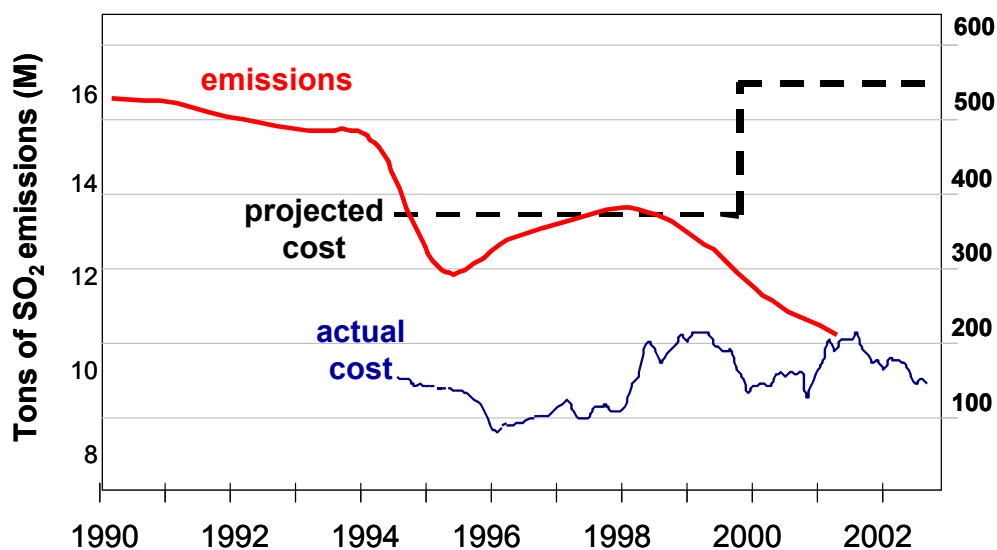


## CAP AND TRADE 101

“Cap and trade” harnesses the forces of markets to achieve cost-effective environmental protection. Markets can achieve superior environmental protection by giving businesses both flexibility and a direct financial incentive to find faster, cheaper and more innovative ways to reduce pollution. Cap and trade was designed, tested and proven here in the United States, as a program within the 1990 Clean Air Act Amendments. The success of this program led The Economist magazine to crown it “probably the greatest green success story of the past decade.”<sup>1</sup> The following points highlight some real world results of that program:

