economic, and Cumulative Market Potential for 2012-2024 (Mth)

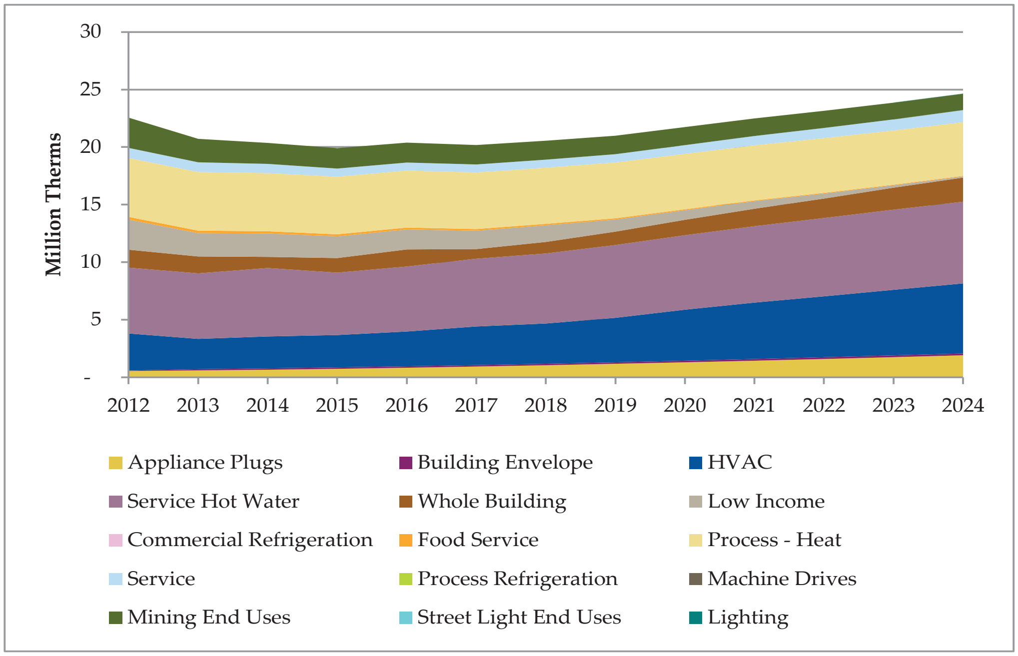


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure M-2 presents the incremental market gas potential for SCG (in million therms) for 2012 to 2024. Lighting measures account for negative savings through interactive effects though positive savings from other end uses result in a net positive gas savings.

Figure M-2. SCG Total Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



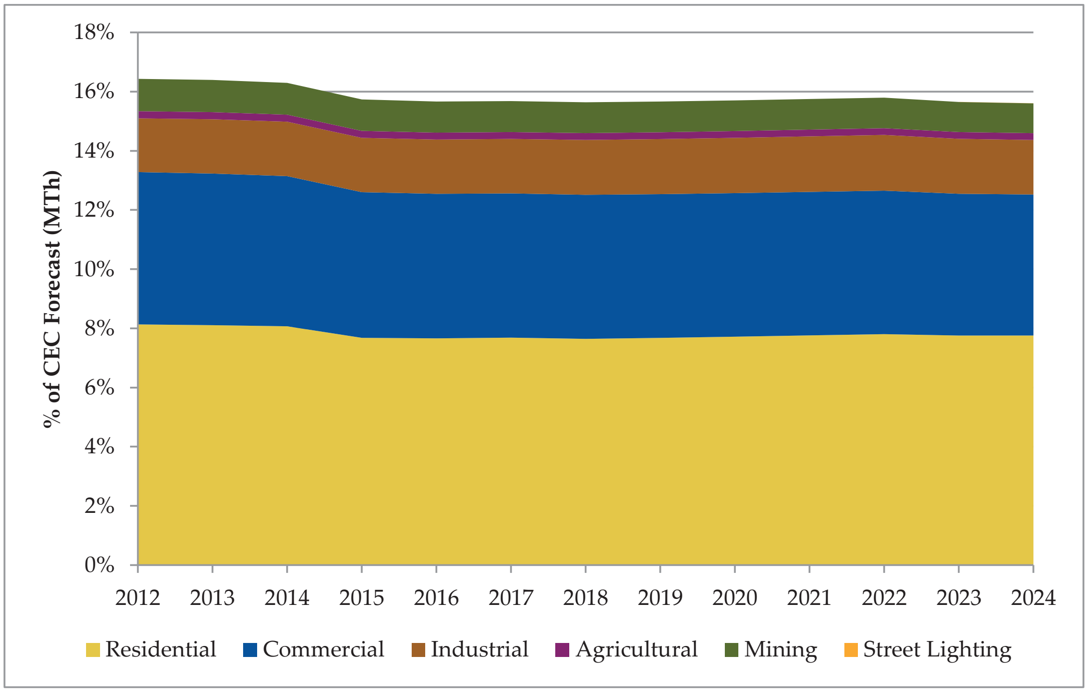
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

M.1.2 SCG Gas Comparative Metrics

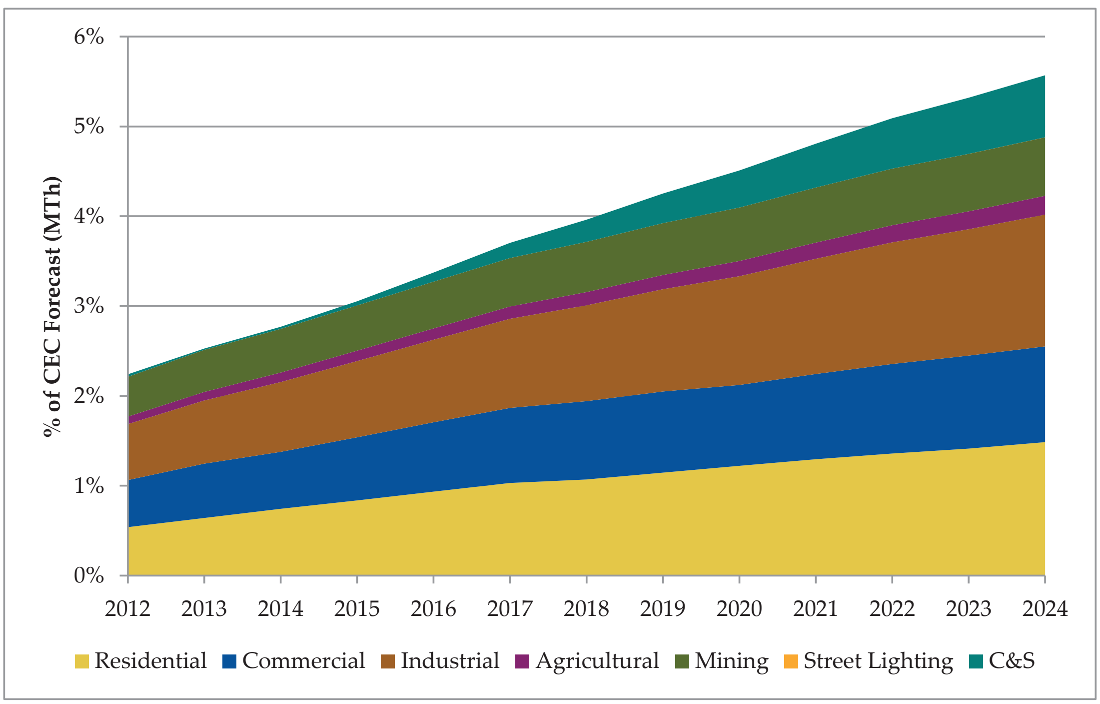
This section provides comparative metrics for the gas savings in SCG service territory. Figure M-3 shows SCG's technical potential by end use as a percent of CEC forecast sales. Figure M-4 provides SCG's cumulative market potential by end use as a percent of CEC forecast sales.

Figure M-3. SCG Technical Potential by Sector as a Percentage of CEC Forecast (Mth)



Source: PG model release February 2014 & 2012 CEC IEPR

Figure M-4. SCG Cumulative Market Potential by Sector as a Percentage of CEC Forecast (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

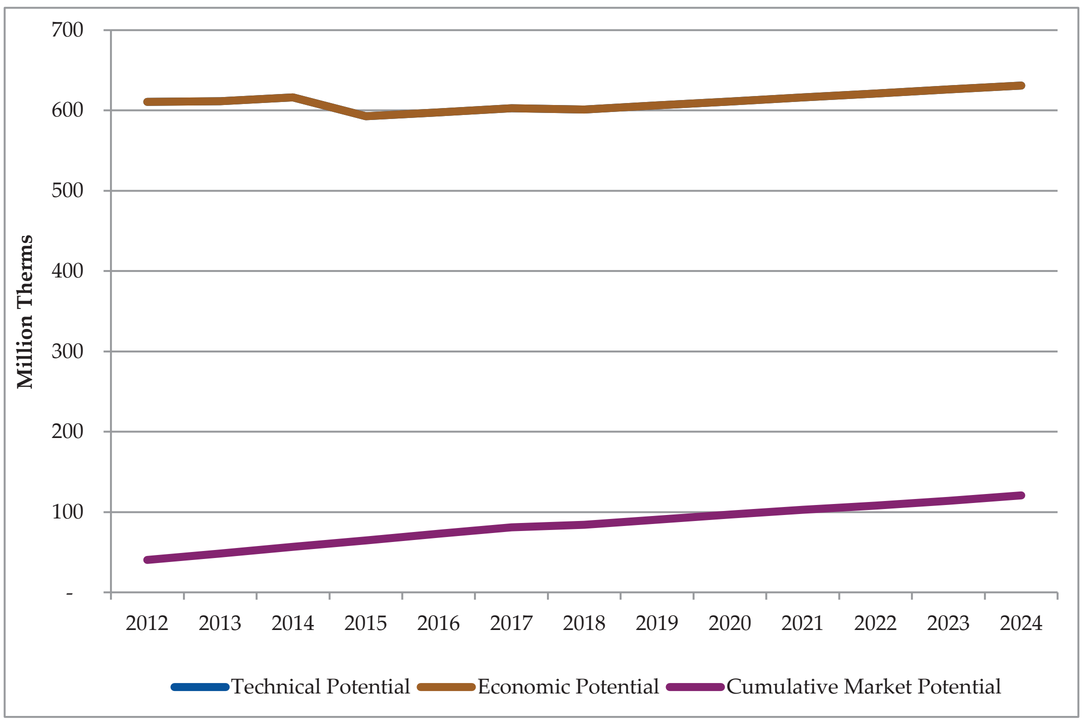
M.2 SCG Residential Sector Results

This section outlines results for the SCG residential sector. Residential trend lines, detailed analysis, and explanation of comparative metrics are discussed in the residential results section of the report.

M.2.1 SCG Residential Gas Energy Potential

Figure M-5 displays the technical, economic and cumulative gas market potential for the residential sector. Interactive effects between gas and electric measures explain the negative savings in the beginning. Figure M-6 shows the incremental market gas potential by end use.

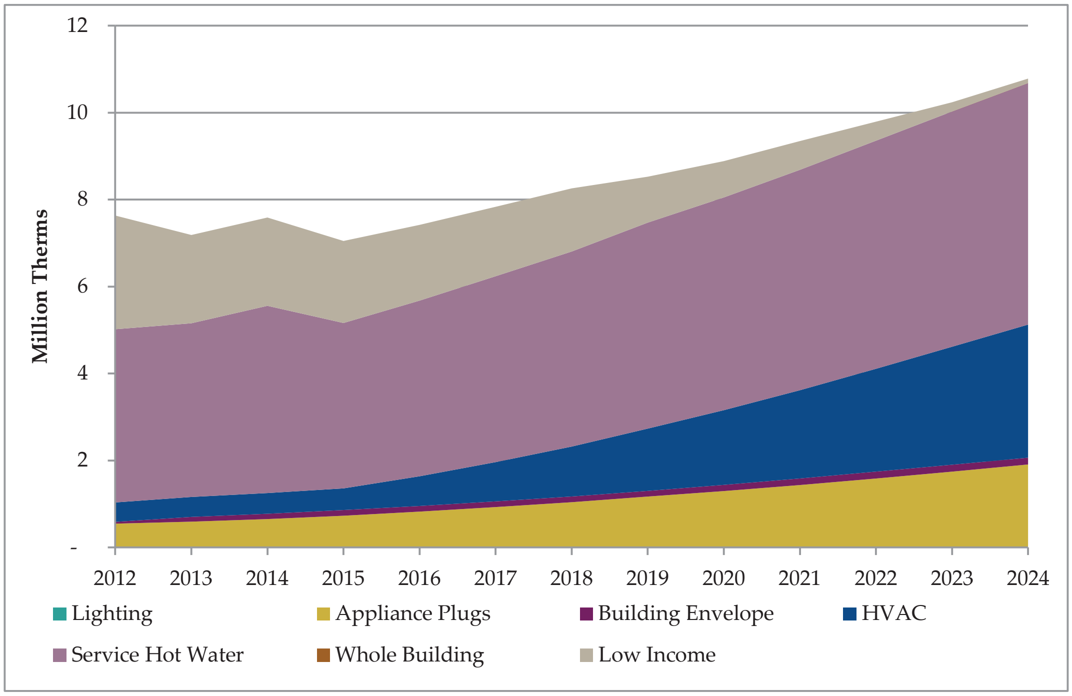
Figure M-5. SCG Residential Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure M-6. SCG Residential Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



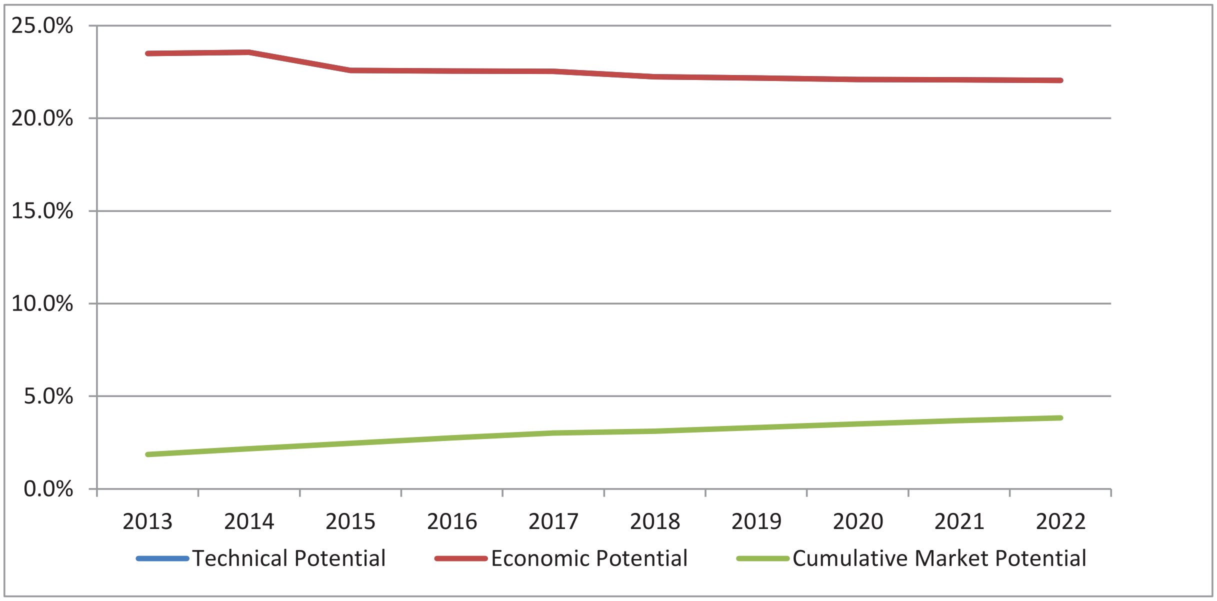
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

M.2.2 SCG Residential Gas Comparative Metrics

The SCG specific comparative metrics for the residential gas sector are shown below. Further details on these metrics are provided in the residential section of the report.

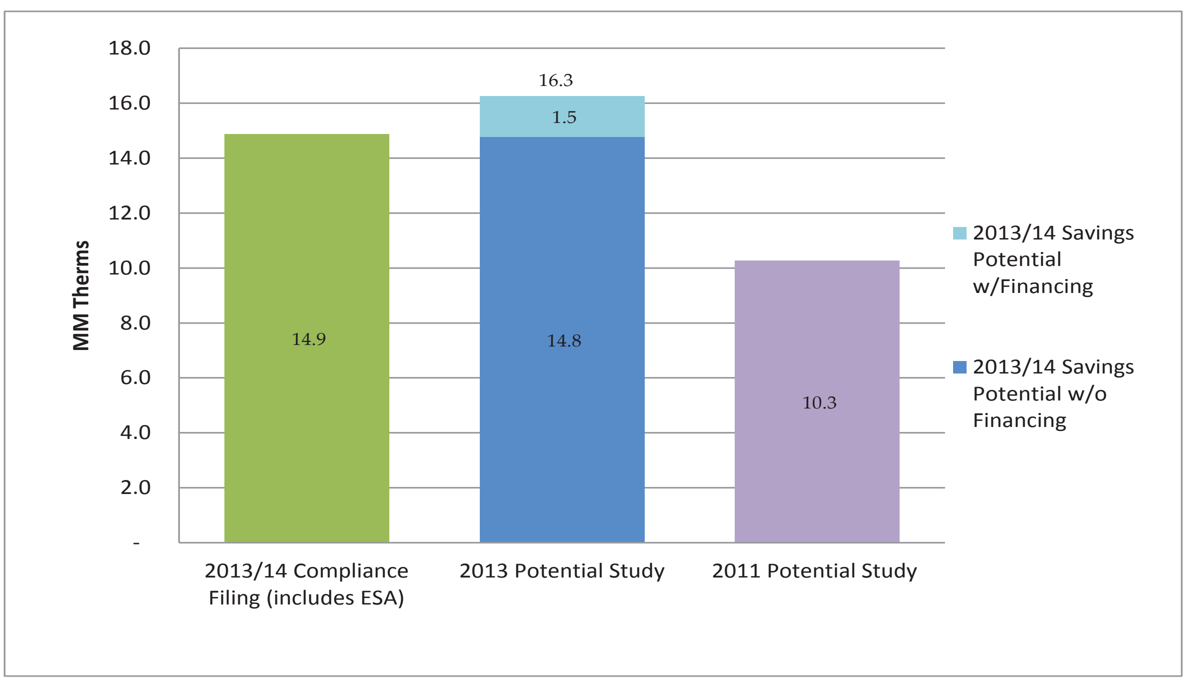
Figure M-7. SCG Residential Gas Savings Potential as a Percent of CEC Residential Gas Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure M-8. SCG Comparison of Residential Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

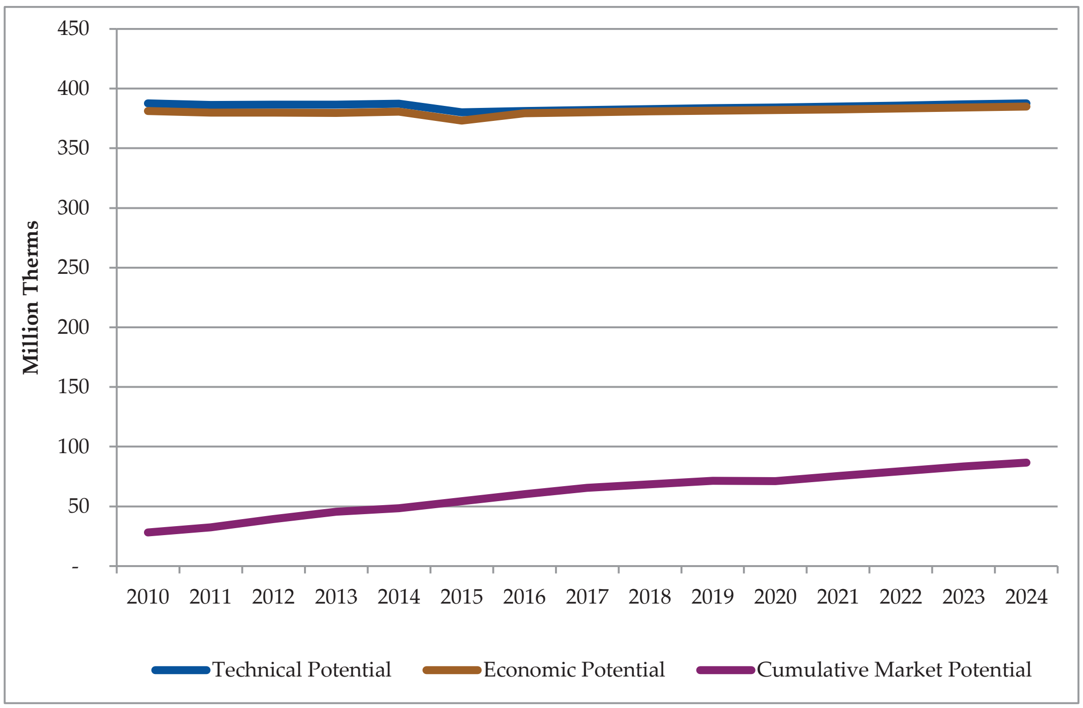
M.3 SCG Commercial Sector Results

This section outlines results for the SCG commercial sector. Commercial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the commercial results section of the report.

M.3.1 SCG Commercial Gas Energy Potential

Figure M-9 displays the technical, economic and cumulative gas market potential for the commercial sector. Figure M-10 shows the incremental market gas potential by end use.

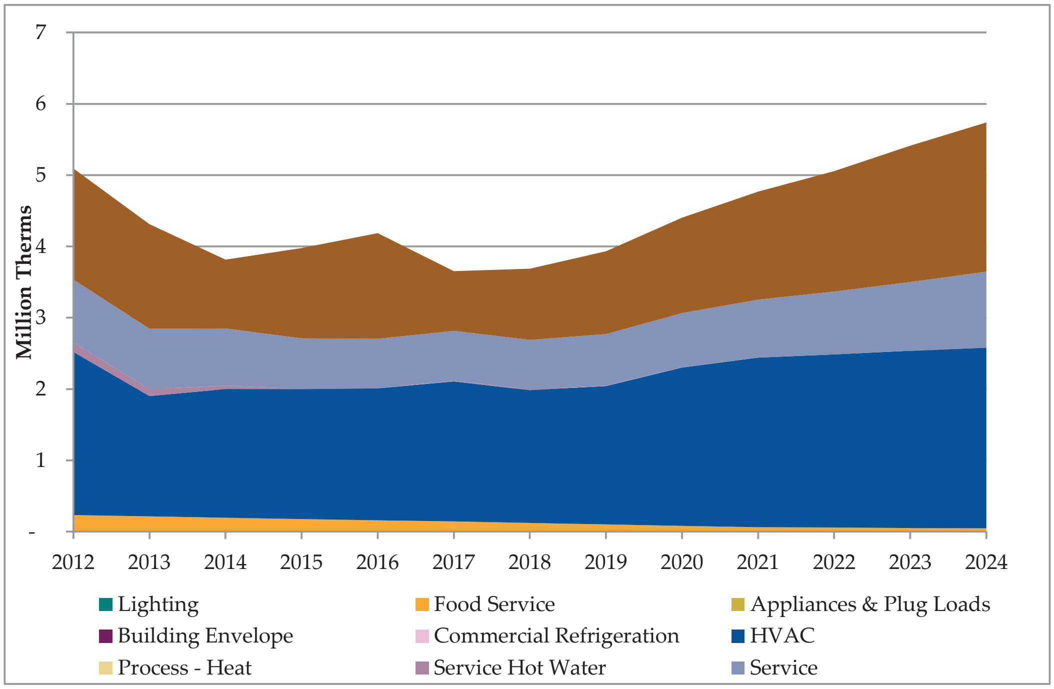
Figure M-9. SCG Commercial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure M-10. SCG Commercial Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



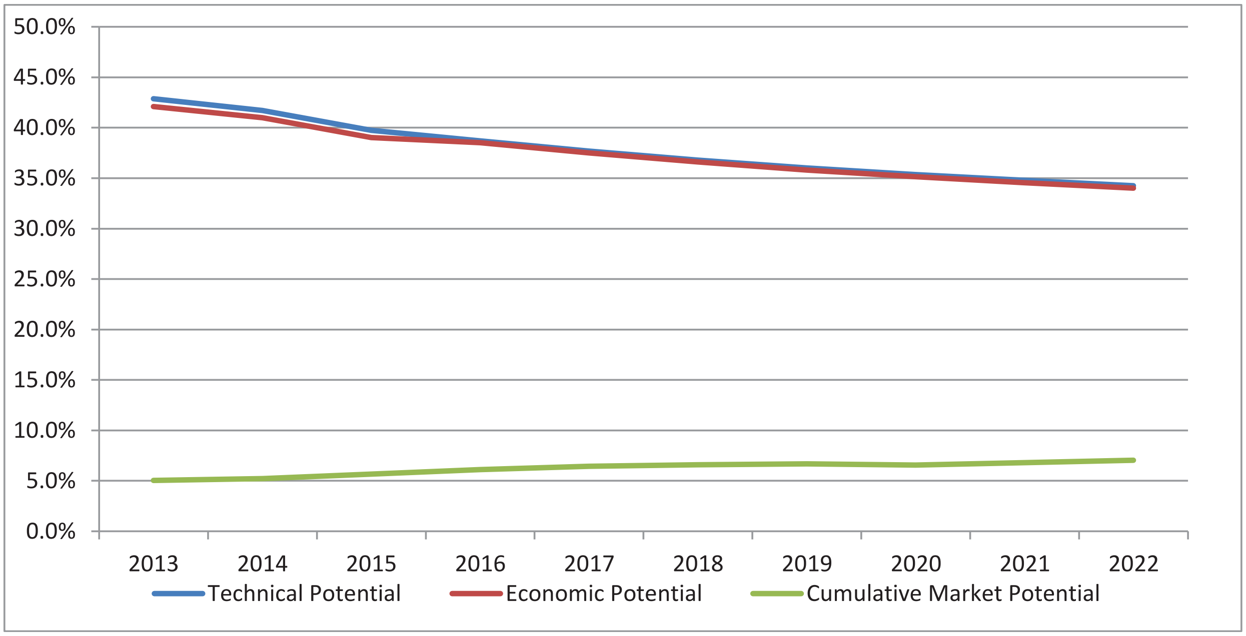
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

M.3.2 SCG Commercial Gas Comparative Metrics

The SCG specific comparative metrics for the commercial gas sector are shown below. Further details on these metrics are provided in the commercial section of the report.

