

# Sustainability Reporting in Schools

*Sustainability reporting statements can be effective management tools for SBOs as they prepare analyses and reports, procurements, and grants.*

By Richard Weeks, RSBA



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**A**n urban legend in Boston surrounds the Big Dig, the multibillion-dollar public works project to recess Interstate 93 by tunneling under the city.

On a soggy spring morning, a prebid conference was held for prospective contractors. Attending were international design teams as well as two men who appeared to be local laborers, dressed in work gear and hard hats. During the Q and A, the project manager skeptically asked the two how they would dig the tunnel.

“Well, sir, I would start digging in Charlestown going south, and my partner would start digging in Southie going north.”

The project manager politely asked, “Don’t you think you need a lot of precise calculations and sophisticated machinery to ensure that you connect below Boston?”

The two responded, “Nope.” “So,” asked the project manager, “what if you don’t connect?” Said the two, “In that case, you’ll be getting two tunnels for the price of one!”

Experienced school business officials (SBOs) can attest to the dynamics of prebid conferences to prevent what can often be described metaphorically as “tunnel vision” schemes by potential contractors.

Sustainability reporting statements can be effective management tools for SBOs tracking, visualizing, and

**Table 1. Lincoln Public Schools Waste Diversion Program**

		2020 (pounds collected)	2021 (pounds collected)	2022 (pounds collected)
1	<b>Recycling:</b> paper, plastic, cardboard, cartons, metal, cans	1,239,743	1,669,931	2,547,129
2	<b>Composting:</b> cafeteria waste from 61 LPS schools	902,860	1,200,915	1,161,011
3	<b>Reuse:</b> auction program, books, oil	39,234	17,200	17,586
4	<b>Waste diversion (rate)</b>	<b>2,181,837 (54%)</b>	<b>2,888,046 (52%)</b>	<b>3,725,726 (57%)</b>
5	<b>Landfilled</b>	1,823,003 (46%)	2,664,447 (48%)	2,830,780 (43%)
6	<b>Schools (except capital projects)</b>	<b>4,004,840 (100%)</b>	<b>5,552,493 (100%)</b>	<b>6,556,506 (100%)</b>

Source: Courtesy of USGBC, Center for Green Schools, 2023.  
 Note: LPS = Lincoln Public Schools.

communicating operational data as they prepare analyses and reports, procurements, and grants. Because some sustainability matters are new to school personnel and to the public, the statements can clarify diverse but relevant information in easily understood formats.

Timely and relevant information can reassure the community of the district’s effort to reduce greenhouse gas emissions to net zero. This article provides examples of environmental sustainability statements for recycling, waste management, utility and energy use, and clean renewable energy reporting.

## Recycling and Waste Reporting

Although a few state and local statutes or school board policies compel schools to recycle and compost, many schools do it voluntarily. Through the cooperation of students and school and community leadership, districts are successfully monitoring their progress.

Sustainability coordinators recommend conducting a waste audit to establish a baseline for determining how much waste the schools currently produce. It’s a good idea to work with personnel to develop an action plan by setting goals and establishing a time line for schools to eventually operate at “zero waste.”

Brittany Albin, sustainability coordinator at Lincoln Public Schools (LPS) in Nebraska, advises: “Start with elementary schools and work your way up to the middle and high schools. Critical to your program’s success is acquiring recycling containers and signage. We use ‘mesh’ bags to collect emptied milk and juice containers for recycling because our compost contractors require the compost to be free of paper debris.”

Central to action planning is *waste diversion*, or what the district expects to achieve through recycling,

composting, or reusing. The achievable goal is to reduce and divert as much waste from the landfill as possible. LPS reports it was able to divert 57% of the district’s waste from the landfill in 2022 (see Table 1); this diversion rate steadily increased over three years. In Table 1, the program is shaded green and includes traditional recycling of milk cartons, metal, electronics, pallets, books, cartridges, lights, and batteries. Composting includes food scraps from the district’s 61 schools and faculty lounges.

## Increasingly, districts are reining in construction debris to divert waste from landfills.

Additional waste is reclaimed through the district’s auction program, surplus disbursement, books, and oil reuse. Landfilled waste, shaded in orange, steadily declined over three years and was only 43% of the total waste in 2022.

Increasingly, districts are reining in construction debris to divert waste sent to landfills. Albin reports: “The LPS 2020 bond project launched multiple construction and renovation projects in buildings throughout the district. It is a requirement in the Design Guidelines that all construction projects have an 80% diversion goal for construction and demolition waste. Contractors were up for the challenge and strived to meet this goal in 2022.”

