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**The Fiscal Impact of the
California Global Warming
Solutions Act of 2006 on
California's Local Governments**

July 2012

Andrew Chang & Company, LLC

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**The Fiscal and Economic Impact of the
California Global Warming Solutions Act (AB 32): Local Case Studies
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**The Fiscal and Economic Impact of the
California Global Warming Solutions Act (AB 32): Local Case Studies
(Key Findings)**

- AB 32 will negatively impact local governments by \$1.6 billion annually and \$6.4 billion cumulatively by 2020.
- AB 32 will reduce local tax revenue by \$646.8 million annually in 2020 and \$1.9 billion cumulatively by 2020.
- Total local costs for electricity, transportation fuel and water for local governments will increase by \$985.5 million annually in 2020 and by \$4.5 billion cumulatively by 2020 despite decreasing usage due to greater efficiency.
- Local governments will face an additional \$711.2 million cost annually in 2020 and local schools will have \$36.7 million in additional costs in 2020 even in the Optimistic Case, a likely scenario.
- Additional costs for local water districts due to electricity costs will reach \$193.8 million in the year 2020 for the state in the Optimistic Case.
- **The County of Sacramento** will face additional costs of \$10.6 million cumulatively with an annual impact of \$2.7 million in 2020, or the equivalent of more than 47 deputy sheriffs.
- **The Los Angeles Unified School District** will face cumulative costs of \$27.3 million, with an annual impact of \$5.5 million in 2020, or the equivalent of more than 80 teachers.

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1. Introduction

“The Fiscal and Economic Impact of the California Global Warming Solutions Act of 2006,” by Andrew Chang & Company, LLC measured the total fiscal and economic impacts of AB 32 as it has been specified by the California Air Resources Board. In an effort to highlight the impacts to local governments, this report contains several case studies to isolate the direct fiscal impact to agencies in local government, including city and county governments, school districts, local transit agencies and local water providers.

The main report found that the cumulative GSP loss between 2012 and 2020 will be \$85 to \$245 billion between the Low and High Case. In the Optimistic Case, the total impacts to California consumers and the economy in the year 2020 are significant:

- Direct cost to California consumers is \$35.3 billion
- Net effect on Gross State Product is a 5.6 percent loss with 262,000 jobs lost
- \$7.4 billion in lost state and local revenue
- \$12.3 billion in lost statewide earnings
- Average family costs of over \$2,500 a year, in addition to over \$900 in lost annual family earnings

This report details the impacts these policies will have on specific public agencies. This includes the impact of increased commodity costs (electricity, transportation fuel and water) and lost local tax revenue from decreased economic activity. We also illustrate the impact to specific agencies, including the Los Angeles Unified School District (LAUSD).

2. AB 32's Impact on Local Government

AB 32 will increase the cost of electricity, transportation fuel and water for all consumers, including local agencies. Moreover, the economic slowdown caused by AB 32 will reduce the revenues to local governments, such as regional governments, school districts, public transit and local water agencies. The cumulative impact to local public entities from 2012 to 2020 will be \$6.4 billion, or the equivalent of more than the entire collected tax and fee revenues from tobacco, insurance, and alcoholic beverages statewide in 2010. Table 2.1 details the additional costs and lost revenues resulting from AB 32.

Table 2.1
2012 - 2020 Cumulative Costs of AB 32 to Local Governments
(Optimistic Case)

	Electricity	Transport Fuel	Total
Cities	\$3.3 Billion	n/a	\$3.3 Billion
Counties			
Special Districts			
Local Water Agencies	\$822.1 Million	n/a	\$822.1 Million
Public Transit	\$27.9 Million	\$148.3 Million	\$176.2 Million
School Districts	\$170.1 Million	n/a	\$170.1 Million
Roads	\$55.8 Million	n/a	\$55.8 Million
Lost Revenue	n/a	n/a	\$1.9 Billion
Total	\$4.5 Billion	\$148.3 Million	\$6.4 Billion