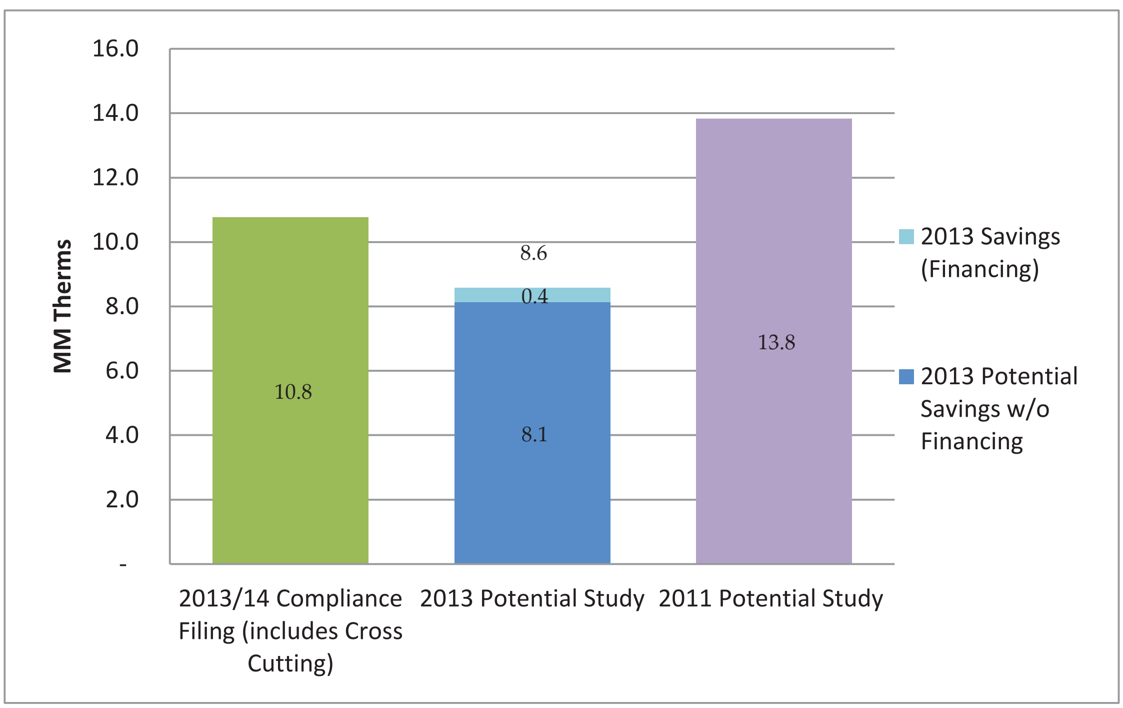
Figure M-11. SCG Commercial Gas Savings Potential as a Percent of CEC Commercial Gas Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure M-12. SCG Comparison of Commercial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

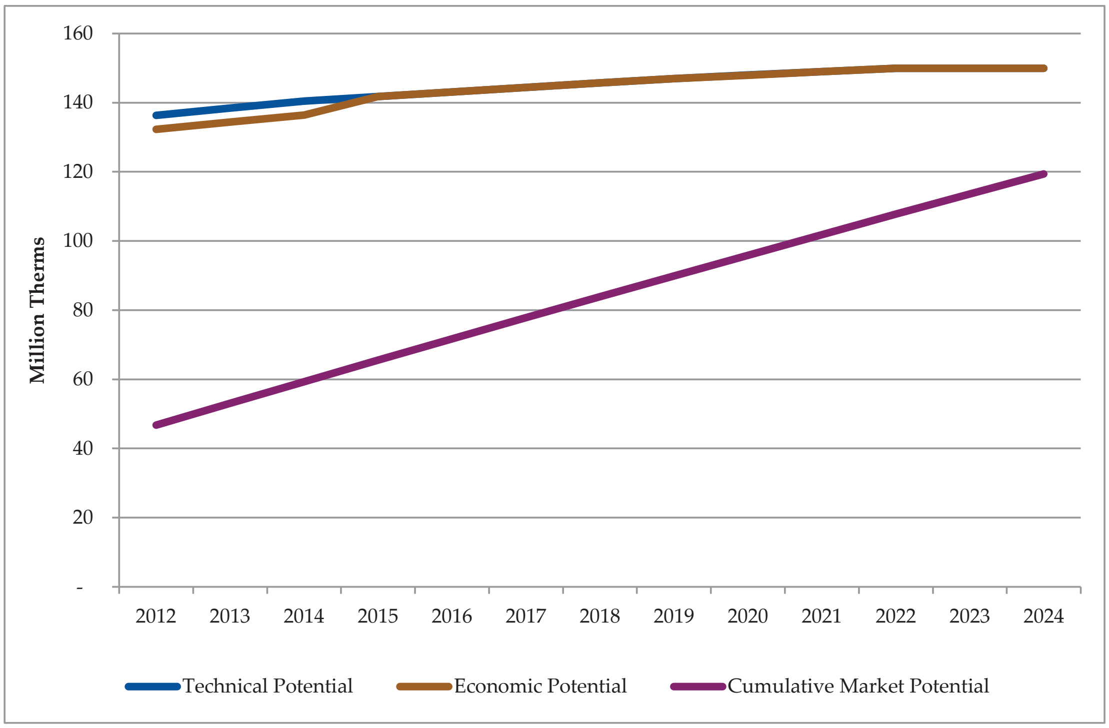
M.4 SCG Industrial Sector Results

This section outlines results for the SCG industrial sector. Industrial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the industrial results section of the report.

M.4.1 SCG Industrial Gas Energy Potential

Figure M-13 displays the technical, economic and cumulative gas market potential for the Industrial sector. Figure M-14 shows the incremental market gas potential by end use.

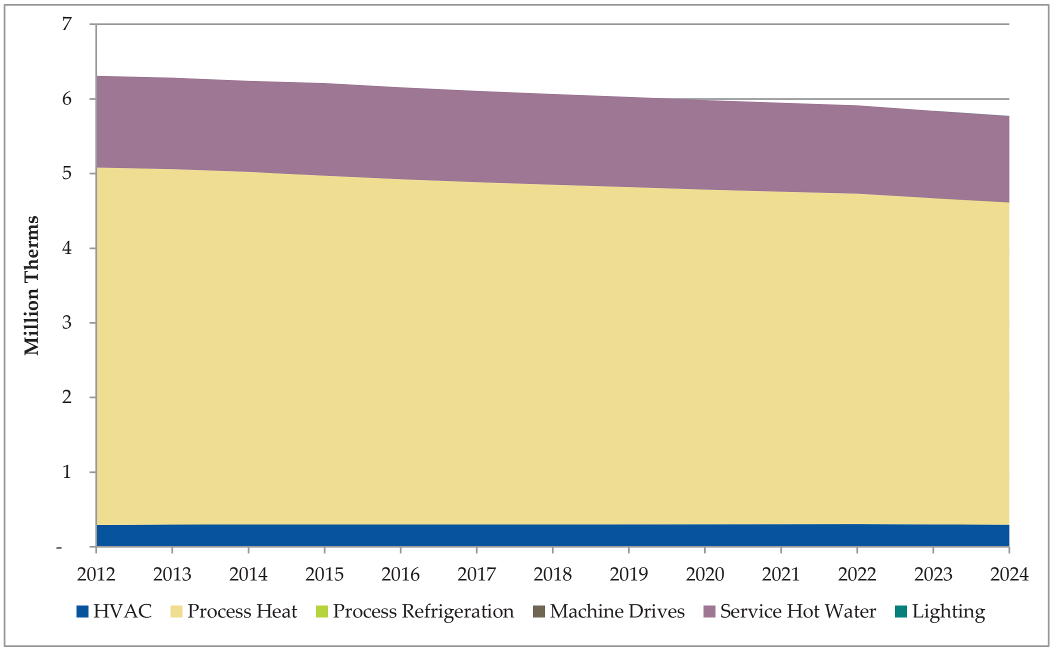
Figure M-13. SCG Industrial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure M-14 SCG Industrial Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



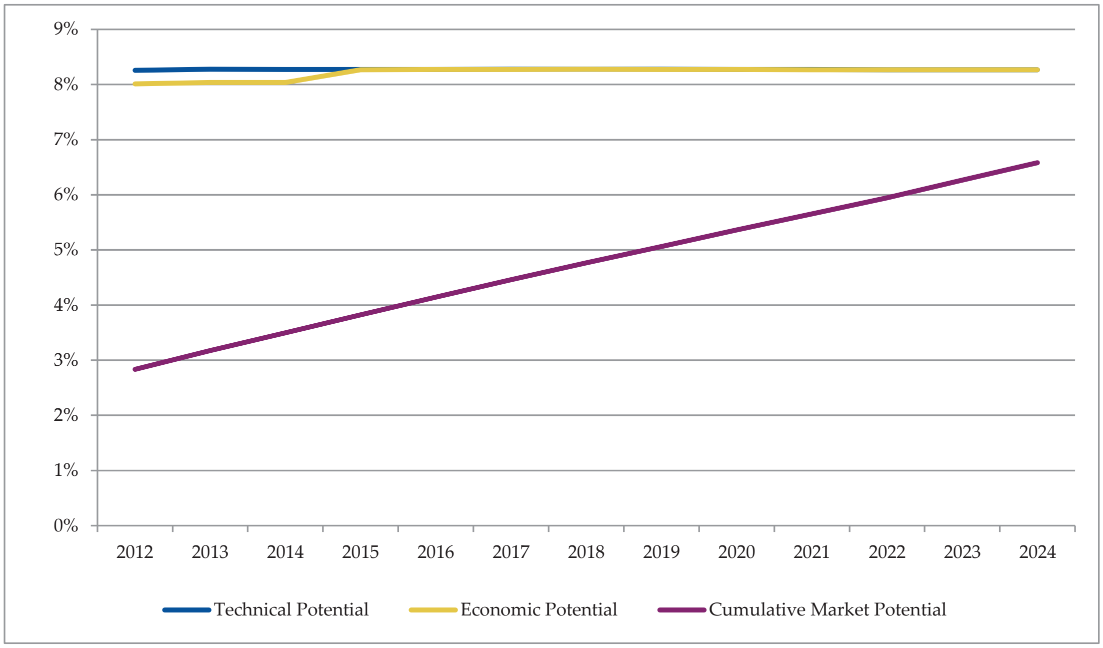
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

M.4.2 SCG Industrial Gas Comparative Metrics

The SCG specific comparative metrics for the industrial gas sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

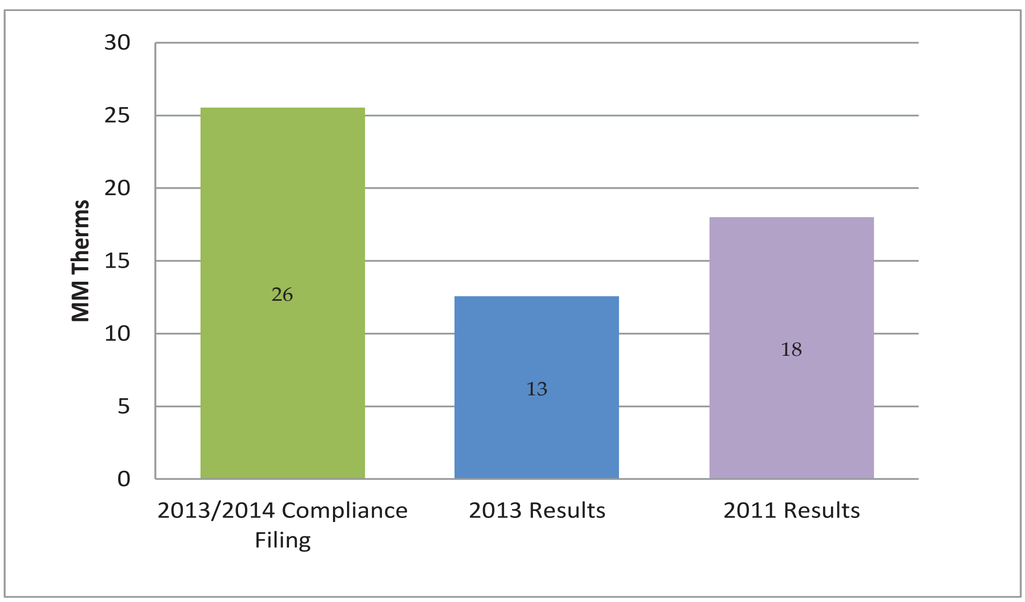
Figure M-15. SCG Industrial Gas Savings Potential as a Percent of CEC Industrial Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure M-16. SCG Comparison of Industrial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

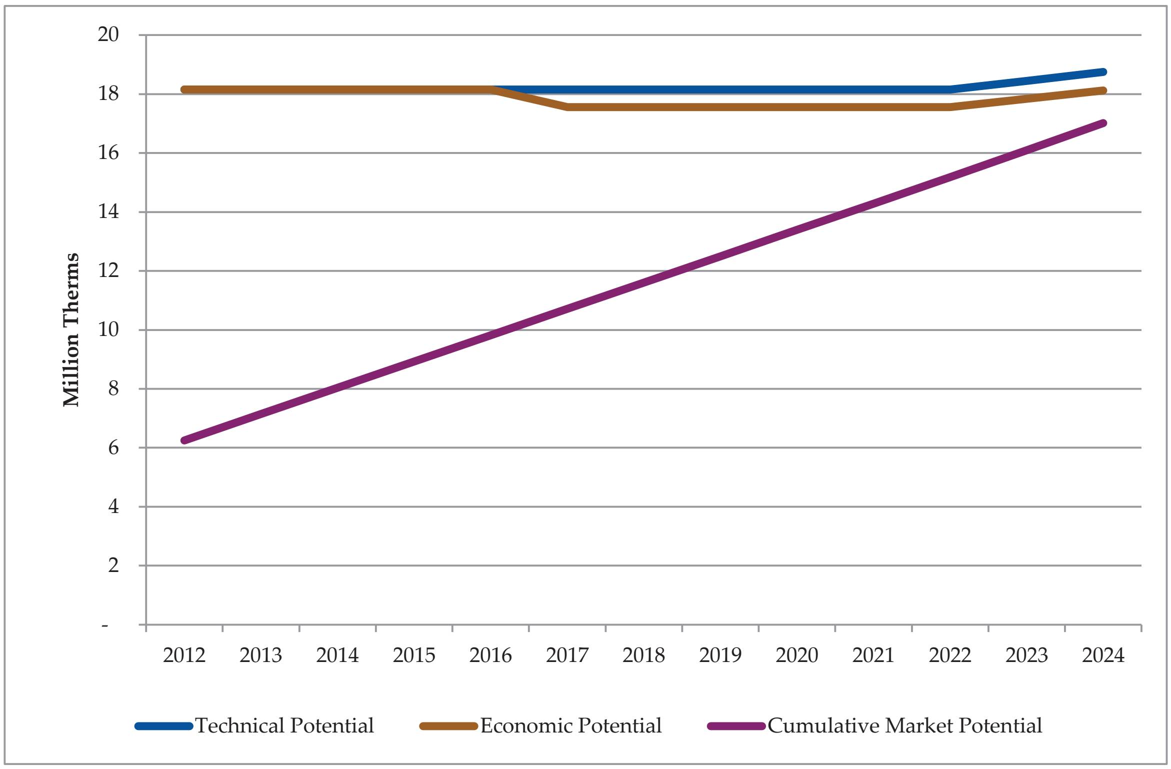
M.5 SCG Agriculture Sector Results

This section outlines results for the SCG agriculture sector. Agriculture trend lines, detailed analysis, and explanation of comparative metrics are discussed in the agriculture results section of the report.

M.5.1 SCG Agriculture Gas Energy Potential

Figure M-17 displays the technical, economic and cumulative gas market potential in the Agriculture sector. The incremental gas potential for the SCG Agriculture sector is displayed in Figure M-18.

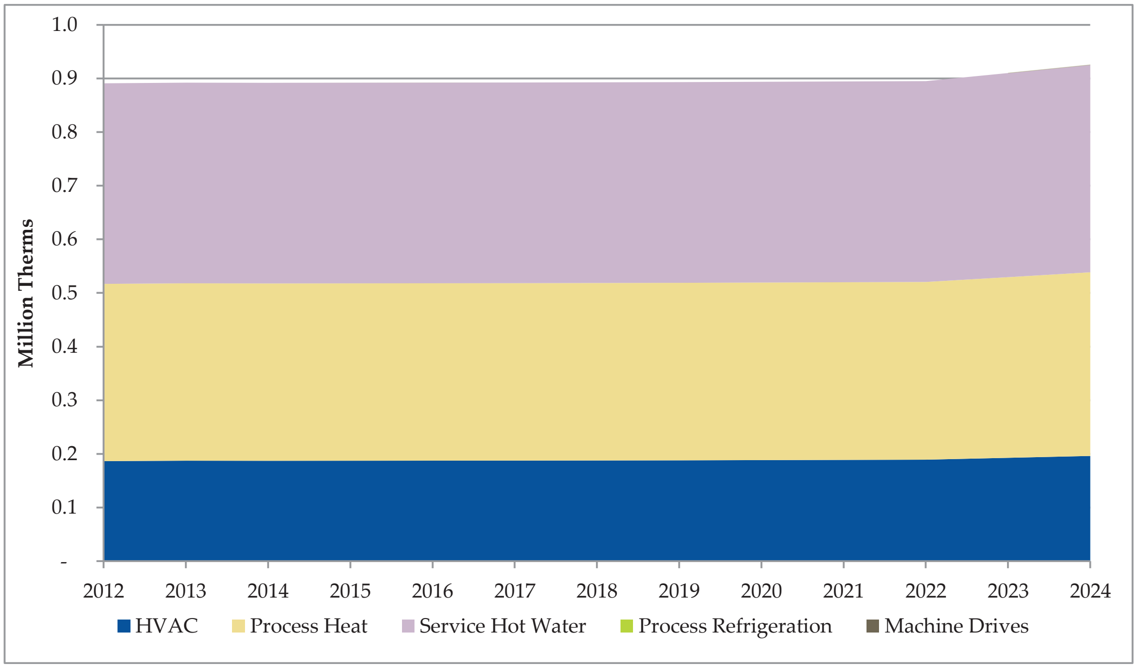
Figure M-17. SCG Agriculture Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure M-18. SCG Agriculture Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



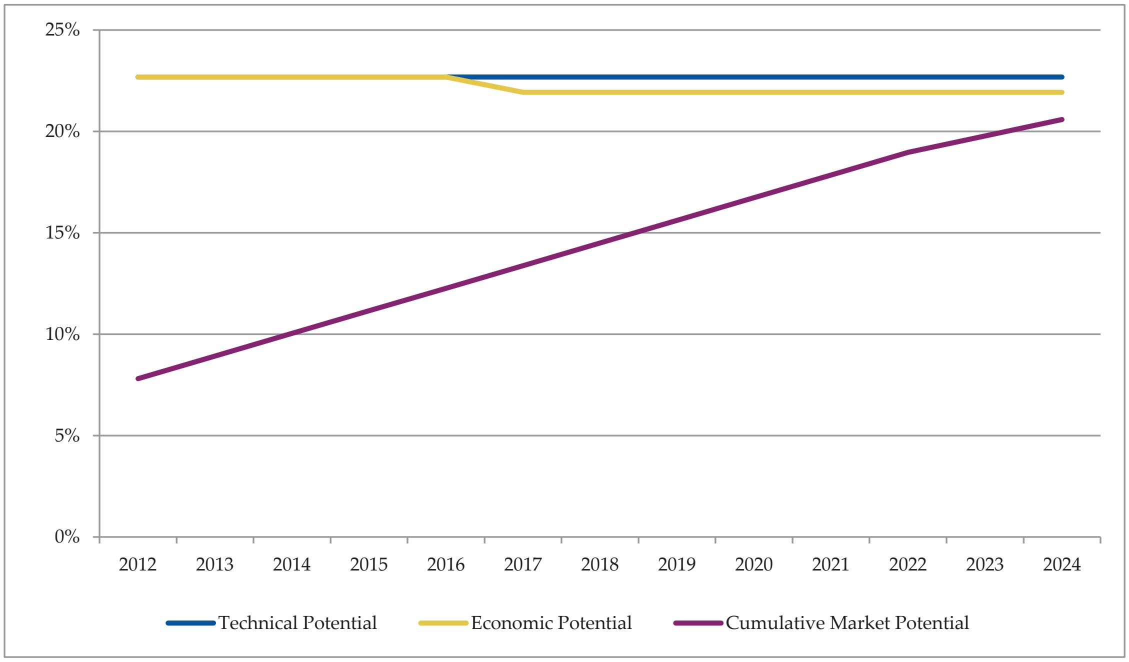
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

M.5.2 SCG Agriculture Gas Comparative Metrics

The SCG specific comparative metrics for the agriculture gas sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

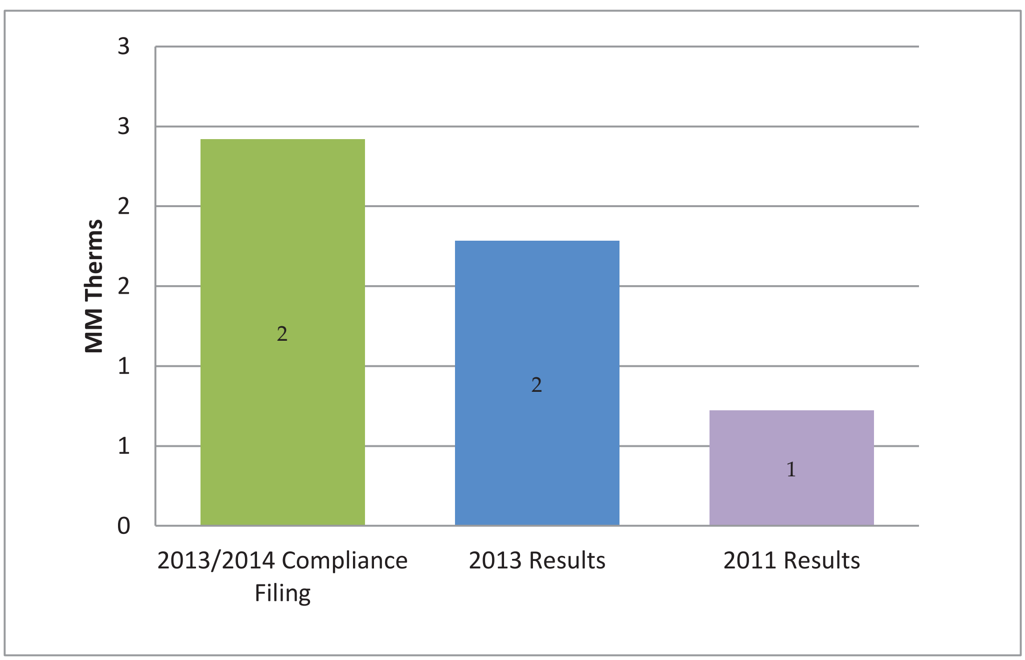
Figure M-19. SCG Agriculture Gas Savings Potential as a Percent of CEC Agriculture Forecast (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure M-20. SCG Comparison of Agriculture Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

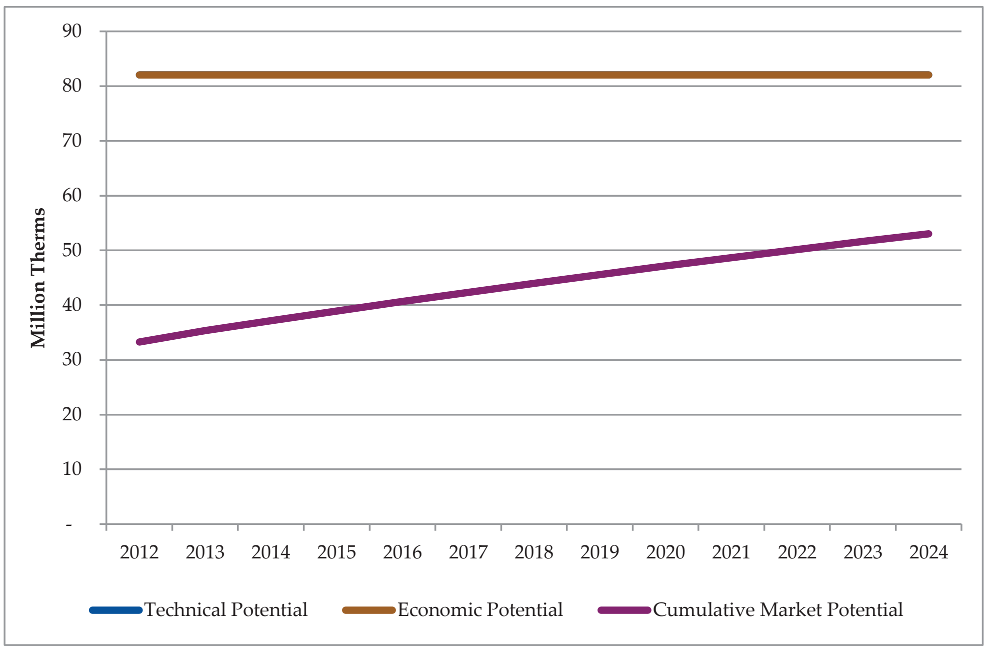
M.6 SCG Mining Sector Results

This section outlines results for the SCG mining sector. Mining trend lines, detailed analysis, and explanation of comparative metrics are discussed in the mining results section of the report.

