

# Environmental Watch

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## Seattle Uses Accounting Tricks to Claim Kyoto Success

by Todd Myers

### Claim

“A new inventory of Seattle’s greenhouse-gas emissions shows we are meeting our Kyoto Treaty targets — reducing climate pollution to 7 percent below 1990 levels by 2012. As of 2005, the benchmark year of the study, Seattle produced 8 percent less carbon dioxide and other gases than we did 15 years ago.”

*Greg Nickels, “More than symbolism at stake when cities tackle climate change,” Seattle Times, October 31, 2007 (Accessed November 28, 2007)*

### Facts

Just days before dozens of mayors met in Seattle to discuss steps to tackle climate change, Seattle Mayor Greg Nickels announced an achievement he used to burnish his image as a national leader on addressing global warming. The City announced it had “met” the goal of reducing Seattle’s CO<sub>2</sub> emissions to the levels called for in the Kyoto Protocol -- eight percent below the 1990s emissions level. This achievement, claimed the mayor, “is a remarkable milestone that shows how cities can lead the way in the fight against global warming. It is a success that we can all celebrate.”<sup>1</sup>

A close look at the details of the Seattle Kyoto report shows three interesting conclusions:

- The reductions in Seattle’s CO<sub>2</sub> emissions are almost entirely a product of economic forces, especially the ongoing trend of homeowners and businesses switching from oil heating to gas heating.
- The report’s accounting make Seattle’s numbers look good, but they violate the oft-repeated mantra of “think globally, act locally.”
- The accounting standards for this type of report are so debatable that it is impossible to make a clear claim about what has been achieved.

If the people of Seattle want to take a lesson from this report it should be that economic factors act more quickly and efficiently than bureaucratic strategies and efforts to centrally plan CO<sub>2</sub> reduction. The Mayor’s policies had little, or nothing, to do with this achievement.

### Prices Drive a Switch from Oil to Natural Gas

When looking at Seattle’s community carbon footprint in the report, one change stands out -- a dramatic shift from heating oil to natural gas. For instance, the CO<sub>2</sub> associated with residential use of heating oil fell from 323,000 tons in 1990 to 152,000 tons in 2005. Natural gas, on the other hand rose from 259,000 tons to 370,000 tons. The key here is that per btu, residential oil produces 173.9 pounds of CO<sub>2</sub>, while natural gas only produces 117 pounds.<sup>2</sup> Thus, while there was a 59,000 ton reduction in CO<sub>2</sub> from residential heating, there was a 60,000 ton reduction in CO<sub>2</sub> simply due to homeowners and businesses switching from oil to natural gas.

<sup>1</sup> *City of Seattle, “Study Shows Seattle on Target to Meet Climate Goals,” October 29, 2007, <http://www.seattle.gov/news/detail.asp?ID=7868&dept=40> (Accessed November 28, 2007)*

<sup>2</sup> *Energy Information Administration, “Voluntary Reporting of Greenhouse Gases Program - Fuel and Energy Source Codes and Emission Coefficients,” <http://www.eia.doe.gov/oiaf/1605/factors.html> (Accessed November 28, 2007)*



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What would cause this change?

The Seattle report notes that “For economic reasons, natural gas has gained favor over oil for space heating since 1990.”<sup>3</sup> In other words, natural gas was simply less expensive than heating oil, so people switched. These trends are the same in both commercial and industrial energy use. For industry, emissions actually rose by 121,000 tons of CO<sub>2</sub> despite the fact that the switch from oil to natural gas reduced CO<sub>2</sub> from that sector by 48,000 tons.

There is not a perfect correlation between the reduction in oil and the increase in natural gas. Of course there are new businesses and homes increasing demand, not switching, and there are businesses that closed, which reduces demand. Additionally, there are undoubtedly some energy savings which are due to conservation, and City Light has been pushing some of those efforts. Cost increases also, of course, contributed to that conservation, as we saw when energy prices rose dramatically in 2001. The leading factor, as acknowledged by the study are those rates and the economic decisions that every family and business made based on price signals.

One additional indication that economics, not government policy, were responsible for reductions in CO<sub>2</sub> is the energy use at one of Seattle’s cement plants. The report notes that it closed in 1988 and was reopened in 1992 and “it was the first Energy Star certified cement plant in the country, and emission levels per ton continue to be some of the lowest in the country.”<sup>4</sup> The decision to make those modifications were made long before Seattle had enacted a climate policy and was undoubtedly driven by a desire to reduce costs in an energy-intensive business.

### **Account Locally, Not Globally**

Another problem with the report is the difficulty in figuring how to account for CO<sub>2</sub> emissions related to Seattle. The report notes that “While there is a standard protocol for corporate inventories, there is no standard protocol for local community greenhouse gas inventories.”<sup>5</sup> As a result, they create a hybrid approach that counts some emissions, but not others.

The very real problem is that the impact of carbon on global warming is very different from the impact of auto emissions on smog. Auto emissions are local and the communities where the emissions occur are largely the communities that are harmed. This is not the case with carbon emissions. One ton of carbon emissions in Seattle has an impact on Zimbabwe. As a result, shifting CO<sub>2</sub> emissions from inside the city limits to outside has no impact on global warming, whereas a shift in other types of emissions would impact those problems.

The City understands this, but still uses this accounting trick to drive their total emissions numbers lower.

