

Getting Ready to COUNT CARBON

As industry and government have been forced to take steps to reduce their carbon footprint following AB 32 mandates, many forward-looking companies in California and across the nation are already gearing up. Here's how they're doing it.

By **PATRICK SULLIVAN**, SCS Engineers

By this time next year, California will be feeling the initial impacts of that state's landmark legislation, Assembly Bill 32 (AB32), which imposes the nation's toughest restrictions on greenhouse gas (GHG) emissions. With 2009 being the first year of required reporting on GHG emissions, it is imperative that industry and local government officials begin evaluating and establishing a baseline for their carbon footprint and determining whether they will be subject to AB32's mandatory reporting.

The law sets out the parameters of the California Global Warming Solutions Act of 2006, with the most significant element being that it sets a statewide GHG emissions cap for 2020 based on 1990 emission levels. The goal is a 25-percent reduction in emissions over that 30-year period.

AB32 can apply to all companies, but the mandatory reporting rule will probably only apply to those in the power sector and to emission sources that have larger stationary combustion. It is likely that it will be extended later to cover more sources.

So if a company is in the affected industry groups in California or has operations in the state, they will be subject to the law. All other locations should keep an eye on California because the EPA and other states are looking at this model as a template for future programs.

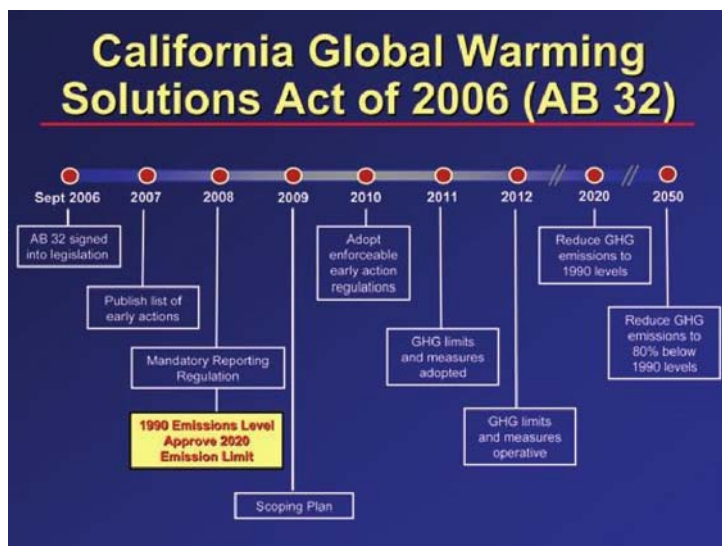
For inventory purposes, it is important to note that there are two choices: management control or equity share. Management control is simpler, but makes operators take credit for all GHG emissions if they are in control of more than 50 percent of the operation, even if that person is not 100-percent responsible. Equity share is more equitable and accurate in distribution but more complex in reporting because it involves analysis of financial and management stake, and divvies up responsibility by percent.

Focused on Key Sectors

■ Review focused on five key sectors (responsible for ~80% of 1990 emissions)

- Transportation
- Electricity Generation
- Industrial
- Forestry
- Agriculture

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Begin with a baseline audit

It is clearly beneficial to start working on a baseline audit now, since 2008 emissions are required for reporting in 2009. Currently, any GHG reporting in California is voluntary and can be reported through the California Climate Action Registry, a nonprofit agency created by the state in 2001. The CCAR is intended to function in conjunction with the California Air Resources Board in operating the mandatory reporting program.

Voluntary registration also can be done through The Climate Registry, which includes multiple U.S. states, some Canadian provinces and a few Mexican states. The two agencies share a Los Angeles office and have similar and very specific protocols outlined.

The CCAR says it accepts GHG emissions reports that include emissions of the six Kyoto gases: CO₂, CH₄, N₂O, HFCs, PFCs and SF₆. Yet the registry specifies that

owned or controlled by the reporting entity” and only “encourages” reporting of indirect GHG emissions like employee commuting and business travel, or product disposal and transport of purchased raw materials. Reporting is done through CARROT, the registry’s online calculation tool. Learning how to use it is another basic step toward completing that initial audit.

Although 1990 is the baseline year under AB32, it is possible that another year can be used if a company did not exist at that time or has completely changed its organization; or, in some cases, if the organization has not retained the necessary records. For those enterprises that recently dramatically upgraded their facilities for energy conservation, switched to alternative-fuel vehicles or even

implemented ride-sharing procedures, using 1990 as the baseline is the way to go. That way the current operation will be able to show the progress that has been made in reducing emissions.

Doing a baseline audit may be a bit like having a role in a CSI show. It will require officials to go back in time and estimate just how much CO₂ they have been putting into the atmosphere through daily operations, whether they’ve been running a manufacturing plant or a wastewater facility, driving

participants “may opt to limit their reports only to carbon dioxide emissions during the first three years of participation.” Ultimately, though, the requirements will apply to all six Kyoto GHGs.

The California registry requires reporting on direct emissions “from sources

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company trucks or police cars. Enterprises will need to assess existing information and identify missing data.

Think back to 1990. What kind of records does the company or entity have? Where are they? Who has access to them? Who remembers what happened then?

Businesses that are worried about playing the estimate game can turn to a consultant who is accredited by one of the registries. But it is also perfectly fine for businesses to compile their own report, although it must be reviewed by an accepted registry “verifier.” In either case, companies should brace themselves for lots of questions that may involve proprietary financial data or departments protecting their turf, and just plain hard work.

“The broader impact of a company’s carbon footprint will come into play, although for now it’s just something to put into the thought processes.”

Calculating the baseline

Here are a few basic questions that companies can ask themselves to get that 1990 baseline, or establish credible numbers for any subsequent reporting years established:

- Utility records for electricity and fuel use. Are copies of the bills available or does the utility have them on record?