Table 2 details the first two years of the LPS program. Contractors were required to use district-assigned reporting templates and to be available for regular

on-site inspections to monitor contamination and progress. In 2022, 78% of materials were recycled or salvaged, whereas only 22% went to landfills.

The biggest recycling disappointment continues to be plastics. According to the Organization for Economic Cooperation and Development, worldwide, only 9% of plastic waste was recycled in 2019 (OECD 2022, 19). Some was incinerated, but the bulk of plastic trash was sent to landfills or discarded on land and in water.

In time, processes will be developed to break down plastics in an environmentally safe manner, thus reducing microplastic pollution that endangers our health and safety. Students can be taught to buy less and reuse more; parents can be reminded to monitor their children’s purchases to avoid single-use plastic containers.

## Utility and Energy Use Reporting

Energy consumption and cost updates can provide useful information. Ian Brown, resource conservation specialist at Seattle Public Schools, shares the summary of his annual energy report (Table 3). Brown states that between 2016 and 2020, the cost of electricity decreased from \$4.9 million to \$4.7 million and the cost of natural gas decreased from \$1.5 million to \$1.3 million.

In addition to burning fewer fossil fuels, energy-efficient schools are healthier for students and personnel. To indicate the energy efficiency of a building’s design or operation, architects use the Energy Use Intensity (EUI) metric. Based on the index, the EUI in Seattle Public Schools was reduced from 39.2 kBtu per square foot in 2016 to 33.4 kBtu per square foot in 2020.

Begin with an energy audit, review the data it presents, scope out proposed projects, earmark funding, and consider the most critical and overlooked problems. As Brown reports: “Seattle Public Schools has an aggressive recommissioning team that is continually updating and renovating building systems. When HVAC and heat plants are fixed to operate close to their original design specifications, they cost more to operate. This is especially true of older schools that burn fossil fuels.”

He explains that the cost of natural gas slightly increased per kilowatt-hour from \$0.0278 in 2016 to

**Table 2. Lincoln Public Schools Capital Projects Diversion Program**

		2021 (tons collected)	2022 (tons collected)
1	<b>Recycled</b>		
2	Wood	392	153
3	Metal	133	169
4	Concrete	2,421	4,660
5	Ceiling tiles	0	14
6	Polyvinyl chloride	14	0
7	Drywall	62	94
8	Mixed/single stream	41	131
9	<b>Total recycled</b>	<b>3,063</b>	<b>5,220</b>
10	<b>Salvaged</b>	0	6
11	<b>Waste diversion (rate)</b>	<b>3,063 (83%)</b>	<b>5,226 (78%)</b>
12	<b>Landfilled</b>	<b>643 (17%)</b>	<b>1,454 (22%)</b>
13	<b>Capital projects</b>	<b>3,706 (100%)</b>	<b>6,680 100%</b>

Source: Courtesy of USGBC, Center for Green Schools, 2023.

**Table 3. Seattle Public Schools Utilities and Energy Use Intensity**

	Metric	2016/17	2019/20
1	Electric cost	\$4,937,859	\$4,728,852
2	Natural gas cost	\$1,507,479	\$1,339,005
3	Other utilities, including water, wastewater, and stormwater	\$4,548,517	\$4,945,249
4	<b>Total utility cost</b>	<b>\$10,993,855</b>	<b>\$11,013,106</b>
5	<b>Average energy use intensity</b>	<b>39.2 kBtu/ft<sup>2</sup></b>	<b>33.4 kBtu/ft<sup>2</sup></b>
6	Gas cost/kWh	\$0.0278	\$0.0290
7	Electric cost/kWh	\$0.0843	\$0.0966

Source: Courtesy of USGBC, Center for Green Schools, 2023.

Note: ft<sup>2</sup> = square feet; kBtu = thousand British thermal units.

\$0.0290 in 2020 (for this illustration, energy usage has been converted from Btu to kilowatt-hours). Other electric costs during these years increased from \$0.0843 to \$0.0966. By 2022, 20% of Seattle schools were electric, and all new schools brought online are all electric.

This simple reporting statement summarizes data from dozens of Seattle school campuses and is an example of how other districts can organize data for presentation to the school board. (Establish fiscal year 2022/23 as a baseline, since the COVID-19 pandemic years are invalid for analysis due to the vast amount of energy burned to ventilate schools for the safety of personnel.)

Increasingly, districts are budgeting to hire energy managers who can prepare such comprehensive reports. If schools have not been modernized, automated

building systems with relevant software programs may not be helpful in gathering and analyzing data. SBOs continue to depend on their local utilities' monthly meter reports for analysis.