M.6.1 SCG Mining Gas Energy Potential

Figure M-21 displays the technical, economic and cumulative gas market potential for the Mining sector. The incremental market potential trend line is displayed in Figure M-22.

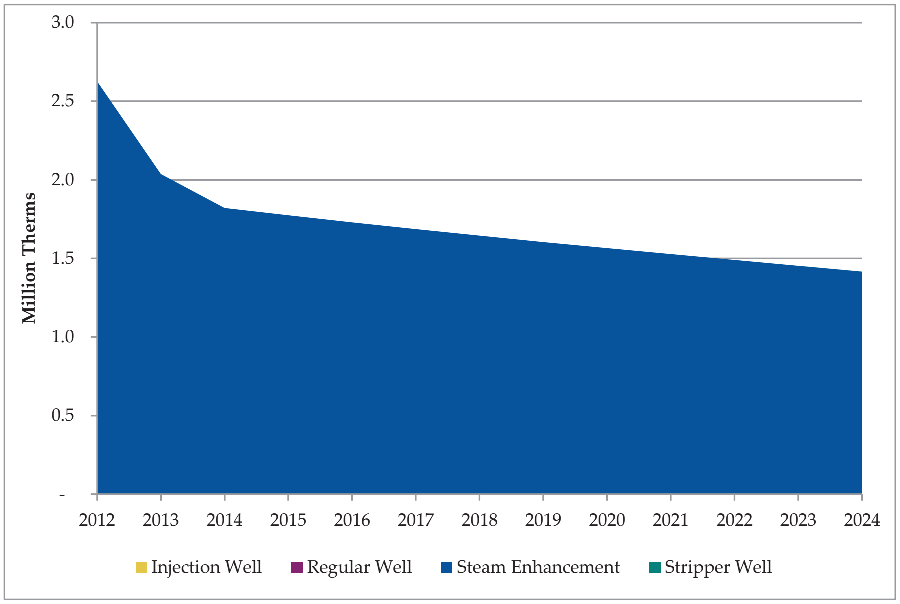
Figure M-21. SCG Mining Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure M-22. SCG Mining Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



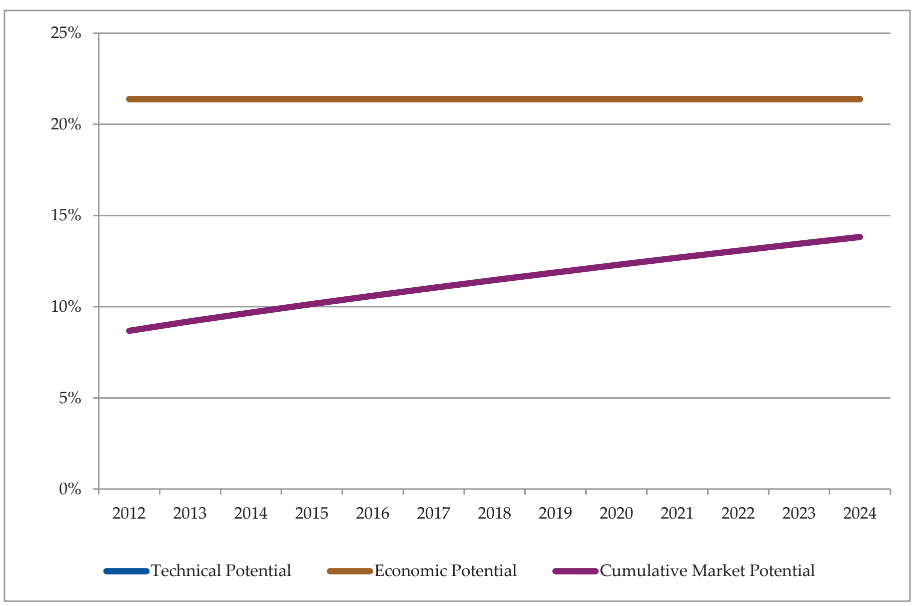
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

M.6.2 SCG Mining Comparative Metrics

The SCG specific comparative metrics for the agriculture gas sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

Figure M-23. SCG Mining Gas Savings Potential as a Percent of ECDMS 2006 Consumption data (Technical, Economic, and Cumulative Market Potential)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & ECDMS 2006

Appendix N. Energy Efficiency Potential in the SDG&E Service Territory

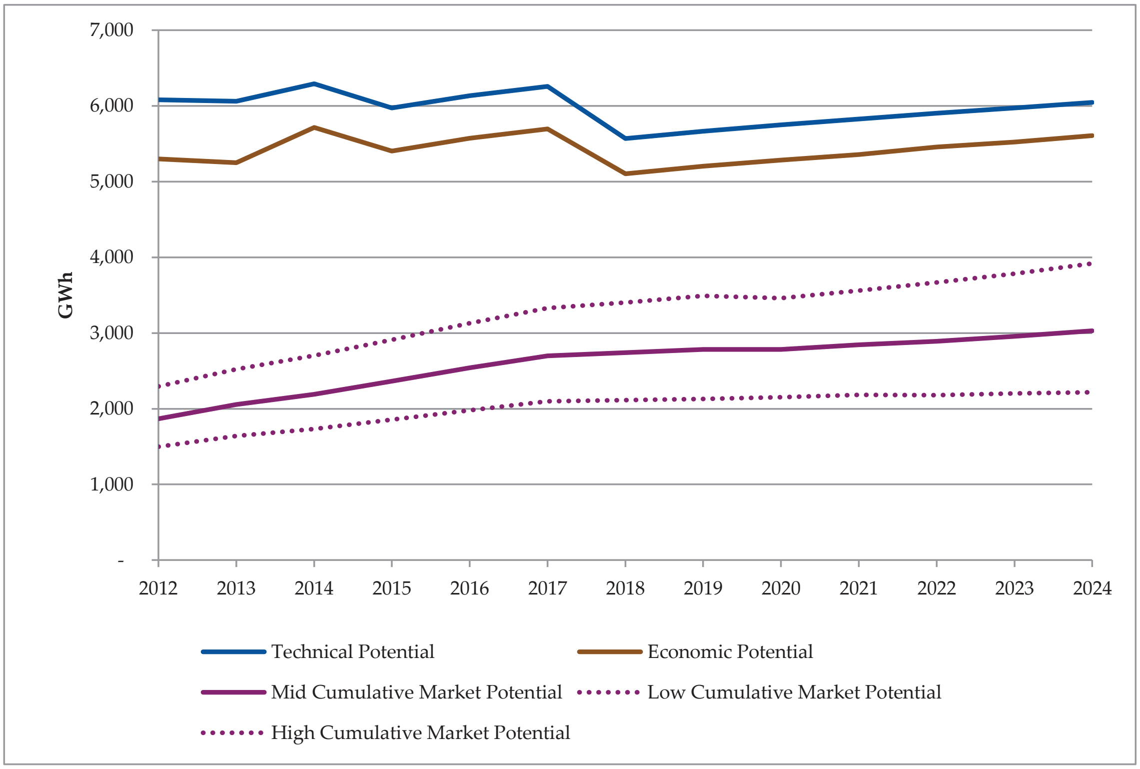
This section provides the estimates of potential energy savings for the SDG&E service territory for both gas and electric measures. Results are provided at the aggregate view of all SDG&E sectors as well as results for the residential, commercial, industrial, street lighting, and agricultural sectors individually. Sector-specific trends at the statewide level are discussed in detail in sections 5 - 8 of the main report and therefore discussions of utility specific sector results are limited. Comparative metrics at the SDG&E level are also provided, and additional explanation to interpret graphics is available in sections 5-8.

N.1 SDG&E Territory Summary of Results

N.1.1 SDG&E Total Electric Energy Potential

Figure N-1 presents the technical, economic, and cumulative market electric energy savings potential in SDG&E's territory from 2012 through 2024. Figure N-1 also provides a graphical view of the high and low scenarios for cumulative market potential. The high cumulative market potential is an average of about 25% higher than the mid case scenario and the low scenario is an average of about 25% lower. High and low scenarios were not adjusted for industry standard practices.

Figure N-1. SDG&E Total Gross Technical, Economic, and Cumulative Market Potential for 2012-2024 (GWh)

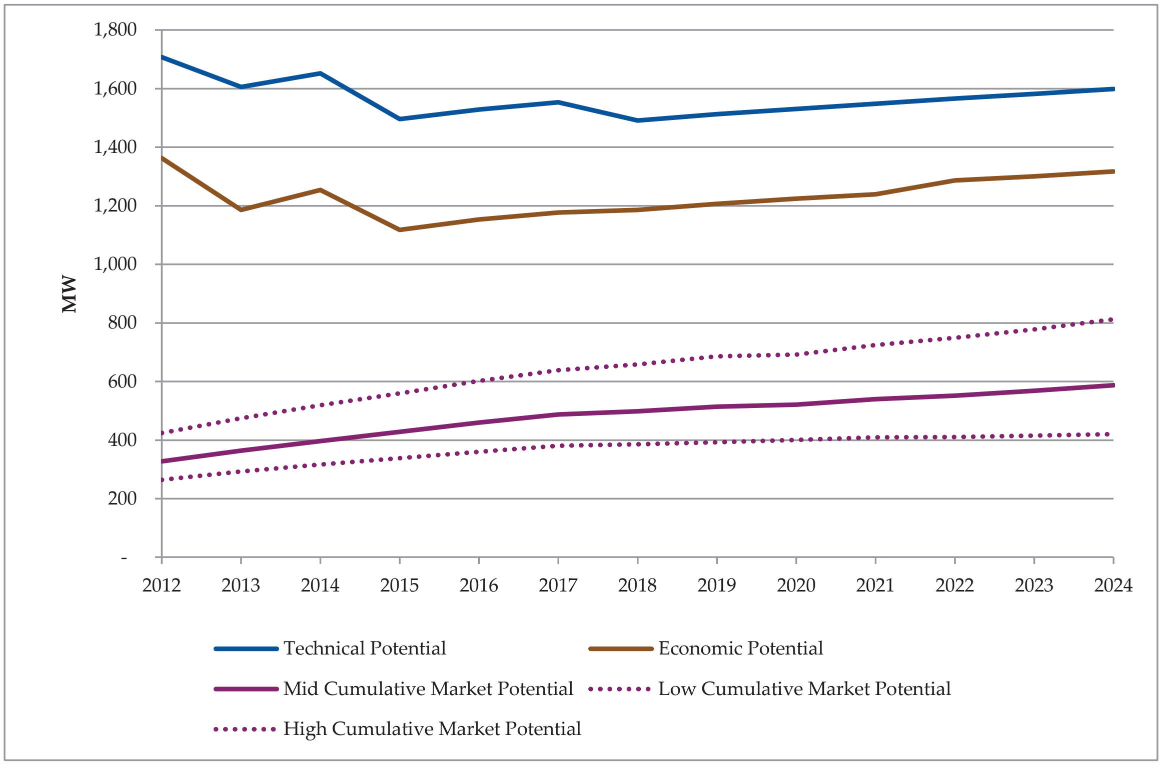


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-2 presents the technical, economic, and cumulative market electric demand savings potential for the SDG&E territory over the years 2012 to 2024. The high scenario for cumulative market potential runs about 35% higher than the mid cumulative market potential while the low scenario is about 25% lower.

Figure N-2. SDG&E Total Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)

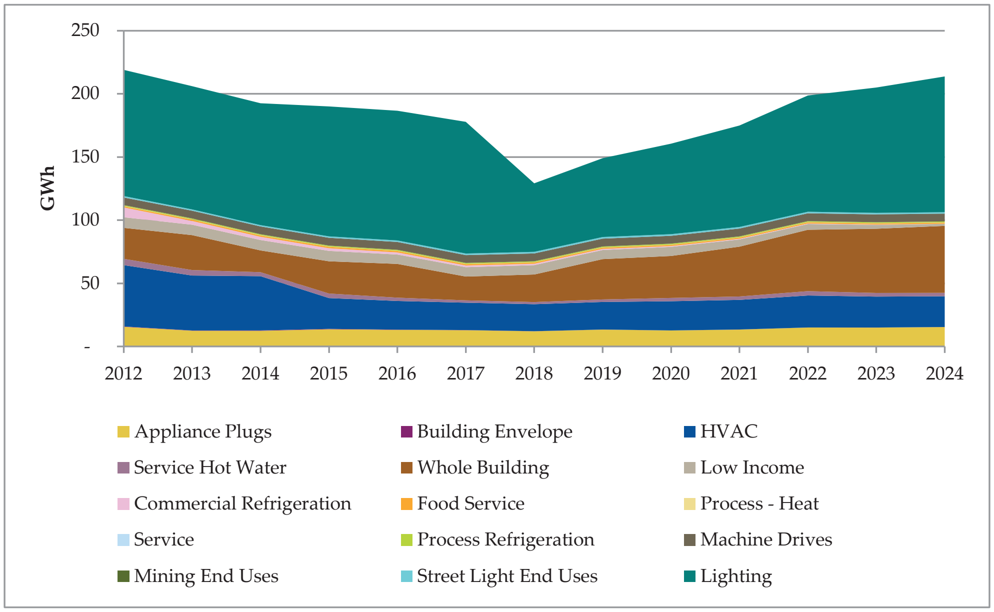


2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-3 and Figure N-4 present the incremental market potential for SDG&E (in GWh) for 2012 to 2024 by end use category.

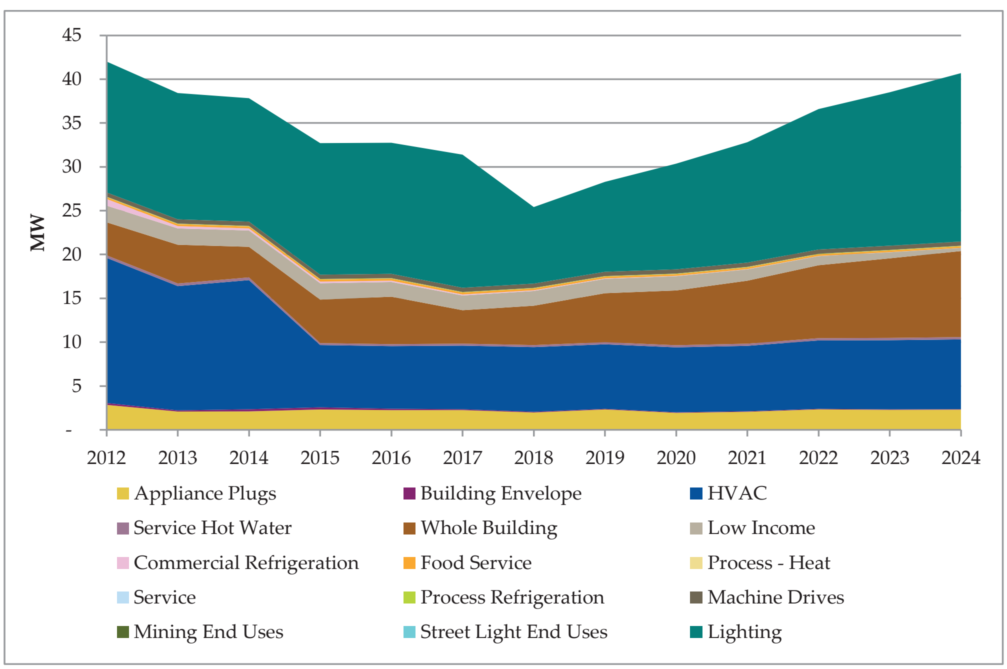
Figure N-3. SDG&E Total Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-4. SDG&E Total Gross Incremental Demand Energy Potential by End Use for 2012-2024 (MW)



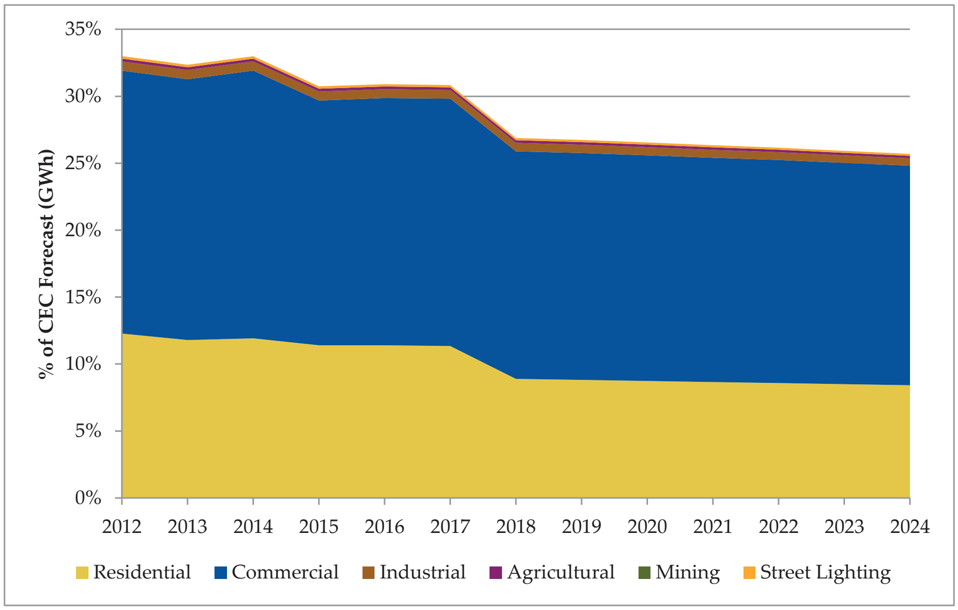
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.1.2 SDG&E Electric Comparative Metrics

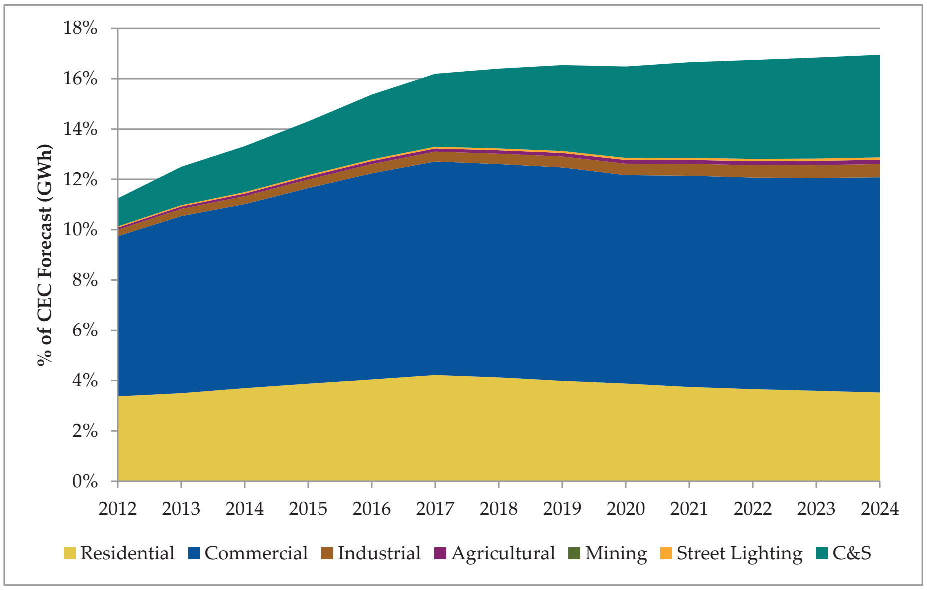
This section provides comparative metrics for the electric savings in the SDG&E service territory. Figure N-5 shows SDG&E's technical potential by sector as a percent of CEC forecast sales. Figure N-6 provides SDG&E's cumulative market potential by sector (with the addition of C&S) as a percent of CEC forecast sales.

Figure N-5. SDG&E Technical Potential by Sector as a Percentage of CEC Forecast (GWh)



Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-6. SDG&E Cumulative Market Potential by Sector as a Percentage of CEC Forecast (GWh)



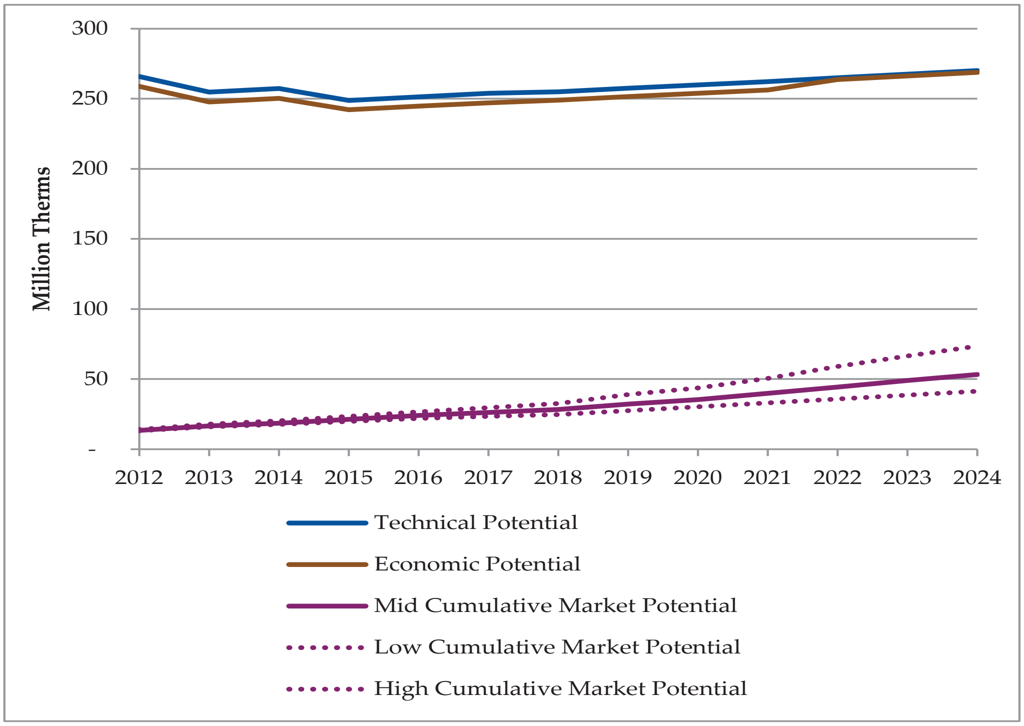
2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

N.1.3 SDG&E Natural Gas Potential

Technical, economic and cumulative gas market potential for the SDG&E service territory is shown in Figure N-7, which also displays the cumulative market for the high and low scenarios. These runs are 20% higher and 10% lower compared to the mid scenario.