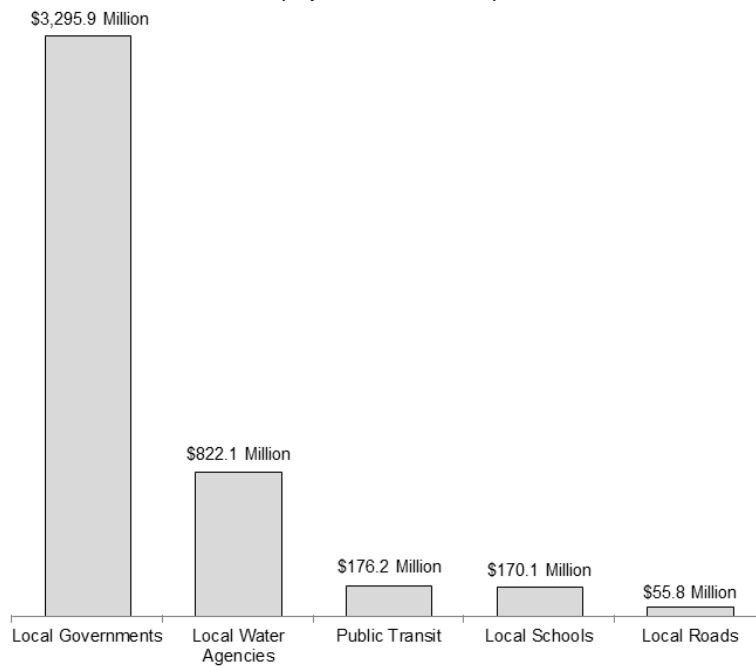
SOURCE: U.S. Census Bureau, Table 1. State and Local Government Finances by Level of Government and by State: 2008-09, 2009 Annual Surveys of State and Local Government Finances, October 24, 2011; Main Report, Appendix C, G

The cumulative costs for electricity to cities, counties and special districts will reach \$3.3 billion by 2020, which is nearly the total that all cities in California spent on fire protection and services, special districts spent on waste disposal services, or counties spent on public health in fiscal year 2009-10. Local water authorities will bear cumulative costs amounting to \$822.1

million in 2020, which represents the second greatest cost category. The cumulative lost revenue is the third largest cost driver at approximately \$1.9 billion.

The increased commodity costs will significantly increase costs for local governments, as shown in Figure 2.1.

Figure 2.1
Cumulative Commodity Cost for Local Entities
(Optimistic Case)

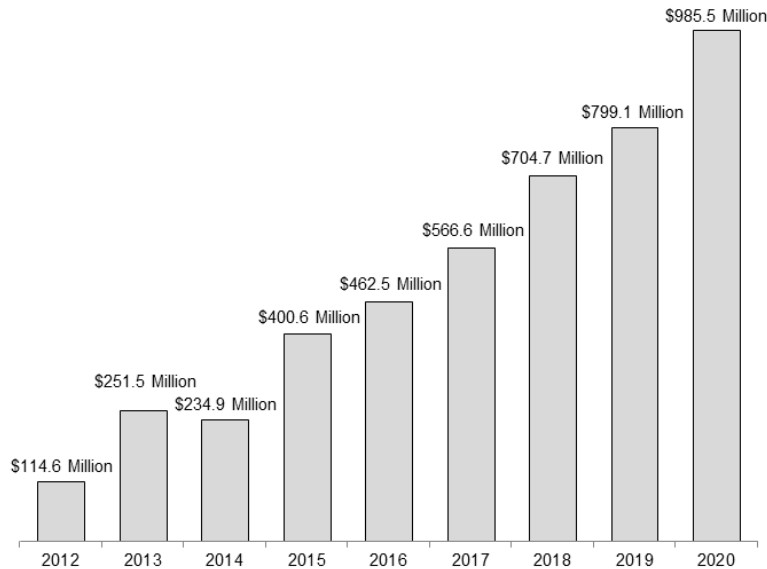


SOURCE: U.S. Census Bureau, Table 1. State and Local Government Finances by Level of Government and by State: 2008-09, 2009 Annual Surveys of State and Local Government Finances, October 24, 2011; California Department of Education, "DataQuest," Educational Demographics Unit, accessed June 2012; California Energy Commission, "California Energy Consumption Database," Energy Consumption Data Management System, accessed June 2012; U.S. Department of Transportation, National Transit Database, Federal Transit Administration, accessed in June 2012