## Clean Renewable Energy Reporting

As reported by the U.S. Energy Information Administration in 2022, about 4.2 billion kilowatt-hours (kWh) of electricity were generated at utility-scale electricity generation facilities in the United States. About 60% of that electricity was generated from fossil fuels: coal, natural gas, petroleum, and other gases; about 18% was from nuclear energy; and about 21% was from renewable energy sources.

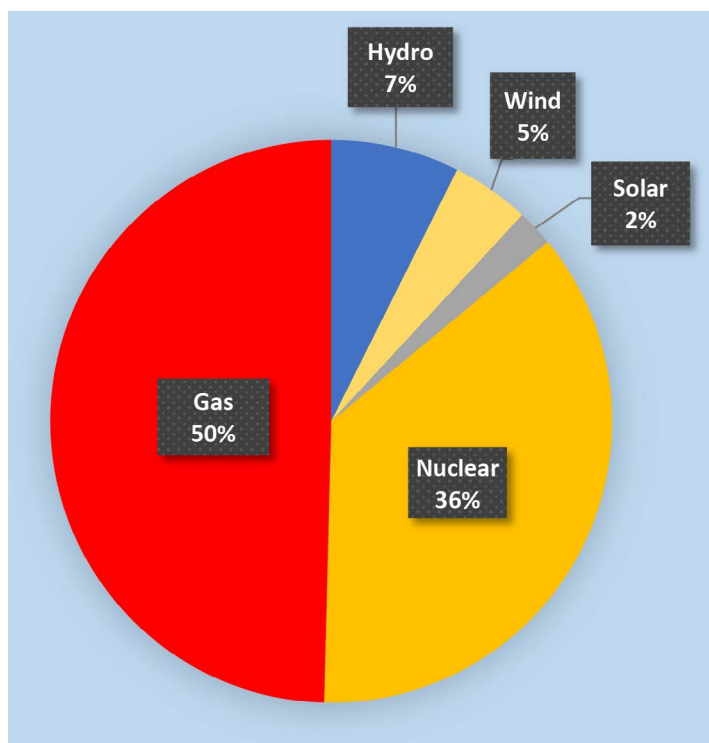
School districts are listening and responding to students' and parents' demands to reduce dependence on fossil fuels. The Salt Lake City Board of Education (2021) adopted a policy to use 100% clean renewable energy in its electricity sector by 2030. The district is partnering with its utility provider, Rocky Mountain Power, to ensure a cost-effective transition to renewable energy sources.

Not all sustainability reporting statements need be generated by the school offices; informational statements prepared by local agencies may be included in the annual sustainability update to the school board. The Board of Gas and Light Commissioners in Wakefield, Massachusetts, makes monthly online reports of the fuel mix used to generate the town's electricity. As shown in Figure 1, it includes hydro, wind, solar, and nuclear power sources for residential and commercial gas and electricity (WMGLD 2023).

Anticipate many questions from constituents as they make the transition to clean renewable fuels. The commissioners in Wakefield reported steady yearly progress with 51% non-carbon-emitting fuel mix usage in 2022. That includes nuclear fuel. Is nuclear fuel renewable? The answer depends on whom you ask. In their 2022 annual report, the commissioners published a detailed analysis of the purchased power from 15 diverse sources. Nuclear fuel was the *least* expensive purchased commodity, costing the town between 2 cents and 4 cents per kWh. Hydro power cost 5 cents per kWh; wind power cost 18–21 cents per kWh; and gas cost 24 cents per kWh. The nascent solar and offshore wind energy markets continue to keep commodity prices high in New England.

## In Conclusion

Sustainability reporting in schools may prove challenging for many SBOs, along with the myriad other tasks



**Figure 1. Power Portfolio Fuel Mix**

Source: Board of Gas and Light Commissioners, Wakefield, Massachusetts, August 2023.

expected of them. Recycling, waste management, and clean renewable energy with a transition to greater dependence on electricity have a place in our business offices' reporting statements. Unlike imagined sorcery—as when Emperor Palpatine toasted Luke Skywalker with a barrage of force lightning, saying, “Your feeble skills are no match for the power of the Dark Side” (*Star Wars: Episode VI—Return of the Jedi*)—renewables will overcome the Dark Side with light and restore our world and humanity.

## References

- OECD (Organization for Economic Cooperation and Development). 2022. *Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options*. Paris: OECD Publishing.
- Salt Lake City School District. 2021. “Board Policies.” [www.slcschools.org/board-of-education/board-policies](http://www.slcschools.org/board-of-education/board-policies).
- U. S. Energy Information Administration. n.d. Frequently Asked Questions web page. [www.eia.gov/tools/faqs/](http://www.eia.gov/tools/faqs/).
- WMGLD (Wakefield Municipal Gas and Light Department). 2023. “Power Portfolio Fuel Mix.” News release, August.

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