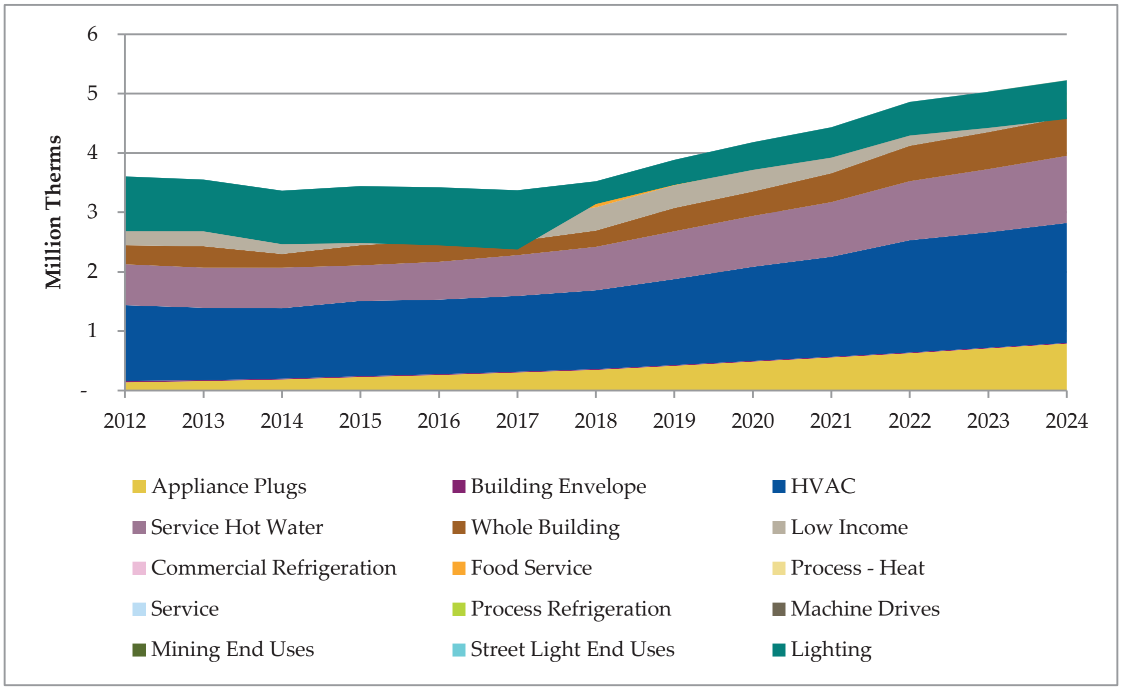
Figure N-7. SDG&E Total Gross Technical, Economic, and Cumulative Market Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.
Source: PG model release February 2014

Figure N-8 presents the incremental market gas potential for SDG&E (in million therms) for 2012 to 2024. Lighting measures account for negative savings through interactive effects though positive savings from other end uses result in a net positive gas savings.

Figure N-8. SDG&E Total Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



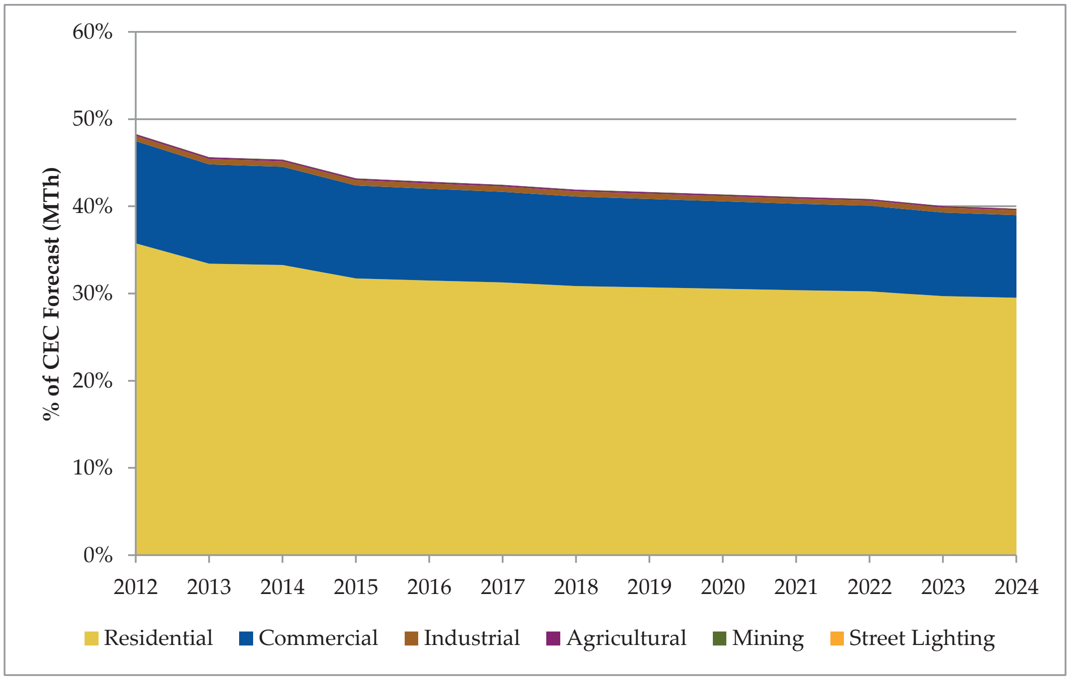
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.1.4 SDG&E Gas Comparative Metrics

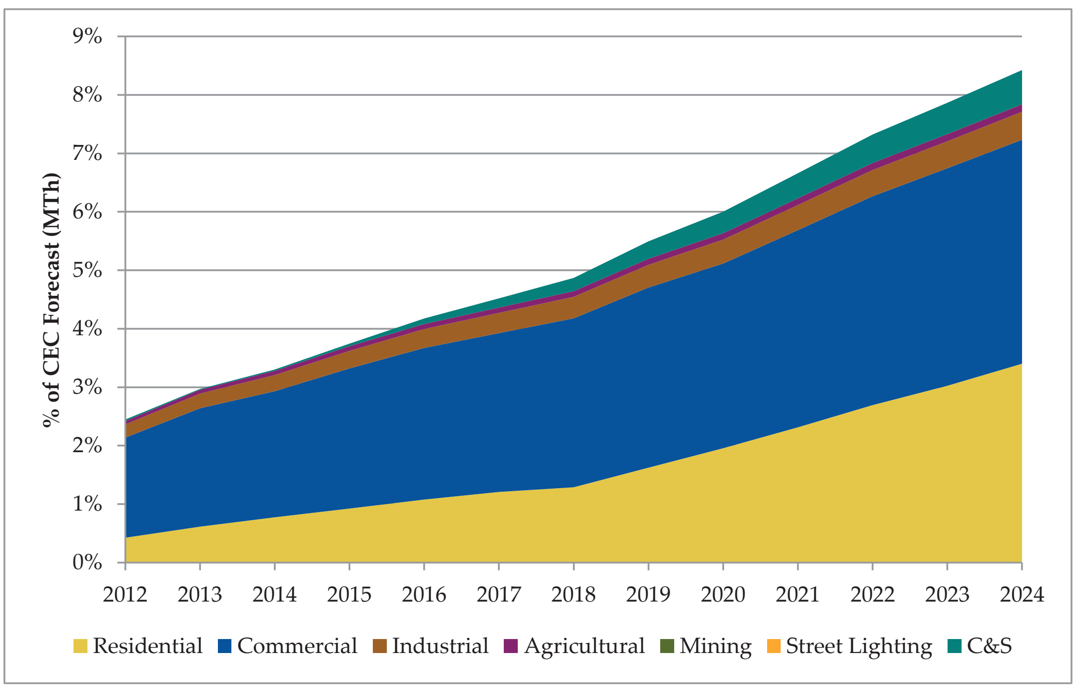
This section provides comparative metrics for the gas savings in SDG&E service territory. Figure N-9 shows SDG&E's technical potential by end use as a percent of CEC forecast sales. Figure N-10 provides SDG&E's cumulative market potential by end use as a percent of CEC forecast sales.

Figure N-9. SDG&E Technical Potential by Sector as a Percentage of CEC Forecast (Mth)



Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-10. SDG&E Cumulative Market Potential by Sector as a Percentage of CEC Forecast (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

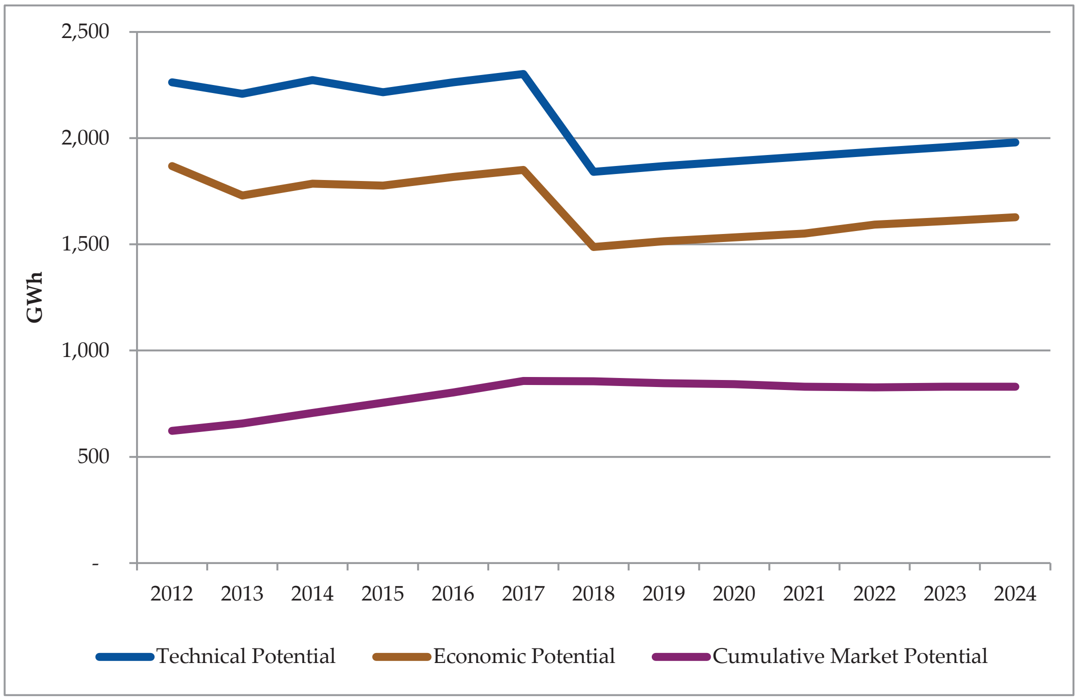
N.2 *SDG&E Residential Sector Results*

This section outlines results for the SDG&E residential sector. Residential trend lines, detailed analysis, and explanation of comparative metrics are discussed in the residential results section of the report.

N.2.1 SDG&E Residential Electric Energy and Demand Potential

Residential technical, economic and cumulative market potential for energy and demand are shown in Figure N-11 and Figure N-12 respectively. Figure N-13 and Figure N-14 shows the incremental market energy potential by end use.

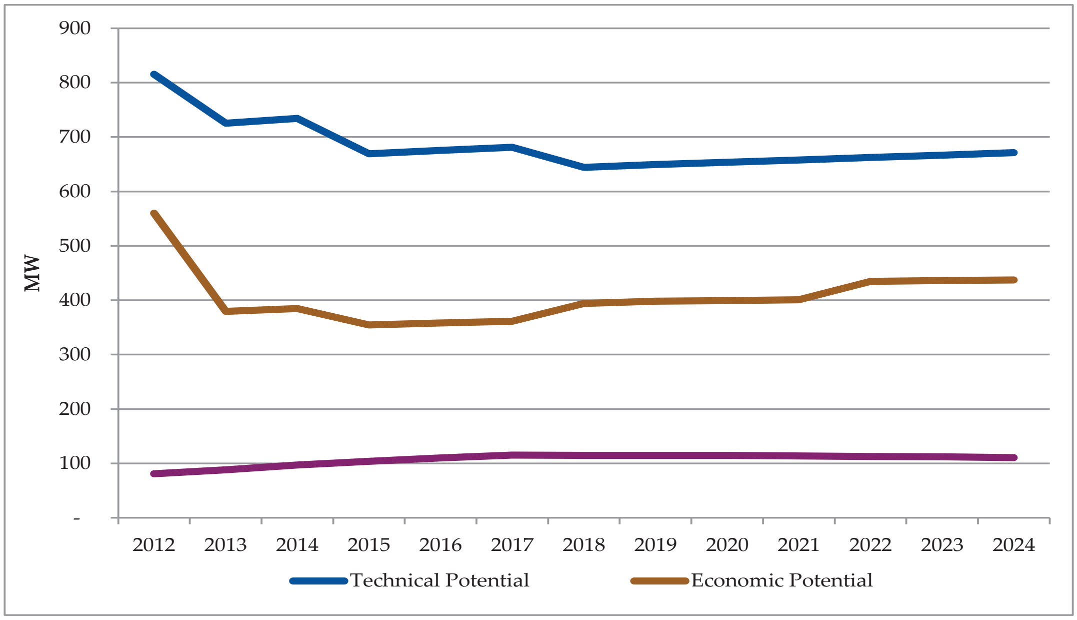
Figure N-11. SDG&E Residential Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

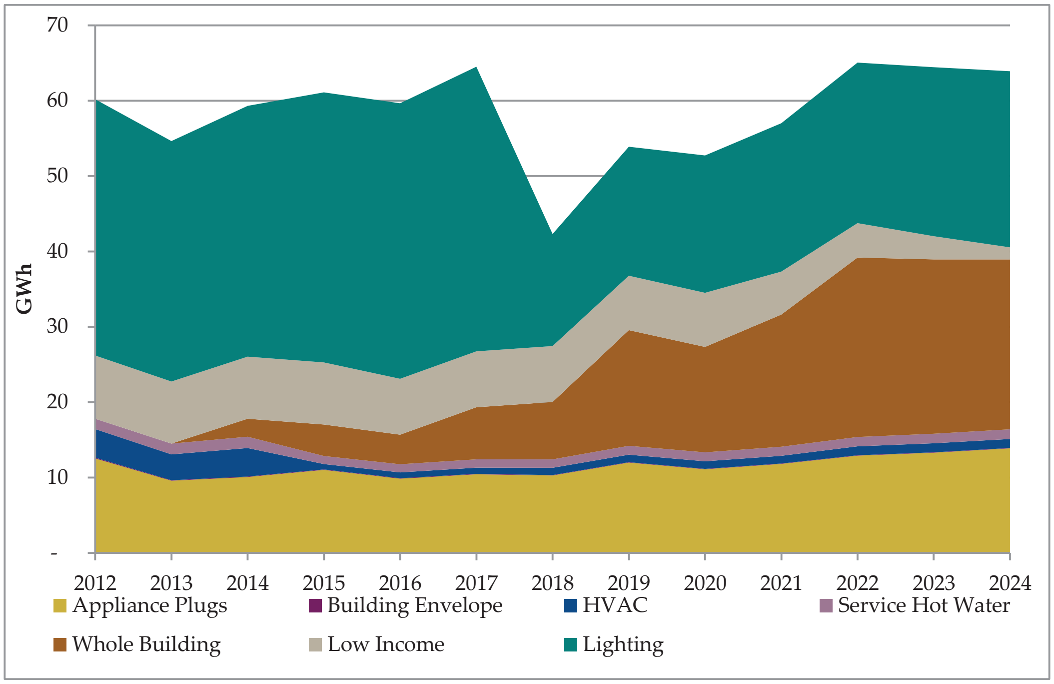
Figure N-12. SDG&E Residential Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

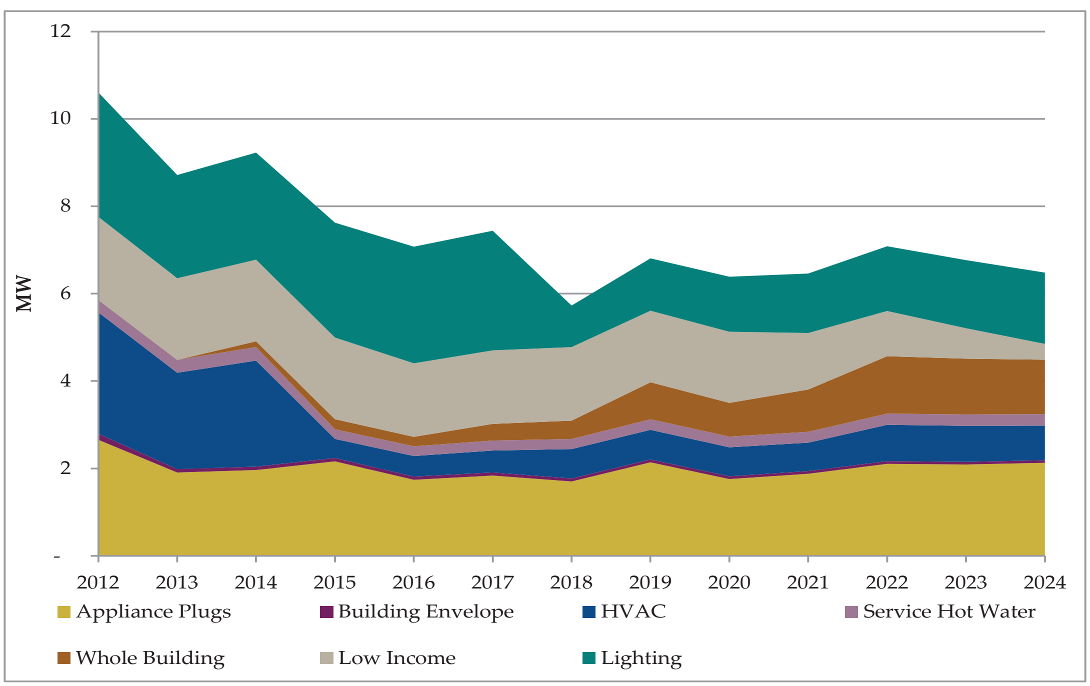
Figure N-13. SDG&E Residential Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-14. SDG&E Residential Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



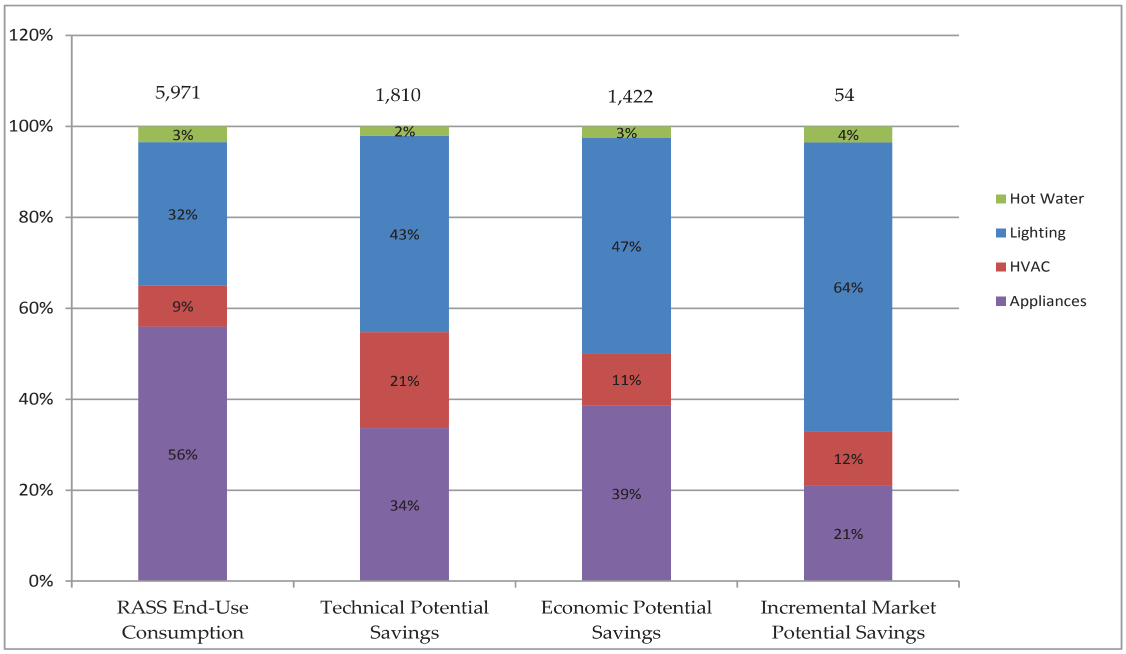
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.2.2 SDG&E Residential Electric Comparative Metrics

The SDG&E specific comparative metrics for the residential electric sector are shown below. Further details on these metrics are provided in the residential section of the report.

