

**Second International Conference on
Countermeasures to Urban Heat Islands
September 23, 2009**

California's Climate Policy: Green Building and Local Government

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California Air Resources Board
California Environmental Protection Agency

Presentation Outline

California's Climate Policy

- Overview of AB 32
- Magnitude of the Challenge
- California's Climate Change Scoping Plan
- Energy and Green Building Measures
- Role of Communities to Achieve Statewide Targets
- Tools Available at CoolCalifornia.org
- Cool Communities Research Project

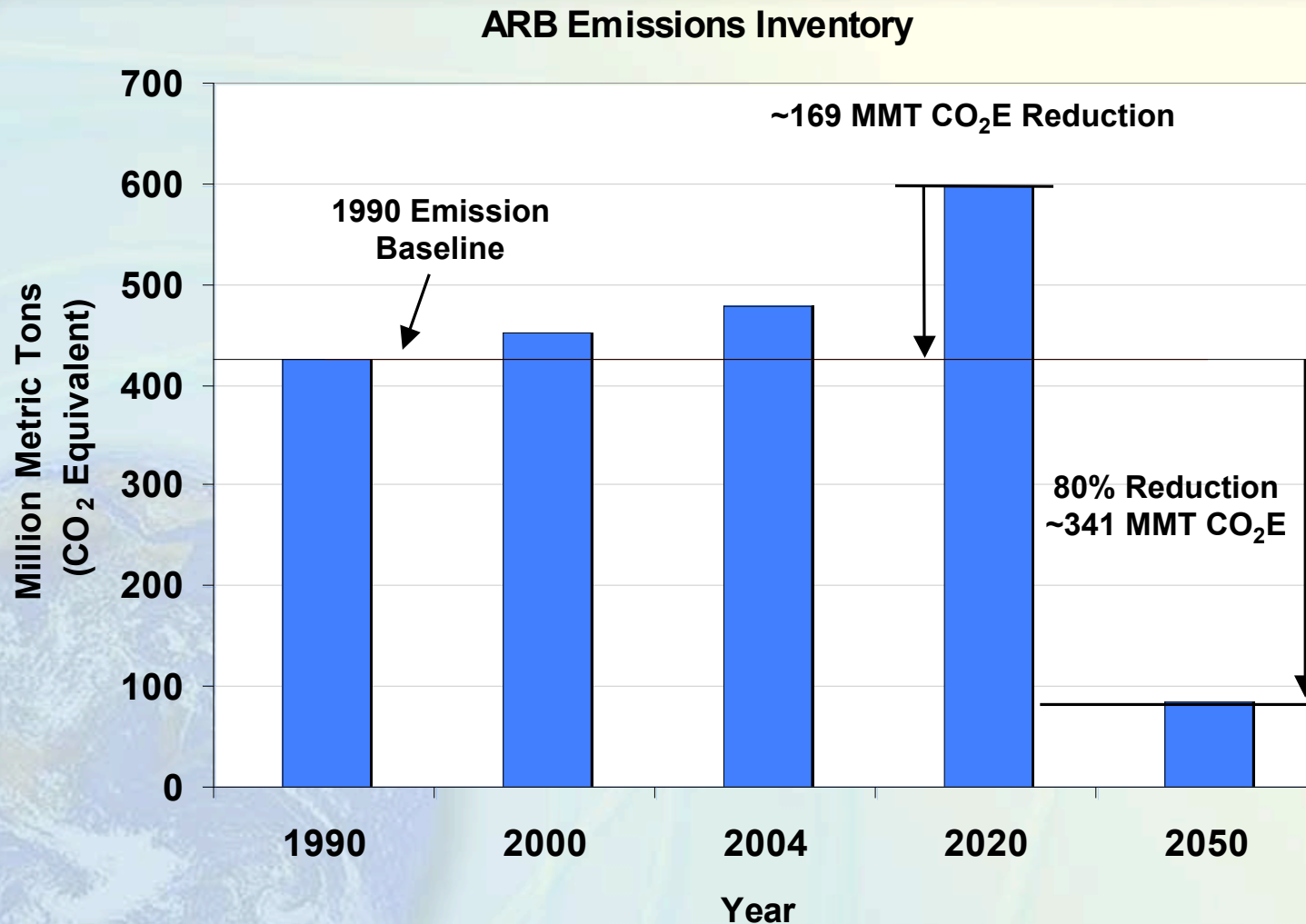
Overview of AB 32

The Global Warming Solutions Act of 2006

- AB 32 established the first economy-wide climate change regulatory program in the United States
- California's leadership can help set direction for national program
- AB 32 sets GHG emissions limit for 2020 at 1990 level
 - Acknowledges that 2020 is not the endpoint
 - Points way toward 80% reduction by 2050

