

Looking beyond California

As California designs a strategy to reduce carbon emissions, **Andy Van Horn** argues it should look beyond its borders and at its transportation sector

Last summer, the State of California announced ambitious long-term targets for reducing greenhouse gas (GHG) emissions (see table). Since then, a Climate Action Team (CAT) has evaluated emission reduction strategies for a forthcoming report to the governor and legislature.¹

One of the integral pieces of the strategy is a 'cap-and-trade' market with many as yet undetermined design elements. How this market is designed and implemented will determine whether or not California's efforts will help or hinder global efforts to create workable markets for GHG emissions, encourage cost-effective GHG reduction projects, and help to develop the advanced technologies that are essential to achieve meaningful global GHG reductions.

Early signs are, however, that California's cap-and-trade plans could omit the state's largest single source of emissions, limit the flexibility of regulated sources to tap wider carbon markets, do little to encourage technology development, and fail to learn the lessons from other trading schemes.

On 16 February, the California Public Utilities Commission (CPUC) published a decision stating its intent to develop a load-based cap on GHG emissions from electricity production, placing the onus to reduce emissions on retail electricity sellers, rather than on emission sources.

The cap would cover in-state emissions and emissions from imported electricity. However, because it does not regulate municipal or other publicly-owned utilities, the CPUC cap would apply only to the three major investor-owned electric utilities (IOUs), plus the non-utility load-serving entities (LSEs) that provide power to customers in the IOU service territories. Most of the details of the CPUC cap, including cap limits over time, methods for administrative allocation of emissions allowances, rules for bank-

ing, and other details will be specified in a future rule-making.

Initially, the draft decision, published on 13 January, limited 'offsets', ie, GHG reductions coming from sources not regulated by the CPUC's programme, to those "actions directly related to utility activities (eg, diesel pump electrification) and to activities occurring within California". This limitation would have amounted to a 'cap-and-trade' approach with little of the 'trade' component. However, in its 16 February decision, the CPUC somewhat softened its stance "by deferring any determinations regarding the scope of offsets, trading, banking and borrowing of allowances".

In 2002, California emitted about 7% of total US GHG emissions. Like the rest of the country, most emissions came from the electricity and transportation sectors. Unlike the rest of the US, GHG emissions from in-state transportation (40%) were four times those from in-state electricity generation (10%), almost twice industrial emissions (23%) and twice those from all generators serving California consumers (20%, as half the electric sector emissions occurred out of state, largely at coal-fired power plants). Because California's electric utilities are cleaner than the rest of the US electric utility industry, achieving GHG reductions within California's generation sector will be more expensive than achieving reductions outside California.

Since reducing carbon emissions is a global problem, workable markets with broad geographic coverage are needed to sustain substantial, long-term reductions. Efforts like the Regional Greenhouse Gas Initiative, which will cap power sector emissions in at least seven northeastern US states from 2009, and the EU Emissions Trading Scheme (ETS) launched in January 2005, can provide market incentives to reduce emissions and develop new technologies. By limiting trading and not allowing offsets, such as certified credits from Clean

Development Mechanism projects, California's proposal could severely restrict the source diversity that is desirable for a successful market-based programme, denying access to potentially low-cost reductions and failing to encourage worldwide efforts.

Thus far, California's plans for trading leave out its largest GHG sector – transportation. Although California law will impose fleet average standards for tailpipe emissions on new vehicles from 2009, additional reductions might occur if mobile sources were included in a cap-and-trade or emissions fee programme (imposing per ton fees on emitters). Because of the growing magnitude of transportation emissions worldwide, innovative efforts to reduce emissions from this sector are warranted. If California can't find a way to provide market incentives for reducing automobile and truck GHGs, who can?

Finally, there are numerous lessons from existing emissions markets, such as the RECLAIM market for nitrogen oxide allowances in Southern California, the US sulphur dioxide (SO₂) allowance market, and the EU ETS – not to mention California's own failed experiment with electricity restructuring – which should be heeded.

Clear market rules, flexible penalties for non-compliance and backstop provisions to accommodate variable and unforeseen market conditions are all needed in fleshing out the details. Otherwise, California's well-intentioned proposals will not result in a workable cap-and-trade market that will promote cost-effective global GHG reduction projects, no matter where they are located.

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¹ A draft report was released in December 2005: Draft Climate Action Team Report to the Governor and Legislature, California Environmental Protection Agency, 8 December

California's historical and projected greenhouse gas emissions (million tonnes CO₂ equivalent)

Year	Business-as-usual (BAU)	Target cap	Reduction needed
1990	435		
2000	477		
2010*	536	477	59 (11% below BAU)
2020*	580	435	145 (25% below BAU)
2050*	–	87	80% below 1990

* = projected

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