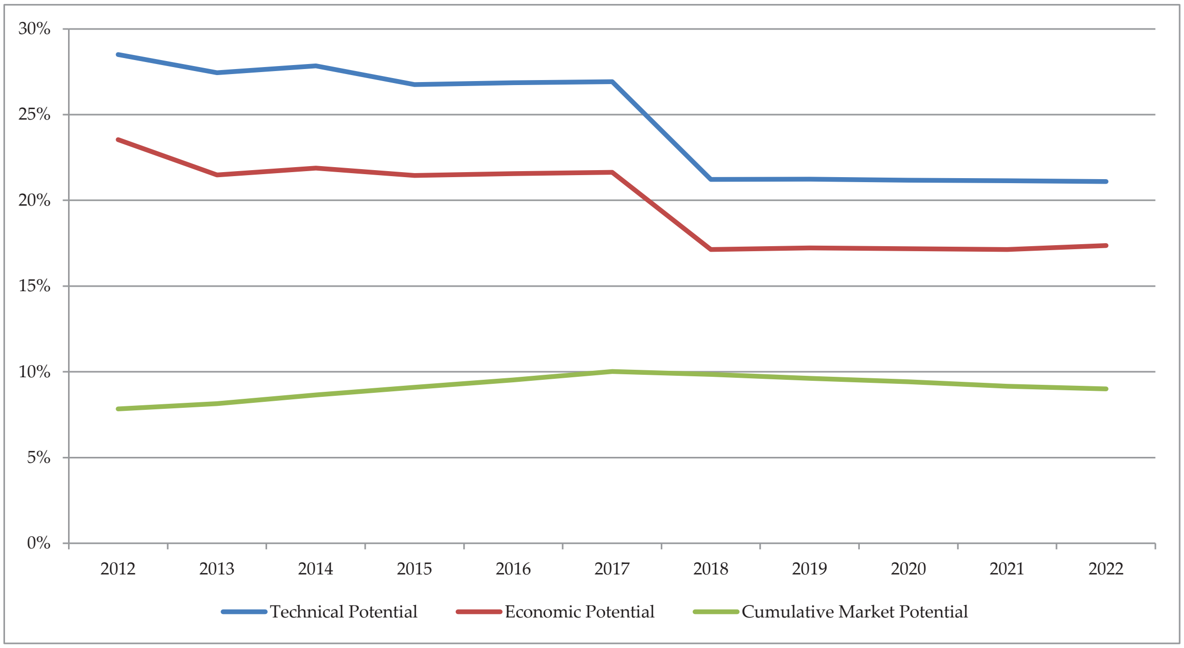
Figure N-15. SDG&E Breakdown of RASS Consumption and 2014 Savings Potential Embedded in End Use Consumption*



*Number at the top of each bar is the total consumption or savings potential in kWh/home

Source: PG model release February 2014 & RASS 2009

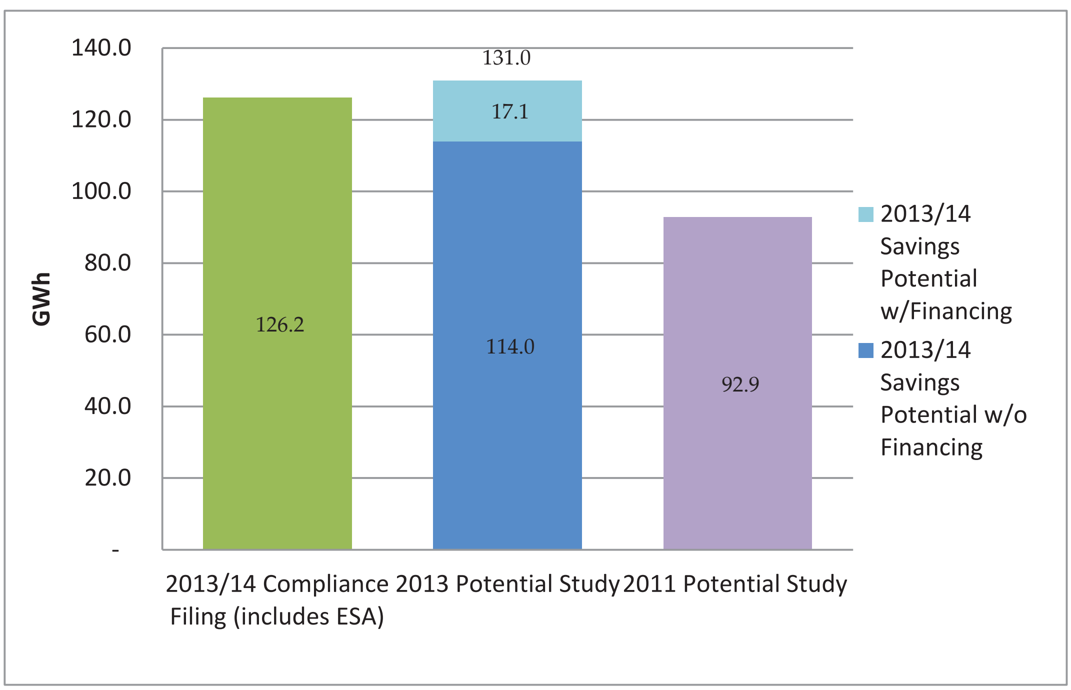
Figure N-16. SDG&E Residential Savings Potential as a Percent of CEC Residential Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-17. SDG&E Comparison of Residential Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)

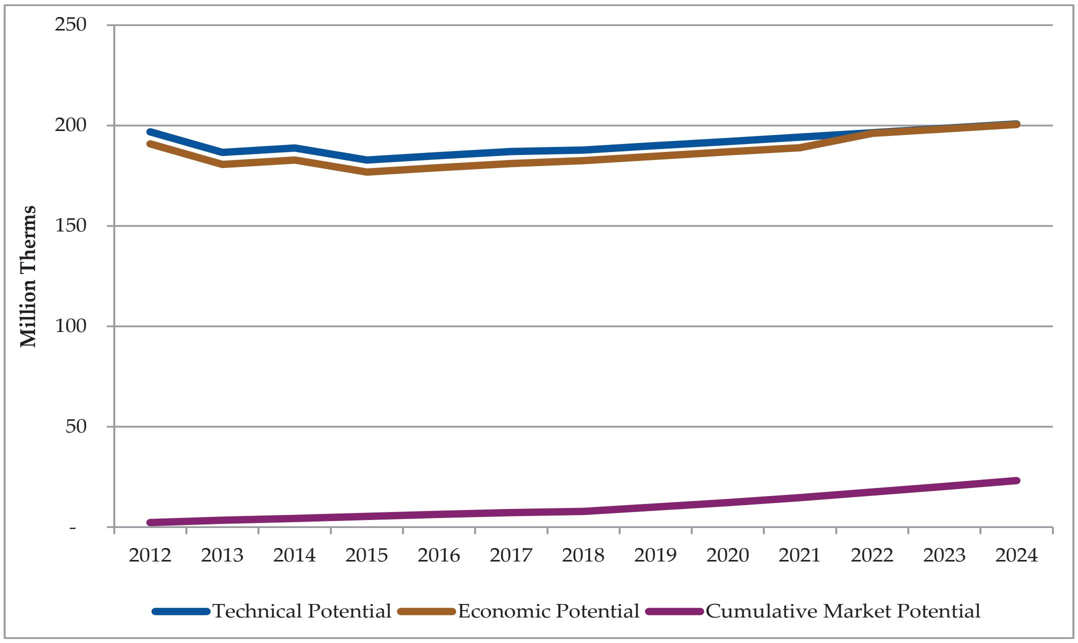


Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

N.2.3 SDG&E Residential Gas Energy Potential

Figure N-18 displays the technical, economic and cumulative gas market potential for the residential sector. Interactive effects between gas and electric measures explain the negative savings in the beginning. Figure N-19 shows the incremental market gas potential by end use.

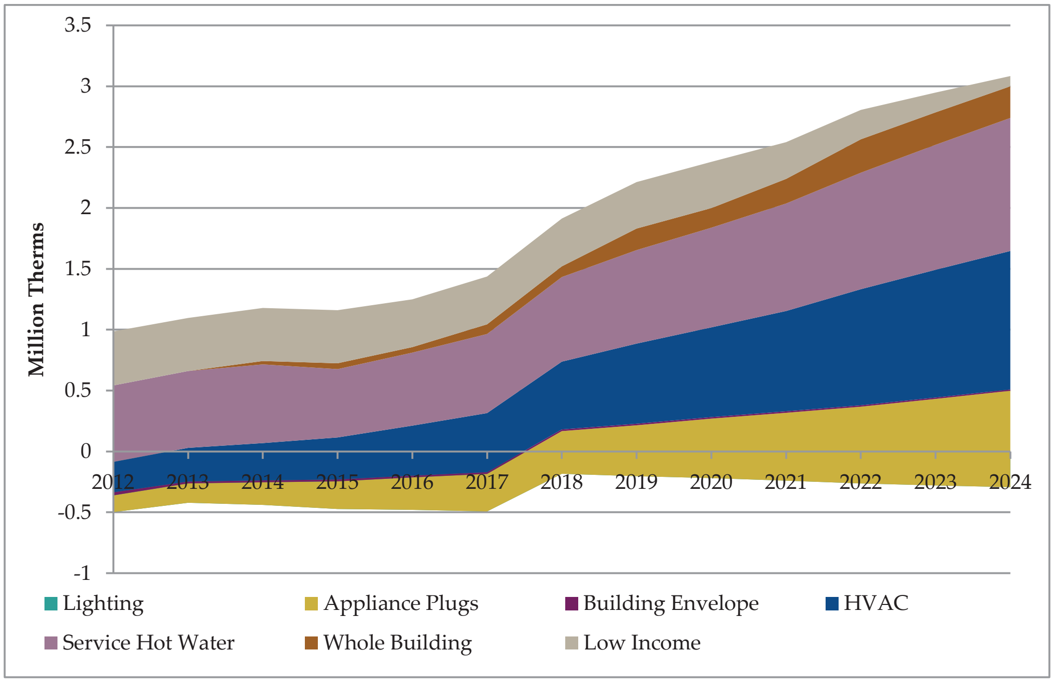
Figure N-18. SDG&E Residential Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-19. SDG&E Residential Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



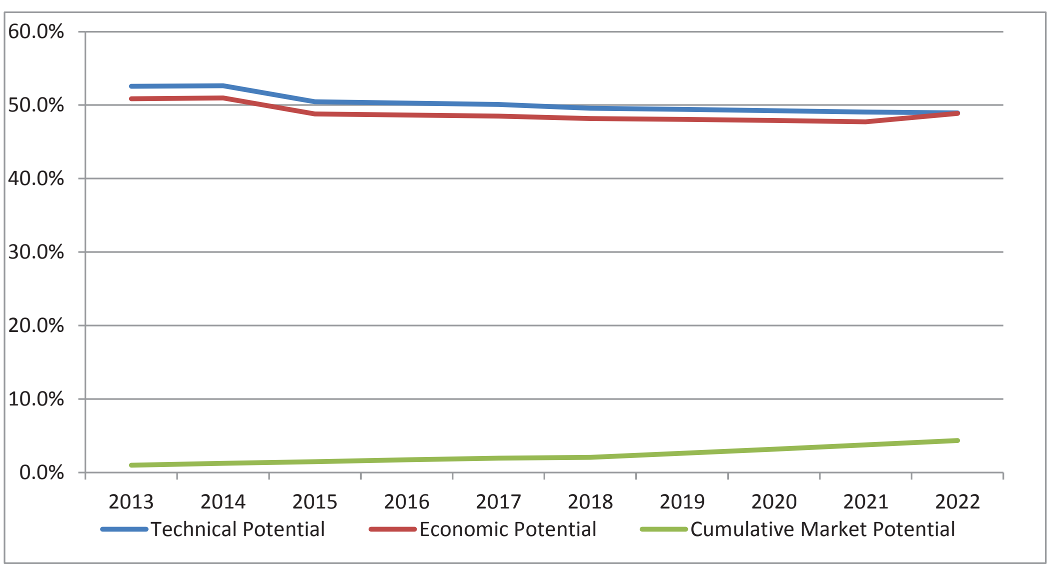
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.2.4 SDG&E Residential Gas Comparative Metrics

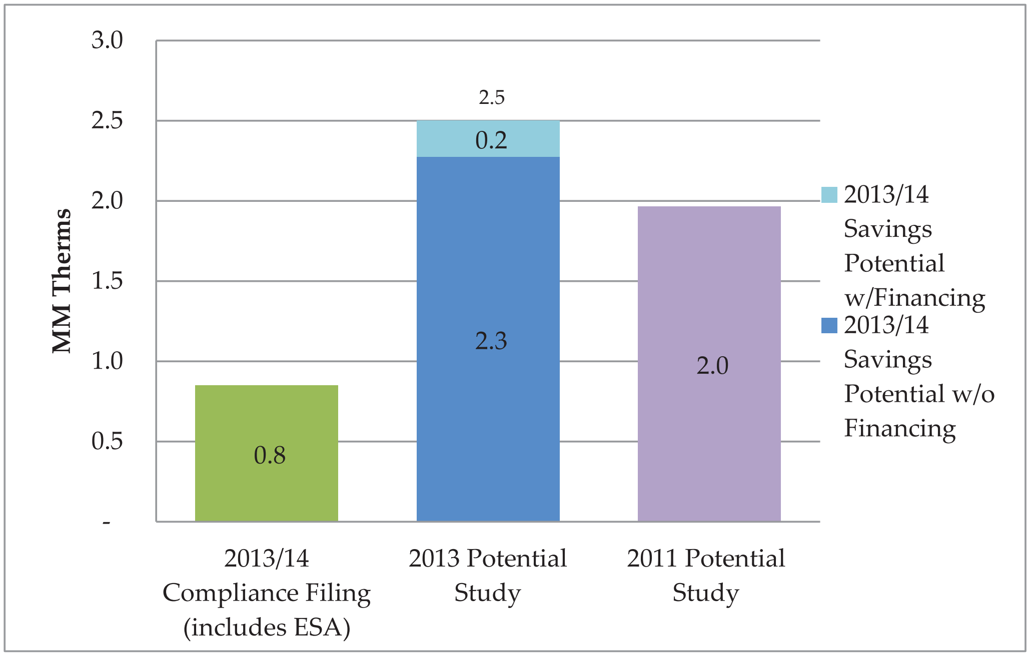
The SDG&E specific comparative metrics for the residential gas sector are shown below. Further details on these metrics are provided in the residential section of the report.

Figure N-20. SDG&E Residential Gas Savings Potential as a Percent of CEC Residential Gas Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.
Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-21. SDG&E Comparison of Residential Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

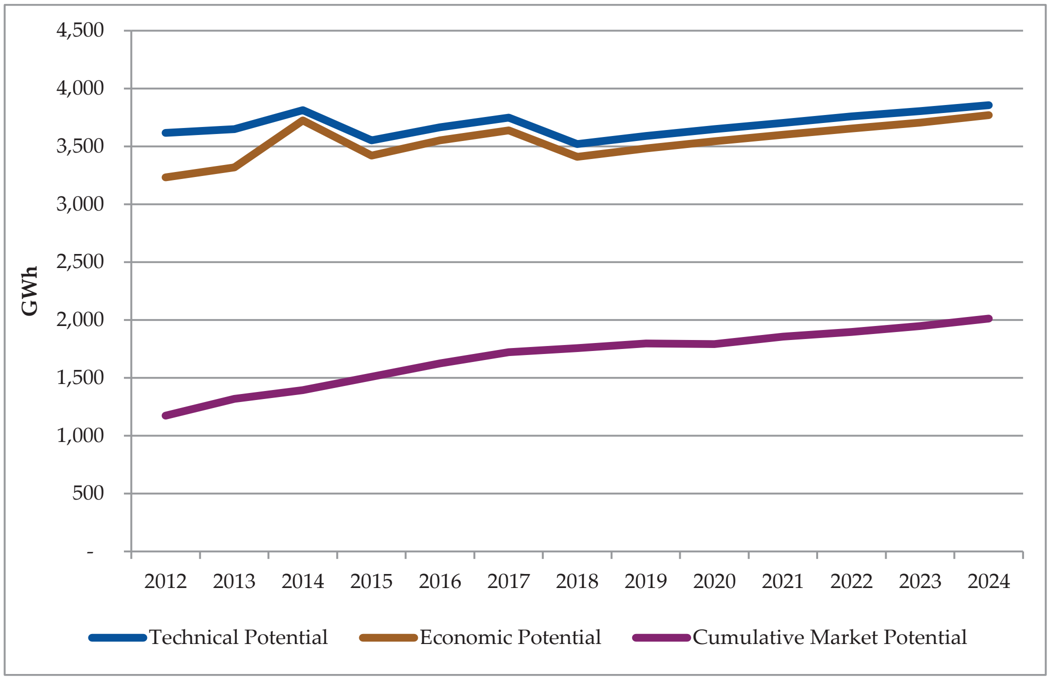
N.3 SDG&E Commercial Sector Results

This section outlines results for the SDG&E commercial sector. Commercial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the commercial results section of the report.

N.3.1 SDG&E Commercial Electric Energy Potential

Commercial technical, economic and cumulative market potential for energy and demand are shown in Figure N-22 and Figure N-23 respectively. Figure N-24 and Figure N-25 show the incremental market energy potential by end use.

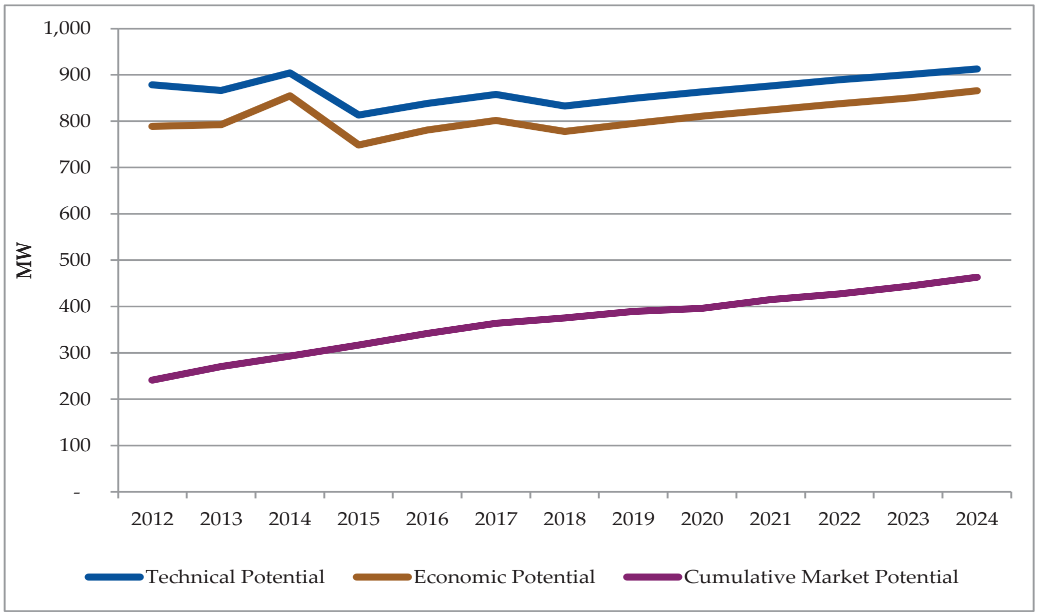
Figure N-22. SDG&E Commercial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

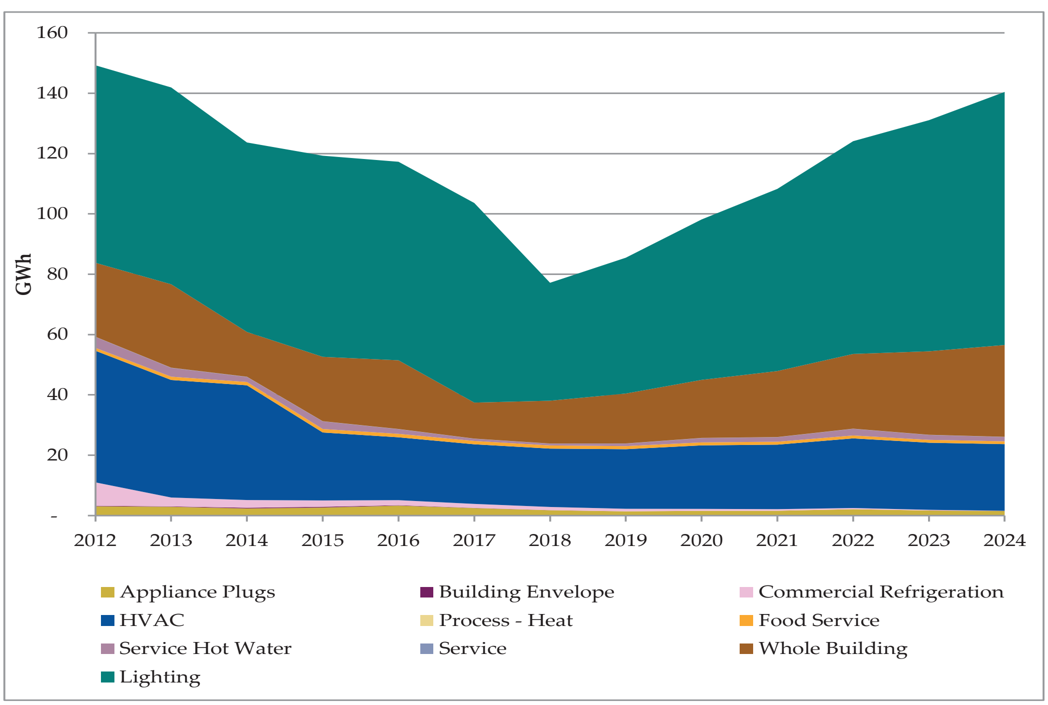
Figure N-23. SDG&E Commercial Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

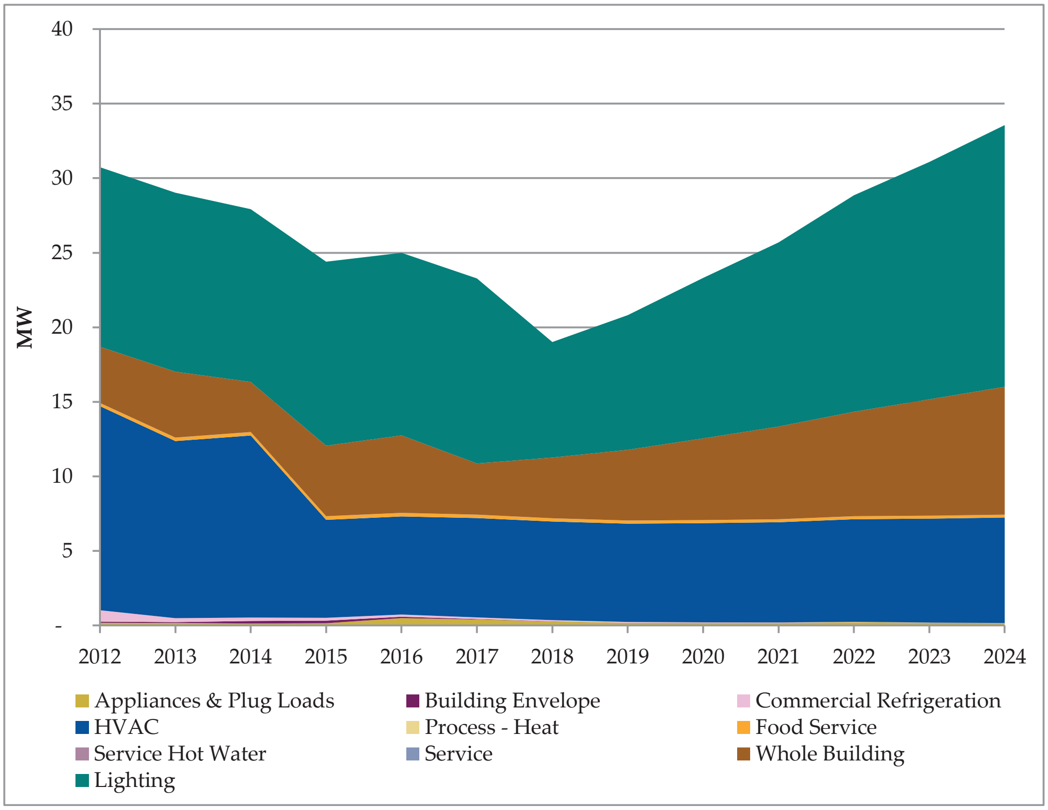
Figure N-24. SDG&E Commercial Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-25. SDG&E Commercial Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



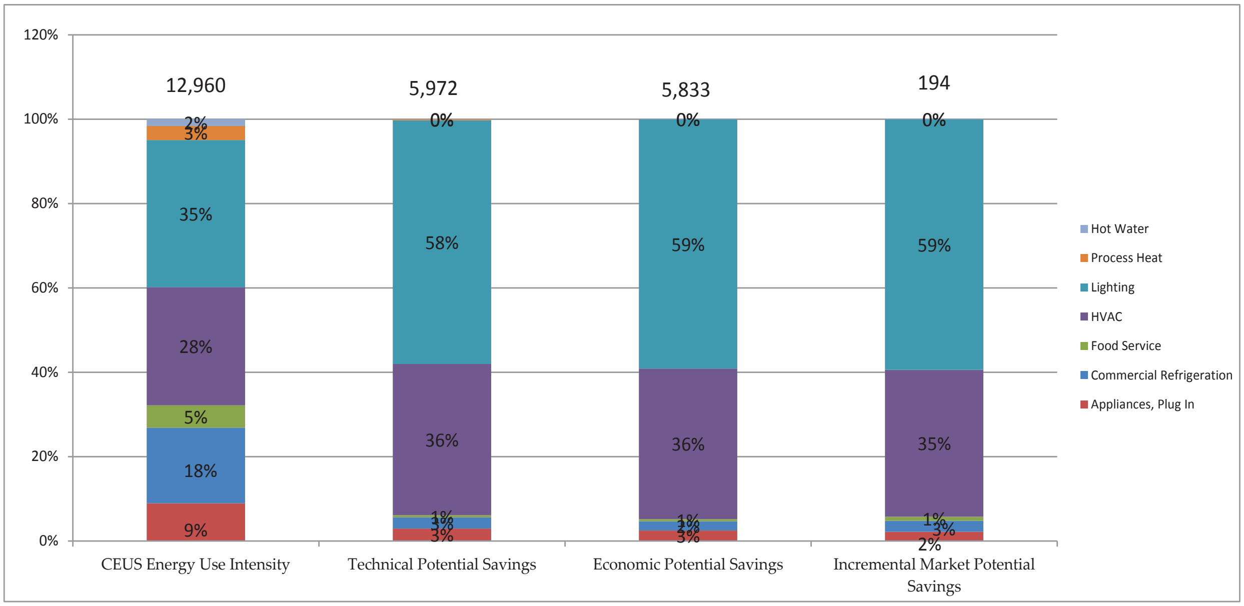
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.3.2 SDG&E Commercial Electric Comparative Metrics

The SDG&E specific comparative metrics for the commercial electric sector are shown below. Further details on these metrics are provided in the commercial section of the report.