Magnitude of the Challenge

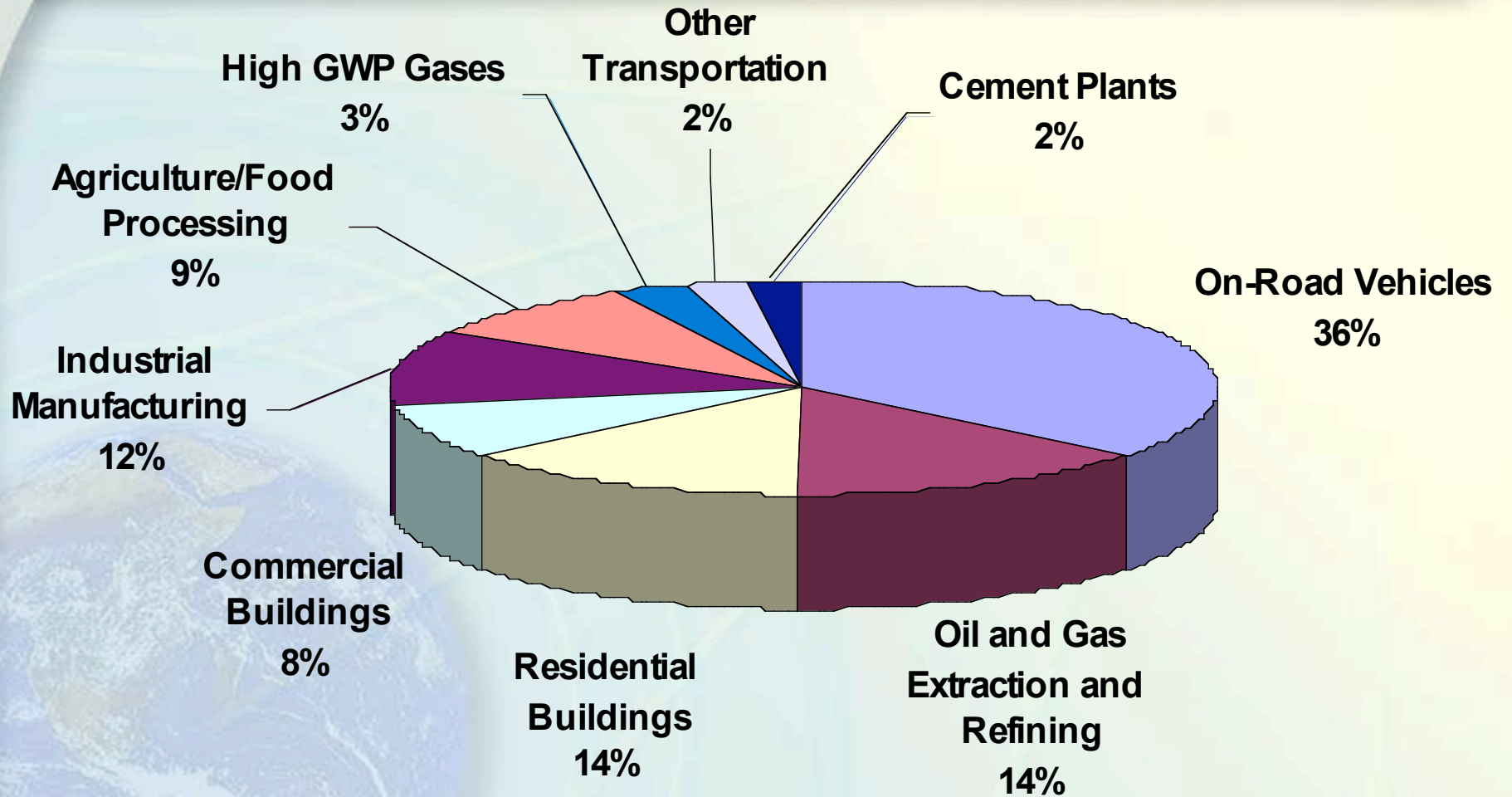
California's GHG Reduction Targets



Source: California Air Resources Board

California's GHG Emissions

A Demand-Side View (2002-2004 Average)