**The Acid Rain Experience:  
Unprecedented Environmental Protection at Unmatched Cost Efficiency**

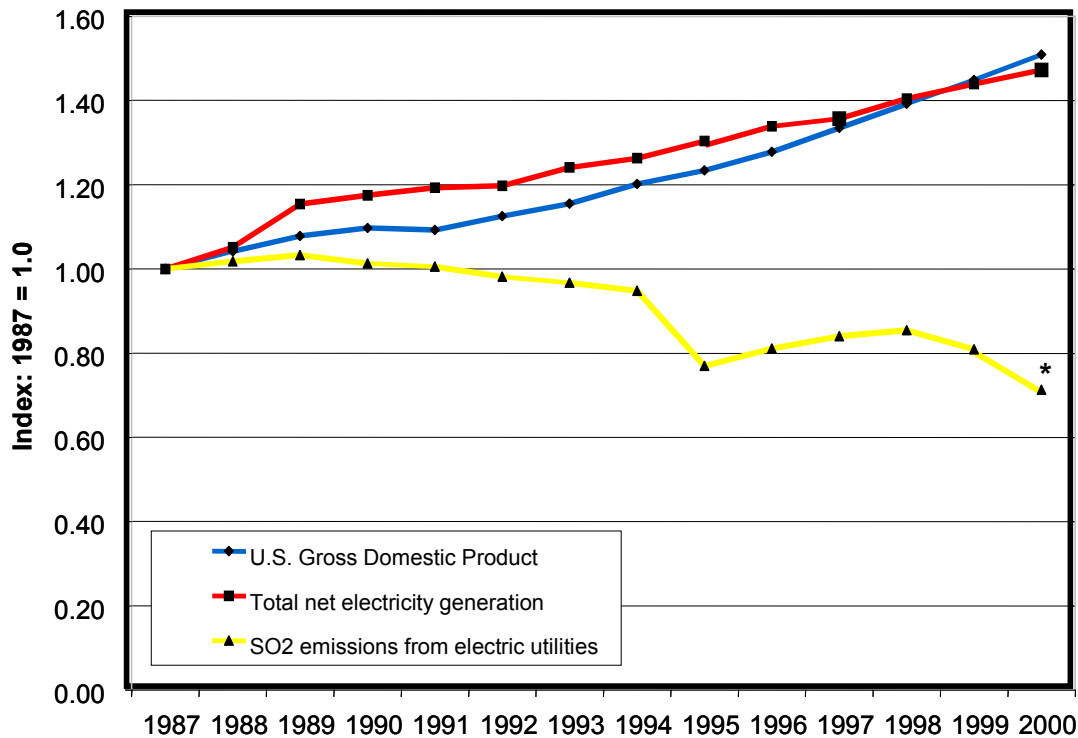


- The expected market price for SO<sub>2</sub> allowances was in the range of \$579-\$1,935 per ton of SO<sub>2</sub>; the actual market price as of January 2003 was \$150 per ton.
- In the 1990s, the U.S. acid rain cap and trade program achieved 100% compliance in reducing sulfur dioxide emissions. In fact, power plants participating in the program reduced SO<sub>2</sub> emissions 22% - 7.3 million tons - below mandated levels.
- Prior to the launch of the program, cost estimates had ranged from \$3-\$25 billion per year. After the first 2 years of the program, the costs were around \$0.8 billion per year. The long-term costs of the program are expected to be around \$1.0-\$1.4 billion per year, far below early projections.

<sup>1</sup> July 6, 2002.

The market-based approach enshrined in the U.S. Acid Rain program has demonstrated that environmental protections need not compete with economic well-being. The following chart, based on government data, demonstrates this point graphically:

**Environmental Protection: No Longer Environment vs. Economy**



(Sources: DOC, DOE and EPA, respectively)

\* ARP units only

*Why do market-based environmental protections work so well?*

- Markets provide greater environmental effectiveness than command-and-control regulation because they turn pollution reductions into marketable assets. In doing so, this system creates tangible financial rewards for environmental performance.
- Because cap-and-trade gives pollution reductions a value in the marketplace, the system prompts technological and process innovations that reduce pollution down to or beyond required levels. This point is not theoretical; experience has shown these results.

*What are the elements of a well-designed cap and trade program?*

A successful market-based program requires just a few minimum elements. All of the following are absolutely essential to an efficient and effective program:

**A mandatory emissions “cap.”** This is a limit on the total tons of emissions that can be emitted. It provides the standard by which environmental progress is measured, and it gives tons traded on the pollution market value; if the tons didn’t result in real reductions to the atmosphere, they don’t have any market value.

**A fixed number of allowances for each polluting entity.** Each allowance gives the owner the right to emit one ton of pollution at any time. Allocation of allowances can occur via a number of different formulas.

**Banking and Trading.** A source that reduces its emissions below its allowance level may sell the extra allowances to another source. A source that finds it more expensive to reduce emissions below allowable levels may purchase allowances from another source. Buyers and sellers may “bank” any unused allowances for future use.

**Clear performance criteria.** At the end of the compliance period (e.g., one year, five years, etc.), each source must hold a number of allowances equal to its tons of emissions for that period, and must have measured its emissions accurately and reported them transparently.

**Flexibility.** Sources have flexibility to decide when, where and how to reduce emissions.

*Summary:*

An active cap-and-trade market enables those who *can* reduce pollution cheaply to earn a return on their pollution reduction investment by selling extra allowances. It enables those who *can’t* reduce pollution *as* cheaply to purchase allowances at a lower cost than the cost of reducing their own emissions. It enables all participants to meet the total emissions cap cost-effectively. And it gives all emitters incentives to innovate to find the least-cost solutions for total pollution control.