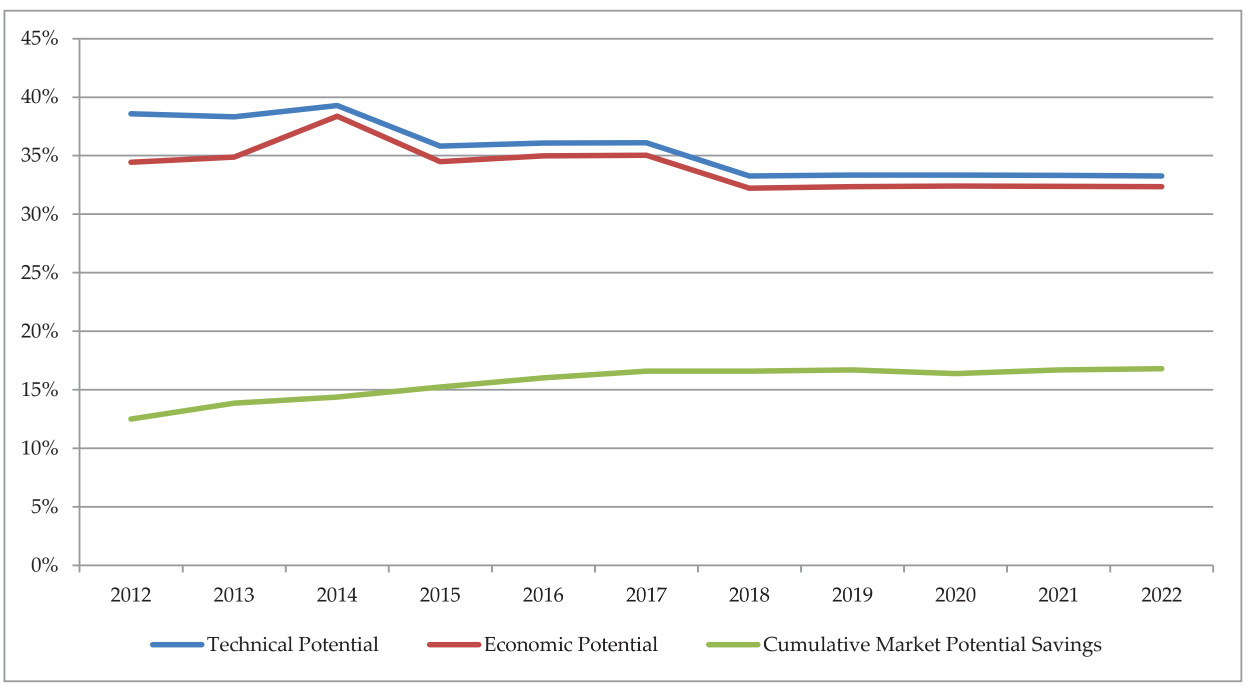
Figure N-26. SDG&E Breakdown of Commercial EUIs and 2014 Savings Potential by End Use*



*Number at the top of each bar is the EUI or savings potential per 1000 sq. ft.

Source: PG model release February 2014 & CEUS 2006

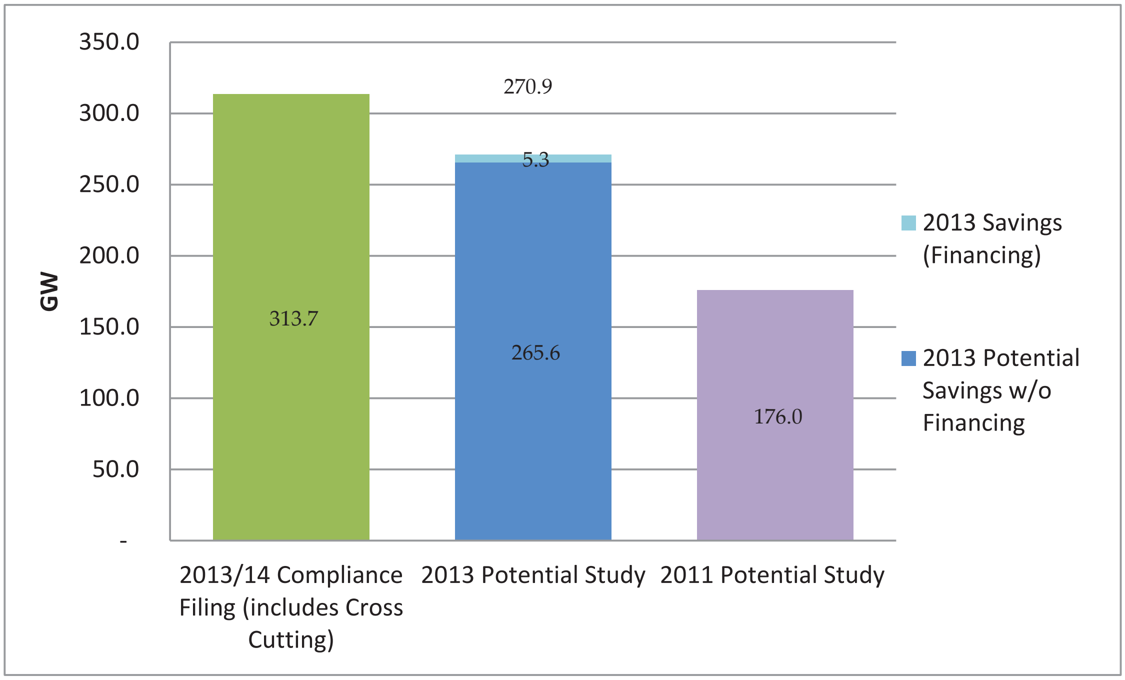
Figure N-27. SDG&E Commercial Savings Potential as a Percent of CEC Commercial Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-28. SDG&E Comparison of Commercial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)

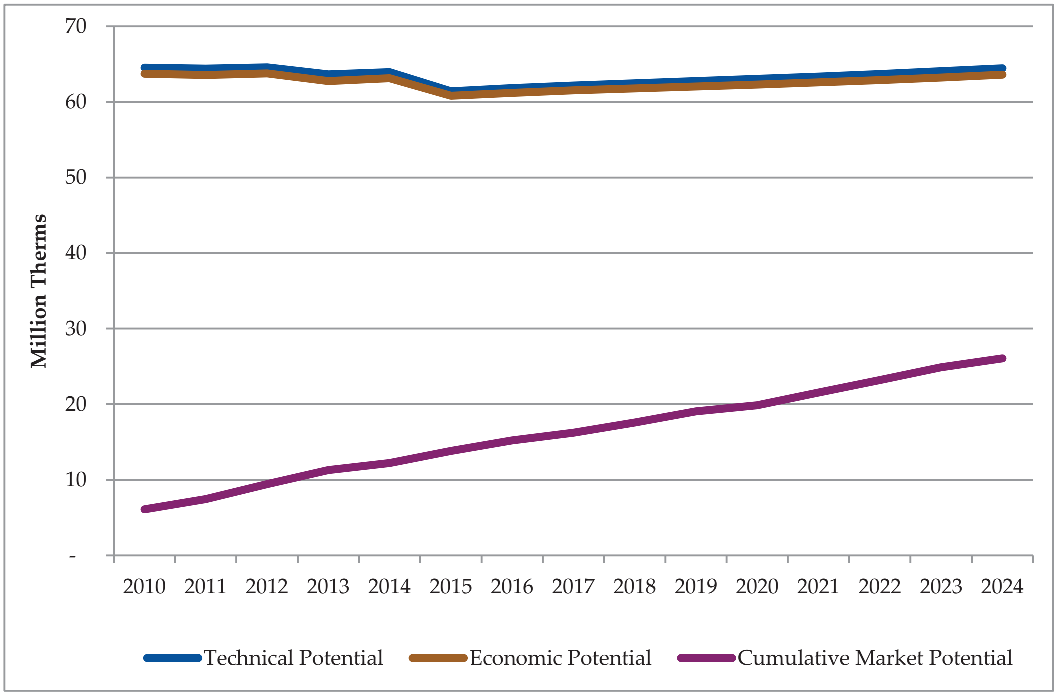


Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

N.3.3 SDG&E Commercial Gas Energy Potential

Figure N-29 displays the technical, economic and cumulative gas market potential for the commercial sector. Figure N-30 shows the incremental market gas potential by end use.

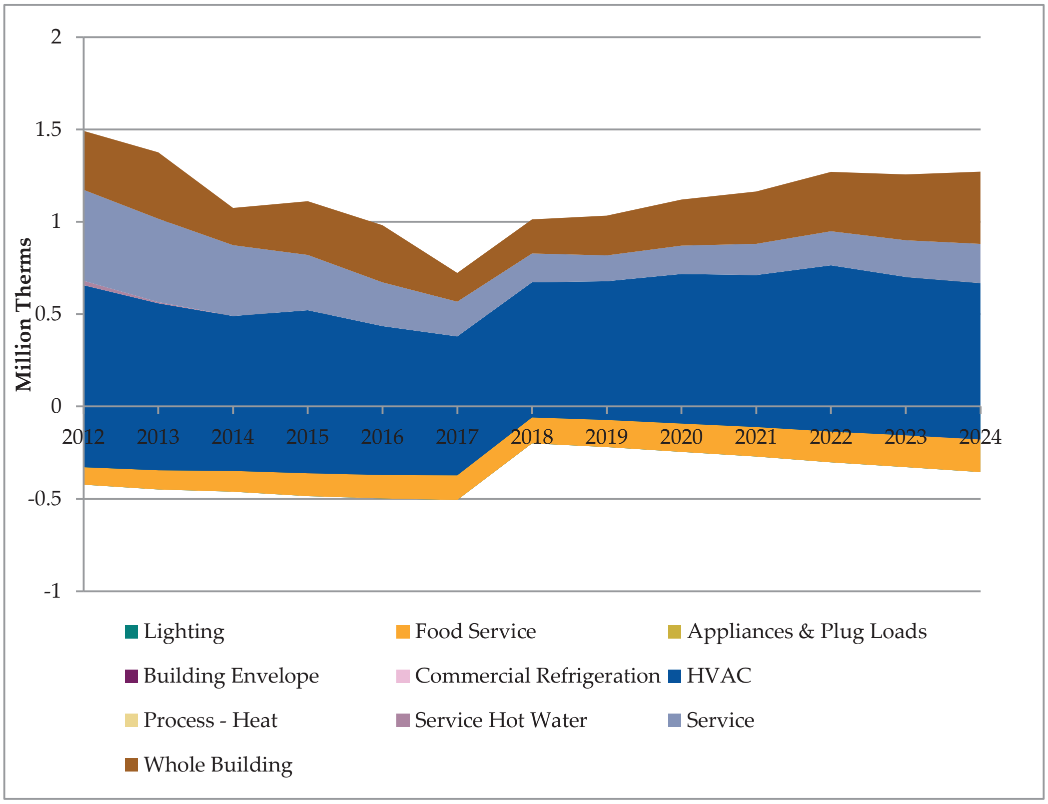
Figure N-29. SDG&E Commercial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-30. SDG&E Commercial Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



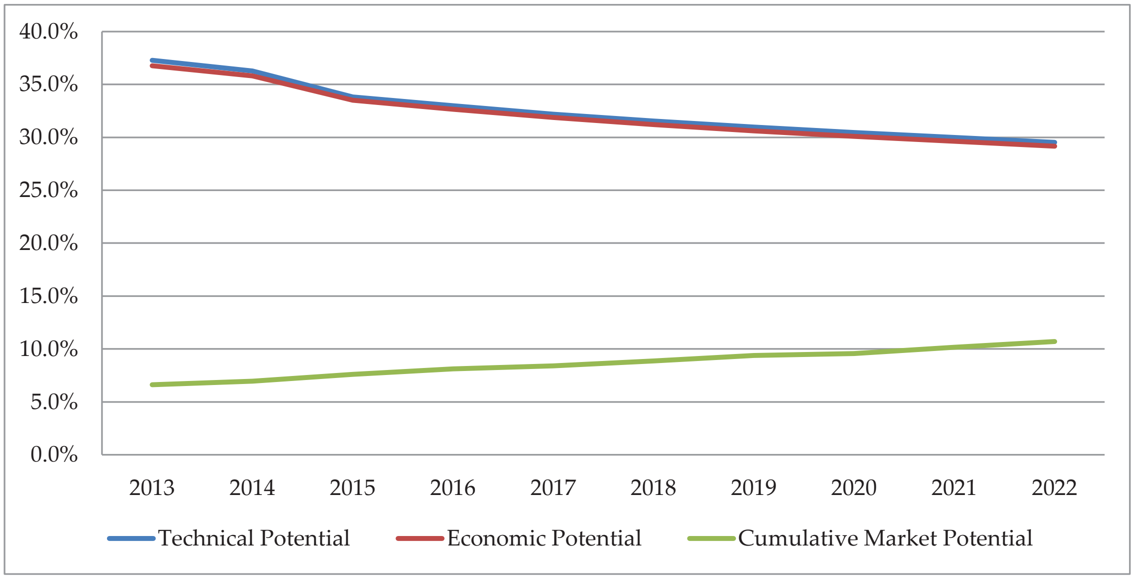
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.3.4 SDG&E Commercial Gas Comparative Metrics

The SDG&E specific comparative metrics for the commercial gas sector are shown below. Further details on these metrics are provided in the commercial section of the report.

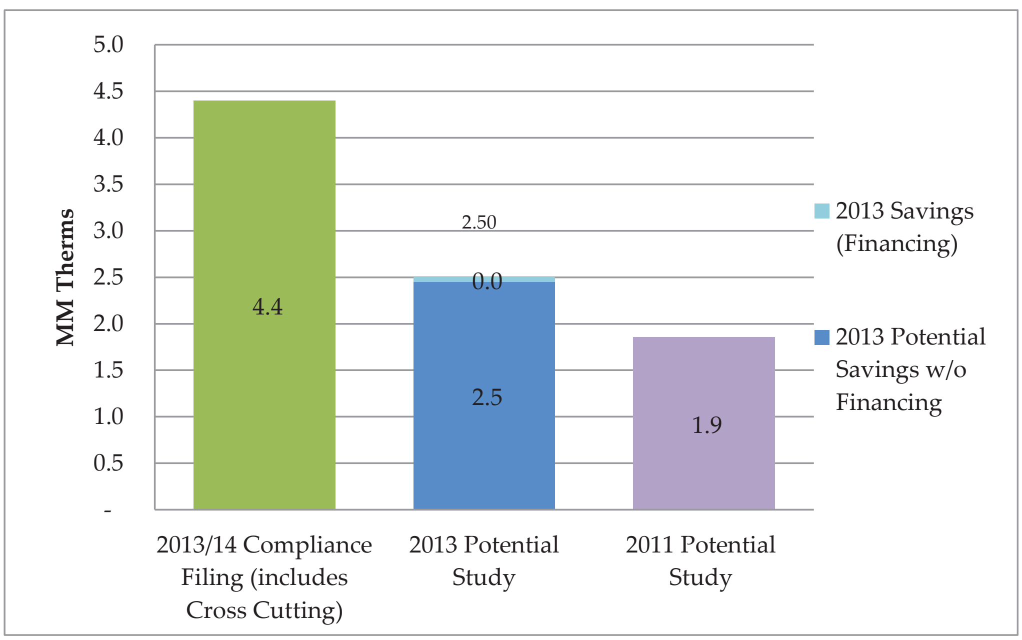
Figure N-31. SDG&E Commercial Gas Savings Potential as a Percent of CEC Commercial Gas Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-32. SDG&E Comparison of Commercial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

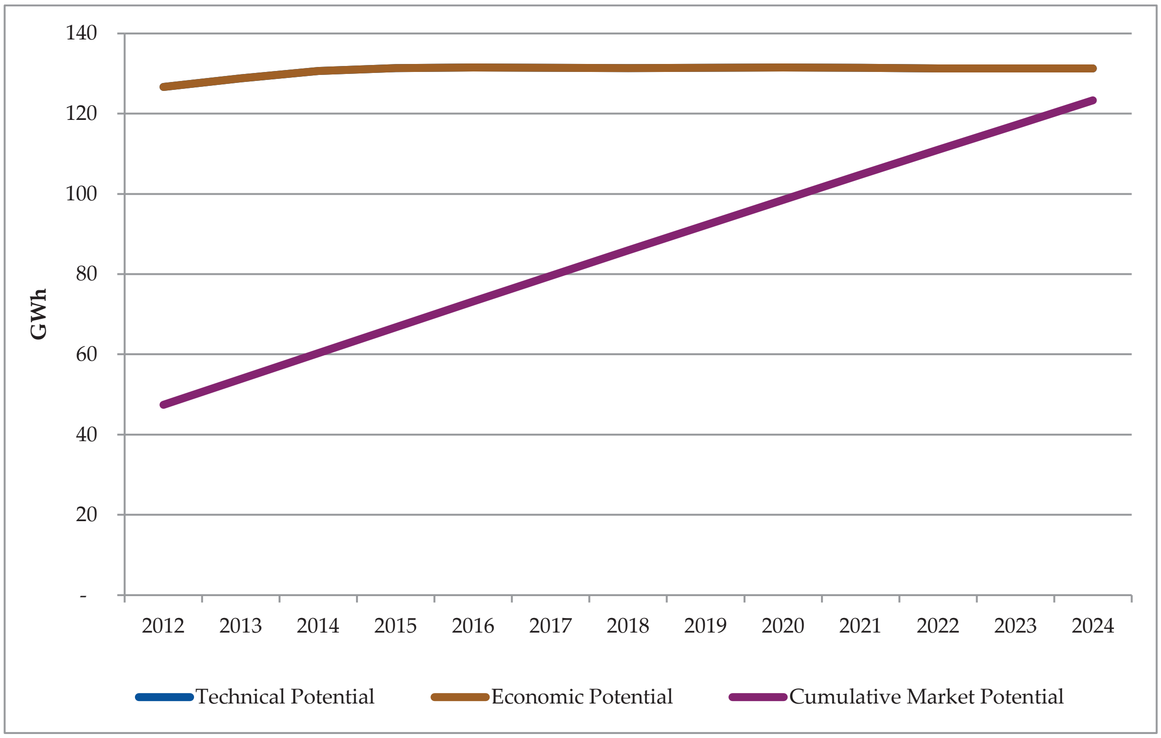
N.4 SDG&E Industrial Sector Results

This section outlines results for the SDG&E industrial sector. Industrial trend lines, detailed analysis, and explanation of comparative metrics are discussed in the industrial results section of the report.

N.4.1 SDG&E Industrial Electric Energy Potential

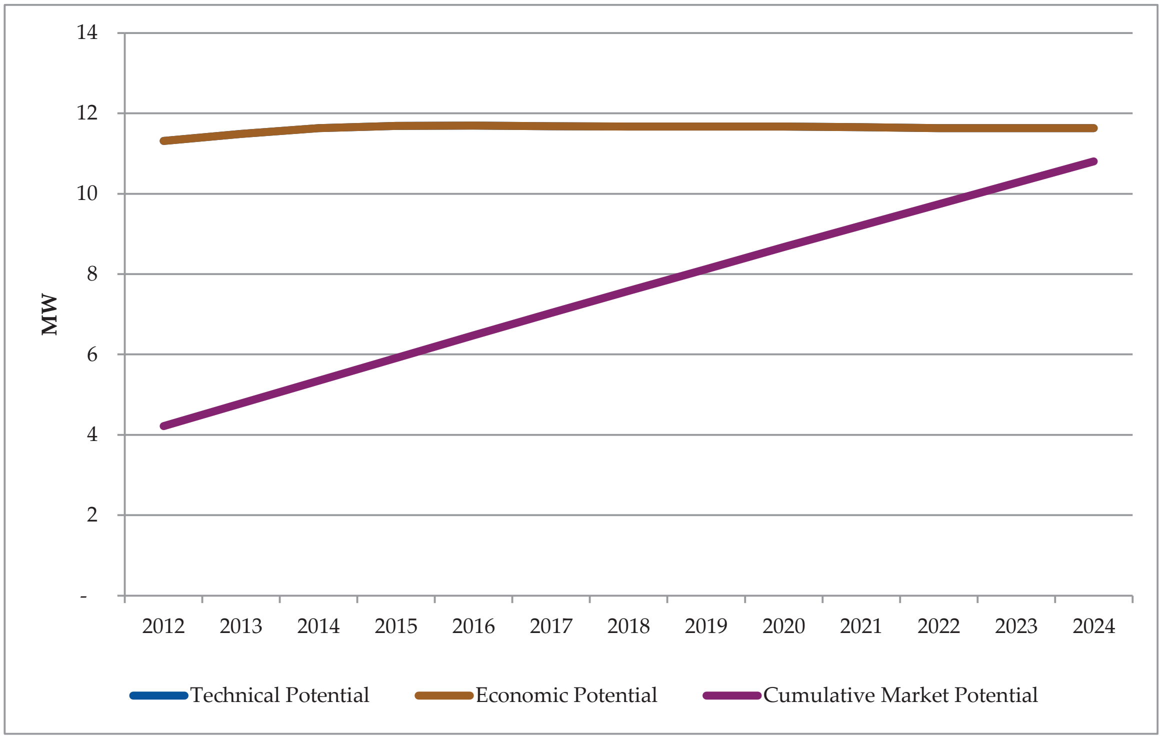
Industrial technical, economic and cumulative market potentials for energy and demand are shown in Figure N-33 and Figure N-34. Figure N-35 and Figure N-36 show the incremental market energy and demand potential by end use.