Source: Climate Change Scoping Plan, Figure 2

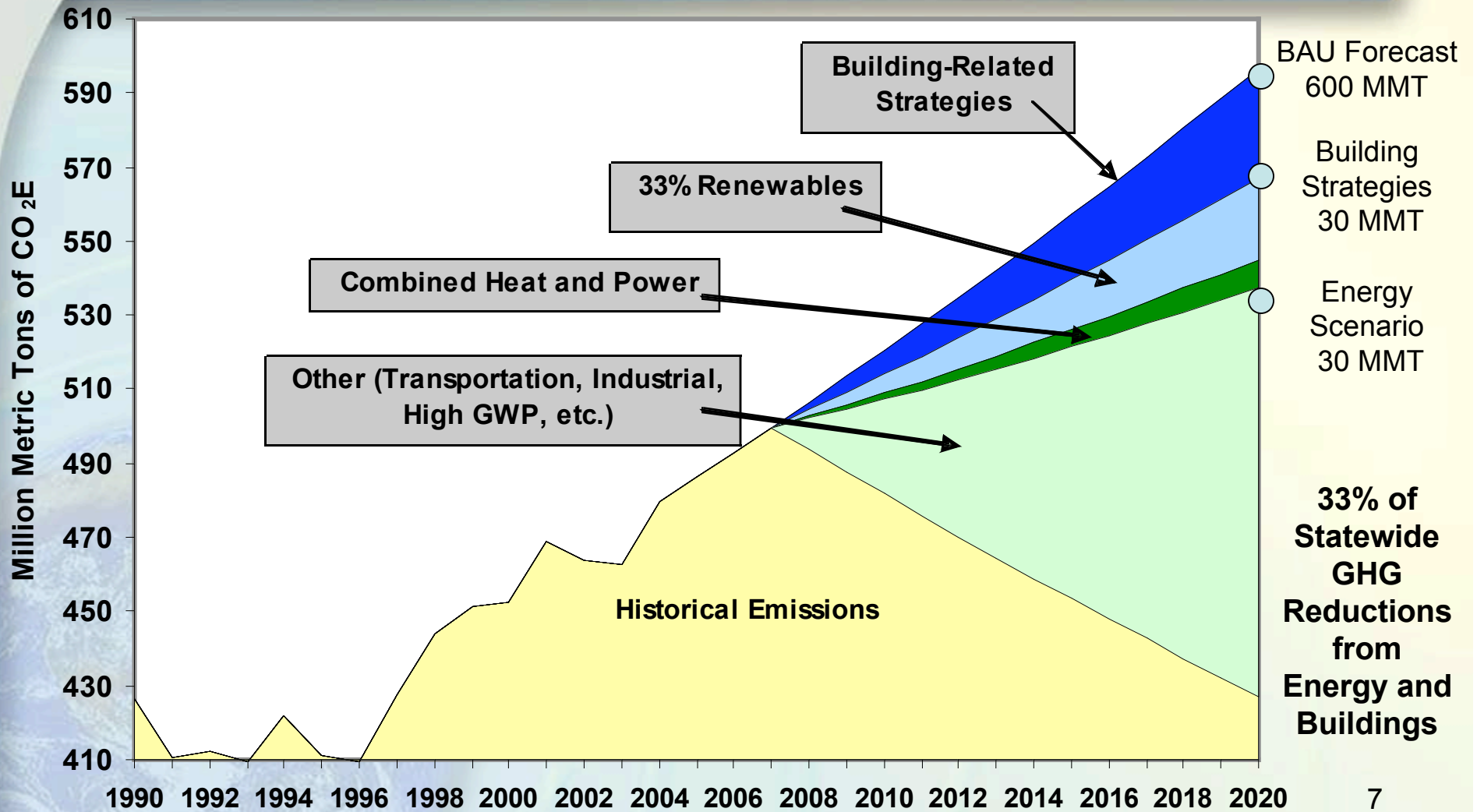
Climate Change Scoping Plan

Measures to Achieve the 2020 Target

- Broad-based California Cap & Trade Program
 - Electricity, Industry, Transportation Fuels, Natural Gas
- Complementary Measures
 - State, Regional and Local Partnerships
 - Energy Efficiency Programs
 - Renewable Energy
 - Green Building Strategy
 - Targets for Transportation-related Emissions
 - Existing Laws and Policies (e.g. Pavley, LCFS)

Climate Change Scoping Plan

Estimated GHG Reductions



Note: Projections Based on Preliminary Air Resources Board Analysis