For instance, the City of Seattle divested its stake in the Centralia coal-fired plant, which is the largest emitter of CO<sub>2</sub> of any power plant in the state. They note that “The 364,000 MgCO<sub>2</sub>e shown for 1990 is due principally to the Centralia coal plant, and in a much smaller part to a few long-term contracts.”<sup>6</sup> They replaced that in part with natural gas and some renewables. Even so,

<sup>3</sup> *City of Seattle Office of Sustainability and Environment, “2005 Inventory of Seattle Greenhouse Gas Emissions: Community & Corporate, Final Draft,” October 2007, <http://www.seattle.gov/climate/docs/2005%20Seattle%20Inventory%20Full%20Report.pdf> (Accessed November 28, 2007), p 15*

<sup>4</sup> *Ibid, p. 19*

<sup>5</sup> *Ibid, p. 5*

<sup>6</sup> *Ibid, p. 23*

<sup>7</sup> *Seattle City Light, “Seattle City Light Fingertip Facts - 2007 Guide,” <http://www.seattle.gov/light/aboutus/customer-guide/> (Accessed November 28, 2007)*

non-hydro renewables account for only three percent of the city's electricity source<sup>7</sup>, so much of the replacement has come as a result of switching to hydroelectric power, which provides 86.5 percent of Seattle's energy<sup>8</sup>. This is fine, but it is ironic that Seattle reduced its CO<sub>2</sub> emissions by using an energy source that the state does not count as "renewable."

Further, this power is robbed from Peter to pay Paul. Centralia continues to produce energy and emit CO<sub>2</sub>, but the emissions are simply not counted against Seattle. Since CO<sub>2</sub> emitted anywhere affects everyone, this shifting of responsibility for those greenhouse gases does nothing to actually address the issue. Seattle's effort to meet Kyoto is, in part, an effort to encourage the nation as a whole to take an action. This type of accounting trick, however, cannot be used on a national basis or, at least, is strongly discouraged. Europe is now limiting the purchase of carbon offsets in other parts of the world in an effort to limit this type of accounting. It certainly violates the concept of thinking globally and acting locally.

### **What Can Seattle Really Claim?**

While Seattle does count the emissions from concrete produced in Seattle, their Kyoto announcement does not count the CO<sub>2</sub> associated with concrete and steel brought into the city from elsewhere. They recognize this and say specifically, "the climate pollution associated with many in-city activities, such as electricity generation and solid waste disposal, occurs outside of the city's boundaries."<sup>9</sup> They do not, however, put those numbers in their total. Given the number of cranes around South Lake Union and elsewhere since 1990, it is very unlikely that there would be a net reduction in this type of CO<sub>2</sub> emissions. Ultimately Seattle is responsible for this type of CO<sub>2</sub> and a true accounting of the cost to reduce greenhouse gases worldwide must take account of the costs of this economic activity. Ignoring it not only makes the numbers look better but it also obscures the economic costs of any serious effort to address greenhouse gas emissions.

Making a positive statement about Seattle "meeting" the Kyoto goal is impossible given this significant caveat and margin of error in their accounting. Every study has a margin of error. As that margin of error grows large, however, the utility of the study diminishes. This margin of error allows Seattle to leave out the emissions from a significant amount of the city's economic activity.

Another piece of accounting outside the city limits included in the study is the use of carbon offsets. The City counts some carbon offsets as reductions in CO<sub>2</sub>. Despite the general criticism of carbon offsets, some of it legitimate, the City's approach appears appropriate. Carbon offsets can be done well, and if the City can find other opportunities to purchase genuine offsets more cheaply than additional regulation or other costly approaches, they should do so.

### **Costs**

Why did the Mayor and City spend money to assess whether it met the Kyoto targets? Some might claim that it is useful in examining the nature of the problem so the City can address it. It seems pretty clear, however, that this isn't accurate. Given the serious limitations of the study, limits they themselves acknowledge, the utility of the study is minimized. The City cannot say today whether it has really seen a net reduction in total CO<sub>2</sub> emissions, direct and induced, and whether it is helping or harming the problem. If the study cannot say that, its value has to be questioned.

The primary goal, given the language of the press release and other references by the Mayor about Seattle's "leadership," appears to be to gain political advantage. The political benefits accrue to the Mayor's standing but also, they hope, to the many restrictions they are proposing

<sup>8</sup> *Ibid.*

<sup>9</sup> *City of Seattle Office of Sustainability and Environment, p. 3*

relating to “smart” growth, building standards, bike trails, purchasing hybrids, and the like. A look at their own study, however, demonstrates that government policies had little to do with the reductions. By their own accounting, the most significant reductions in CO<sub>2</sub> came as a result of “economic” incentives. If anything, the study shows that people respond to market-based incentives. What is more likely to get people to conserve, speeches by political officials and fliers in their electricity bill or rising costs? We don’t have to wonder, the study tells us.

The dean of global warming economists, William Nordhaus of Yale, recently published another economic analysis of the potential costs of climate change and the best way to address them. When it comes to taking CO<sub>2</sub> reduction seriously he does not mince words:

“Suppose you hear a public figure who speaks eloquently of the perils of global warming and proposes that the nation should move urgently to slow climate change. Suppose that person proposes regulating the fuel efficiency of cars, or requiring high-efficiency light bulbs, or subsidizing ethanol, or providing research support for solar power – but nowhere does the proposal raise the price of carbon. You should conclude that the proposal is not really serious and does not recognize the central economic message about how to slow climate change. To a first approximation, raising the price of carbon is a necessary and sufficient step for tackling global warming. The rest is largely fluff and may actually be harmful in inducing economic inefficiencies.”<sup>10</sup>

A close look at the Seattle study draws a similar conclusion. Prices, not government policies, made the difference. If Seattle wants to take effective and efficient steps in the future, it should learn that lesson.

<sup>10</sup> William Nordhaus, “The Challenge of Global Warming: Economic Models and Environmental Policy,” September 11, 2007, [http://nordhaus.econ.yale.edu/dice\\_mss\\_091107\\_public.pdf](http://nordhaus.econ.yale.edu/dice_mss_091107_public.pdf) (Accessed November 28, 2007), p 22.