Figure N-33. SDG&E Industrial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.
Source: PG model release February 2014

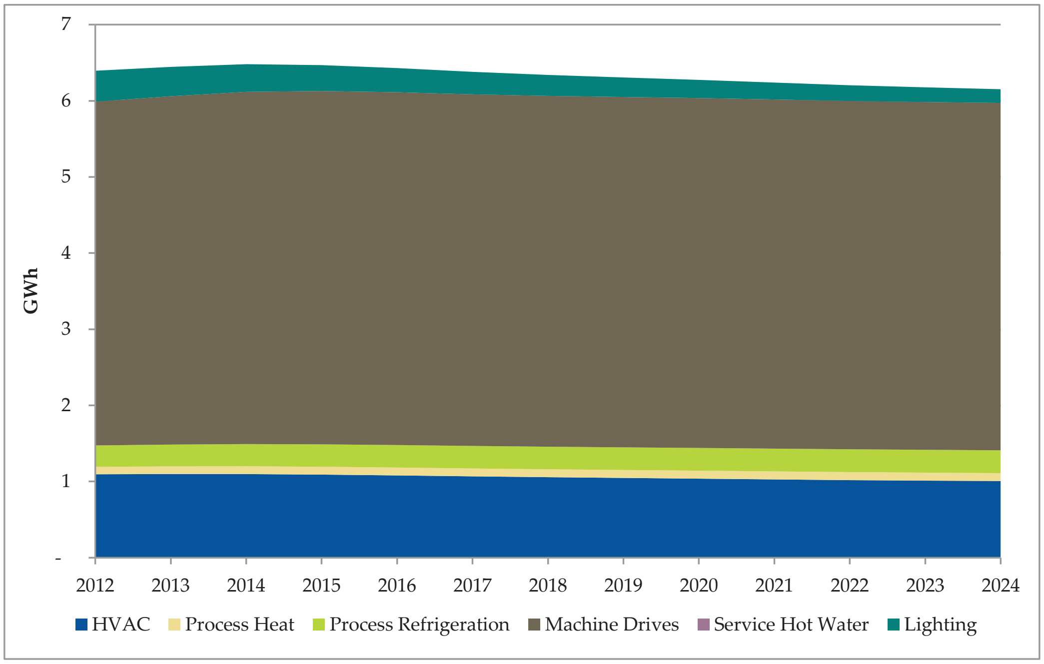
Figure N-34. SDG&E Industrial Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

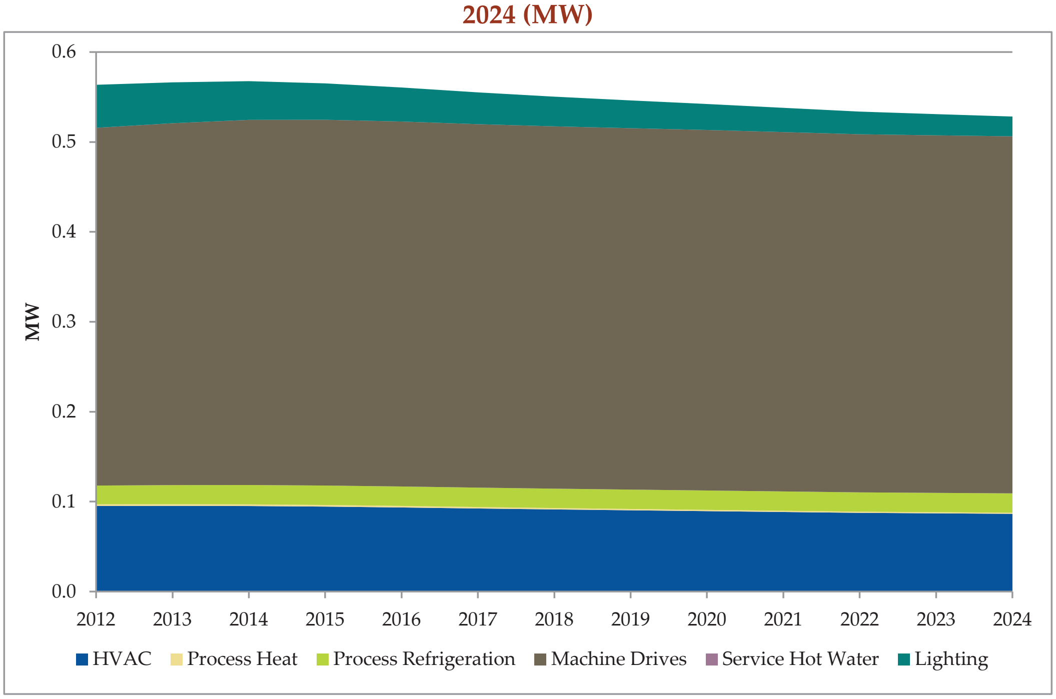
Figure N-35. SDG&E Industrial Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-36. SDG&E Industrial Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



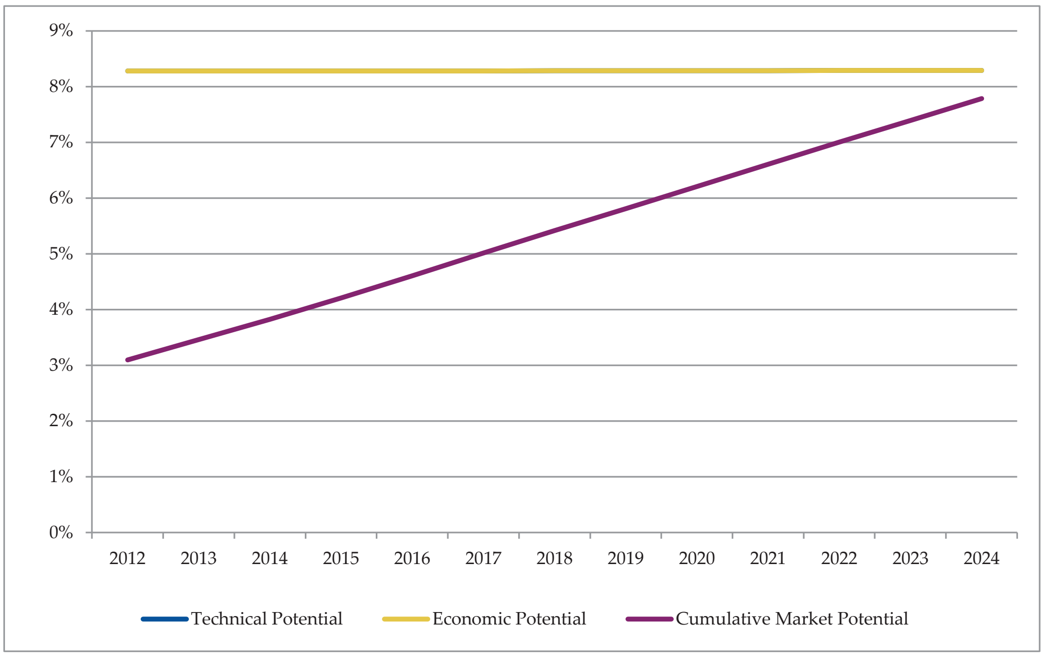
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.4.2 SDG&E Industrial Electric Comparative Metrics

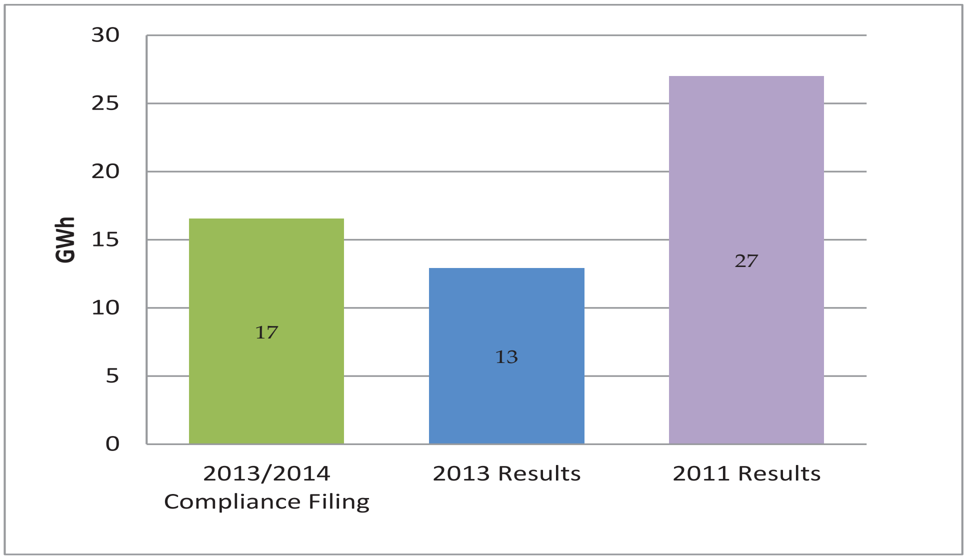
The SDG&E specific comparative metrics for the industrial electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

Figure N-37. SDG&E Industrial Electric Savings Potential as a Percent of CEC Industrial Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.
Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-38. SDG&E Comparison of Industrial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)

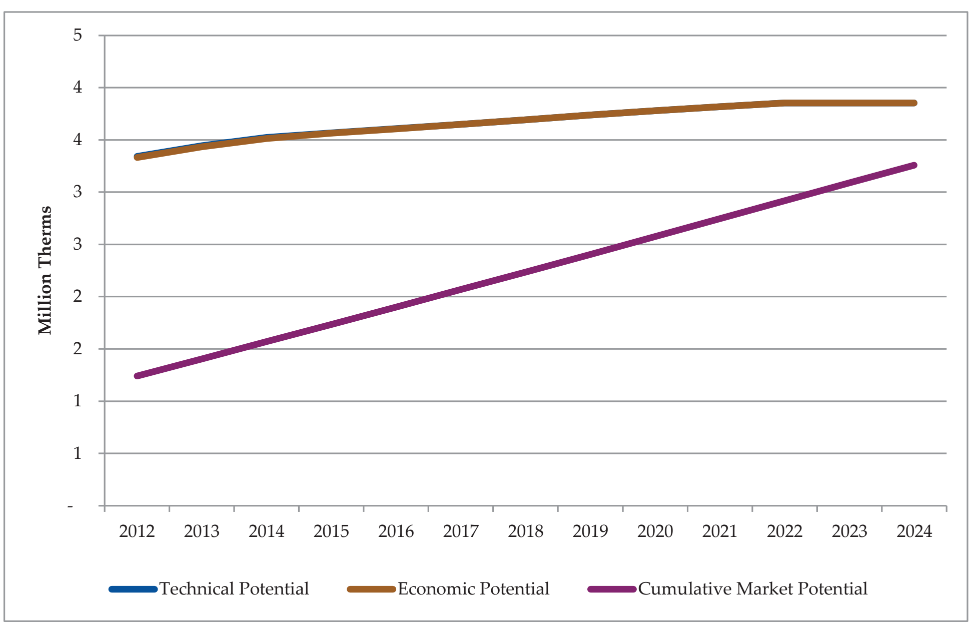


Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

N.4.3 SDG&E Industrial Gas Energy Potential

Figure N-39 displays the technical, economic and cumulative gas market potential for the Industrial sector. Figure N-40 shows the incremental market gas potential by end use.

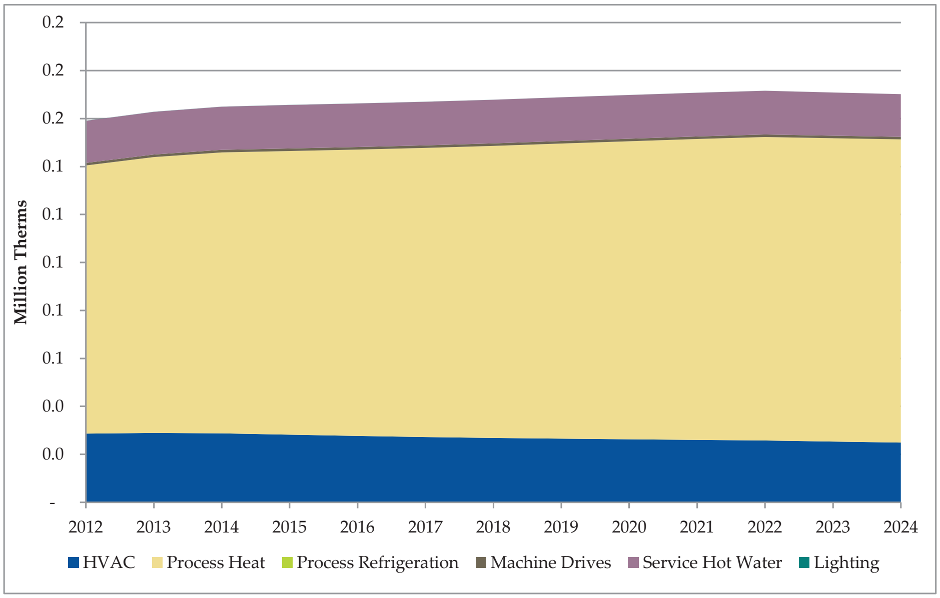
Figure N-39. SDG&E Industrial Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-40 SDG&E Industrial Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



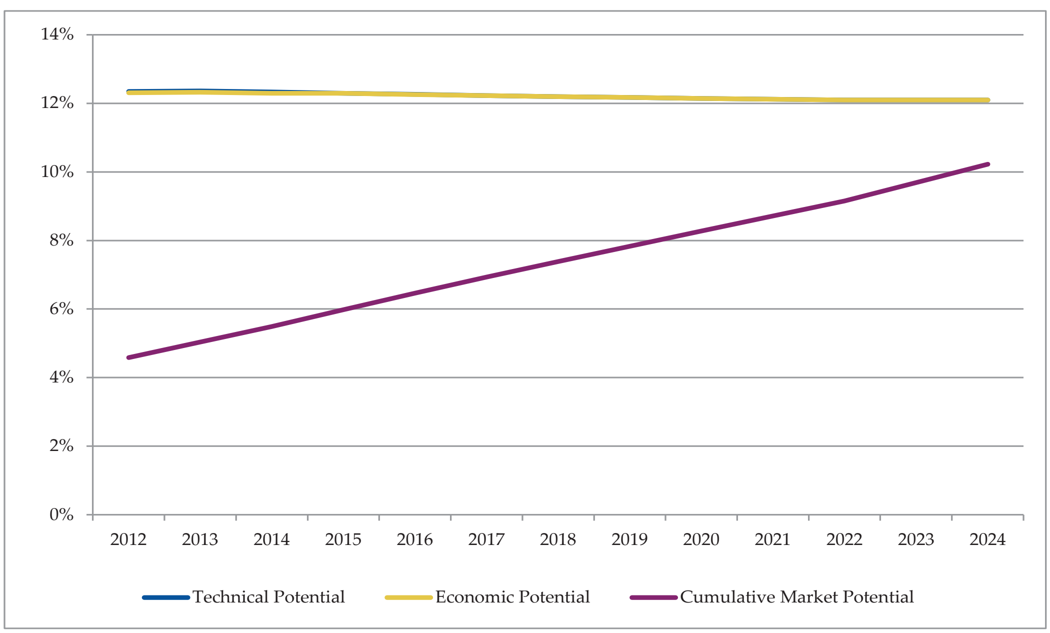
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.4.4 SDG&E Industrial Gas Comparative Metrics

The SDG&E specific comparative metrics for the industrial gas sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

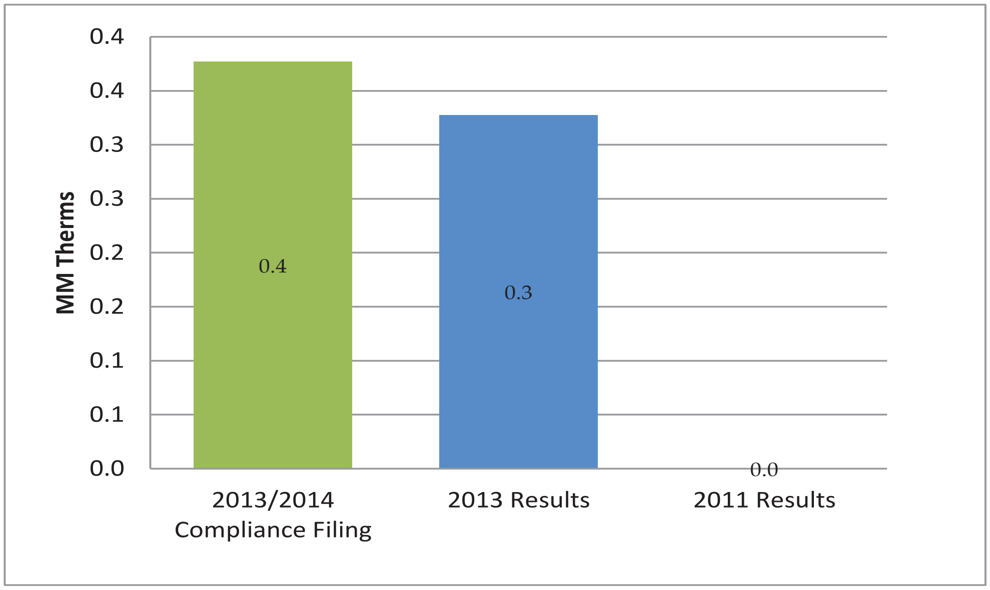
Figure N-41. SDG&E Industrial Gas Savings Potential as a Percent of CEC Industrial Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-42. SDG&E Comparison of Industrial Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

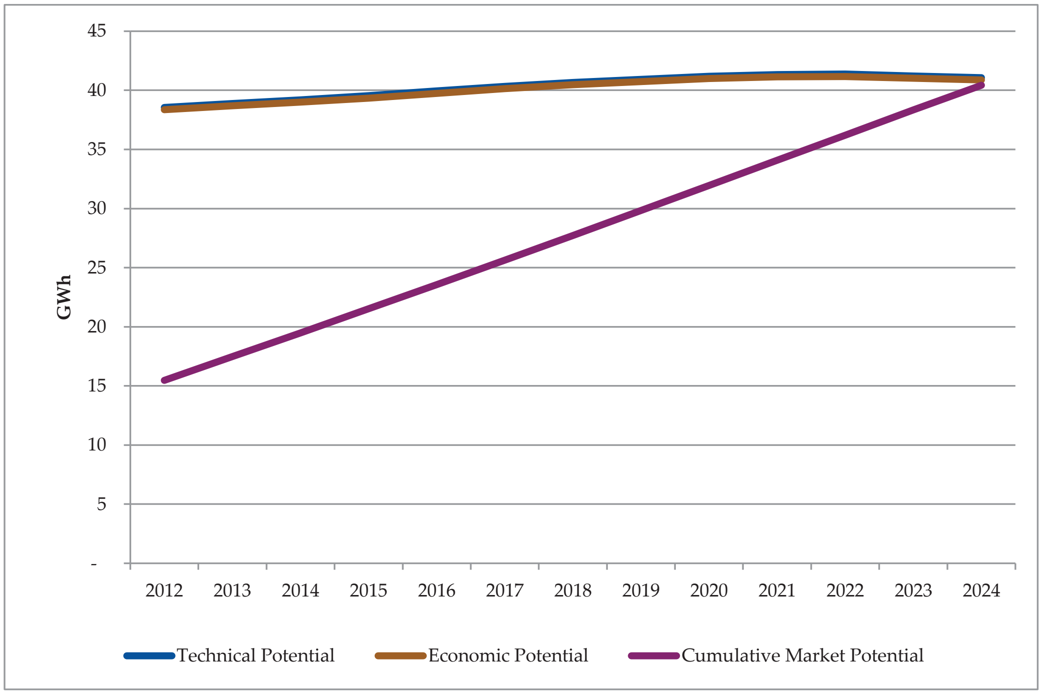
N.5 SDG&E Agriculture Sector Results

This section outlines results for the SDG&E agriculture sector. Agriculture trend lines, detailed analysis, and explanation of comparative metrics are discussed in the agriculture results section of the report.

N.5.1 SDG&E Agriculture Electric Energy Potential

Agriculture technical, economic and cumulative market potential trends for energy and demand are shown in Figure N-43 and Figure N-44 respectively. Figure N-45 and Figure N-46 show the incremental market energy and demand potential by end use.

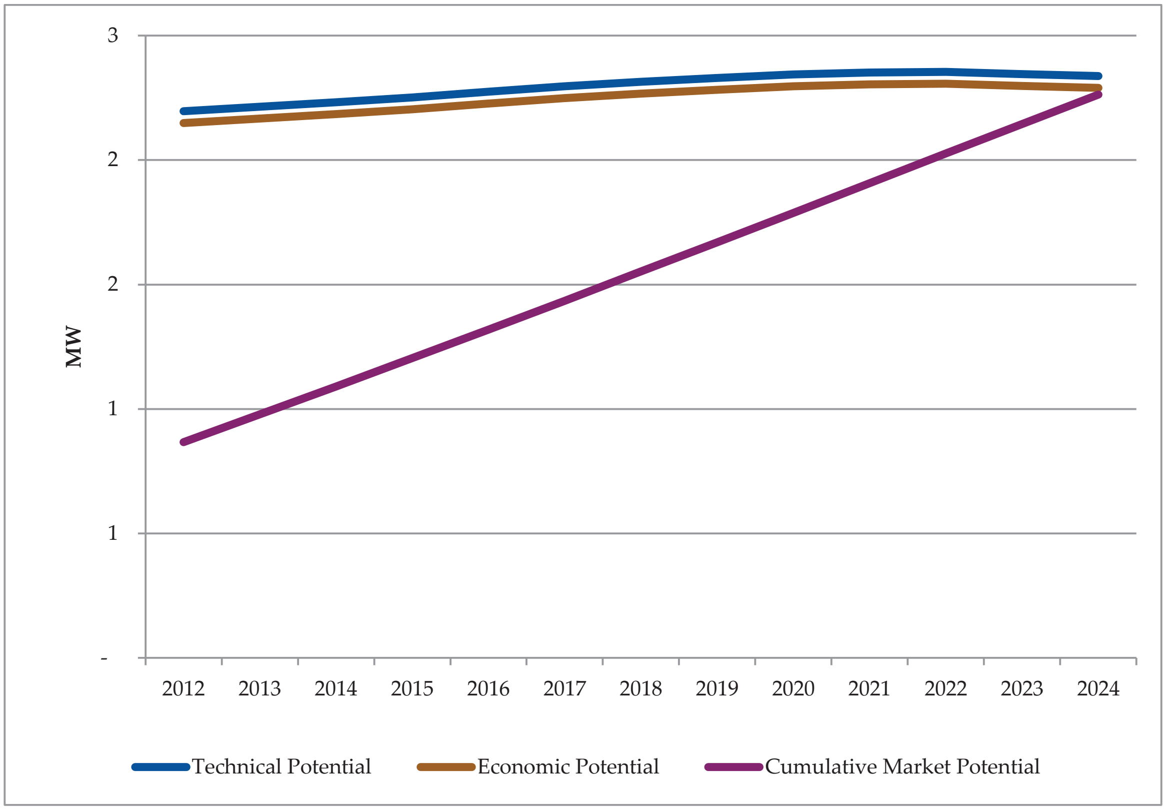
Figure N-43. SDG&E Agriculture Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

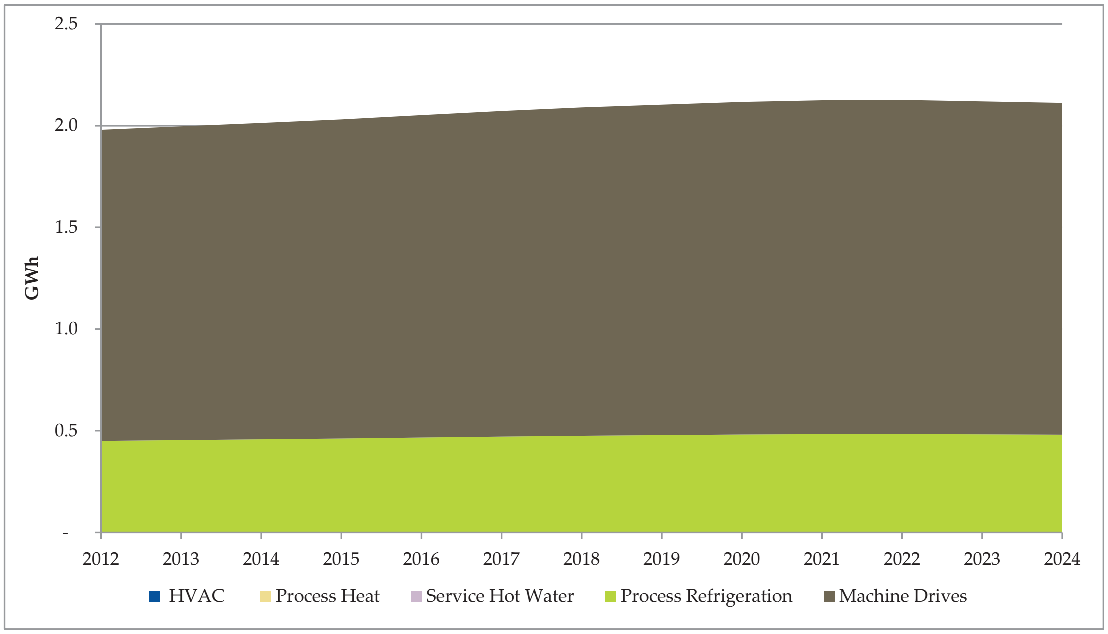
Figure N-44. SDG&E Agriculture Gross Technical, Economic, and Cumulative Market Demand Potential for 2012-2024 (MW)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

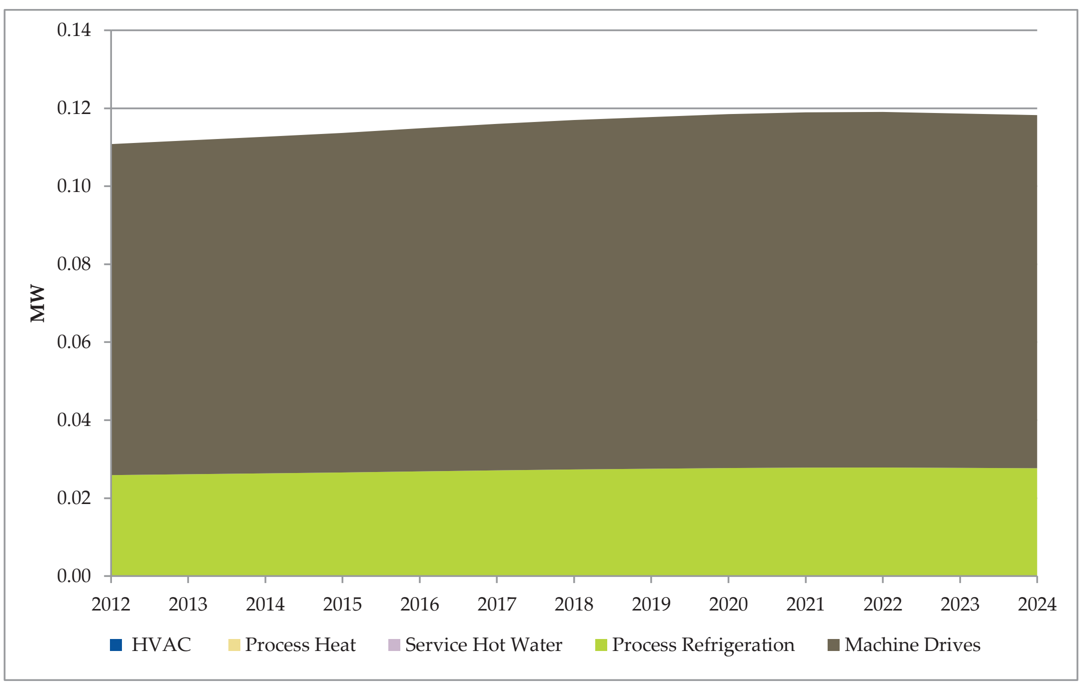
Figure N-45. SDG&E Agriculture Gross Incremental Market Energy Potential by End Use for 2012-2024 (GWh)