Energy is #2 Contributor Electricity and Natural Gas

- Cutting Energy Use Saves Money and Reduces GHG Emissions
- Plan Includes Aggressive Energy Efficiency Goals and Increased Renewable Energy
- Meeting the Goals in the Scoping Plan Requires
 - Expanded Utility-based Energy Efficiency Programs
 - More Stringent Building and Appliance Standards
 - Innovative Strategies that Go Beyond Traditional Approaches
- Plan Relies on Expanded Efforts By the CEC and CPUC

Green Building Strategy

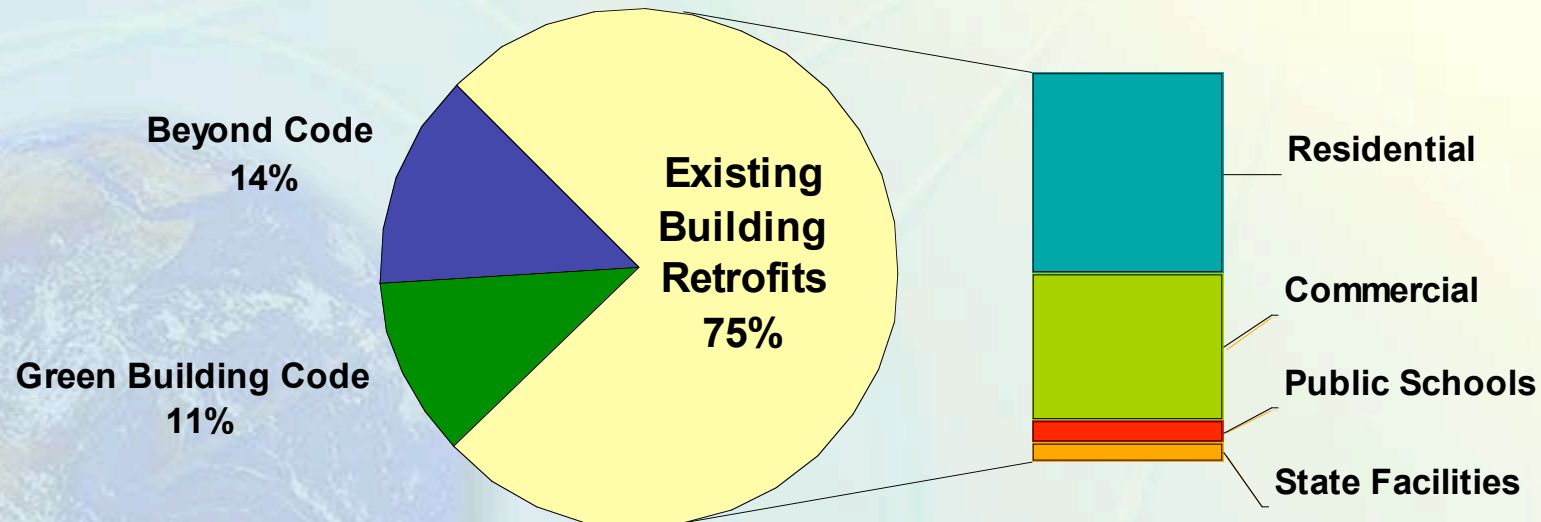
Solution for Cross-Sector GHG Reductions