Local governments will face an additional \$711.2 million cost annually in 2020 and more than \$3.3 billion in cumulative costs. The second largest commodity impact comes from the increased cost to local water agencies, with an annual impact of \$193.8 million in 2020 and \$822.1 million impact cumulatively, which is more than irrigation sales revenue for state water agencies in 2009-10. Public transit, local schools and local roads will bear \$176 million, \$170 million and \$55 million respectively.

As shown in Figure 2.2, costs grow from \$114.6 million in annual commodity costs in 2012 to \$985.5 million in annual costs by 2020.

Figure 2.2
Annual Commodity Costs for Local Entities
(Optimistic Case)



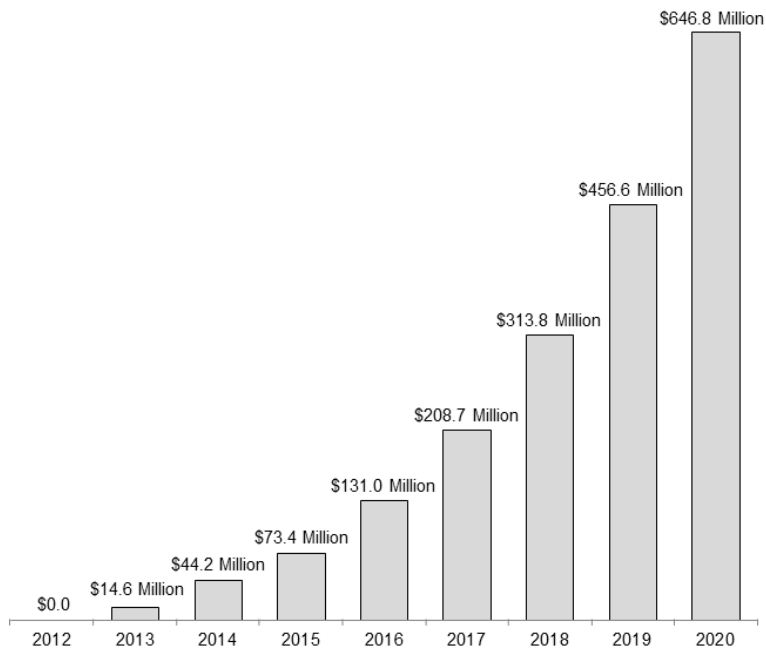
SOURCE: U.S. Census Bureau, Table 1. State and Local Government Finances by Level of Government and by State: 2008-09, 2009 Annual Surveys of State and Local Government Finances, October 24, 2011; California Department of Education, "DataQuest," Educational Demographics Unit, accessed June 2012; California Energy Commission, "California Energy Consumption Database," Energy Consumption Data Management System, accessed June 2012; U.S. Department of Transportation, National Transit Database, Federal Transit Administration, accessed in June 2012

In 2020, annual additional electricity costs will be \$765.9 million, \$193.8 million for local water costs and transportation costs in local transit of \$25.8 million. The \$985.5 million annual cost in 2020 is approximately the total amount that California cities spent on emergency medical services, street lighting, and libraries in 2009-10.

The Impact of AB 32 on the Local Revenues

Lost local revenue in the form of sales and transportation taxes, as well as special districts such as regional governments, will create a significant burden on local governments, as seen in Figure 2.3. The cumulative impact amounts to approximately \$1.9 billion by 2020. AB 32 will reduce local tax revenues by over \$646.8 million annually by 2020 as well.