- If there are no direct records, think in terms of scaling. Find a year where records and data do exist and look at the direct relationship between the emissions and another

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operational parameter, such as material usage, number of personnel, square feet of office space, etc. How many employees were there in 1990 or what was the square footage? An industrial company may need to look at their production levels. If scaling is used, be aware it will not be as accurate as

working from reliable data.

- Transportation sources: How many vehicles does the company/municipality run? How many miles a year are they driven? How much fuel was purchased? While the CCAR or mandatory reporting would not initially require documentation of employ-

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ing miles, it might be needed to get a true carbon footprint. Can expense reports provide the needed information? If not, it could be time to think in those terms.

- Do stationary or portable diesel or gasoline engines provide backup power or operate pumps, for example, to run equipment that grinds green waste?

- Is there a landfill or wastewater treatment plant on site? These should be treated as industrial sources and looked at accordingly.

- What are the manufacturing processes? Gather the data for everything from the carbon output of the stacks, to less obvious fugitive emissions like leakage from equipment.

- What are the indirect emissions – defined as natural gas, electricity and steam imports or heating and cooling obtained from plants – outside your organization's boundaries?

When getting into the planning mode for the baseline audit, companies should begin to think about how they can better centralize their reporting systems to make it easier for the future. Record keeping will be critical to compliance. The key now is to get to the heart of the data, get a sense of the company's processes, and evaluate how real the data are.

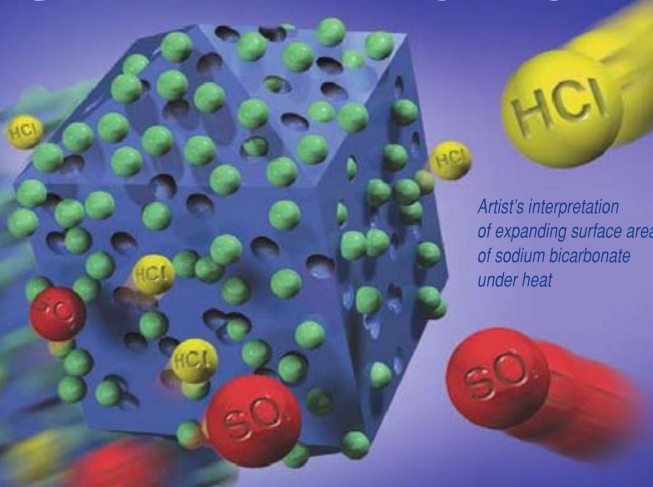
What will be included?

There is still some debate about the cradle-to-grave reporting of sources, such as offsite disposal of waste. Does that count against the company that produces or processes the waste? What about the raw materials? Does the company outsource any of its operations? Although the emis-



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probably not affect the carbon market or enable companies to sell any credits. That will not happen in earnest until the cap and trade program is developed under AB32. Even so, the public relations advantages to being able to talk about reducing that footprint will pay off in the long run. The audit will also put a company in

good stead for future inventories as the laws are fine-tuned, particularly as the new president and his administration are likely to add new levels of federal regulation. **PE**

Patrick Sullivan is senior vice president of SCS Engineers. More information can be found online at scsengineers.com.



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sions from outsourcing are not directly related to a company, according to federal and state governments, the company still allowed those emissions to happen.

Ultimately, the broader impact of a company's carbon footprint will come into play, although for now it is just something to put into the thought processes. For municipalities or other governmental agencies, the picture is a little more complex, although the reporting requirements are the same.

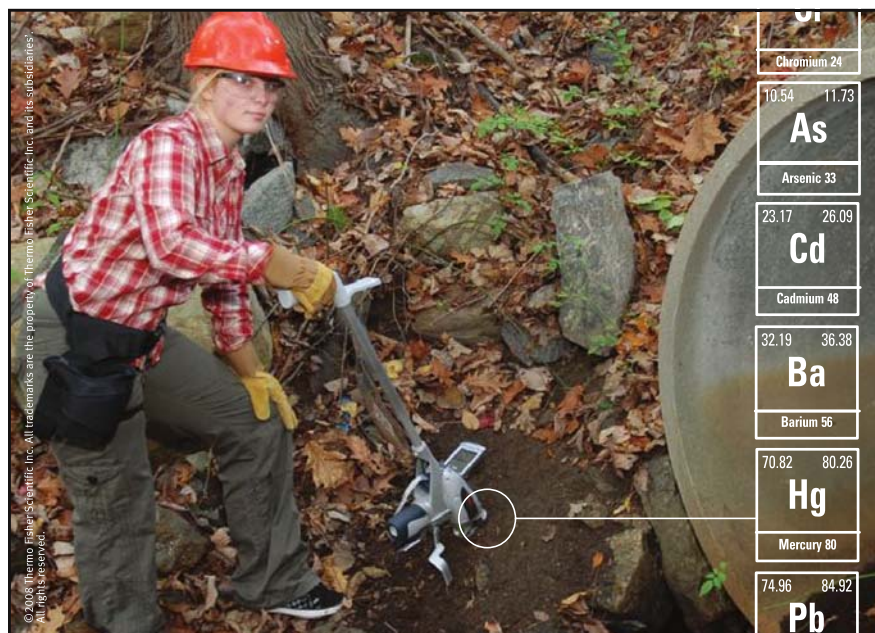
Questions arise about where boundaries are drawn, with questions about overlapping services and outsourcing. To which operation do the emissions get attributed? What about growth? How can a city reduce emissions to 1990 levels when they have been growing and have to provide essential public services? These issues will likely sort themselves out over time, but for now, they are important to consider as organizations define their 1990 baselines.

The 2009 mandatory reporting will



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