- Green Building Achieves GHG Emission Reductions from Multiple Sectors
 - Transportation, Energy, Waste, and Water Sectors
- Offers Increased Public Health Benefits
 - Due to Improved Indoor Air Quality
- Scoping Plan Goals to Reduce GHG Emissions
 - Green Building Standards Code
 - Beyond Code: City/County Goals to Exceed Standards
 - Existing Building Retrofits

Green Building

GHG Emission Reduction Potential

- GHG Reduction Potential (26 MMT CO₂e)
- Represents 15% of the AB 32 2020 Target
- Existing Building Retrofits Offer Greatest Potential



Role of Communities

Achieving the Goals of AB 32

- Meeting AB 32 goals means emissions in every community being reduced an average of 15% from today's levels by 2020.
 - State, Regional, Local, and Individual Effort
 - Transportation, Energy, Waste, and Water
 - Local Climate Action Plans
 - Strategies Unique to Communities
 - Shared Challenge to Take Climate Action
 - Reduce GHG Emissions

Tools Available

www.CoolCalifornia.org

CoolCalifornia.org

Small
Business
Toolkit

Local
Government
Toolkit

Individual
Tools

The screenshot shows the homepage of CoolCalifornia.org. At the top, the logo 'CoolCalifornia.org' is displayed with the tagline 'GOVERNMENT • UNIVERSITY • NGO PARTNERSHIP'. To the right of the logo are links for 'Sign In | Sign up' and a search bar with a 'Go' button. Below the logo is a navigation menu with the following items: HOME, INDIVIDUALS, SMALL BUSINESS, LOCAL GOVERNMENT, YOUTH, COMMUNITY ORGANIZATIONS, SCHOOLS, and ABOUT US. The main content area features a 'Most Popular' section on the left with six items: 'Money to Get You Started' (with a 'LEARN MORE' button), 'California Success Stories' (with a 'VIEW' button), 'Climate Awards' (with a 'LEARN MORE' button), 'Save Money & the Planet' (with a 'LEARN MORE' button), 'Reduce Your Climate Impact' (with a 'CALCULATE NOW' button), and 'Join a Network' (with a 'VIEW' button). The central banner reads 'TAKE ACTION TO KEEP THE PLANET COOL' and features a photo of a man in a hard hat standing in front of a solar panel array. Below the banner, the text says 'Join millions of Californians already working to solve Global Warming and keep California Cool.' To the right of the banner is a 'Highlights' section with three bullet points: 'What is Global Warming?', 'How will California's climate law affect me?', and 'Check out publications and upcoming events in our featured story section.' At the bottom of the page, there is an 'About CoolCalifornia.org' section with the text: 'Our mission is to provide all Californians with the tools they need to voluntarily reduce global warming pollution. More about us >'. The page is decorated with green grass graphics at the bottom corners.

Local Government Toolkit

*“One-Stop Shop” to save money & facilitate **voluntary** GHG reductions*

The screenshot displays the CoolCalifornia.org website interface. At the top, the logo 'CoolCalifornia.org' is accompanied by the tagline 'GOVERNMENT • UNIVERSITY • NGO PARTNERSHIP'. Navigation links include 'Sign In | Sign up' and a 'Keyword Search' box with a 'GO' button and a link to 'Advanced Search'. A horizontal menu bar contains categories: HOME, INDIVIDUALS, SMALL BUSINESS, LOCAL GOVERNMENT (highlighted), YOUTH, COMMUNITY ORGANIZATIONS, SCHOOLS, and ABOUT US.