Figure 2.3
Lost Local Revenues
(Optimistic Case)

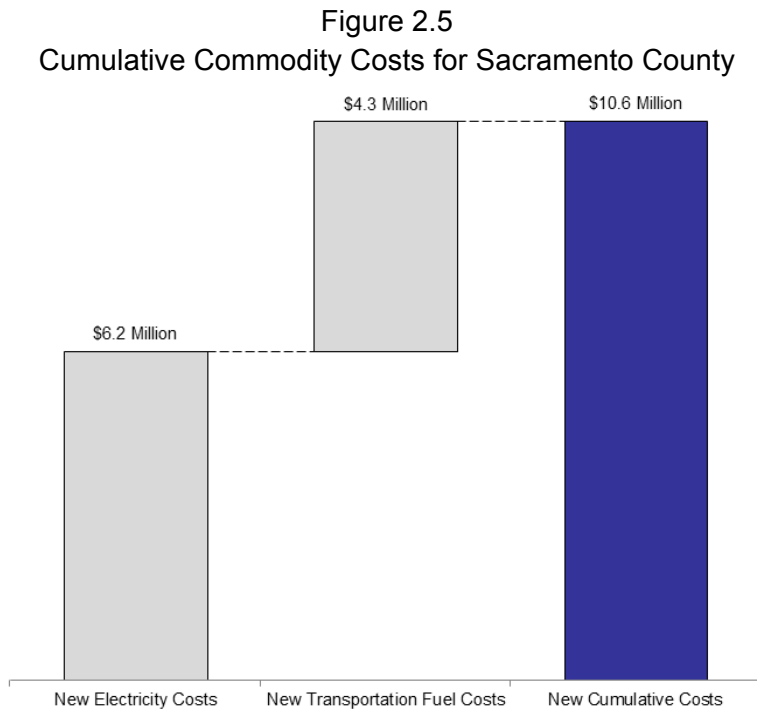


SOURCE: Main Report, Appendix C

This decrease in local revenues offsets gains in local revenue over the previous decade. The cumulative impact of \$1.9 billion more than offsets the growth in total California county revenues over a four-year period, from fiscal years 2006-07 to 2009-10.

The Impact of AB 32 on Sacramento County

Sacramento County is home to 1.4 million people and is served by 65,900 public employees that work in local government. AB 32 will increase the cost of electricity and transportation fuel for the county to the point it will bear a cumulative costs of \$10.6 million.

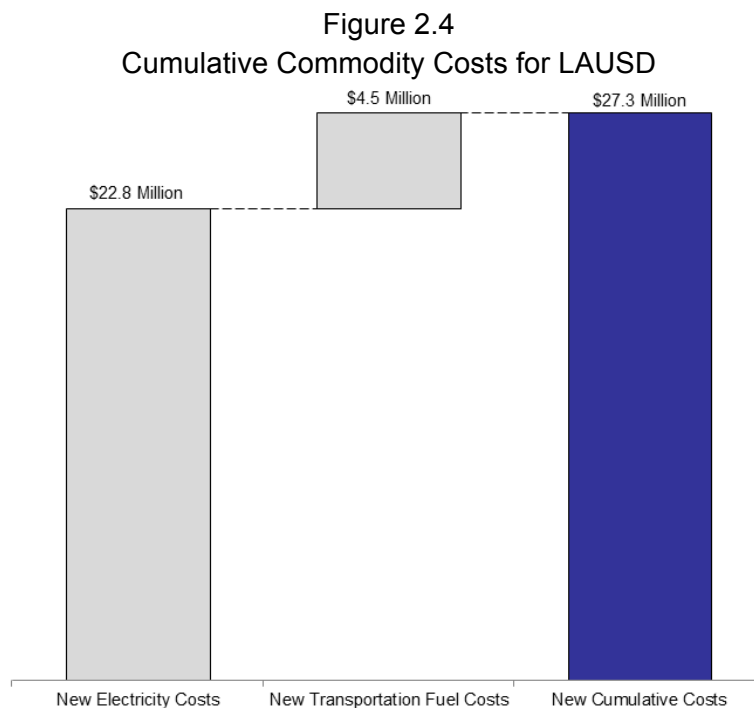


SOURCE: County of Sacramento, "Fuel Usage Data for Calendar Years 2009, 2010, and 2011," Department of General Services, accessed July 2012

The cumulative cost of electricity will be \$6.2 million and \$1.3 million annually in 2020. Additionally, transportation fuel will add an additional \$4.3 million in costs cumulatively, with \$1.4 million annually in 2020. The impact on Sacramento would be the equivalent of 47 county deputy sheriffs annually in 2020, with the cumulative impact the equivalent of the annual appropriation for emergency operations and the County counsel's office.