2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-46. SDG&E Agriculture Gross Incremental Market Demand Potential by End Use for 2012-2024 (MW)



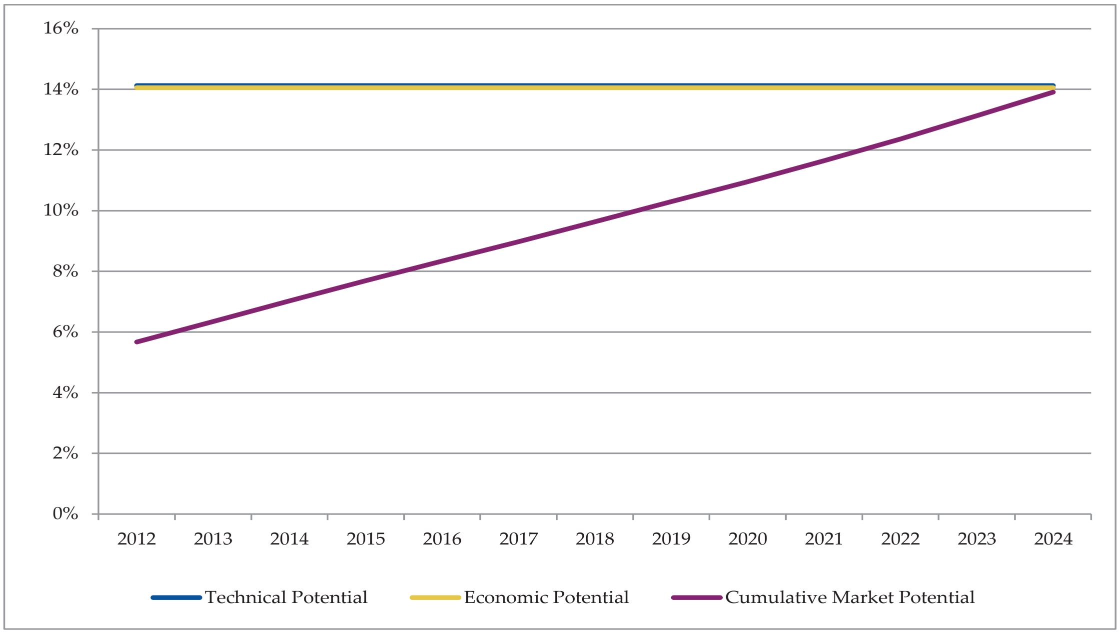
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.5.2 SDG&E Agriculture Electric Comparative Metrics

The SDG&E specific comparative metrics for the agriculture electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

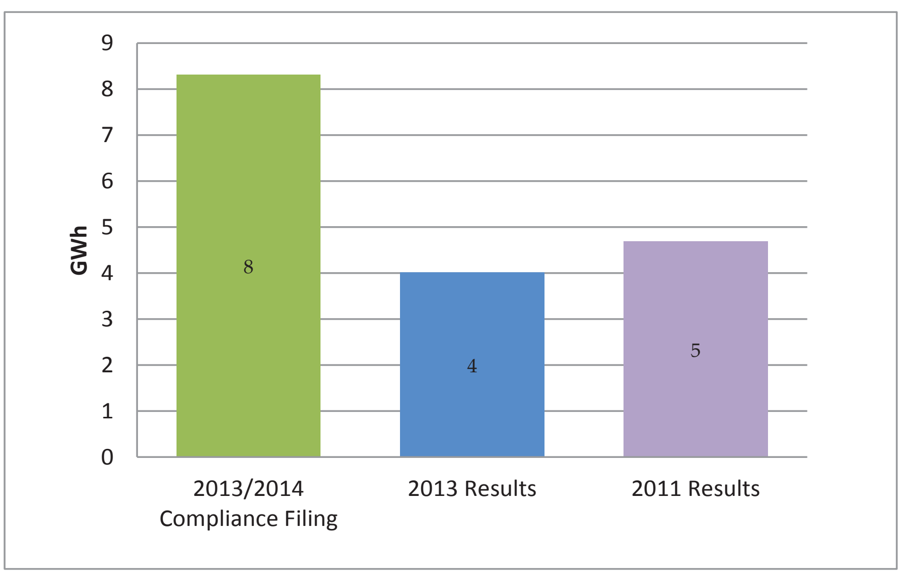
Figure N-47. SDG&E Agriculture Electric Savings Potential as a Percent of CEC Agriculture Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-48. SDG&E Comparison of Agriculture Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Electric)

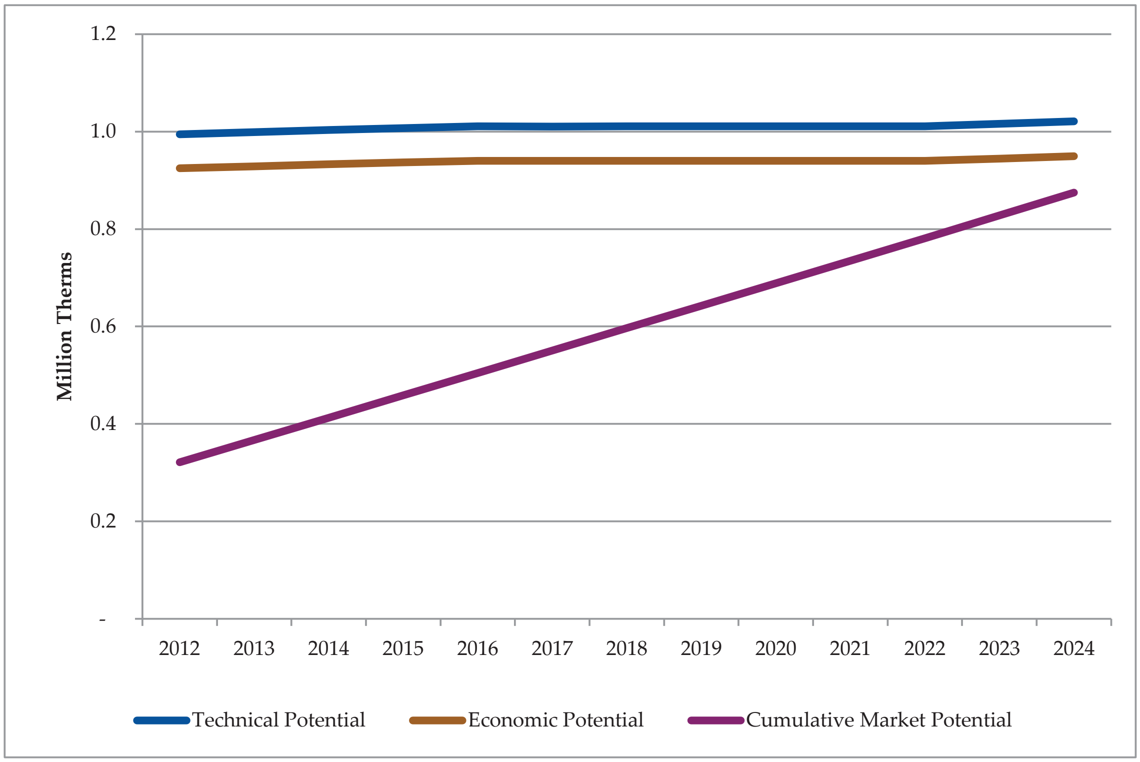


Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

N.5.3 SDG&E Agriculture Gas Energy Potential

Figure N-49 displays the technical, economic and cumulative gas market potential in the Agriculture sector. The incremental gas potential for the SDG&E Agriculture sector is displayed in Figure N-50.

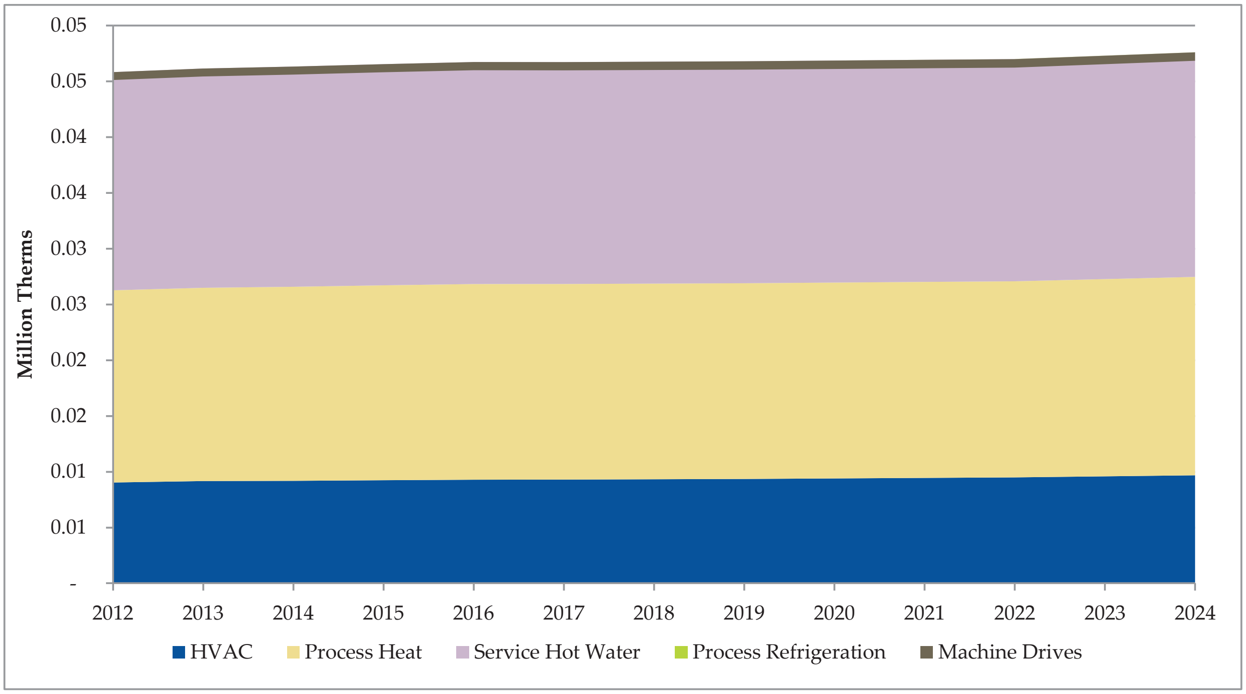
Figure N-49. SDG&E Agriculture Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (Mth)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-50. SDG&E Agriculture Gross Incremental Market Potential by End Use for 2012-2024 (Mth)



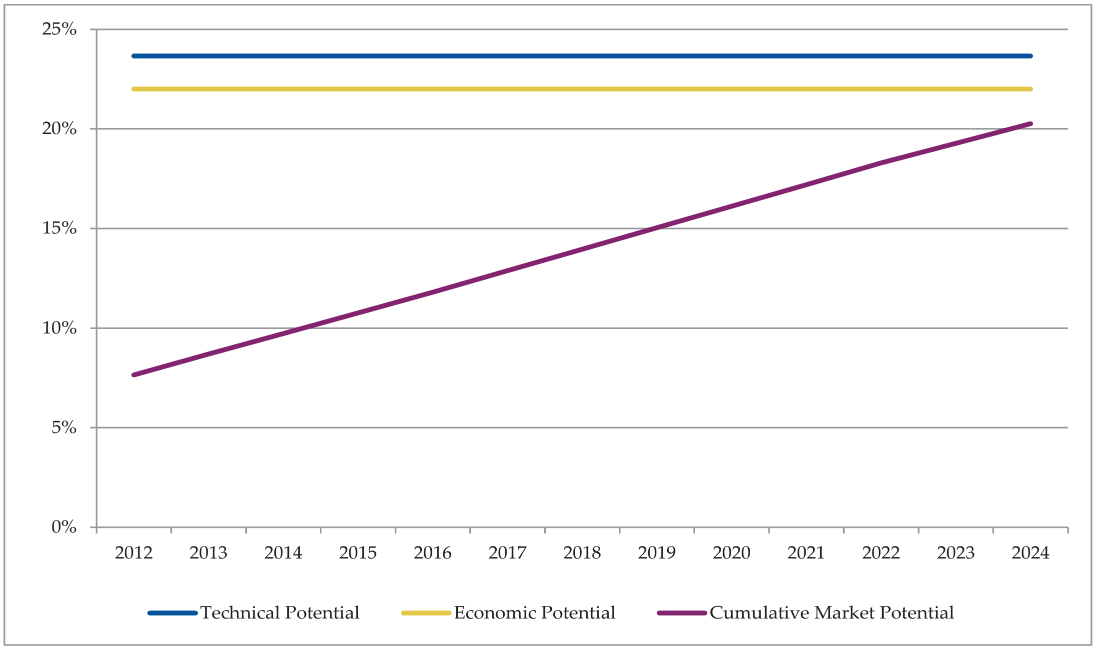
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.5.4 SDG&E Agriculture Gas Comparative Metrics

The SDG&E specific comparative metrics for the agriculture gas sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

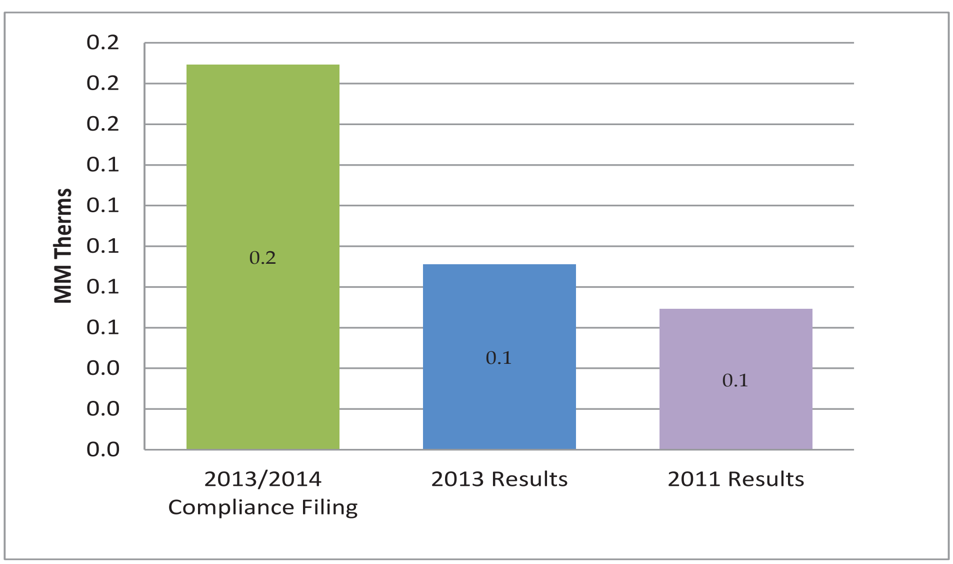
Figure N-51. SDG&E Agriculture Gas Savings Potential as a Percent of CEC Agriculture Forecast (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & 2012 CEC IEPR

Figure N-52. SDG&E Comparison of Agriculture Compliance Filings and Potential Study Results for Program Years 2013 and 2014 (Gas)



Source: PG model release February 2014 & 2013/14 IOU Compliance Filings

N.6 SDG&E Mining Sector Results

There was no potential identified for SDG&E's Mining Sector.

N.7 SDG&E Street Lights Sector Results

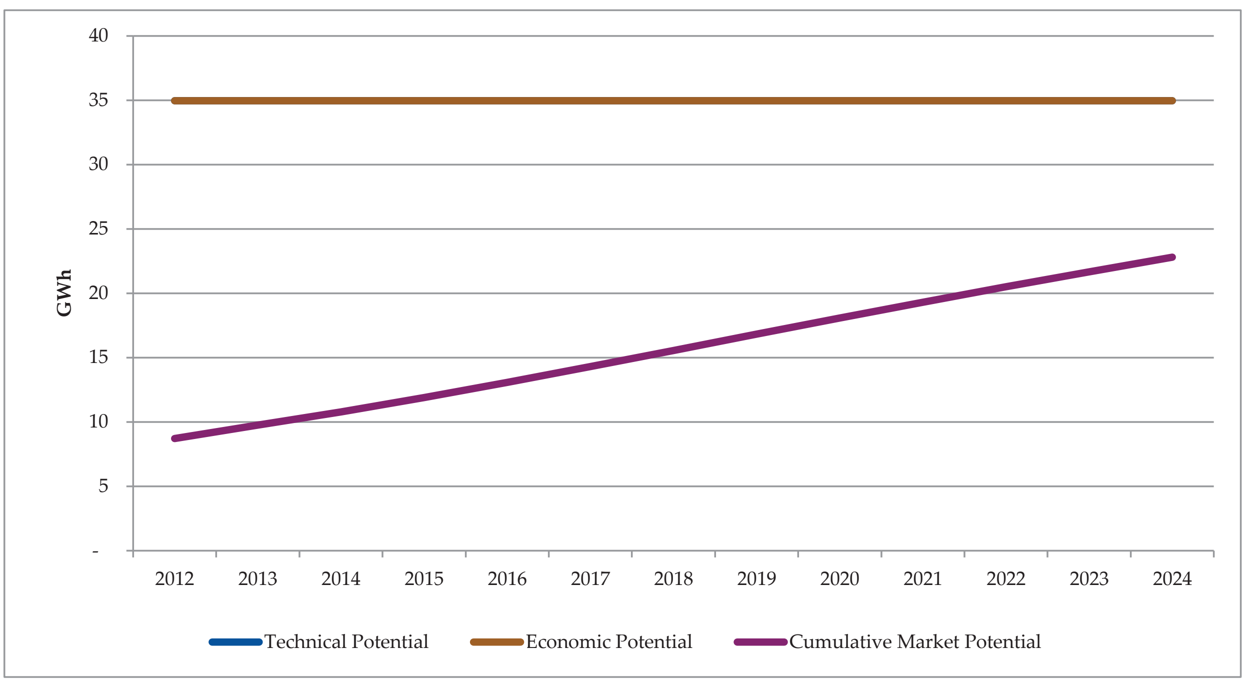
This section outlines results for the SDG&E street lights sector. Street lighting trend lines, detailed analysis, and explanation of comparative metrics are discussed in the street lighting results section of the report.

Note to the reader: This section reflects the potential associated street lighting lamps owned both by the customer and the utility. The values presented here should be derated by 19 percent to reflect only the customer-owned lamps that are considered within the goal setting and planning process that excludes IOU-owned lamps. Details on this derating can be found in Appendix A through J.

N.7.1 SDG&E Street Lights Electric Energy Potential

The technical, economic and cumulative market potentials for the street lighting sector are shown in Figure N-53 for energy. There is no gas or demand savings associated with the street lighting sector, as these operate at non-peak hours. Figure N-54 shows the incremental market energy potential by end use.

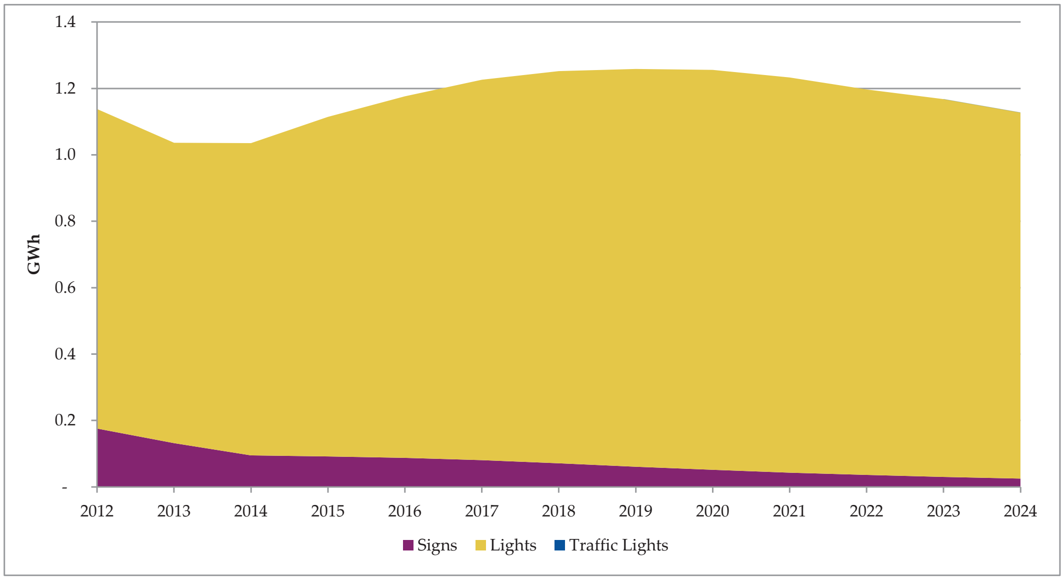
Figure N-53. SDG&E Street Lights Gross Technical, Economic, and Cumulative Market Energy Potential for 2012-2024 (GWh)



2013 Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

Figure N-54. SDG&E Street Lights Gross Incremental Market Potential by End Use for 2012-2024 (GWh)



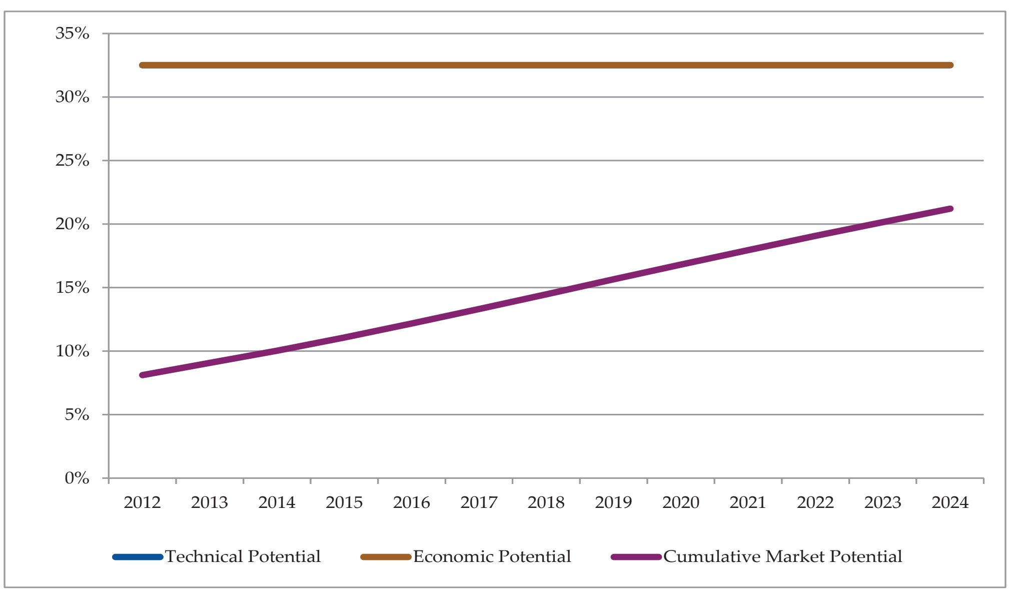
2013 Incremental results exclude C&S savings and behavioral savings.

Source: PG model release February 2014

N.7.2 SDG&E Street Lights Comparative Metrics

The SDG&E specific comparative metrics for the street lights electric sector are shown below. Further details on these metrics are provided in the AIMS section of the report.

Figure N-55. SDG&E Street Lights Electric Savings Potential as a Percent of ECDMS 2006 Consumption data (Technical, Economic, and Cumulative Market Potential)



Cumulative results exclude C&S savings and behavioral savings.

Source: PG model release February 2014 & ECDMS 2006