The main content area is titled 'LOCAL GOVERNMENT' and includes a breadcrumb 'Home > Local Government'. A featured section titled 'Local Government Toolkit' is highlighted with a blue background, featuring a photo of a city skyline and the text: 'A "one-stop-shop" of guidance and resources to help local governments reduce greenhouse gas emissions and save money.' Below this, a paragraph states: 'Cities and counties are essential partners contributing significantly to California's efforts to reduce greenhouse gas (GHG) emissions. Many cities and counties are already taking action to be part of the solution to address climate change.' A 'Highlights' section lists four topics: 'What is the Local Government Toolkit?', 'Why are Local Governments Essential Partners?', 'How Can Local Governments Contribute to the Solution?', and 'What is AB32 or the Global'.

On the left sidebar, there is a 'Local Government' section with links to 'Climate Action Planning', 'How to Save Money', 'Financial Resources', 'Case Studies', 'Climate Calculators', and 'Submit Comments'. Below this is a 'Join our mailing list:' section with a text input field, a 'We will not share your email with anyone.' disclaimer, and radio buttons for 'Subscribe' and 'Unsubscribe', along with a 'Save' button.

Toolkit Components

Local Government Toolkit

- Climate Action Planning
 - Tips, Templates, & Sample Measures
- How to Save Money
 - Save Energy
 - Drive Less & Drive Clean
 - Use Renewable Energy
 - Save Water
 - Recycle and Cut Waste
 - Buy Green
 - Build Green
- Financial Resources
- Climate Calculators
- California Success Stories



Climate Action Planning

GHG Emission Reductions

- Lead By Example in Municipal Operations
- Set Policy for Community Action
- Challenge Residents and Businesses



Tips for Climate Action Planning

Toolkit Component

- Climate Action Plan Template
- Rules of Thumb to Estimate Reductions
- Sample Measures to Reduce GHG Emissions
 - Based on Statewide Emission Inventory



Avoided Energy Consumption	CO ₂ E (pounds)	CO ₂ E (metric tons)
1 MMBtu of Natural Gas	117	0.053
1 Gallon of Gasoline	20	0.009
1 kWh of CA-Grid Average Electricity	1	0.0004

How to Save Money Toolkit Component

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Hi Megan Hansen (Sign out)

Keyword Search: **GO**
[Advanced Search](#)

[HOME](#) | [INDIVIDUALS](#) | [SMALL BUSINESS](#) | [LOCAL GOVERNMENT](#) | [YOUTH](#) | [COMMUNITY ORGANIZATIONS](#) | [SCHOOLS](#) | [ABOUT US](#)

Home > Local Government > How To Save Money > **Save Energy**

SAVE ENERGY

View ▾
Edit
Translate
Workflow

How To Save Money

- » Save Energy
- » Drive Less and Drive Clean
- » Use Green Energy
- » Save Water
- » Recycle and Cut Waste
- » Buy Green
- » Build Green

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Insulate water pipes

Almost one-quarter of statewide greenhouse gas (GHG) emissions are attributed to electricity and natural gas consumption in buildings. Saving energy is one of the most cost-effective ways reduce GHG emissions. Energy efficiency can be achieved as part of the design and construction of new buildings as well as retrofits to existing buildings. Additional

Resources

Energy Star Challenge [↗](#)

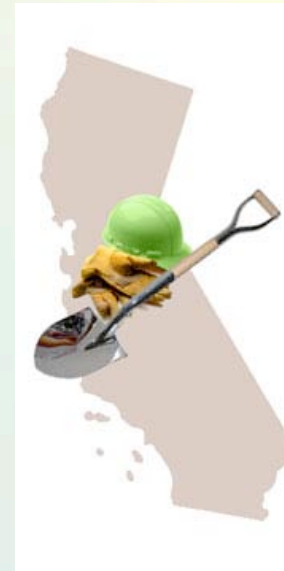
Learn more about this national call to action to improve energy efficiency by 10% or more in commercial and industrial buildings. Energy Star is not just a label for appliances, it also identifies superior energy performance building using guidelines established by the U.S. EPA and U.S. DOE.