The Impact of AB 32 on the Los Angeles Unified School District

The Los Angeles Unified School District (LAUSD) is the largest school district in California several times over. During the 2010-11 school year, LAUSD had over 750,000 students and more than 35,900 teachers. More than 1 out of every 10 students in California attended a school in the district.



SOURCE: Los Angeles Unified School District, Public Records Act request, Office of the General Counsel, accessed June 2012

As seen in Figure 2.4, cumulative costs of AB 32 to LAUSD will amount to \$27 million by 2020. Costs will be driven by added costs of electricity which will reach \$23 million and additional transportation fuel costs which will exceed \$4 million. The 2020 annual impact from commodities alone would be the equivalent of the salaries of more than 80 teachers.

The cumulative impact is also the more than the total spending on school librarians, equipment replacement, and buildings and building improvements in fiscal year 2010-11. The

annual impact of just new transportation fuel costs alone is more than the annual expenditures on superintendent and food service employee salaries.

Table 2.2
Cumulative Additional Cost for Select Local Agencies

Local Agency	Electricity	Transport Fuel	Total
Chico Unified School District	\$0.3 Million	n/a	\$0.3 Million
Clovis Unified School District	\$1.7 Million	n/a	\$1.7 Million
County of Kern	\$3.4 Million	n/a	\$3.4 Million
County of Humboldt	\$0.4 Million	n/a	\$0.4 Million
County of Contra Costa	\$2.0 Million	n/a	\$2.0 Million
City of San Jose	\$6.7 Million	n/a	\$6.7 Million
San Diego County Water Authority	\$0.4 Million	n/a	\$0.4 Million
Bakersfield Fire Department	n/a	\$0.2 Million	\$0.2 Million
Ventura County Fire Department	n/a	\$0.4 Million	\$0.4 Million
Total	\$15.0 Million	\$0.6 Million	\$15.6 Million

SOURCE: Chico Unified School District, Electric and Natural Gas Usage 2008-2011, Maintenance, Operations, Transportation, accessed June 2012; County of Kern, Electric and Natural Gas Usage 2009-2011, accessed June 2012; County of Humboldt, Electric and Natural Gas Usage 2008-2011, accessed June 2012; County of Contra Costa, Electricity and Natural Gas Usage 2009-2011, accessed July 2012; City of San Jose, Electricity and Natural Gas Usage 2009-2011, accessed July 2012; San Diego County Water Authority, Electricity Usage 2009-2011, accessed June 2012; Bakersfield Fire Department, Gasoline and Diesel Usage 2009-2011, accessed June 2012; Ventura Fire Department, Gasoline and Diesel Usage 2009-2011, accessed June 2012

3. Conclusion

The increased cost of commodities coupled with the significant decrease in local revenues from economic loss upon fully implementing AB 32 will create a \$6.4 billion cumulative impact to local public entities over the length of the implementation period, with a \$1.6 billion impact in the year 2020. It will also reduce local tax revenues by \$646.8 million annually in 2020 and \$1.9 billion cumulatively in the Optimistic Case.

Local governments will face an additional \$711.2 million cost annually in 2020 and local schools will have \$36.7 million in additional costs in 2020 in the Optimistic Case. Additional costs for local water districts due to electricity costs will reach \$193.8 million in the year 2020 for the state. Individual state entities will also bear a burden. One such local entity, the Los Angeles Unified School District, will face cumulative costs of \$27.3 million with an annual impact of \$5.5 million in 202, or the equivalent of more than 80 teachers.