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Financial Resources

Toolkit Component

- Organized by Topic
 - Energy, Transportation, Renewable Energy, Water, Waste, Green Building
- Up-to-date Summary of Available Resources
 - Grants
 - Rebate Programs
 - Federal Tax Incentives
 - Low-Interest Loans
 - Third Party Financing
- Links to More Information



Climate Calculators

Toolkit Component

- Conducting a GHG Emission Inventory
- Estimating GHG Emission Reductions
- Modeling Tools for Climate Action Planning



California Success Stories Toolkit Component

CoolCalifornia.org
GOVERNMENT • UNIVERSITY • NGO PARTNERSHIP

Sign In | Sign up

Keyword Search:
[Advanced Search](#)

HOME | **INDIVIDUALS** | **SMALL BUSINESS** | **LOCAL GOVERNMENT** | **YOUTH** | **COMMUNITY ORGANIZATIONS** | **SCHOOLS** | **ABOUT US**

Home > Local Government > **Local Government Case Studies**

Government Case Studies

- » Northern California
- » Bay Area
- » Sacramento Region
- » Los Angeles Region
- » Inland Empire
- » San Diego/Imperial Region

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CALIFORNIA LOCAL GOVERNMENT CASE STUDIES

Uses Green Transportation

Featured Local Government:
City of Santa Rosa, California

City will save \$8,528,197 in fuel purchases by 2025 from hybrid buses!

Many California cities and counties have already successfully taken steps ranging from adopting climate action plans to implementing green building ordinances to save money and reduce greenhouse gas emissions.

To find out more, visit case studies associated with different California regions:

- Northern California

Resources

- California Green Building Initiative: Executive Order S-20-04 [\[PDF\]](#)
Learn about California's efforts to reduce energy and resource consumption in public buildings
- Green Building Initiative FAQ [\[PDF\]](#)
This lists Frequently Asked Questions about California's Green Building Initiative
- California Renewable Energy Directory [\[PDF\]](#)
See where renewable power generation sources are currently installed or planned at California state facilities

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Future Components

Local Government Toolkit

- Decision Support Tool
- Financial Wizard
- Videos of Success Stories
- Peer Networking Online Forum
- Climate Leadership Recognition Program
- Carbon Footprint Challenge
- Cool Communities
 - Cool Roofs and Pavements
 - Urban Forestry





PIER's ongoing efforts to reduce energy usage and greenhouse gases on a community-wide scale...

The PIER Buildings team successfully collaborated with California Air Resource Board and Lawrence Berkeley National Lab (contract # 500-08-059R) to expedite the deployment of cool roof and cool pavement technologies throughout California's communities to save energy, reduce emission of greenhouse gases, and improve the quality of life in urban environments.

Cool Communities Research Project

Objective

- Provide technical assistance to California communities for development of “cool community” programs that
 - save energy
 - reduce emission of greenhouse gases
 - improve the urban environment



California Environmental Protection Agency

 **Air Resources Board**

Cool Communities Research Project

Technical Tasks

1. Compile a database of cool roof retrofit projects (both residential and commercial completed in CA)
2. Cool roof study
3. Cool pavement study
4. Create a website that serves as a one-stop source of cool roof information for consumers
5. Develop cool-community courses for builders and contractors
6. Design a survey to collect data on factors affecting the decision to install a cool roof
7. Assess effect of vegetation on the overall albedo of the community
8. Assess effect of multiple absorption and reflection on the overall albedo of the community
9. Present findings to key decision-makers

Contact Information

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Thank you!