**Appendix A:
Electricity Usage**

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Additional Electricity Cost per GWh ¹ (Real \$)	\$1,121.2	\$2,509.0	\$2,300.2	\$4,093.2	\$4,847.7	\$6,117.7	\$7,819.1	\$9,006.8	\$11,313.8
Local Government Total Usage ² (in GWh)	76,971.7	75,047.4	73,171.2	71,341.9	69,558.4	67,819.4	66,123.9	64,470.8	62,859.0
School District Total Usage ³ (in GWh)	3,971.9	3,872.6	3,775.8	3,681.4	3,589.3	3,499.6	3,412.1	3,326.8	3,243.7
Public Transit Total Usage ⁴ (in GWh)	651.0	634.8	618.9	603.4	588.3	573.6	559.3	545.3	531.7
Local Roads Total Usage ⁵ (in GWh)	1,303.9	1,271.3	1,239.5	1,208.5	1,178.3	1,148.9	1,120.1	1,092.1	1,064.8

¹ See Main Report, Appendix D

² U.S. Census Bureau, Table 1. State and Local Government Finances by Level of Government and by State: 2008-09, 2009 Annual Surveys of State and Local Government Finances, October 24, 2011

³ California Department of Education, "DataQuest," Educational Demographics Unit, accessed June 2012; California Department of Education, "Number of Students in Private Schools," Ed-Data, accessed June 2012

⁴ U.S. Department of Transportation, National Transit Database, Federal Transit Administration, accessed June 2012

⁵ California Energy Commission, "Electricity Consumption by Entity," Energy Consumption Data Management System, accessed June 2012; Department of Transportation, "2010 California Public Road Data," Division of Transportation System Information, October 2011

**Appendix B:
Transportation Fuel Usage**

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Additional Per Unit Cost per Gallon of Gasoline ⁶ (Real \$)	\$ -	\$0.04	\$0.08	\$0.09	\$0.16	\$0.23	\$0.35	\$0.54	\$0.73
Additional Per Unit Cost per Gallon of Diesel (Real \$)	\$0.07	\$0.15	\$0.30	\$0.36	\$0.35	\$0.31	\$0.25	\$0.30	\$0.36
Public Transit Total Usage of Gasoline ⁷ (in GWh)	53.0	51.7	50.4	49.1	47.9	46.7	45.5	44.4	43.3
Public Transit Total Usage of Diesel ⁸ (in GWh)	17.4	16.9	16.5	16.1	15.7	15.3	14.9	14.5	14.2

⁶ See Main Report, Appendix F

⁷ U.S. Department of Transportation, National Transit Database, Federal Transit Administration, accessed June 2012

⁸ U.S. Department of Transportation, National Transit Database, Federal Transit Administration, accessed June 2012

Appendix C: Water⁹

(All Dollars in \$2012 and \$Millions, Unless Otherwise Stated)

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Energy Usage from Identified Sources (GWh)	23,729	23,729	23,729	23,729	23,729	23,729	23,729	23,729	23,729
Total Water Usage (million acre feet)	41	41	42	42	42	43	43	42	44
Total Water from Identified Sources (million acre feet)	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
Divide Usage from Identified Sources for Project Energy Usage	÷								
Ratio Between Identified Sources and Usage	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7
Multiply Ratio with Energy Usage for Total Usage	x								
Total Energy Usage (GWh)	37,262	37,579	37,895	38,212	38,584	38,955	39,326	39,671	40,069
BAU Annual Average Cost of Electricity (\$/GWh)	\$84,418	\$85,509	\$86,764	\$87,560	\$87,982	\$88,481	\$88,850	\$89,597	\$90,580
Multiply Average Cost of Electricity by Usage	x								
BAU Total Cost of Energy for Water (\$Millions)	\$3.1	\$3.2	\$3.3	\$3.3	\$3.4	\$3.4	\$3.5	\$3.6	\$3.6
Scenario Annual Average Cost of Electricity (\$/GWh)	\$85,539	\$88,018	\$89,064	\$91,653	\$92,830	\$94,599	\$96,669	\$98,604	\$101,893
Multiply Average Cost of Electricity by Usage	x								
Scenario Total Cost of Energy for Water (\$Millions)	\$3.2	\$3.3	\$3.4	\$3.5	\$3.6	\$3.7	\$3.8	\$3.9	\$4.0

⁹ See Main Report, Appendix G

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